

ALWAYS FIRST

The RAAF Airfield Construction Squadrons 1942-1974

David Wilson

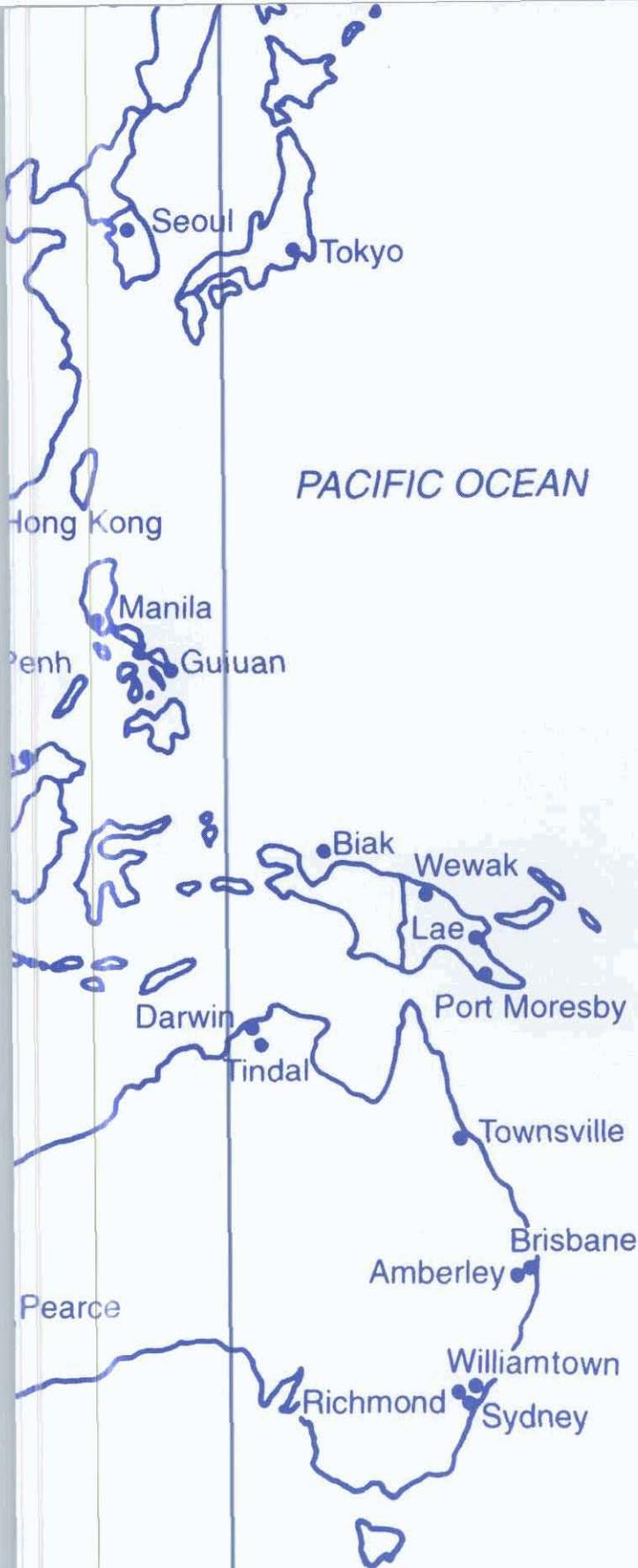


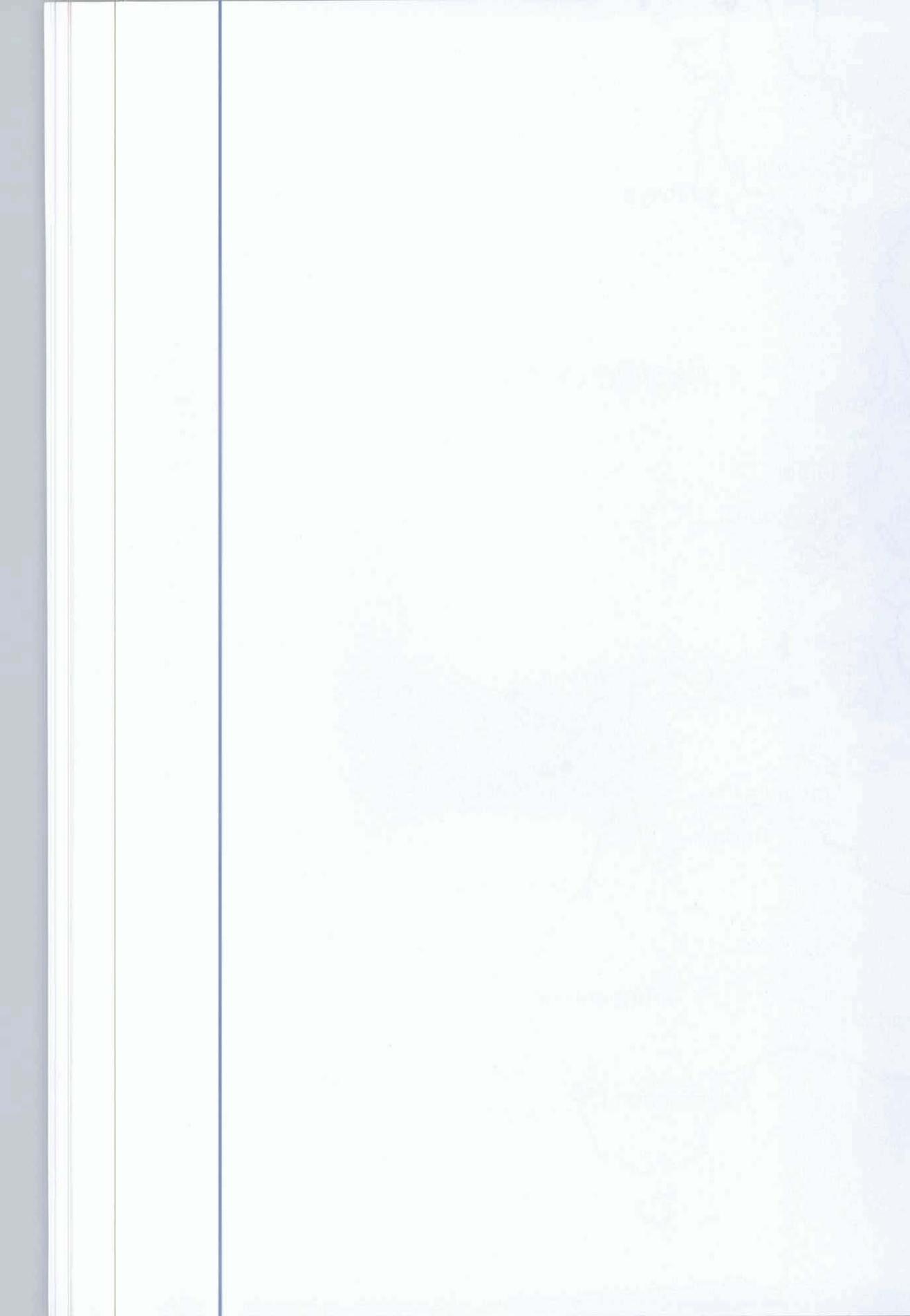
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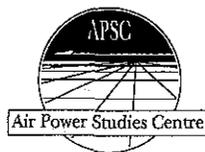


Air Power Studies Centre

ALWAYS FIRST

THE RAAF AIRFIELD CONSTRUCTION
SQUADRONS 1942 ~ 1974

DAVID WILSON



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National Library of Australia
Cataloguing-in-Publication entry

Wilson, David, 1944- .
Always first: the RAAF airfield construction squadrons 1941-1974

Bibliography
Includes Index
ISBN 0 642 26525 9.

1. Air forces - Australia - History. I. Australia. Royal Australian Air Force. Air Power Studies Centre. II. Title.

358.41310994

Published and distributed by:

Air Power Studies Centre
RAAF Base
Fairbairn ACT 2600
Australia

Telephone: (02) 62876563
Facsimile: (02) 62876382
e-mail: apsc@pop.cc.adfa.oz.au

THE UNKNOWN SOLDIER

*Much has been spoken and much has been said
Of our gallant heroes and our glorious dead
Today as I wandered through dense jungle path
My eyes met the scene of war's aftermath
As I stood for a moment and gazed at the crosses
such is the price for even small losses
They cared for well these fallen braves
a neatly kept flower grows on each grave
One stands out upon my mind no different from the rest
Except I find no date, no name but he has had that tender care
His comrades wishes and God's last prayer
Some will return heads held high from that long list of missing
But his mother or sweetheart or wife will wait in vain for a lad they should be kissing
Mother or sweetheart take cheer from my verse and be of brave heart I implore
all that is possible has been done to carry his name to the fore.*

Reg Tennant, 1945

INTRODUCTION

My link with the RAAF Airfield Construction Squadrons is very tenuous. I served at Darwin in the early 1960s on detachments from Williamtown, and became aware of men disembarking from the unit Dakota every Friday evening. We were told that they were members of 5ACS and that they had just flown in from Tindal to be with their families for the weekend. We had heard that they were a strange lot, these construction bods; hard drinking, hard living, tough.

The history of the Air Force Construction Units is one of toil and sweat, of personal resource and professionalism. During peace, members served in remote areas under harsh conditions. Familial pressures were high. The men undertook hard physical work to build the facilities which were, quite often, taken for granted by those who followed. *Always First*, the motto of 5ACS, is appropriate as a title for this work. As will be seen, construction units were the pioneers, often landing with assault troops to ensure that airfields were operational in the shortest possible time. Their work remained unsung. Often they had moved away before the main operational force deployed to the facilities that they had prepared.

The Airfield Construction Squadrons were born of necessity, always understrength in men and materiel, and the recipients of plaudits and criticism. During the Second World War the attitude of the US Army was at times a threat to the future of the force. In post war years the organisation was based on shaky foundations and it may be argued that it was national commitments which reinstated the construction units in the RAAF order of battle in the early 1950s, and not the foresight of RAAF planners.

The structure of this book was a problem. To undertake a simple chronology by squadron would have resulted in a book of unmanageable proportions and a mundane and repetitious treatment. I decided on a geographical approach with the intention of discussing the objectives and operations of units activities in the same area as a whole. I realise that this approach may make it difficult to follow the activities of an individual squadron, but I trust that the reader will find each chapter integrated into the overall picture.

There are many people to thank and commend. Firstly Joy, my wife, who lived for almost two years with a combination of Airfield Construction history, various university seminars and assignments and periods alone as I sought evidence from inter-state and overseas. Also my staff at RAAF Historical have been a tower of strength. Mollie Angel, Janet Beck and Richard Bain undertook much of the mundane collection of records for me and have my gratitude. The RAAF Historian, Doctor Alan Stephens gave whole hearted support and valuable guidance. The maps were prepared by John Yialeoglou and Patsy Flint Richardson. Other individuals have my thanks for their cooperation and assistance: Mrs H. Goodman (for a copy of the diary of her father Lindsay Harold Hodges); Mrs P. and Mr G. Lings, the wife and son of Air Commodore P.G. Lings, who enabled me to access his personal papers, Squadron Leader Gary Westley, OC RAAF Museum for making facilities available to enable me to interview ex-Airfield Construction Squadron veterans, Monica Walsh (Research Librarian, RAAF Museum) and Flight Lieutenant S. Wright; R. Hand; K. Jack; L. Jubbs; E. McNab; Dennis Newton; A. Raymant and H. Tennant. The assistance of

overseas colleagues is gratefully acknowledged: A. DiFante, USAF Air Force Historical Research Agency; John Greenwood, US Army Center of Military History; Martin Gordon, Office of History, Headquarters US Army Corps of Engineers; Mr David Giordino, United States National Archives; Sebastian Cox and Graham Day, Air Historical Branch (RAF).

This work would not have been completed without the assistance of the following ex-members of the RAAF's Airfield Construction Squadrons: F. Atkins; D. Anderson; G. Barlow; F. Beale; L. Bloom; O. Brandt; C. Bower; F. Burke; F. Burnell; R. Campbell; L. Campbell; A. Clarke; G. Cole; A. Crowe; D. Dickson; C. Doughan; E. Edwards; H. Evans; W. Field; J. Fitzgerald; Rev A. Funnell; E. Graham; R. Gurevitch; A Harrington; D. Holdsworth; S. James; R. Johnstone; A. Johnston; H. Kay; S. Kildea; R. Lentfer; J. Lessels; R. Lopaten; W. McCaughan; B. McGuinness; R. Mott; B. Morrison; T. Mitchell; J. Nielsen; D. Northmore; E. Oliver; J. O'Toole; G. Park; A. Peake; D. Perry; J. Phillips; R. Provan; H. Parnell; R. Ramsay; N. Reichman; R. Rodgers; A. Robson; F. Satchell; M. Scott; M. Stanton; V. Stone; M. Summers; R. Tennant; K. Thomson; F. Tighe; K. Weaver; A. Welbourn; W. Woolfrey; A. Worrall; N. Wilckens; G. Wilson; O. Wyatt; A. Wraight; H. Young.

David Wilson
Canberra
January 1998

FOREWORD

This book is about the Airfield Construction Squadrons (ACSs) which were units in the RAAF during the period 1942-1974. To some readers it may seem strange that an Air Force had construction units. This was not uncommon, as for instance both the RAF and the USAF had such units. The author served in the RAAF, but not with the ACS. On the basis of information derived by him from research of historical documents and interviews of ex-ACS personnel, he has written a comprehensive account; particularly, but not only, as regards where, when, and why events occurred. My foreword endeavours to complement the author's work by briefly elaborating on the what and who, and the service environment in which the ACSs operated.

Since the time of the establishment of military flying activities at Point Cook in 1913, with the accompanying need for property acquisition and development of facilities, there have been few Air Force plans which have not had facilities implications. Whilst *Always First* is primarily concerned with the story of the ACSs, inevitably reference has been made to the Works (in RAAF parlance the term *Works* was sometime after the war replaced with *Facilities*) Staff at Air Force Headquarters. Their job was to provide the specialist engineering interpretation of Air Staff policy and plans, and functional control of their implementation, which may have been by service or civilian design and construction organisations. The Works Staff was placed on a discrete basis on 1 July 1925 with the establishment of the Directorate of Works and Buildings (DWB) which handled all works matters. Initially General Duties officers arranged the implementation of the facilities requirements for the RAAF. However, with the increasing demand at the beginning of World War II for further facilities, the need for specialist staff was recognised. In 1940 DWB had a staff of some 13 people, and the RAAF had no independent construction capability. The size of DWB grew from about 13 in 1940, to some 140 service personnel plus civilians in 1945.

With reductions at the end of the war the total number of personnel in DWB in the mid 1950s fell to about 25. The program for replacement of wartime temporary facilities with new facilities, plus many other initiatives, led to an increase in Facilities Staff and a change in the title of the director from Director of Works and Buildings to Controller of Works, to Director General of Accommodation and Works - Air Force, to finally Director General of Facilities - Air Force. By the late 1970s there were three Directorates within the Branch of the Director-General and some 60 service personnel and civilians. After exactly 72 years, on 1 July 1997 a separate and identifiable Air Force Facilities Branch within the Department of Defence organisationally disappeared, when all service and civilian staff were absorbed into the Defence Estate Organisation.

Recognising that the RAAF is primarily organised to fly military aircraft and provide their logistic support, the speed with which the RAAF in 1942 developed and deployed a construction capability was quite remarkable. Considerable skill must have been required to recruit specialist personnel and acquire the necessary works plant in competition with the Army and the Allied Works Council. Prior to the formation of 1 ACS in April 1942, and indeed even before War Cabinet approval, a works detachment had been sent to the Northern Territory in late February 1942. At the end

of the war the RAAF had 330 specialist Works Officers, and a construction capability organic to it of about 5,000 officers and airmen on active service in ten ACSs and associated works units.

A year after the end of the war the number of construction personnel fell to about 800 in the two remaining airfield construction squadrons - 5ACS and 7ACS. Over the next 10 years this figure was to fluctuate with the disbandment of 7ACS in January 1947, the reforming of 2ACS in May 1947, the disbandment of 5ACS in February 1950 and its reforming in August 1951, so that in 1956 the total establishment of 2ACS and 5ACS at Butterworth and Darwin respectively was about 800. With the disbandment of 2ACS at East Sale in April 1961, 5ACS became the sole remaining unit. The disbandment of 2ACS resulted in 5ACS Darwin receiving a welcome influx of works personnel. Prior to this the Squadron, under the command of Wing Commander Arthur Harrison followed by Wing Commander Allan Woolley, had constructed 2,744 metres of the new runway, with a depleted personnel strength. On completion the following year, it was 3,353 metres long, the longest runway in Australia. With the finalisation of runway and other associated works at Darwin in 1963/64 5ACS moved to Tindal. The Squadron was faced with many families having to remain in Darwin with consequent separation - yet again. Conditions at Tindal were harsh in terms of its remoteness, climate, and standard of accommodation. Praise is due to the efforts there of Wing Commander Fred Dawson and his men in completing a major airfield pavement development, which some 20 years later was to serve as the basic infrastructure for further development to bring Tindal to being a major operational base and part of the set of northern defence airfields.

Over the period 1963 to 1971 the Squadron's headquarters transferred from Darwin to Tindal to Amberley and finally Learmonth. Its establishment gradually reduced to a figure of 320 in 1971 to man the parent unit at Learmonth and the detachment at Amberley. Disbandment occurred on Friday 13 December 1974. And so the RAAF's construction capability had gone full circle over the period 1942-1974.

The disbandment occurred despite the concerted efforts in 1974 of Facilities Staff at Department of Air to find further projects which could be carried out on a cost effective basis. It seemed that suitable tasks might be forthcoming at the civil airports at Port Moresby and Lae (Nadzab) in PNG. There emerged opposition to the further employment of 5ACS on such tasks, and the die was cast for disbandment. Moreover the Minister for Defence (Lance Barnard) visited 5ACS at Learmonth during 1974 and informed the squadron that its disbandment was due to there being no further work available. Acceptance by unit personnel of this explanation was not helped by his going to Derby the following day where he announced the Government's plan to build a new RAAF Base with a runway 3,048 metres long together with associated taxiways and facilities.

To some extent the foregoing account of change is a reflection of broader changes in Australia such as overall reductions in the Armed Forces, the use of private enterprise to perform tasks previously carried out by service personnel, and a multi-service rather than a single service approach to management.

In international relations and military matters we all know that the one thing that can be expected is the unexpected. Whilst in the Australian area of interest there is and has been for many years a high level of stability this could change suddenly. In such changed circumstances, there could be a need for the prompt provision of additional air base facilities, and a rapid airfield pavement repair capability organic to

the RAAF. Recognition of the foregoing kept hope alive that sooner or later a nucleus of an RAAF construction capability would be considered of sufficient priority for its re-establishment. Indeed, in 1981 before a Parliamentary Works Committee (PWC) hearing dealing with further works proposed for RAAF Base Learmonth, the PWC saw fit to raise the question of the need for such a capability. My reply was strongly in the affirmative. Fortunately, in the fullness of time, this seed has germinated and there has been established an RAAF Operational Facilities Flight (OFF) under a Squadron Leader with three detachments at Townsville, Richmond, and Tindal. There is a current strength of some 67 RAAF Facilities Officers which would be the highest number since the end of World War II. They are serving at Department of Defence, RAAF bases, and with the OFF.

Whilst the OFF may be used for the maintenance and repair of air bases on the Australian mainland, it may have a role overseas, similar to World War II experience in the islands. In these circumstances it might have to be provided immediately after the infantry has occupied territory, and before our aircraft can operate. For this reason 'Always First' was chosen as the motto for 5ACS, but it could well have been the motto for all the ACSs. 5ACS sought and was awarded the following Battle Honours: PACIFIC 1942-1945, NEW GUINEA 1942-1943, MORESBY 1942-1943, MILNE BAY, DUTCH NEW GUINEA, and BORNEO 1945. The other ACSs would have also been entitled to all or some of these.

In war and peace there are always problems created by shortages of adequately trained personnel, works plant, and spares. This of course is not an uncommon experience with construction projects in remote areas. During the drive in 1974 to save the ACS a proposal was developed to make the specialist works musterings more interchangeable with general RAAF musterings, eg., works fitters and motor transport fitters by providing the latter with a supplement of specialist courses. In the event, of course, this never eventuated, but it was an approach which would have averted many problems if it had been adopted years earlier. The idea was too late! On the question of the quality of the works plant: whilst it is true that some of the plant was obsolete (or if one is kind at least obsolescent), much of the plant was excellent and better than any other similar plant in Australia. For instance, the concrete batching plant, eight metre wide placing, and finishing machines allowed of high rates of production, and gave relatively little trouble. A similar statement can be made in relation to the asphalt train of equipment, and the stabilisers. On the other hand, the large self-propelled scrapers with their high-tensile steel bowls and electric controls, operating in hot dusty conditions such as at Learmonth, Western Australia, were constantly going unserviceable, and proved an enormous drain on limited maintenance resources.

When disparate service groups are working in proximity on similar or different tasks tensions may develop. Whilst there may be a few examples of friction between the RAAF and US Army engineering construction units, it is clear that General MacArthur held the ACS in high esteem and is alleged to have overtly said so, as 3ACS was one of the few RAAF units to be a part of the invasion force of the Philippines. Some two years later Air Vice-Marshal Bouchier, who commanded the British Commonwealth Air Forces of Occupation in Japan, was to state in a document dated 20 March 1946:

It is always invidious to try and single out individuals, officers, and other ranks or units for special mention, particularly here at Iwakuni where everyone from the start has been so flat out to help, but I would just like to make a mention of one particular unit namely No 5 Airfield Construction Squadron (RAAF). I do not know what we should have done without them. No job was too big or too small for them. Although little more than an advance party in numbers, this unit under their Commanding Officer has worked wonders, and they are still on the job.

The relationship with the Royal Australian Engineers (RAE) was most interesting. There was a meeting at the end of World War II of a group of senior officers from the Royal Australian Engineers. Amongst other things, they considered that any future military requirements for a construction capability should be met by the Army alone. They perceived that the development of such a large RAAF wartime construction capability had denied the RAE access to considerable resources which it could otherwise have tapped. In the event, their views did not prevail. Indeed the reverse applied. The RAAF construction capability continued until the mid-1970s and during that period many RAE officers served with the ACS. One such officer was Malcolm van Gelder, who as a Captain RAE served with 5ACS at Darwin for two years in 1961-62, and is quoted:

My attachment to 5ACS at Darwin can be described as a highly technically rewarding and stimulating experience. It occurred at a time when the RAAF airfield construction capability was second-to-none at least in the Australasian and South East Asian regions. At Darwin there was the added benefit that there was complete vertical integration of construction activities from quarrying and crushing, the manufacture of cement and asphaltic concrete to the laying of finished rigid and flexible pavements.

I found that an ACS was the embodiment of a large range of engineering skills at professional and trade levels which were able to be mobilised quickly for operations in remote areas. Its mobility was directly facilitated at the time by being part of the RAAF. Its size as a construction unit and its holdings of specialist personnel, plant and equipment, uniquely prepared it to fulfil versatile functions.

To be part of a productive civil engineering organisation performing its work in a service environment was very satisfying. It was also very satisfying to be able to translate 5ACS experience and high standards into later airfield construction activity with which I was associated.

During the course of the Butterworth project in 1955-58 three RAE officers served with 2ACS, and four served at East Sale for short attachments of a few months in 1958-61. They gained valuable construction experience, and 2ACS benefitted by having the services of some fine officers who were to rise to high rank in the Army or industry. Following the disbandment of 5ACS, the Army reciprocated by giving junior RAAF Facilities Officers excellent professional engineering development with

Army Construction and Field Squadrons, experience no longer available at that time in the RAAF. The close relationship between the Air Force and Army engineer staffs continued with joint seminars being held on several occasions with the University of New South Wales.

The carrying out of construction activities on an RAAF base at the same time as other units were actively employed normally occurred with a minimum of disruption and tension. There were, however, a few notable exceptions I recall. At RAAF Base Momote in the early 1950s some friction with the Base Squadron came to a head late one afternoon, when the wife of the Commanding Officer of the Base Squadron rushed into the Officers' Mess stating that 'her water had been cut off'. Apparently an ACS bulldozer had dug up the water main disrupting the supply to her married quarter. The President of the Mess Committee, who was an ACS officer, invited her in no uncertain terms to leave the Mess immediately, claiming there were too many dogs, kids, and wives using the Mess. Soon after the ACS officers opened their own Mess, albeit on a temporary basis.

At East Sale there was also friction between the Base Squadron and the ACS. There were various reasons for this state of affairs. Things came to a head, however, as a result of the actions of 'Dynamite Dick', as Flying Officer Richard Gurevitch was endearingly known. The background to the affair was that 2ACS had used for the first time its concrete spreading and finishing equipment which had been widened from 3.8 metres to 8 metres. This was the first time in Australia that concrete pavement of this width had been machine laid. Some longitudinal cracking had developed in the concrete laid on the first day, possibly due to over-vibration. The decision was taken to remove the defective concrete using explosives. The expertise of 'Dynamite Dick' was fully and successfully utilised for the task. The ire of the Commanding Officer of Base Squadron was immediately induced, which resulted in a rather acrimonious exchange between the two Commanding Officers during which the CO Base Squadron expressed concern: firstly, that low flying aircraft could have been hit by debris, and secondly that a Stores Adjustment Voucher (SAV) for the lost concrete should have been raised. Of course, no aircraft had been hit as adequate precautions had been taken, and no SAV was raised as the pavement had not been taken on charge to the Property Assets Register. Nevertheless, this and certain other construction activities did produce some enduring tensions; notwithstanding ACS endeavours to be accommodating. The old saying that 'you can't make omelets without breaking eggs' is pertinent to many construction activities.

Always First makes reference to surveying problems at Labuan. This reminds me of the problems at East Sale created by the bench marks for the main runway rising and falling with the water table which at times was not all that far from the surface. By some clever survey techniques Flight Sergeant Ron Lopaten, who was in charge of surveying, managed to ensure that the final runway levels were in accordance with plans. Indeed, there were many fascinating events at East Sale, some of which should not be recounted publicly. Maybe the explanation was the change in climate for many squadron personnel who had been in the tropics for years and then found themselves in the relatively cold Gippsland climate. I recall early one morning on the swimming pool project as the section started the concrete mixer, there was a snort and a roar from inside the machine, and to everyone's horror it was discovered that one of its airmen had been asleep there over-night!

As with most engineering organisations, a prime role of the ACS management was problem solving arising from shortages of personnel, equipment and spares previously mentioned, and the belated arrival of vital construction materials such as cement, bitumen, and crushed rock. The ACS provided an excellent training ground for those entering industry both during and after the war. For years in the post-war era one would regularly come across ex-ACS personnel in most fields of engineering activity in the private and public sectors. In providing facilities for the RAAF, the ACS was determined to deliver a product of quality to meet the stringent airfield specifications laid down for the operation of military aircraft. Consequently young engineering officers were given valuable continuing professional development. Many of the airmen were able to learn a trade on the job or by attending specialist courses, run at the ACS, such as those in plant operation, and materials testing. Whilst the turnover of junior officers in peacetime was relatively high, that of Senior Non-Commissioned Officers was not. Most of these NCOs were of high calibre and magnificent leaders.

The magnitude, difficulty, and variety of the projects on which the ACSs were employed presented many challenges from a professional engineering aspect. Projects included the construction of what was at the time the longest runway in Australia, control towers, swimming pools, hangars and workshops, domestic accommodation and messing facilities, radio transmitter and receiver stations, control and reporting units, administrative buildings, and a range of other operational facilities. These projects often involved the winning of construction materials, quarrying, crushing, long haulage, production of concrete and asphalt, earthworks and drainage sometimes in extraordinarily difficult conditions in terms of water table and topography, and the construction of aircraft flexible and rigid pavements. These tasks often had to be performed in harsh and hostile environments including open warfare, and dusty conditions with temperature up to 125 degrees F. At Learmonth, for instance, the temperature in the cabins of the earthmoving plant reached 145 degrees F. This provided a rather convincing argument for airconditioning, which was subsequently installed. Where will young engineers obtain this type of experience now? Most organisations want to employ experienced engineers.

No account of the ACS would be complete without reference to the wives and families in both war and peace during which the personnel were often serving for considerable periods far away from their families, and frequently in remote areas under the most difficult conditions. For instance, at Learmonth many married quarters were completed belatedly causing protracted separation for families waiting to move from the eastern States. Initially no air-conditioning was provided in the married quarters, notwithstanding that the temperature rose on several occasions to 125 degrees F in the shade, and the maximum daily temperature would reach over 100 degrees for months on end. Eventually each married quarter had one air conditioner installed in one bedroom. This was in marked contrast to the US Navy homes nearby which were fully air conditioned. The families were an integral part of the ACS life and despite the difficulties made a valuable contribution to the high esprit de corps in the unit.

On 11 December 1997 the farewell took place in Canberra to Air Commodore Fred Kennedy who was the only Facilities Officer still serving with ACS experience. He retired in late January 1998. He was also the last officer to have been the head of a discrete Air Force Facilities Branch within the Department of Defence. His retirement

marked the end of an era, but fortunately the ACS spirit will live on in the RAAF as long as there is an Operational Facilities Flight within the Operational Deployment Force.

Among units in the Armed Services, one of the many things that made the ACSs special was that most other units had roles that were destructive, whereas theirs were constructive, and created lasting assets. The ACSs' monument is the set of military airfields and associated facilities which they constructed in war and peace in every State/Territory, on the Australian mainland, Japan, Cocos Islands, the South-West Pacific and South-East Asia. The ACS worked hard, played hard, and there was no finer unit on parade. Their esprit de corps and family spirit live on at the annual State and biennial National re-unions which are organised by dedicated former members such as Hal Pannell and Syd Kildea, respectively President and Secretary of the 'Flying Shovels' in NSW.

Finally I would like to thank David Wilson for writing a history that is long overdue, and dear to many. Whilst he had not served with the ACS, he has nevertheless within the limitations of some 60,000 words provided us with an excellent record. I thank him also for inviting me to have the privilege of writing this foreword.

John Lessels
Air Vice-Marshal (Retd)
Canberra, 12 January 1998

ABBREVIATIONS

ACS	Airfield Construction Squadron
ANGAU	Australia New Guinea Administrative Unit
AOC	Air Officer Commanding
AWC	Allied Works Council
BCAir	British Commonwealth Air Group
BCOF	British Commonwealth Occupation Force
CAS	Chief of the Air Staff
CB	Construction Battalion
CO	Commanding Officer
CT	Communist Terrorists
DFC	Distinguished Flying Cross
DWO	District Works Office
HMAS	Her Majesty's Australian Ship
LCM	Landing Craft Medium
LSTs	Landing Ship Tank
MWS	Mobile Works Squadron
MWU	Mobile Works Unit
OG	Operational Group
RAAF	Royal Australian Air Force
SDU	Survey and Design Unit
SEATO	South-East Asia Treaty Organisation
SWPA	South-West Pacific Area
US	United States
USAAC	United States Army Air Corps
USAF	United States Air Force
UXB	Unexploded Bomb
WMS	Works Maintenance Squadron
WMU	Works Maintenance Unit
WSU	Works Supply Unit
WTU	Works Training Unit

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CHAPTER ONE



ORGANISATION, PERSONNEL AND TRAINING

Recent events at Port Moresby have proved that civilian labour cannot be relied upon to carry out works duties in forward areas.

Arthur S. Drakeford, Minister for Air, 24 February 1942

I think all Board members would like to retain the sort of capability suggested, but we were all agreed that we have other and higher priorities for manpower in the technical area.

Air Marshal C.F. Read, CAS, 3 December 1974

Organisation

When the Royal Australian Air Force was formed on 31 March 1921, the only military airfield under its control was at Point Cook in Victoria. Acquired in 1913, this site had become the 'cradle of the Air Force', but it was obvious that a single station was inadequate for the needs of the growing service. During September 1921 395 hectares was acquired at Laverton, Victoria. The base at Richmond, New South Wales, had been used on a temporary basis for the deployment of Air Force aircraft before it became a permanent RAAF Base in 1925. All these activities involved the Director of Air Force Works and Buildings, Flight Lieutenant A. Hepburn DFC, who was responsible for: 'all questions affecting Air Force works; Air Force lands and Hirings; [and] Electrical, water, gas, drainage and sanitary services'.¹ However, the importance of the organisation was recognised and expanded to meet the expansion of the service during the later 1930s and wartime requirements. In 1936 construction of the base at Pearce, Western Australia, was commenced and three years later major buildings for the base at Darwin were constructed. In addition to the development of Archerfield in Queensland and a seaplane base at Rathmines New South Wales, landing grounds were identified and bombing and gunnery schools developed.² Although the construction work was undertaken by civilian contractors, much of the design and supervisory functions fell on the staff of the Directorate of Works and Buildings at Air Force Headquarters. Some idea of the work load may be gleaned from the manning level of the Directorate - a year after the declaration of war against Germany the manning level had expanded to a staff of 13. Obviously the work load

¹ Royal Australian Air Force *List of Staff and Distribution of Duties*, 1st July 1925, p. 4 [RH].

² For details of the expansion of base facilities see C.D. Coulthard-Clark, *The Third Brother*, Allen and Unwin, Sydney, 1991, pp. 119, 156.

was high, but the calibre of officers such as Squadron Leader W.A.C. Dale, Flight Lieutenants D.J. Rooney and R.U. Hoddinott is evident in that these officers were to make their mark during subsequent operations and greatly influence the development of the works organisation.

The expansion of the RAAF and its involvement in the training of aircrew under the Empire Air Training Scheme called for the rapid expansion of training facilities throughout Australia. Civilian airfields were developed and expanded and the growing tension with Japan during 1941 led to the institution of forward air bases in Dutch New Guinea and Papua New Guinea. During November 1941 the Commanding General of United States Army Air Corps based in the Philippines, Major General Lewis Brereton, initiated talks with the RAAF for support for two projects of vital importance to the United States. At a conference held in Melbourne on 21-23 November 1941, Brereton outlined the proposals. The first was to provide suitable aerodromes and operating facilities for ferrying of aircraft from Townsville to the Philippines via Darwin. In addition a depot was to be developed at Townsville and facilities were to be made available to conduct frequent training flights to and through Australia by units stationed in the Philippines. These facilities were also to be available for emergency reconnaissance-bomber missions. The second aimed at developing additional aerodromes and facilities 'to permit the operation of about 50 per cent of the air force now assigned to the Philippines at either tactical or strategic level, with missions being sent out from the northern part of Australia to the Dutch East Indies, New Guinea, the Solomons or New Hebrides against either land or naval objectives'.³

This scheme recognised that the Japanese presence in the Caroline Islands would impede the reinforcement of the garrison based in the Philippines, and enable US air power to protect the flank of any naval deployments to support American forces in the Philippines. The inclusion of airfields at Rabaul (Vunakanau) and Port Moresby gave impetus to their upgrading at US expense. Although the former was assessed as being only suitable as an emergency landing ground for heavy bombers, it was planned to stabilise the runway with cement at a cost of £25, 000. A similar sum was set aside to fund the work being undertaken to extend the runway at the Seven Mile Airfield, Port Moresby, by an additional 547 metres and the construction of four additional taxiways, tarmac areas and other facilities. To meet the planned completion date of 15 December, the Department of the Interior arranged for a crusher to be shipped from Sydney and to make available 400 extra natives at Port Moresby. In all Brereton had a grand total of £5, 684, 595 allocated for the construction of facilities at Townsville, Cloncurry, Daly Waters and Batchelor. This scheme laid down the basis for a series of facilities in northern Australia and New Guinea which were to prove invaluable in the desperate days ahead.

After two months of war with Japan a basic flaw in the works organisation became evident: the inappropriateness of civilian labour being employed under fire. On 4 January 1942, Japanese bombers raided Rabaul for the first time, and the threat of war was having a profound effect on civilian and native morale in New Guinea. In a report to the Air Officer Commanding North Western Area dated 2 February 1942, the Area Works Officer at Port Moresby wrote:

³ Notes on Conferences at Victoria Barracks, Melbourne 21-23 November 1941, to discuss United States projects. [RH]

... Practically all the native labour has gone bush and the white labour, most of which is employed by Mr Stubbs has either been conscripted into the army by 8th Military District, or has left for the south in recent ships. The condition is critical and can be illustrated by the fact that at one stage recently there were 408 natives working on the aerodrome - now there are only in the vicinity of 10 to 20. Richardson's quarry which was turning out 400 [305 cubic metres] cubic yards of metal per day, has now practically ceased production - the maximum turned out being something in the vicinity of 25 [19 cubic metres] cubic yards. When it was decided to curtail Mr Stubb's contract, he immediately went south to discuss settlement and compensation with the department and has not been seen since. His men have dispersed ... His native boys also, having no one to control them, have all gone bush.

The situation would not have been improved by the dropping of 21 bombs on targets at Ela Beach, Three Mile Airstrip and the Seven Mile Airstrip on 3 February 1942. This enemy action vindicated the efforts of works staff at Port Moresby to provide facilities for aircraft dispersal at the Seven Mile. Pilot Officer M. Shaw, a Melbourne architect before joining the RAAF as a cipher officer, was instructed to prepare splinter proof dispersals. Major General Morris stated that he would attempt to make troops available to undertake the task with the proviso that the Air Force would make use of the facility when it had been completed. In his opinion, the Air Force should have its own labour force to be employed at the 7 Mile and for unloading of shipping in the port. A similar situation prevailed at Horn Island, where an Advanced Operational Base was being established. After visiting the island on 31 January 1942, the Area Works Officer noted that where four days earlier there had been 100 men working on the aerodrome, the number had fallen to three.

Wing Commander W.A.C. Dale, the Deputy Director Works and Buildings, voiced his opinion to his Director, Group Captain E. Knox, on 8 February that 'similar occurrences may be expected in forward areas, and it seems certain that work in such areas will have to be [performed] by enlisted personnel. Civilians cannot reasonably be expected to work in the firing line knowing that their dependants will not be provided for in the same way as Service personnel.'⁴ He continued that the experience of recent campaigns and 'more lately Rabaul suggests that the absence of suitable air bases is likely to be the controlling factor in limiting air defence. To provide these, enlisted men with special training are needed. They should be capable of rapidly constructing advance military aerodromes, or of improving those existing. They should be capable of constructing camps from whatever material may be offered locally, of camouflaging the camps and preparing defensive work for its protection.' Dale had identified the unique requirements of the Air Force - a facility that the 'army at the present time has not the organisation available for the work, and in any case understands little of our special work ... an air force needs its own engineers who understand its special needed and requirements. It seems essential to form one or more works squadron immediately.'

The situation warranted drastic, urgent action, and Dale had no illusions as to the magnitude of the task ahead. The works program was colossal. Dale envisaged an overall civil/military organisation where civilians would be retained for back areas

⁴ A705/1 item 515/2/285.

where more deliberate work could proceed out of the range of enemy bombers. He recommended that extra air force units should be formed and trained immediately, and they be supported by additional Army engineer units to ensure that work in forward areas was to be ready when required. Both Services' civil engineering units would be under one supreme coordinating authority.

The Air Board approved the proposal in principle on 20 February 1942, and the matter was submitted by the Minister for Air, Arthur Drakeford, to the War Cabinet where it was considered on 2 March. The War Cabinet deferred consideration 'in view of the proposals of the Director-General Allied Works Council (AWC) for the formation of Labour Battalions for carrying out Australian-American works projects and other urgent war and defence works throughout the Commonwealth'.⁵ In the meantime, the Air Member for Organisation and Equipment, Air Vice-Marshal W.H. Anderson, who had discussed the proposal with the Director-General of the Allied Works Council, was able to advise the Air Board on 10 March 1942 that the AWC favoured the formation of the squadron and recommended that a further submission should be made to the War Cabinet requesting authority to proceed. The Board concurred, but Anderson was advised by the Department of Defence Coordination that the written confirmation of the Director-General Allied Works Council should be obtained. Anderson subsequently discussed the matter with the Director-General, who advised that the proposal did not conflict with the recommendations related to the formation of Labour Units. Drakeford resubmitted the matter to War Cabinet on 14 March 1942 and the proposal was approved on 19 March.

It was originally planned to deploy the works units to the Northern Territory. However, on 25 March, Headquarters Western Area sought Air Board comment on a proposal to raise a Mobile Works Unit in the area.⁶ The submission recognised that the isolation and dispersion of works effort in Western Australia was a matter for concern, and noted that there would be no problem with manning the unit. This view was reinforced on 4 April when Wing Commander J.V. Tunbridge at Headquarters Western Area was approached by Mr J.A. Johnston on behalf of himself and his five sons. Johnston offered his services and plant to form a construction unit for operations in the north-west. Remembering the administrative manoeuvring required to obtain War Cabinet approval for the raising of IMWS, the Secretary, Department of Air, M.C. Langslow, forwarded the letter to the Allied Works Council on 15 April, and requested their view on the matter.

On 24 April the Secretary of the AWC, Mr H.F. Yoxon, advised of Council concurrence to the proposal. The Air Board, during its deliberations, argued that 'experience has shown that it is most difficult to carry out works in the more remote parts of Western Australia using civilian personnel, more especially since the threat of air attack. It is considered essential that there should be available at all times an engineering unit which can be relied upon ... [to] carry out urgent work.'⁷ The proposal for the establishment of 2MWS in the west and 3 and 4 Works Maintenance Units for deployment in the Northern Territory and North Queensland was forwarded to War Cabinet on 12 May and approved on the 26th.

⁵ *Ibid.*

⁶ A705/1 item 151/2/239.

⁷ *Ibid.*; Air Board Agenda 3943 dated 29 April 1942.

The rapid development and expansion of the RAAF's engineering capability and the possible raising of a extra MWS (3) for construction of forward airfields in the North Queensland area called for coordination of all engineering efforts in the field. The Chief of the Air Staff, Air Vice-Marshal George Jones, convened a meeting at his conference room on 30 April to discuss its establishment and the construction of airfields in North Queensland. In attendance were the Deputy Chief of the Air Staff; the Director of Works and Buildings, Group Captain Knox; E.G. Theodore (Director General AWC) and his assistant Mr C.A. Hoy; and Mr E.F. Borrie (Director of Engineering, Department of the Interior) who were advised that the units were to move 'ahead of the operational squadrons to prepare new bases or reinstate existing ones'.⁸ Theodore, despite the Service Officers' reservations (based on the experience of early 1942), was firm in his opinion that the civil organisation would be capable of all construction work at Groote Island, Horn Island and other sites in Northern Queensland. The meeting compromised, aiming at civilian contractors undertaking works in the north-west of Western Australia until being relieved by 2 MWS when it was formed and equipped. However, action in New Guinea claimed higher priority, but not before the whole engineering capability of the RAAF came under the scrutiny of the US Army Chief Engineer, Brigadier General Hugh J. Casey. His attitude was that 'the policy would be that all construction forces would be unified [ie. under US Army Control and] would be utilised where they were most needed'.⁹ Writing to his Commanding General George Brett on 20 May, Casey expanded on this theme and questioned the reasoning behind the decision to raise RAAF engineering units:

In view of the limited equipment available in Australia, and the limited amount which can be procured from the United States because of shipping limitations, the equipping of these units will have to be undertaken from other agencies which would have otherwise be engaged on normal airfield and other heavy road construction. If there is an assurance that the equipment will be utilised to its maximum, including two or more shift operation, and these construction units would be utilised for *all* airfields, as distinct from merely RAAF airfields, as well as on emergency road construction found necessary as part of the coordinated national defence requirements, there would be no objection from the overall view point.

If they are not utilised at maximum efficiency, and if much time is lost in transfer of men and plant from area to area, and if experienced operating personnel is [sic] pulled away from other active projects, and if they are employed solely on RAAF fields, which may be built in excess of RAAF operating requirements at the expense of US Air Force requirements, the construction program will be retarded rather than accelerated.¹⁰

Casey was of the opinion that the decision to raise RAAF engineering units should be reviewed. He doubted the efficacy of the Air Force units, arguing that they should be assigned as Australian Army Engineer units, which 'are already organised

⁸ A705/1 item 151/2/329.

⁹ *Engineer Memoirs: Major General Hugh J. Casey*, Office of History, US Army Corps of Engineers, Washington DC, 1993, p. 197.

¹⁰ A705/1 item 515/2/285.

and equipped with mechanical equipment companies and other such Army and Corps units, trained and equipped for heavy construction work [that would be able] to furnish a large source of potential labour for airfield construction purposes. They could be utilised on airfield construction as well as on military road construction, similar to the utilisation of the American Engineer units on airfield construction' and that if the RAAF units were to be utilised in a similar manner, it would be setting 'up parallel organisations for the same type of work'. Air Vice-Marshal Bostock, the Chief of Staff, Headquarters Army Air Forces South-West Pacific Area, replied that the matter in question was the responsibility of the Australian Minister for Air and RAAF Chief of the Air Staff and advocated that 'it is very desirable that the RAAF should retain its present policy in relation to Labour Units'.¹¹

However the pressure to create operational airfields in New Guinea meant that the US Army ideal of having unified engineering resources had to be superseded by urgent operational requirements. Casey and Air Corps Brigadier General Harold H. George had visited Port Moresby on 31 March to examine the facilities at Port Moresby and recognised a requirement for the development and/or construction of the Seven Mile, Kila Kila, Schwimmer and Wards airfields. It was evident that there was a critical shortage of engineer troops in New Guinea to fulfil this need, and on 2 July Casey wrote to Air Vice-Marshal Jones requesting the deployment of a RAAF Airfield Construction Unit which was being raised in the Melbourne area to New Guinea.¹² Number 1 Mobile Works Squadron had been raised at Ascot Vale on 6 April 1942. On the same day, Jones advised Casey that the dispatch of a RAAF Works Unit from Melbourne to the New Guinea area on or about 20 July, was approved.

Planning was also continuing to improve the position related to airfield construction and maintenance in the West. On 12 May 1942 Drakeford sought approval from the War Cabinet for the establishment of 2 Mobile Works Squadron and 3 and 4 Works Maintenance Squadrons. The former was to be tasked with major construction tasks in remote areas of Western Australia and the latter included the maintenance of aerodrome, runway, taxiway, tarmacs and roads surfaces. Domestic facilities were to be maintained and the Works Maintenance Units were envisaged to 'be organised with a mobile reserve at some suitable centre to be determined, with a maintenance section attached to every occupied station or aerodrome'.¹³ The reserve was to reinforce the maintenance section when works beyond its capacity were to be undertaken. The latter is evidence of a diffusion of the airfield construction effort from the establishment of bases to that of maintaining existing facilities; a trend outside the spirit of Wing Commander Dale's vision for airfield construction units.

By October 1942 the Allied forces in the South-West Pacific were looking toward an offensive posture, and the construction of airfields was a vital element for future operations which called 'for immediate construction of more aerodromes in the New Guinea area to permit of the building up of sufficient air strength not only adequately to defend that area against further encroachment by the enemy, but also to permit an offensive being launched with the object of recovering those portions now held by the Japanese'. Amphibious landings against Japanese strongholds were

¹¹ *Ibid.*

¹² A705 item 515/2/285

¹³ Supplement No. 2 to War Cabinet Agendum No. 117/1942 ; A1196/6 item 36/501/366.

planned and engineer troops would provide vital airfields to be operated for defensive and offensive operations.¹⁴

Colonel B.M. Fitch the Adjutant General Headquarters South-West Pacific Area wrote to Air Vice-Marshal Jones on 20 November pressing for the establishment of further works units. He considered that it was 'highly desirable that four additional works units ... be formed as rapidly as possible ... The performance of the Special Works Unit now operating in New Guinea has been excellent, and it is assumed that the new units will be modelled along the same lines. The only suggestion is to increase the strength of the unit if possible to approximately five hundred men. By so doing, work in two and three shifts will be made easier'.¹⁵

Further pressure was exerted by the Commanding General US Fifth Air Force, George C. Kenney and his deputy, Brigadier General Ennis Whitehead, who discussed the works situation with Group Captain Gerald Packer from RAAF Forward Echelon. Packer wrote to Group Captain Knox and the Director of Organisation on 23 November pressing the importance of 'our Mobile Works Squadrons [becoming] specialised units in aerodrome construction, and that their equipment should be properly balanced to complete the normal 1,829 by 30 metre strip with dispersal areas within the shortest possible time which local conditions allow. I have discussed this matter with the Chief Engineer in Advanced Headquarters, 5th Air Force and he is particularly desirous that our Mobile Works Squadrons should be overhauled both as regards personnel and as regards essential equipment'.¹⁶ Packer reinforced Dale's basic premise made in his submission to Knox in February 1942.

Jones wrote to Kenney on 30 November advising him that the Air Board had approved the raising of the additional works units; one by 15 January 1943 and the remainder at one month intervals thereafter. The RAAF's commitment was met by the formation of 5 Mobile Works Squadron by expanding the extant 1MWS Special Works Force in New Guinea to squadron status on 16 November 1942. The parent unit, No 1 MWS was to be fully equipped and fill the gap created by the movement of US Army construction units from the Northern Territory. This requirement stretched the facilities of 1 MWS, and it was essential that 3MWS be equipped to enable urgent work to be completed before the onset of the wet season. With its increase in equipment and change in role, 3 Works Maintenance Unit changed its name to 3 Mobile Works Squadron on 14 January 1943.

The expansion of the Works force in the RAAF (2MWS had been formed at Pearce, Western Australia on 8 June) called for a reorganisation to control an ever expanding asset and its ancillary components. On 4 December 1942, Drakeford, with the affirmative recommendation of the Air Board, submitted supplement 5 to War Cabinet Agendum No. 117/42 as a 'result of a recent conference between representatives of the Department of Air and of General Headquarters, South-West Pacific Area', to codify the importance of the Works function. The October 1942 rationale was reiterated, and the submission continued to argue that 'it is highly important that sufficient Mobile Works Squadrons should be specialised units in aerodrome construction, and that they should be appropriately and adequately equipped to undertake all works associated therewith'. To meet the operational

¹⁴ Air Board Agenda 4277 dated 2 October 1942.

¹⁵ A1196/1 item 42/501/182.

¹⁶ *Ibid.*

requirement it was recommended that four additional Mobile Works Squadrons be formed as rapidly as possible - three for service in New Guinea and liberated areas, and one in the Northern Territory.

Drakeford accepted that ancillary units would be required, and proposed that 1 and 2 Works Wings be established in North-Western Area and North-Eastern Area respectively to command these units. Each Wing was to comprise a Wing Headquarters, Survey and Design Unit, Works Supply Unit, three Mobile Works Squadrons in 1 Wing (four in 2 Wing) and a Works Maintenance Unit.

The reorganisation of the works force called for the redistribution of duties between civilian and service organisations. On 23 December a conference was convened at RAAF Headquarters to discuss, among other subjects, the role of the AWC. At the conference Mr E.G. Theodore argued that the AWC should be responsible for the construction of aerodromes, access roads and the like in non-combat areas.¹⁷ Air Vice-Marshal Jones agreed and suggested that the Civil Construction Corps should undertake the responsibility for all work at Port Moresby area, relieving the Services construction units for work in more forward areas. Thus the Service works organisation would not be responsible for low priority construction work in rear areas.

Air Commodore Bladin, the Air Officer Commanding North-Western Area had misgivings regarding works procedures. On 13 January 1943 he wrote to the Secretary of the Air Board for clarification querying whether 'the peace time procedure of submitting designs and estimates for Treasury approval before beginning constructional work be insisted on'.¹⁸ On the same day he wrote to Jones on the same theme: 'The one thing I am afraid of is the retrograde step in this Area, where we get back to the old peace time procedure of plans, estimates, War Cabinet approval and delay ... In short, I think as much as possible should be left to the Area Commander and the local Divisional Works Office and get away from centralised control of detail'.¹⁹ Jones replied on the 20th with the assurance that there was 'no intention to revert to the former procedure'. Jones, however, had no intention of decentralising control. Group Captain Knox, the Director of Works and Buildings reaffirmed Jones' advice two days later in more detail:

... you will appreciate that all building materials are now strictly controlled and that they are released according to the priority awarded by the Chief of Staff Committee. It is essential therefore that a priority must be awarded to the work and financial authority obtained before materials can be supplied by the Allied Works Council.

It is necessary when work is being carried out by RAAF Works Units, for details to be approved before the work is commenced. Provided a project forms part of an approved program there is normally no difficulty in obtaining financial authority. The Chiefs of Staff Committee cannot award a priority until financial authority has been obtained.²⁰

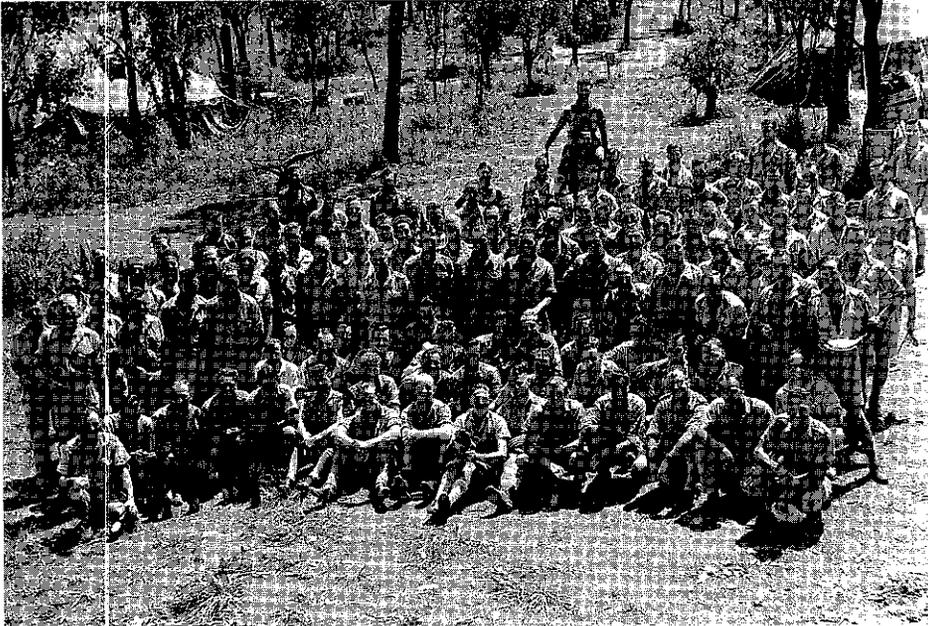
¹⁷ A1196/6 item 36/501/366.

¹⁸ A1196/1 item 42/501/182.

¹⁹ *Ibid.*

²⁰ *Ibid.*

Jones evidently did not wish to delegate control to his Area Commanders; rather, he retained the ultimate control over works projects on the mainland. The split between command and administrative functions was inherit in the Works Wing proposal. RAAF Headquarters advised its Forward Echelon on 15 December 1942 that when 2 Works Wing was formed the formation would be 'assigned [to] GHQ for engineering work within SWPA. General administration function and technical control will remain with this Headquarters.'²¹



61 Works Wing Headquarters and 12 Survey and Design Unit personnel Christmas 1943
(via Syd Kildea)

Group Captain Knox issued Works Instructions No. 8 and No. 9 'Organisation and Duties' which outlined command and control arrangements. The Works Wing came under the command the Air Officer Commanding of the area in which it operated. However, should a unit be detached to an area in which there was no Works Wing Headquarters, it would act as an independent unit under the command of the Air Officer Commanding of the area to which it was detached. Functional and technical control of Works Wings was exercised by RAAF Headquarters to which, on subjects affecting its technical functions, Works Wing Headquarters or any detached works unit would have direct access. Control and allocation of transport and mechanical equipment was to remain the responsibility of RAAF Headquarters.²² Knox deemed that RAAF works units would be tasked to construct airfields, camps, roads, wharves and undertake static camouflage of Air Force bases approved by RAAF Headquarters.

²¹ *Ibid.*

²² *Works Instruction No. 9 RAAF No 61 Works Wing Organisation and Duties*, p. 3 [RH].

Significantly, works undertaken in the event of active operations did not require RAAF Headquarters approval.

The Works Wing organisation was developed from practical experience in implementation of current procedures. Group Captain Knox wrote to Wing Commander Dale, Commanding Officer 62 Works Wing, on 13 April to advise that the 'primary source of manpower for new mobile works squadrons is within the wings, and that the 800 men in the Works Maintenance Unit, Works Supply Unit and Survey and Design Unit in each Wing, plus approximately 250 new personnel, can be re-organised into two Mobile Works Squadrons'.²³ Knox envisaged a Wing structure of a Headquarters and six Mobile Works Squadrons, each with its own survey and supply section. Dale replied on 14 May, expressing his opinion that the survey function should be retained in its current form and agreed with Knox that 'for reasons of economy and efficiency in various matters 61 and 62 Works Wings should eventually work closer together'. Attempts were made to formulate proposals to create building and maintenance flights and the restoration of certain District Works Offices to remove pressure on the Works Units. This initiative received qualified support from Dale, who considered the 'resurrection of 4DWO to take over works in back areas ... [and] will enable 4WMU to become a fully mobile works squadron'.



Organisation and planning were essential for the success of an ACS. Flight Lieutenants G.W. Barlow and J. McEnney discuss progress at Nadzab. Note the 'charge report' in the background. (G. Barlow)

Wing Commander K.S. Melbourne, commanding 62 Works Wing at Port Moresby, in his response of 27 April 1943 doubted whether the Works Maintenance Unit 'will ever function as originally intended, ie. as an aerodrome maintenance unit. Its equipment is totally inadequate ... and it should be equipped as a Mobile Works Squadron or reconstructed more as a building construction unit'.²⁴ Before these

²³ A1969/100 62 WW item 1/1/Air Pt 1.

²⁴ A1969/100/197 item 1/2/Air Pt 1.

proposals could be discussed further, Drakeford, on 4 May, recommended to the War Cabinet that mobile works squadrons be organised on a standard establishment (hence splitting 1MWS into two, forming 14MWS) and varying the personnel and equipment establishment to meet the extensive program of aerodrome construction planned for Allied Air Force purposes.²⁵

Knox convened a conference on 15 May 1943 which was attended by Wing Commanders Dale, Rooney and Melbourne and the Commander of the Works Training Unit, Squadron Leader G.D. Maunder. The matters raised in Melbourne's 27 April memoranda were discussed and the suggestion made that the Wing Headquarters incorporate and utilise Survey and Design Units.²⁶ The three unit commanders agreed in principle that it was not economic for a unit to be employed on airfield maintenance. Maunder emphasised the morale problem, stating that 'large bodies of trained men only doing odd maintenance jobs lose interest, whereas if they were doing definite construction work interest in the job would be maintained'. If aerodromes were issued with equipment to cover minor maintenance jobs 'many difficulties would be overcome'. Prophetically, 'it was further agreed that Works Maintenance Unit is a misnomer and that a more suitable name should be given it'.²⁷ The recommendation to disband 12 and 13 Survey and Design Units was implemented when they were absorbed into the Wing Headquarters on 1 September 1944 and 12 August 1944, respectively. All MWS's and WMU's were renamed Airfield Construction Squadrons on 15 July 1944, thus better reflecting the role of these units.

The proposed reorganisation planned for the disestablishment of the Works Supply Units, a course of action not favoured by Dale because, he argued, that as the Wing was forced to 'operate often independently of the rest of the RAAF organisation, as at Nadzab and to a lesser degree at Tadj. Owing to the complete lack of transport it is essential for large stocks of all equipment items to be carried since replenishment can only be effected at rare intervals and supply units move in, usually after this Wing has moved on ... The need for a stores holding unit has become very evident due to recent moves'.²⁸ Knox replied on the 27th that both General Casey and Colonel L.J. Sverdrup had given assurances that materials required for Works Wings operations would be made available from 6th Army sources. This point made it possible to consider disbanding the works supply units in order to make the personnel available for other duties.

Colonel L.J. Sverdrup from General Headquarters South-West Pacific Area wrote to Knox on 21 May 1944 to allay fears that he had regarding the supply of essential works. Sverdrup succinctly summed up the role of the Airfield Construction Squadrons:

It is at the present time proposed to employ the Wing in Task Force operations similar to that which the 62nd Works Wing has been employed in since the capture of Aitape. This being the case, the Wing will be supplied through Task Force sources with the exception of such items as are peculiar to your particular service. It is felt, therefore, that the supply and maintenance units

²⁵ A1196/6 item 35/501/366.

²⁶ A1969/100/197 item 1/2/Air Pt 1.

²⁷ *Ibid.*

²⁸ A1969/100/198 62 WW item 1/1/Air.

can better be absorbed within the squadron (sic) themselves. It is also felt that the Wing can handle the design as well as administration of these squadrons.

During June 1944, Group Captain Knox prepared an unsigned memorandum related to the 're-organisation of RAAF Works Units', which was the ultimate progression in the organisation of the Works Wings. Knox planned a single Aerodrome Engineer Wing Headquarters and five Aerodrome Engineer Squadrons, each with a strength of 500. The aim was to increase the operational effectiveness of the organisation and make it more adaptable for the construction of airfields under combat conditions. They would be task force units, and have no airfield maintenance function. However, there is no record of the initiative being proceeded with.²⁹

The established strength of the Airfield Construction Wings, as at June 1944, was 6,084.³⁰ The development of such a force had been a remarkable administrative achievement.

When the armistice with Japan was announced on 15 August 1945, there were 146 officers and 4,836 airmen³¹ on active service in ten Airfield Construction Squadrons, located at Tarakan, Balikpapan, Labuan, Morotai, Bougainville, New Britain and Aitape. One squadron, 9, was at sea bound from Sydney to Balikpapan. By the end of 1945 eight of the ten Airfield Construction Squadrons had disbanded. No. 5 ACS was preparing for deployment to Japan as part of the British Commonwealth Occupation Force (BCOF) and 7ACS remained in Bougainville, undertaking airfield maintenance tasks until disbandment in January 1947. Nos. 61 and 62 Airfield Construction Wing Headquarters were disbanded on 22 November and 27 November 1945 respectively. Orders for plant and equipment were cancelled, and those machines declared as excess to RAAF requirements offered to the Department of Works and Housing for disposal to meet a 'vital civil need throughout Australia for this equipment'.³²

During 1946, the RAAF was in the throes of administrative turmoil created by an uncertain future for the Air Force itself. The priority of the government was to redirect the manpower and financial resources from the 'largely irrelevant armed forces' into programs aimed at directing the nation into peacetime economic activity.³³ Until a firm decision could be made on the future organisation and role of the Service, some capability was retained by the establishment of the Interim Air Force. On 12 September 1946, the Minister for Air, Arthur Drakeford, approved a personnel establishment of 15,000 for this force which included the 489 and 307 personnel serving with 5 and 7 Airfield Construction Squadrons in Japan and New Guinea respectively.³⁴ Given that 5 Airfield Construction Squadron was to disband at the end of its commitment to the BCOF, and the demise of 7 was to occur in four months, the prognosis for the future of Airfield Construction Squadron operations was not heartening.

²⁹ A1969/100/197 61 WW item 1/2/Air.

³⁰ *Ibid.*

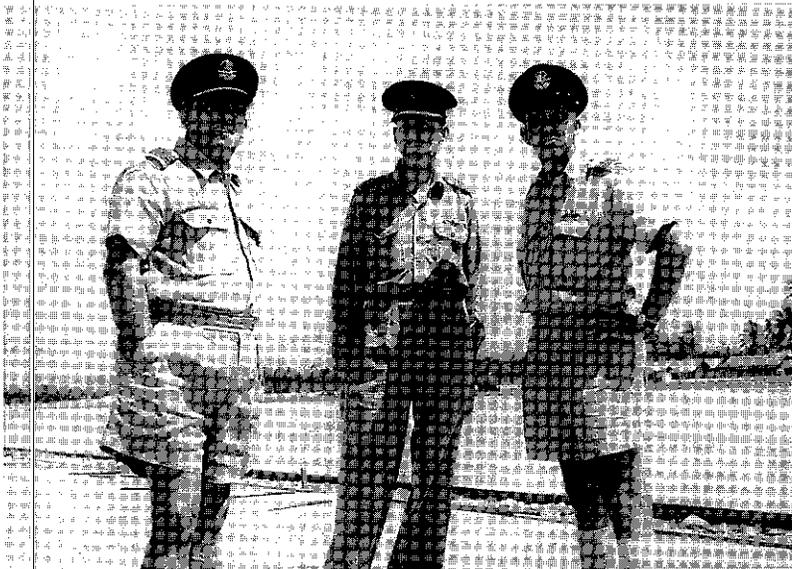
³¹ Strength figures recorded in the Unit History Records of the Airfield Construction Squadrons as at 31 August 1945.

³² Air Board Agendum No. 7214 of 29 May 1946; Air Board Agenda No. 7033, 7304 and 7413.

³³ Alan Stephens, *Going Solo The Royal Australian Air Force 1946-1971*, Australian Government Publishing Service, Canberra, 1995, p. 15.

³⁴ Air Board Agendum No. 7493 dated 6 September 1946.

Pressure for the expansion of the works force came from the Department of Munitions which was responsible for the administration of the British/Australian Long Range Weapons Establishment to be constructed at Woomera, South Australia. The Department of Works and Housing had advised that it was not able to 'muster from civilian sources personnel or plant' resources to undertake the works program, and requested that the RAAF fill the breach.³⁵ The Air Board, considering the reduction of tasks for 5ACS in Japan and the fact that the Department of Works and Housing was to take over the works maintenance function in New Guinea, assessed that it would be possible to raise an Airfield Construction Squadron to meet the requirement. Drakeford agreed to the raising of the unit on 9 April 1947 and 2ACS was reformed at Mallala, South Australia on 19 May 1947.



Group Captain P.G. Lings, Group Captain W.A.C. Dale and Wing Commander G.N. Purdy survey construction of Butterworth. Dale was the ACS 'father figure' and highly respected for his wartime professionalism by the American engineers he controlled and by his peers in the post-war RAAF. (RAAF)

The raising of 2ACS was to meet a non-Service requirement, but it was soon evident that the expansion of the RAAF and of its facilities was beyond the capacity of the Department of Works and Buildings, which was committed to other major housing projects and works for government instrumentalities. By February 1951 the £10 million RAAF Works program was in disarray. Work was approximately one and a half years behind schedule, causing a lag in training programs and the development of infrastructure; '50 jobs [were] still incomplete'. To meet this crisis, the Air Board recommended that 5ACS be re-activated and the Minister for Air, T.W. White, obtained Cabinet approval for the proposal on 19 June 1951. A similar argument was proposed by the Secretary, Department of Air, Mr E.W. Hicks, to the Department of Defence on 24 January 1952, seeking Defence Committee approval for the raising of two works maintenance units and a prefabricated building section. The maintenance

³⁵ Air Board Agendum No. 8052 dated 28 March 1947.

unit would comprise 89 personnel and be charged with the task of rehabilitating facilities at Momote on Manus Island and at Darwin. Twenty-six personnel would be required at 2 Aircraft Depot to produce prefabricated buildings and erect them as and where required.³⁶ Advice of the Defence Committee approval for this action was forwarded on 14 March 1952, but the committee noted that the Ministers for the Navy and for Air had submitted proposals for the establishment of a works construction squadron to undertake work on their behalf at Momote.³⁷ This latter proposal resulted in Headquarters 2ACS being opened at Momote on 19 November 1952, superseding Hicks' proposal.

Even though in May 1959 the ACSs had reached a strength of 1,013 personnel the future of the works service was under serious threat.³⁸ The RAAF strategic concept was changing. The perception was that the RAAF would only be involved in limited wars of short duration. The force-in-being and the availability of necessary facilities would be of critical importance in the early stages of any such conflict. In this scenario the reason for the raising of the wartime works units and the emergence of the force in the 1950s was of doubtful veracity. The conception was that, if a project could not be brought into operation within the first weeks of conflict it would not be afforded a high priority in planning operational requirements for war. Some doubt was also thrown on the mobility of airfield construction squadrons. Therefore their role over the subsequent decade was foreseen as being, essentially, the construction of a limited number of new airfields, improvements to existing facilities and repairs to property due to enemy action, and even the former was under review. The argument proffered and accepted in 1951 that it was more economical to employ specialised RAAF works units rather than civilian contractors was questionable. Given these considerations and the strategic climate, the decision was taken that the two squadron should complete their current projects at Darwin, Williamtown, Richmond, Parkes and Regents Park by March 1960 and that 2ACS would be reduced to name-only status by September 1960. This deadline was not met, due to the requirement to complete airfield work at East Sale, Victoria, and the disbandment of 2ACS was postponed until 30 April 1961.³⁹

The remaining unit, 5ACS, became the object of constant review. On 24 July 1962 the Chief of the Air Staff, Air Marshal Sir Valston Hancock, recommended that the strength of the unit be reduced from a total of 515 to 300 officers and airmen. He envisaged that by July 1966 5ACS would 'on the completion of the new airfield ... in the Darwin area', reach a final establishment of 147 personnel.⁴⁰ This decision was based on a comparison of the cost of employing 5ACS and civilian contractors at Darwin and the lack of suitable employment for the full Squadron when work at Darwin, the helicopter hardstanding at Amberley and the Williamtown resurfacing was completed. Financial matters were a paramount consideration in the decision to employ 5ACS to construct the airfield in the Katherine area. Cabinet had approved this project to be commenced in the period 1962 - 1965 and allocated £1.5 million for the task. By tasking 5ACS to undertake this project, the funding could be found from this allocation and not the RAAF Works Vote; therefore the Katherine project would

³⁶ Department of Air Memorandum 36/501/677 dated 24 January 1952 [RH].

³⁷ Department of Defence Memorandum SS224 dated 14 March 1952 [RH].

³⁸ Air Board Agendum No. 12791 of 26 May 1959.

³⁹ Air Board Agendum No. 12791, Supplement No. 1 dated 18 November 1960.

⁴⁰ Air Board Agendum No. 12969 dated 24 July 1962.

not be 'at the expense of other capital works projects ... of a higher priority than the construction of a new airfield'.⁴¹ As the estimate of expenditure that would be involved by having the airfield built by either Service or civilian means was equal (at £3.5 million), this solution may be seen as a financial stratagem rather than a sincere effort to retain the expertise of 5ACS.

On 11 April 1964 the CAS produced a paper, *The Development of RAAF Learmonth as a Strategic Airfield*, which was to have a profound effect on the future of 5ACS. Approval to employ the unit on this construction task was given on 11 November 1966, at which stage 5ACS was employed in completing the runway, parallel taxiway and hardstanding at the Katherine (Tindal) airfield.⁴² The unit was at its full strength of 308 personnel and it was planned to deploy a detachment to Learmonth in mid-1967 to win natural pavement materials and stockpile them for use by the main body in 1969. However, by November 1972 the role of the Airfield Construction Squadron had been restricted to the repair and maintenance of advanced bases, the conversion of bare bases to advanced bases and the extension, strengthening, rehabilitation and maintenance of forward bases. To support this role, the unit deployed detachments to Amberley, Darwin and South Vietnam, undertook second line maintenance on motor transport and works plant and undertook appropriate works tasks within the annual works program.⁴³ With the finalisation of the Learmonth and Amberley projects, *civil engineering works included in current Department of Air plans* were of insufficient magnitude to enable 5ACS to be gainfully employed. The recommendation was made to further reduce the unit establishment to 179 personnel. In his submission, the Air Member for Supply and Equipment, Air Vice-Marshal C.G. Cleary, noted the construction of runway extensions, dispersals and revetment, hardstanding, roads and car parks, hangars and the general maintenance of base facilities as being typical tasks.⁴⁴

On 2 July 1973 Cleary advised the Air Board of factors which affected the decision given to his submission of 18 November 1972 and called for a further review of the situation. After conceding that there had been delays in the Learmonth project due to an unrealistic target date being set for the completion of the runway, the unavailability of working drawings from the Department of Works and changes in design during construction, Cleary still advocated the reduction of 5ACS strength to 228 all ranks. This was to be made effective from 1 January 1974 when the Amberley detachment would be disbanded. Nor was he hopeful regarding the future of 5ACS. A plan to use the unit to extend the Pearce, Western Australia, runway to 3,048 metres would not be approved in time to commit it in the period planned for the deployment of the construction squadron and the fact that the 'Director of Works, Western Australia, is opposing employment of 5ACS on the work' did not auger well for the future of the unit.⁴⁵

Clearly, the demise of the existing Airfield Construction Squadron was pending. On 15 November 1974 the Air Board decided 'that the proposed unit [a suitable construction unit] cannot be justified as an essential element of the RAAF at

⁴¹ *Ibid.*

⁴² Air Board Minute dated 11 November 1966.

⁴³ Air Board Submission 99/72 dated 18 November 1972.

⁴⁴ *Ibid.*

⁴⁵ Air Board Submission 46/73 dated 2 July 1973.

the present time'.⁴⁶ The advice from the CAS, Air Marshal C.F. Read to Mr W.L. Morrison, Minister Assisting the Minister for Defence on 3 December, summarises the perceptions of the Board when making this decision. Read wrote:

I think all Board members would have liked to retain the sort of capability suggested, but we were all agreed that we have other and higher priorities for manpower in the technical area. Also, as indicated in the minute, there are many administrative problems in maintaining and finding suitable work for a small specialist group of men. The Airfield Construction Squadron, which is about to disband, was a valuable RAAF asset but had been the source of considerable concern in recent years. It was costly to maintain, compared to the expense of employing local labour, and had been under attack in both Treasury and Housing and Construction for this reason. Regretfully, we took the decision to disband during the Defence cuts in 1973 and will cease to exist on completion of the Learmonth task in the next week or so.

Personnel and Manning Problems

On 27 April 1942 the Director of Works and Buildings, Knox, advised the Air Member for Personnel, Air-Vice Marshal H.N. Wrigley, that 'arrangements for recruiting for special musterings [was] in hand'.⁴⁷ Given the urgency to commence operations, musterings common to other units would 'preferably [be] drawn as far as possible from within the Service replacing personnel so posted with new recruits'.⁴⁸ He placed a rather quaint proviso on enlistment in that:

Personnel originally enlisted from country centres of Queensland, South Australia, Western Australia and the Western Districts of New South Wales are preferred because they will be more accustomed to the climate and living conditions than men enlisted from cities and Southern States.

It would be appreciated if, as far as possible, posting to this unit be drawn from the former group.⁴⁹

On 30 October 1942 Kenney wrote to Jones stressing the 'urgent need for rapid completion of airdrome construction in New Guinea points to the usage of plant equipment of this unit [1 Mobile Works Squadron Special Work Force] for 20 hours each day. The present complement of personnel is barely sufficient for the operation of one shift each day' and suggested that personnel being recruited for service with the proposed Works Unit in Western Australia be diverted to the New Guinea unit.⁵⁰ Jones referred the matter to Knox on 3 November and his admonishment that 'we must do all in our power to increase the strength of the unit as suggested' was easier

⁴⁶ Air Board submission 65/74 Minute dated 15 November 1974.

⁴⁷ A705 item 585/2/285.

⁴⁸ *Ibid.*

⁴⁹ *Ibid.*

⁵⁰ A705/1 item 151/2/604.

said than done.⁵¹ At the conference held at RAAF Headquarters on 23 December, it was noted that the expansion of the works force would require an additional 2,300 men. A representative of the AWC, Mr W. Funnell, was of the opinion that 1,500 persons 'could be withdrawn from existing RAAF units [but that] owing to the urgency of the problem it would be necessary to get another 800 men not in the air force at the moment'.⁵² Replying to a query from Wing Commander A.E. Chadwick, the RAAF Director of Recruiting, Funnell stated that 'apart from the Allied Works Council, it is almost impossible to get the men, particularly in the middle of January'.⁵³

Chadwick formally approached the Director General of Manpower, Wallace C. Wurth, on 20 January 1943. He argued that unskilled men were being released by the Allied Works Council and called up for special duty with the Army, without being given the opportunity of volunteering for service with the RAAF. He indicated that the urgent need of the RAAF for men for Mobile Works Squadrons in forward combat zones was being prejudiced by the allocation of suitable recruits to the Army, and concluded that 'it would be appreciated if you could give consideration to this Service having access to some similar field of recruitment in order to obtain its needs for unskilled musterings'.⁵⁴

Wurth replied on 23 January, basing his Directorate's lack of action on the decision of the meeting held on 23 December to discuss the employment of Civil Construction Corps personnel at Port Moresby, and explaining his inertia was due to the 'pending determination of this recommendation, and a clear understanding of the effect its adoption will have upon the RAAF requirements for ground staff for Mobile Works Squadrons - and in this regard I shall be glad to be advised as early as possible - the matter does not appear to me to be one in which any special action can be taken'. Chadwick tersely replied on the 26th, emphasising that the work to be carried out 'by the RAAF Mobile Works Squadrons could not be carried out by the Civil Construction Corps, as it would be necessary for these units to operate in forward combat zones in the face of the enemy' and continued that 'the question of the Civil Construction Corps operating in the Port Moresby Area does not affect the immediate requirements for the RAAF Mobile Works Squadrons. Men who are urgently needed for Mobile Works Units have been and are being withdrawn from other urgent tasks and it is on the general question of replacements and meeting RAAF ground staff requirements in the terms of the existing agreements that the matter has been taken up'. Air Force Headquarters exerted more pressure on Wurth on 10 February, advising him that the 'position regarding unskilled labour for Mobile Works Squadrons [is] becoming acute ... Men released by Allied Works Council [are] still being short circuited to Army.' Chadwick, evidently disheartened by the whole affair, advised Knox on 15 February that 'everything possible is being done to recruit suitable personnel but, owing to the restricted field for recruitment, there is little prospect of filling our needs within a reasonable time unless we have access to the Allied Works Council personnel'. The final resolution was made by Drakeford when he submitted Supplement No. 1 to War Cabinet Agendum No. 217/1943 on 24 May 1943, to the

⁵¹ *Ibid.*

⁵² A1196/6 item 36/501/366.

⁵³ *Ibid.*

⁵⁴ A1196/1 item 42/501/182.

effect that 'the additional personnel required (approximately 780) will be recruited in the normal way from civil sources'.

As late as 3 November Group Captain W.A.C. Dale commented to Rear Headquarters 9 Operational Group that 'it is known that works units are all under strength both as regard personnel and plant, and that the efficiency of the organisation is thus reduced ... personnel shortages will no doubt be shared with other units in the area and in the Service generally'.⁵⁵

The departure of 5 Mobile Works Squadron from Goodenough Island to Melbourne for reequipping on 21 November 1943 proved a catalyst in the discussion related to the relief of works units in the islands. Wing Commander D.J. Rooney wrote to the Director, Works and Buildings on 25 June 1943 raising the subject of relieving personnel and units at the end of tropical tours. He was of the opinion that it was 'not practicable to arrange reliefs by units of works wing headquarters, the survey and design units, the works supply units or the works maintenance units [and that] changes of personnel which would result in posting on the expiration of a period of tropical service would not interfere with the efficiency of these units to any great extent'.⁵⁶ However, he was of the opinion that the relief of the Mobile Works Squadron on a person-for-person basis would 'cause undue dislocation to any works program in hand and would not provide an opportunity to re-equip with construction plant which is essential at about twelve month intervals'.

Dale outlined his concern on this subject on 3 November. The policy of relieving works personnel by units as they completed their term of tropical service would result in at least one unit of each works wing being away from the operational area for at least three months. Dale assessed this period as the minimum time required to transport a squadron to Australia, grant leave, reform and re-equip and transport it back to New Guinea. In practical terms, as 5 Mobile Works Squadron was to be relieved, 62 Works Wing would always be deficient one squadron. By the time 5MWS returned, another squadron would be due for rotation south. Dale argued that such a policy would not affect operations as long as the works program 'is arranged to conform, both as regards RAAF works undertakings and projects to be carried out by General Headquarters'. He added the proviso that the 'greatest care [should be] exercised in approving works of all kind and only those essential for the conduct of operations against the enemy [will] be undertaken ...'.⁵⁷

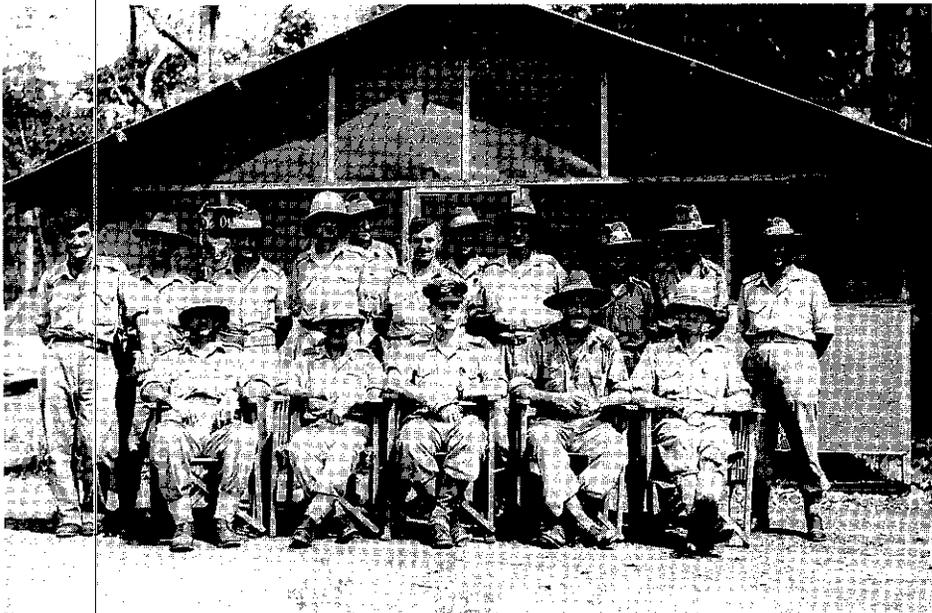
Air Commodore F.W. Lukis, the Air Officer Commanding 9 Operational Group in a letter to the Air Board on 18 January 1944, considered that 'works units should, as far as possible, be treated in the same way as all other units and that, subject to the availability of suitable personnel from the south ... should remain in New Guinea and that their personnel should be turned over in the ordinary way'. Lukis suggested 'that if the policy that personnel ... are to be relieved individually on completion of 15 months service is adopted, it will be necessary for 5 Base Personnel Staff Depot to commence requisitioning for replacements at once', and requested an early decision.

⁵⁵ A705/1 item 151/2/976.

⁵⁶ A1969/100/207 14 MWS item 3/4/Air.

⁵⁷ A705/1 item 151/2/976.

Knox gave qualified support to Lukis' proposal on 9 February and the Air Member for Personnel replied on 14 March that 'careful consideration has been given to your proposal ... but it is impracticable to do this owing to the high percentage of specialists borne on the establishment of a works unit, for whom no equivalent appointment can be found in southern areas during the relief period. The policy of relieving complete works units must, therefore, remain and the consequent disadvantages must be accepted'. But the matter did not rest there. On 17 May 1944, the Director of Works and Buildings approached the Chief of the Air Staff on the matter of defence training for works units, and recommended, *inter alia*, that 'mobile works squadrons and works maintenance units be relieved as units as at present,' to which the Chief commented that 'I think DWB and D. Posts must give further consideration to the advisability of continuing to relieve works units as such, as opposed to relieving individual members'.



The officers of 7ACS at Nadzab, September 1943. L-R (Back row): PLTOFF Rothfield; FLTLT Starr; FLTLT Smith; PLTOFF Creagh; PLTOFF Ellis; FLTLT Brown; FLTLT Green; FLTLT Lawrence; FLTLT Reid; FLGOFF Cox; FLGOFF Daniels. (Front Row); FLTLT Day; PLTOFF Smith; FLTLT Cobby; FLTLT Barlow; FLTLT McEnney. (G. Barlow)

The Directorate of Works and Buildings staff discussed the proposal with the staffs of 5 Base Personnel Staff Office, Northern Command and the commanding officers of construction squadrons. The subsequent report to Knox by his staff read, in part, that it was 'the unanimous opinion that the present policy is the best in the circumstances'. The disadvantages of individual postings were identified as follows:

Out of the 580 personnel in an Airfield Construction Squadron there are 128 specialist personnel (airmen) who cannot be employed in these musterings in southern units. In addition, there are at least 150 other personnel in every construction squadron who have become skilled or at least semi-skilled in construction work as carried out by these squadrons, and their skill would be

lost to the service if they were posted to other units in the south. Construction squadrons would be correspondingly handicapped by having less skilled personnel posted to them. The continual posting out of and posting in of personnel (specialists and semi-skilled musterings in particular) seriously disorganises construction and destroys team work which is so essential to maintain output. It is considered that greater output can be maintained by leaving four squadrons in each wing at full strength in the field and one out on leave, than having five squadrons in the field, each say, 20 per cent under strength.

This report, if discussed outside the Directorate of Works and Buildings appears to have had little impact. On 6 September, RAAF Headquarters after discussion with CAS advised 10 Operational Group, Northern Command and 62 Airfield Construction Wing that all time expired personnel, both officers and airmen in 62ACW, would be posted to 7ACS and those not time expired in 7ACS were posted to other units in 62ACW. Group Captain V.E. Hancock, the Director of Postings, wrote to the Air Member for Personnel, Air Vice-Marshal A.T. Cole, that 'the CAS has directed that after the relief of 7 Airfield Construction Squadron, relief or leave for personnel of all Airfield Constructions Squadrons will be on an individual basis and will not be provided by the withdrawal of the whole squadron'.⁵⁸ This remained the policy for personnel relief and rehabilitation of works units for the remainder of the war.

During his consideration of the manpower requirements for the post-war Air Force the Air Member for Personnel, Air Vice-Marshal J. E. Hewitt, perceived that there was a requirement to retain a 'nucleus of highly qualified engineers' to undertake normal maintenance and the construction of airfields where civilian organisations were unable to so do.⁵⁹ To retain the expertise, he recommended that the works organisation be staffed by the secondment of officers from the Departments of Works and Housing and Civil Aviation. These officers would be offered a short service commission. The Air Board concurred with these recommendations on 2 July 1946 and the minister acquiesced on 23 October. However, he stipulated that the demarcation between the functions of the Department of Works and Housing, which had the responsibility for design, costing, supervision and execution of all architectural and engineer works for the Commonwealth, and that of the proposed works organisation be defined. After discussion with the Director General of Works and Housing and his deputy, it was concluded that the latter could not undertake work outside Australian territory and that, on the mainland, the RAAF works force would be limited to minor works and day-to-day maintenance.⁶⁰ The RAAF Headquarters Directorate of Works and Buildings, with a staff of 22 in 1947, was tasked with the planning and oversight of construction activity to be undertaken by the Department of Works and Buildings and to plan for future expansion. There was a blend of World War II veterans and inexperienced newcomers - Wing Commander W.A.C. Dale was one of 14 staff members who had served as works officers during the preceding conflict. Over the subsequent four years several notable additions were to be made to

⁵⁸ *Ibid.*

⁵⁹ Air Board Agendum No. 7312.

⁶⁰ Air Board Agendum No. 7312 Supplement No. 1 dated 17 December 1946.

the officer ranks. The application of Mr Kenneth Elwin James was considered by the Air Board on 4 January 1950 and it was recommended that 'the Minister give special approval' to enable a recommendation to be made to the Governor General that he be appointed at the rank of Flight Lieutenant.⁶¹ James had successfully completed a degree course in civil engineering in December 1949 and had a strong service background, having flown Spitfires in the European and Pacific theatres. He had commanded 457 Squadron in 1942, 85 Squadron in 1944 and 79 Squadron during 1945. Group Captain K.E. James filled the appointment as Director of Works and Buildings between November 1959 and March 1962 before promotion to Air Commodore rank that year and his appointment as Controller of RAAF Electronic Data Processing prior to retirement in 1970.⁶²

James was attracted to the works force as a result of a newspaper advertising campaign undertaken during December 1949 to fill a personal establishment for works officers of 25 to meet the expansion of the Air Force called for under Plan 'D'.⁶³ This plan called for the raising of a Permanent Air Force mobile task force, supported by a home defence force and a competent training organisation and the works force may be seen as an integral element of the former.⁶⁴ The response to publicity was not good. Of the four individuals offered appointments as Works Officers by the Air Board in 1950 - 1951, only two, James and Flying Officer (later Wing Commander) George Herbert Purdy accepted commissions. Like James, Purdy had served as a commissioned pilot from 1941, and the Air Force ethos may have been a consideration on their seeking re-appointment.⁶⁵ A comment on the ability of the Air Force to attract appointments to the Works Officer category (and of the expansion which was being undertaken by the Air Force at the period) is that the requirement had grown from 25 in January 1950 to 41 in October 1951; at the latter date the work force was deficit 33 Works Officers.⁶⁶

Six years later the position had not improved. In a paper presented to a conference on works matters chaired by Air Vice-Marshal H.G. Acton, the Air Member for Supply and Equipment, on 28 October 1957, Wing Commander P.G. Lings presented his view on the officer manning situation. Lings was of the opinion that the problem was to attract sufficient numbers of qualified works officers and to retain the most promising officers for the full period of enlistment, citing that many of the up-and-coming Flight Lieutenants and Squadron Leaders were finding civilian work more personally and professionally challenging. He sympathised with this attitude, citing the lack of career prospects, professional stagnation and, in a criticism of Service administration, the constant battle 'of trying to run an efficient construction unit within the framework of service orders and conditions' as reasons for discontent.⁶⁷ Many potential recruits found Service life unattractive, and positive publicity was required at universities and technical colleges to counter this perception and an 'anti-service attitude among students'. Lings was well informed on the service

⁶¹ Air Board Agendum 9988 dated 4 January 1950.

⁶² K.E. James Personal File.

⁶³ Air Board Agendum No. 9988 or 4 January 1950; No. 10089 of 28 February 1950.

⁶⁴ Stephens, *op.cit.*, pp. 31-33.

⁶⁵ Air Board Agendum No. 10089 dated 28 February 1950.

⁶⁶ Air Board Agendum No. 9988 dated 4 January 1950; Air Board Agendum No. 12147 dated 12 October 1951.

⁶⁷ A1969/100/202 2 ACS item 1/18/Air Pt 1.

matters raised and based his comment on practical experience. His unit - 2 Airfield Construction Squadron - over the period January 1950 to January 1960 was, on average, operating with a deficit of seven officers and 86 airmen compared to the approved establishment figure at any one time.⁶⁸ No solution to the problem was suggested, only that recruiting be intensified to overcome the shortfall in works officers.

Although there was a deficiency in the officer strength of the construction squadrons, the quality of those employed was high. An excellent source of qualified engineers was the University Squadrons. In the 1950s and 1960s engineering undergraduates were given first-hand experience in civil engineering tasks

by being attached to the construction squadrons. For example, 5ACS gave practical experience to at least 32 undergraduates before the University Squadrons ceased to exist in 1973. The cadets came from Melbourne, Sydney, Western Australia and Queensland Universities. Out of the 32 identified, eight joined the RAAF: J.D.G. Lessels, J.G. Snapp, R.J. King, A.G. Worrall, R.N. Gurevitch, G.P.L. Anderson, W.I. Leslie and M.J. Rich. The standards set by the selection panel was high. Gordon Worrall recalls that, when he was interviewed, only two of the 30 applicants were accepted into the RAAF, although he and Richard Gurevitch claim that Group Captain Dale selected them because they 'needed the money' and drank Resch's beer.⁶⁹



Group Captain P.G. (Nobby) Lings, Commanding Officer 2ACS 1949-1961 and 5ACS 1961-1963. (RAAF)

Training

With the rapid expansion of the works squadrons and the fact that, as Flight Lieutenant T.M. Scott, the Commanding Officer of 1 Mobile Works Squadron advised Group Captain Gerald Packer on 20 November 1942 'earth moving plant operators are not available in the RAAF and must be recruited ... an effort is being made to train airmen as operators in the field and remuster them', the need for formal training of works recruits and transferees was evident.⁷⁰ Air Force Headquarters had reacted on 13 November, ordering 1 (Training) Group to form a Works Training Unit, the function of which was to 'train personnel of technical and non technical musterings in types of work carried out by Works Maintenance Units and Mobile Works Squadrons, and will include instruction in the operation, manipulation and maintenance of plant

⁶⁸ Statistics based on 2 ACS Unit History Records establishment/strength figures as at 31 January 1950-1960.

⁶⁹ Gordon Worrall, interview 24 November 1996.

⁷⁰ A1196/1 item 42/501/182.

and equipment. The Unit will also act as a reserve pool for works personnel who complete the special courses of instruction'.⁷¹ Works Training Unit was formed at Ascot Vale (Flemington Racecourse), Melbourne, on 18 November 1942, under the command of Squadron Leader G.D. Maunder. Fifteen members of the staff arrived on 23 November to prepare for the arrival of the first Tractor Grader Operator, Tractor Driver Diesel and Fitter Diesel trainees on 1 December.

During November the Works Training Unit handled the receipt of equipment and ensured that it was despatched by rail and boat for Port Moresby. This action highlighted a weakness in the works organisation, identified by Maunder in correspondence to the Air Board on 30 December, that a base organisation was required to provide for the replacement of personnel under special works musters such as Fitter Diesel, Tractor Operators, Grader Operator etc, supply spare parts and plant and other construction materials and replace equipment that had been worn out or damaged by enemy action.⁷² He continued that the Works Training Unit had absorbed a *de facto* stores function which should be absorbed by a specialist equipment section. However, the unit retained this role until, at a conference held on 11 February 1944, the Director of Organisation remarked that 'this function ... is not a proper function of Works Training Unit [and recommended] that the stores handling detachments be removed from the Works Training Unit and added to the appropriate District Works Office for the present'.

Maunder complained to Headquarters 1 (Training) Group on 29 January 1943 that the lack of essential equipment was seriously delaying the training of plant operators. Equipment which had been assembled for 6 Mobile Works Squadron had been previously used for training but, with the movement of the unit from the area, plant was no longer available for the training of operators. The unit had a single tractor available for the instruction of 130 trainees. Although the Works Training Unit had an excellent team of instructors, some of whom had been loaned from 1 Engineering School it required equipment to be able to function effectively.⁷³

Maunder expanded on this theme in a later report on the progress of the Works Training Unit to 1 (Training) Group on 19 April 1943. He stated that 'Flemington Racecourse is not at all suitable for the work the unit is required to perform'.⁷⁴ Living conditions were totally inadequate, with tents pitched on low level ground which had a propensity to flood during the winter months. Only three latrines were located in convenient positions, and these were only available, for some unexplained reason, between 10 pm and 6 am daily. Other latrines were located 400 metres from the tent lines - hardly conducive to nocturnal relieving of one's bladder. The cinders covered floor of the mess were given overhead protection by a corrugated iron roof, and canvas covered walls gave little protection from wind and rain. Instructional facilities were no better. Lectures and workshop facilities were under canvas with concomitant difficulties in theoretical instruction. Royal Park, five kilometres distant, was the site for practical instruction. Maunder conceded that such instruction was of an elementary nature only and it had not been possible to instruct in the operations that would be required in normal airfield construction. The administrative difficulties of supplying meals and the security of equipment which remained at Royal Park were other issues

⁷¹ A705/1 item 151/2/604.

⁷² A705/1 item 151/2/604.

⁷³ A1969/100/206 WTU item 2/3/Air.

⁷⁴ A705/1 item 151/2/604.

and Maunder's contention that arrangements should be made to move Works Training Unit to a more suitable location was well founded.

Maunder's concern was reciprocated by 1 Training Group and an inspection was arranged of an alternative site at Wonga Park on 29 April. This site was considered unsuitable. Access to the area was too difficult to permit the delivery of the equipment and the nature of the country was not suitable for practical training. However, Group Captain E.G. Knox-Knight, the Senior Administrative Staff Officer of 1 Training Group, was able to advise the Air Board on 8 July that proposed site at Woolloomanata (Lara) had been inspected and found to be 'admirably suited for Works Training Unit. The quarters consist of the main building (homestead) and two hutted areas.' The move was not completed until 9 November, when five officers and 125 airmen arrived at Woolloomanata, leaving two officers and 112 airmen to complete their training at Ascot Vale.

Headquarters 1 (Training) Group's plans to move the Works Training Unit to Woolloomanata in July coincided with some disquiet in the Directorate of Works and Buildings regarding works training, reflected in correspondence with the Director of Training during the month. The Directorate of Works and Buildings was concerned that 'during the past three months, the numbers of trainees on course at Works Training Unit has dropped below the figures anticipated when the unit was formed. At that time it was intended to have an intake of 80 per four weeks. Experience has since proved that a course of eight weeks is required, and the present time there are only 32 on course, which represents an intake of 16 per four weeks'. Given the then-current recruiting problems, this was a harsh criticism. The minute states that the Cabinet decision to increase the size of the force would require the training of an extra 254 tractor driver/diesel fitter general, grader operators and drivers mechanical transport. To meet this demand there would be a requirement to increase the number of courses held at the Works Training Unit and the retention of the 'eight weeks course and a fortnightly intake of 20 trainees' was recommended to fulfil these requirements.

The consistent impediment to the activity of the Works Training Unit was the lack of equipment and plant. Squadron Leader R.U. Hoddinott assumed command on 5 July 1943 and wrote to Headquarters 1 (Training) Group on 9 August 1943 that in 'practical operation the fact that conditions of bulldozer work as operating in the field cannot be reproduced and that power graders apparently will not be available, render it impossible to turn out a plant operator who can be described as adequately trained', and recommended that technical training for fitters diesel and plant operators could be done efficiently at 1 Engineering School and the practical work in the plant operators course could be done at Woolloomanata to a standard which would prepare the men for work in the field.⁷⁵

By July 1944 an advanced mobile camp had been established in the Anakie Mountains, where advanced training and the final examination in the operation of plant was undertaken. At the end of May 1945 posting to the units ceased, at which stage the number of trainees stood at three officers and 143 airmen. During its period of operation, Works Training Unit trained 2,231 personnel before being disbanded on 25 January 1946, when Flying Officer McClean departed Woolloomanata and left the keys with the civilian guard, F. Cardwell.⁷⁶

⁷⁵ A1969/100 WTU item 2/3/ Air.

⁷⁶ WTU Unit History Record entry 31 October 1945.

Despite the highly creditable training effort by Works Training Unit, there were still shortages in trained plant operators in the operational squadrons. For example, 5 Airfield Construction Squadron advised Headquarters 62 Airfield Construction Wing on 16 December 1944 that 'since the arrival of the unit in New Guinea on 1 April 1944 only 12 plant operators have been posted from WTU. The last to arrive were in October 1944 and these men finished their course in July 1944. During the same period 11 plant operators have been posted to the mainland' and efforts were made by units to train volunteers on-the-job and remuster those who met the requisite trade standards.⁷⁷

The development of an assault role for the Airfield Construction Squadrons brought forward another aspect of training. On 17 May 1944, Knox wrote to the Chief of the Air Staff referring to a report from Headquarters 62 Works Wing related to the Allied landing at Aitape, on the north coast of New Guinea. In his minute Knox stated that 'it is considered essential that more time be devoted to the training of these units to a scale equivalent to RAE troops in infantry tactics and jungle warfare and that this training be carried out with units on a unit basis, so that airmen will develop confidence in the leadership in the face of the enemy of their own NCO's and officers and recommended that the Directorate of Training arrange for Mobile Defence Section or Army training personnel, together with necessary equipment to supervise the training of units, be provided. To implement this recommendation it would be necessary to negotiate with the Department of the Army for the allocation or hire of a section of one of their established camps to enable this training to be undertaken.'⁷⁸

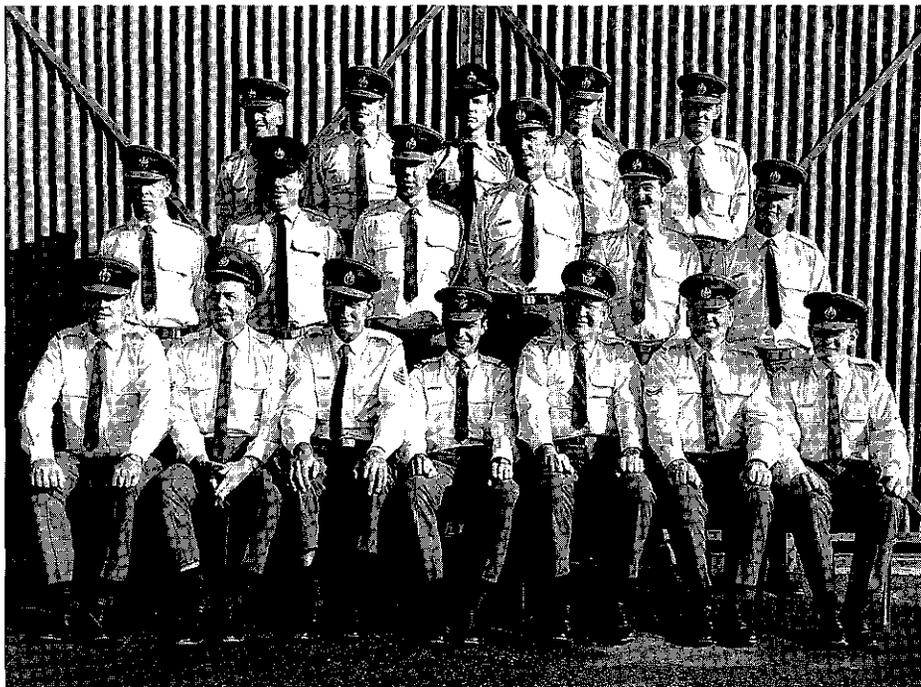
On 14 September 1944, 8 Airfield Construction Squadron commenced combat training at Mount Martha, Victoria. This unit was followed by 7 Airfield Construction Squadron on 25 October, 6 Airfield Construction Squadron on 28 October and 9 Airfield Construction Squadron on 16 November. Under the eagle eye of Major D.F. Field and the staff of the RAAF Combat Training Unit, the men of the squadrons undertook a six week course in weapon training, field craft, section, flight and squadron field tactics, minor infantry movements, communications and the occupation of defensive positions. The curriculum called for training in amphibious operations, and all personnel were expected to receive training in the use of explosives, booby traps, anti-tank mines and minor demolitions. Selected personnel received additional training in mine detection and demolition.⁷⁹

Although the Works Training Unit and the RAAF Combat Training Team gave basic instruction in their areas of expertise, the problem of training members of Airfield Construction Squadrons was not solved. Squadrons were required to undertake on-the-job training to enable expertise to be maintained. This recurring liability arguably decreased the efficiency of the units and was a cause for concern in the post-war airfield engineering organisation.

⁷⁷ A1969/100/198 62 ACWing item 1/1/Air.

⁷⁸ A705/1 item 151/2/976.

⁷⁹ A1969/100/204 6 MWS item 7/3/Air.



No. 8 Plant Operators course, February 1973, L-R (Back row): LAC R.E.E. Schiebery; LAC M.A. Eastgate, LAC P.W. Callahan; LAC F.H. Bakker; LAC R.G. Rankin. (Centre row): AC T.G. Jones; CPL R.J. Taylor; LAC F.G.H. Stolberg; LAC J.B. Street; LAC W.E. Gavin; LAC R.D. Limkin. (Front row): LAC H.J. Taylor; SGT R.E. Widdowson; FSGT K.J. Vicary; FLGOFF J.P. Donahoo; WOFF J.E. Sheen; CPL L.B. Peterson; LAC R.E. Bellingham. (RAAF)

Almost two decades later, the training of construction personnel still presented a problem. In a paper presented to a meeting convened by the Air Member for Supply and Equipment on 28 October 1957, Wing Commander Lings referred to the 'low general standard of ability' of technical personnel of all ranks - a problem which he put squarely on the shoulders of the unit in that they only had themselves to blame as training and trade testing was carried out by the unit.⁸⁰ The problem had its roots in November 1954 when Headquarters Home Command released a syllabus which combined practical and theoretical instruction for the training of works fitters and plant operators.⁸¹ Forty-five members completed the first phase of two works fitter courses at the RAAF School of Technical Training in March and May 1955, and 22 members of 5ACS completed the second phase of training at Darwin in June 1956.⁸² Lings considered on-the-job training by the units as counterproductive due to the extra maintenance required by the misuse of machinery. Owing to the urgent requirement to fill vacancies, he was of the opinion that the general level of entry for training was declining with the effect that members were 'remustered at a lower standard'.⁸³ The

⁸⁰ A1969/100/200 2 ACS item 1/18/Air Pt 1.

⁸¹ A1969/100/202 5ACS item 54/9/Air.

⁸² A1969/100/102 5ACS item 56/4/Air.

⁸³ A1969/100/200 2ACS item 1/18/Air Pt 1.

meeting convened again on 6 November and proposed a training regime of a basic 13-week course at Wagga, followed by an 18-week works mechanic course at the RAAF School of Technical Training. After graduation as a works mechanic and undertaking 12 months on-the-job training the airmen would enter upon a works fitter conversion course. In the event, no progress was made with this proposal and on-the-job training was still being undertaken when consideration was being given to the progressive reduction of 5ACS strength during 1962. Indeed on-the-job training was still being undertaken just prior to the demise of the squadron in 1974.

Chapter Two



Wartime Operations in Northern Australia

... such a unit would serve a useful purpose in carrying out defence works in outlying areas where the availability and effective control of civilian labour presented difficulties and the supply of plant and equipment is limited.

H.F. Yoxon, Secretary, Allied Works Council, 24 April 1942

The threat to northern Australia was demonstrably real. On 19 February 1942, the first of 20 raids on Darwin occurred before 1 Mobile Works Squadron (1MWS) commenced its move north from Melbourne on 19 June 1942. To meet an urgent requirement for a works capability in North-Western Area, Flight Lieutenant M.G. Murchison commanded a works detachment of two officers and 198 other ranks which moved to Darwin in February. Official records of the activities of this detachment before it was reorganised as 3 Works Maintenance Unit (WMU) on 1 May are sparse, although members of the detachment, Frank Beale and Syd James, have left an informal account of its activities.¹ Syd recalls that six trucks and twelve personnel departed from Ascot Vale on the morning of 28 February 1942 under the command of Pilot Officer T.O. Littlejohn, staying overnight at the RAAF Base at Nhill before proceeding to Adelaide. Frank Beale was in a group which departed by train on 5 March. After a weekend's relaxation in Adelaide the group boarded a train for Terowie, where the road and rail elements of the detachment were united.

Two days after arriving at Terowie, the vehicles were loaded on flat top railway carriages and the men offered the dubious comfort of cattle trucks for transport to Alice Springs. It was hot and dry - ideal conditions for a welcome beer at the Peterborough Hotel, although the refreshment may have been of transient value due to the train's early departure resulting in a rush to catch up. At Quorn, the Country Women's Association regaled the men with one of the best meals they were to have for months to come; a welcome variation from the usual repast of bully beef, biscuits and tepid tea. However, the problems were not only domestic. The linkages connecting the railway carriages were so worn that, while the train was climbing a long slope, a coupling released. Half the train reversed down the slope. Even though one of the detachment members, Jimmy Goode, applied the brake to retard the errant flat cars, it still took an hour for the engine to reverse and reunite the train.

The trip from Alice Springs to Birdum was more exciting. In addition to having to contend with fresh flies with every meal, the proximity to operational

¹ Colleen Bower, *No. 1 Mobile Works Squadron February 26th October 6th 1942 An Oral History As Recalled by Frank Beale and Syd James*, January 1993 [RH].

activities was very evident. Some distance north of Alice Springs the convoy deviated around a large hole in the road, caused by the explosion of a truck load of 1,000 pound bombs, resulting in the following dialogue between Army and Air Force travellers:

Air Force: 'You've got a mighty load there, you must have one of those 1,000 pound bombs.'

Army: 'No. I got enough here to wipe all Darwin.'

Air Force: 'What is it?'

Army: 'A truck load of toilet paper.'²

There were serious moments. Syd James recalls that an Army truck loaded with anti-aircraft shells caught fire. Shrouded by a ubiquitous cloud of bull dust, it was well alight before being noticed. The driver of Syd's vehicle rapidly reversed behind a protective bank, where the airmen sheltered from the conflagration and resultant explosions before clearing the wreckage off the road.³ The convoy pushed north, overnighing at Daly Waters due to radiator problems with the vehicles - ironically, when the troops arrived at Darwin it was discovered that a proportion of one load was new truck radiators. On arrival a Birdum, the vehicles and men were loaded onto flat cars and into cattle trucks for the train trip to the 'four mile' opposite the gate to RAAF Station Darwin, where they detrained on 14 March.

Two days later the detachment suffered its first casualty during an air raid on the airfield. There was no warning. Syd James recalls that '... we heard planes and then bombs. No slit trench, so we lay down under a gum tree and all hell broke loose, bombs fell all around us ... PO Littlejohn ... was killed. He was running out of the officers mess, carrying his steel hat and was hit in the head by shrapnel. He may not have died if he had been wearing his steel hat ... he was to return south the next day.'⁴ Littlejohn was one of two fatalities that day. Eight Australians and one United States Army Air Corps member were injured in the bombing.

Jimmy Goode observed this raid from the radar station site where he was employed setting the foundations for that facility. Constructed under the overall supervision of Warrant Officer McLaughlin, the preparation of the radar site was one of the many tasks undertaken by the detachment. Huts were removed from Fanny Bay and re-erected at the airfield at Hughes. The airfields at Strauss and Livingstone were maintained, and bomb damage at the RAAF Base repaired by a 14 man working party under the control of Corporal M.S. Sleep.⁵ There was a likelihood of danger. Twenty-three enemy raids were recorded on the Darwin area between March and June 1942, which resulted in six fatalities and 15 injuries among Air Force personnel.⁶ Such activity did not dim the aggression of the airmen. The airfield had been strafed by six Zero fighters on the 22nd, and Syd James remember that 'two Zeros strafed the place. One of our brighter chaps decided to take a pot shot at one of the Zeros as he flew past and also used some ten bullets, only to be seen by the other Jap, who took a dim view

² *Ibid.*, p. 12.

³ *Ibid.*, p. 12.

⁴ Bower, *op.cit.*, p. 13.

⁵ Bower, *op.cit.*, p. 16. The other members of the party were J. Devereaux, 'Bluey' Greep, A. Clarke, A. Hay, P. McClymont, P. Phillips, S. James, A. Stone, A. Cooke, C. Allen, L. Craig, S. Matthews and 'Digger' Boutcher.

⁶ Station Headquarters Darwin, Unit History Record entry March/July 1942.

of that. So they both decided to strafe us. We sure pulled our heads in. One could hear the bullets thud into the ground around us'. There was little respite. On 31 March, a high level raid resulted in 13 bomb hits on the runway, which were repaired. That night the north end of the airfield was bombed and the subsequent repairs meant little rest for Corporal Sleep's repair crew.

Syd James recorded that he was a member of a party of 20 personnel from the detachment who travelled by mission boat to Bathurst Island in June. Ten personnel were employed felling trees across and excavating holes to disable the runway at the Mission to prevent its use by the enemy. The remaining ten members travelled to Point Brace. Equipped with picks and shovels, the men were rowed ashore to undertake a week's employment in preparing an emergency airfield for use by light aircraft to supply a three-man observation post at the site. The mission boat, on its return, was loaded with bombs, other ammunition and explosives. After departing from Point Brace late in the afternoon, the captain was advised that a flight of Hudson bombers returning from a raid had reported that the ship was being tracked by an enemy submarine. The men manned the Vickers machine guns at the bow and stern of the ship and the ship sought the sanctuary of the shadow of cliffs at Gordon Bay to await the darkness of the waning moon. The trip back to Darwin was uneventful.

The members of the detachment at Bathurst Island suffered from scurvy due to deficiencies in their daily diet. Three bottles of fruit juice syrup per person each week, purchased from the canteen for two shillings and sixpence, remedied the situation. The purchase of such a beverage was no compensation for rudimentary camp conditions. Frank Beale reported that the carpenters had erected makeshift shelters in the bush, consisting of two poles leaning on a tree trunk covered with a tarpaulin. Mosquito netting was lacking and, as a result, 'nearly all the men caught dengue fever'.⁷

In the meantime Squadron Leader D.J. Rooney arrived at Ascot Vale on 14 April 1942 to assume command of 1MWS, four days after the first airmen posted from recruit training arrived. In all six drafts of airmen were posted to the unit before Rooney led the first of six convoys to North-Western Area on 19 June, following the Terowie to Alice Springs route. Trevor Mitchell was one of the 126 airmen, and his recollections of the trip are of children 'asking for pennies and railway workers wanting papers' at each stop where the local ladies supplied food which would 'have been accepted in any top class hotel'.⁸ At Alice Springs he was impressed by the efficiency of the cooks and remembered a service policeman trying to ride a motor bike through the bull dust: he rode for a total of 82 metres before retiring a 'sick and dusty airman'.⁹ The first convoy arrived at Willing, 30 kilometres north of Pine Creek, on 1 July and Pilot Officer R.L. Daws and 106 airmen commenced the construction of North-Western Area Headquarters at Coomalie Creek on the 16th.

With the arrival of the final 1MWS convoy on 30 September there were two RAAF construction squadrons operating in North-Western Area. However, plans to expand the number of units in the Area meant that construction tasks could not wait until 1MWS had reached its full complement. On 15 August the Air Officer Commanding North-Western Area ordered that the construction of an airstrip at

⁷ Bower, *op.cit.*, p. 14.

⁸ A705/1 item 515/2/285 records that 124 airmen travelled in the first convoy.

⁹ Trevor Mitchell, correspondence, December 1996.

Coomalie Creek, which was to become the operational base of 31 Beaufighter squadron, be commenced immediately and that the Hughes field be extended to 1,829 metres. To ease the administration of these projects, Headquarters 1MWS moved to the site on the 25th. The first stage of the project - the preparation of a site for 1 Medical Receiving Station - was commenced on 3 September.



Quarrying works in northern Australia, circa 1943. (G. Barlow)

1MWS and 3WMU worked in tandem until 14MWS was formed on 20 July 1943, undertaking numerous vital tasks including the construction of splinter proof revetments (initially using scrap iron off bombed out buildings nailed to bush timber frames) at Darwin and Coomalie Creek, the repair of runways at Bathurst Island (presumably undoing the damage created by the July 1942 party), camouflaging and sealing the fighter strips at Strauss and Livingstone, taxiways at Pell and work at the major heavy and medium bomber bases at MacDonal and Fenton.¹⁰ Conditions were harsh and uncompromising. During March 1943 12 days of continuous rain played havoc with the roads and seriously dislocated the construction schedule of both units. The men had no control over the weather and problems with equipment tested their technical ability and resourcefulness. Fred Satchell was a welder with 3MWS and recalls that the axles of four wheel drive trucks consistently broke when the trucks attempted to pull out of the gravel pits. An ancient welder had been 'scrounged' from

¹⁰ Bower, *op.cit.*, p. 17.

the meat works at Wyndum enabling Fred to be 'kept busy welding [repairs to the broken axles]. It was not a complete answer as we did not have a heat treatment furnace to do them properly.'¹¹ Another example of the ingenuity of the men was when an unused underground tank and lengths of pipe were excavated, mounted on a truck and fashioned to spray oil on the dusty surface of the Darwin airfield.¹²

Construction work could be dangerous. Aircraftman Class 1 Shaddock of 1MWS was servicing a tractor at the Hughes gravel pit when he suffered extensive petrol burns on 15 October. He was admitted to 1 Medical Receiving Station, but died next day and was buried that afternoon at the Adelaide River cemetery. Leading Aircraftman M.R. Clark was drowned on 16 January 1943 while swimming near Mataranka. Enemy air attacks on Coomalie Creek during the morning of 27 November 1942 and at Fenton on 30 June and 6 July 1943 did not cause any fatalities among the constructions squadrons, but left a body of folk lore, as Syd James recalls:

Two of our chaps who didn't believe bombs landed in the same place twice, were both disillusioned. On one day when the siren went, they got into a large bomb hole on the edge of the runway only to be blown out by another bomb, not seriously hurt. But with this theory blown to bits.

Two of our gang were in a trench with logs along each side, a near miss shifted the logs along with dirt on top of them, giving them quite a fright. They had to be helped out. After things got back to normal, we got back to work. There was two walking wounded kangaroos, one with a broken tail, the other head wounds, one ear gone, also a bomb happy dingo running in circles...¹³

Members of 1MWS travelled far and wide on duty. On 2 May 1943, Flying Officer Richardson and 20 men departed from Headquarters to undertake the establishment of a radar station at Wessell Island. Also aboard the 70 ton *Islander* was another party of 34 airmen bound for Millingimbi, and unexpected excitement. The arrival of the ship at Millingimbi on the 9th coincided with that of seven enemy 'Sally' bombers which dropped twenty 100 kilogram daisy cutters, causing damage to the runway and the *Islander*. Two members of 1MWS were injured. The following day nine Zeros strafed the stricken ship and left it, and all the personal effects of the 1MWS staff, on fire. Squadron Leader F.A. Maw, who had assumed command of 1MWS on 3 February, flew to Millingimbi on the 11th to oversee the reequipment of his men with new arms, clothing and other personal effects. Personnel of 1MWS remained at Millingimbi until replaced on 7 July 1943 and were therefore witnesses to further aerial activity over the base. On 13 May six Zekes made a reconnaissance of Millingimbi and an unidentified enemy aircraft was sighted north of the base on the 15th.¹⁴ A third raid occurred on the 28th, when eight bombers and five fighters destroyed 50 drums of oil and damaged a salvaged aircraft and a mess hut. This force was intercepted by a force of Spitfires. Three bombers were claimed as destroyed and one damaged for the loss of two Spitfires.

¹¹ Fred Satchell, correspondence 10 July 1996.

¹² Bower, *op.cit.*, p. 17.

¹³ *Ibid.*, p. 22.

¹⁴ 590BU, *op.cit.*, entry 13 May 1943.

While 1 and 3MWSs were operating in the north, 12 Survey and Design Unit (SDU) was established at Royal Park Victoria on 1 January 1943 and 11 Works Supply Unit (WSU) raised on the 16th at Gawler, South Australia, to support the squadrons.¹⁵

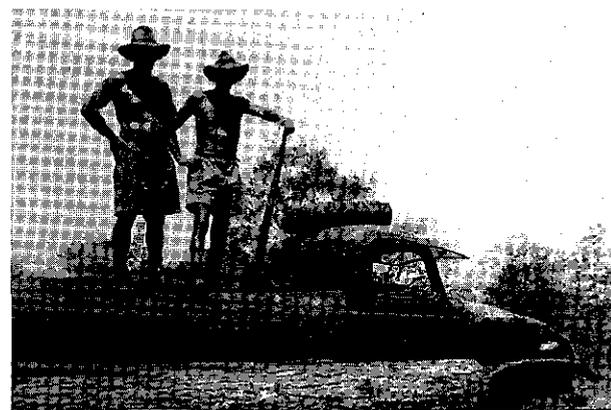
The former was under the command of Flight Lieutenant J. Yeaman, and tasked with the survey and

design aspects of aerodrome services (electricity, sewerage and the like), architectural matters and the surveying and marking out of sites. The unit arrived at Katherine on 1 February 1943, then proceeded to the '59 Mile' on 23 July.¹⁶

The function of a WSU was to receive, salvage and manufacture building materials for distribution to the construction units.¹⁷ Flying Officer A.B. Overland led the unit north along the well worn Terowie/Alice Springs route before arriving at Larrimah on 24 March 1943. Next day the motor transport and drivers pushed forward to Pine Creek, where a camp was established on the western side of the road, two kilometres south of the settlement. This site became a centre of domesticity. A unit farm produced fresh vegetables, eggs and goats milk. To cater for the more athletic and cerebral activities, a football field was marked out on the old civilian airfield and



Work Supply Unit personnel stripping bark from 'blood wood' for use in the construction of buildings and personal facilities. (J. Phillips)



Horrie Black (left) and Jack Phillips oversee the unloading of timber at a Mataranka sawmill. (J. Phillips)

debates arranged. The unit cross-cut saw teams competed in inter-service sports - on 4 September, for example, a team from 11WSU was third in such a competition. For those not so inclined films were shown regularly, and the proximity of the airfield bought some activity which would not normally be the responsibility of a WSU. On 30 June a USAAC Douglas DC-4 landed at Pine Creek due to its destination, Fenton, being attacked. Six days later,

¹⁵ A705/1 Item 151/2/665.

¹⁶ A705 item 151/2/655.

¹⁷ A705/1 Item 151/2/656.

two Spitfires landed at MacDonald field for the same reason, and were refuelled by members of the WSU - possibly the only time that members of such a unit were involved with aircraft maintenance.

Flying Officer G.I. MacLennan completed an aerial survey of timber in the 'Edith' area on 1 May, and followed this with one of the Douglas River area known as 'Florena' on 1 June and 'Esmerelda' on the 16th. 'Florena' had the potential to supply all of North-Western Area's timber requirements indefinitely. A mill had been set up at Pine Creek, and much of the output was used by the prefabricating section of the unit - during the month of August this section produced 105 pissaphones, thunderboxes (262 holes), 277 prefabricated beds, 420,128 metres of shelving for unit equipment stores, 604,189 metres of prefabricated shelving and ten carpenters benches. This section also produced portable huts and kitchens. The sawmill produced 6,791 metres of 'blood wood'- so named due to the colour of the sap.¹⁸ This output was augmented by the mills at Manilla and Edith Creek. In addition to the normal tasks of a WSU, personnel undertook road maintenance tasks, the electrical wiring of buildings and the sinking of water bores at Fenton.

On 15 November 1943 the unit moved to the Nine Mile site, leaving a detachment at Pine Creek until the unit was disbanded on 4 September 1944.

The second phase of the expansion of the works force commenced in January 1943. The administration of individual Airfield Construction Squadrons and the technical oversight of tasks was outside the expertise of a normal Area headquarters. To administer Nos. 1, 3, and 8MWS, 9WMU, 11WSU and 1SDU, Wing Commander D.J. Rooney established 61 Works Wing at Camp Pell, Royal Park, on 7 January 1943. Rooney flew north on 20 January, and was followed by the advance party on the 25th. Two of the more important reactions to the deployment of the wing headquarters were that negotiations commenced to transfer certain construction responsibilities to civilian authority and the units already operating in the Territory were reorganised. Negotiations with the Department of Main Roads, Public Works Department and the Allied Works Council progressed slowly. However, on 20 September 1943 agreement was reached where the Allied Works Council and the Country Roads Board would concentrate their efforts in the Gorrie Area. The war situation had improved by 25 April 1944, when Rooney was advised that AWC labour was available in the area to commence RAAF projects for which funds were available. On 1 September 1944, 5 Divisional Works Office was 'reconstituted for the general supervision of RAAF works' being undertaken in the north-west.¹⁹

On 12 June 1943, discussions were held between Rooney and Group Captain Knox, the Director of Works and Buildings, on relieving 1MWS as an entire unit. It had completed 12 months tropical service. The opportunity was also taken to rationalise the works organisation in the area. 1MWS was to be split into two standard sized squadrons - 1MWS and 14MWS. The former proceeded south and 14MWS absorbed all newcomers and those personnel who had not served a full tropical tour. 14MWS was officially raised on 20 July 1943, and took over 1MWS works responsibilities next day.

14MWS continued the work at Millingimbi, employing approximately 25 Aboriginal labourers to complete the task by the end of August. In addition, personnel

¹⁸ J. Phillips, correspondence December 1996.

¹⁹ 5DWO Unit History Record entry December 1944.

from the Squadron completed sealing of the Darwin airfield and cleared emergency landing fields in the Daly Waters area. However, the main construction emphasis was on the heavy bomber airstrips known as Fenton and Long, approximately 193 kilometres south-east of Darwin, where access roads were constructed, the airstrips sealed, and camps built. In addition, a water supply system capable of delivering 13,650 litres of water per hour was installed at Long.

The Fenton/Long area was the target of Japanese air raids during the early mornings of 14 August, 15 September and 18 September. During the first raid, bombs were dropped near the southern end of the Long taxiway. One of the weapon carriers issued to 14MWS was slightly damaged during the second raid and the officers mess was demolished by direct hit from an anti-personnel bomb. An unexploded bomb was discovered on the southern taxiway at Long.

Prior to travelling south for rest and reequipment, 14MWS transferred equipment to 3MWS and on 9 December handed over its domestic camp to 1MWS. On 11 December 1943, the first convoy departed from Fountain Head, bound for Adelaide.

The third construction unit to come under the command of 61WW was 8MWS. The original members of the unit gathered at Ascot Vale before commencing a move to Gawler, South Australia on 8 January 1943, where establishing a unit was fraught with administrative difficulties. Flight Lieutenant H.V. Davies, who assumed command on 11 February, confided to Wing Commander Rooney on 7 March that the formation of the unit at Gawler had proved 'most unsatisfactory' due to the executives of the unit being absent in Melbourne 'scrutinising demands or searching for plant and equipment. This means we are out of touch with the plan, and unable to keep control of training.'²⁰ Pressure on accommodation was, due to 86 Squadron being formed at Gawler at the same time, intense and Davies obtained the agreement of the Director of Works and Buildings to transfer the unit to Travencore, a school located near Princes Park in the Melbourne suburb of Carlton. The movement was completed on 20 March.

The method by which the unit would travel north was a matter of conjecture. The initial proposal was that 8MWS would travel by sea to Millingimbi. Even though the proposal was cancelled the day after it was announced, Davies saw a positive effect in that the unit was '... being given unlimited purchase authority through the area finance officer'.²¹ The destination and travel arrangements for 8MWS was still undecided when, on 10 April, Davies advised Rooney that all equipment was being forwarded to the Works Training Depot in Sydney to wait on the availability of shipping. Personnel would remain at Travencore and proceed direct to the ship. As shipping was unavailable until the first week in May, the decision was made to move the unit by road. On 27 April 72 airmen departed in a convoy for the north arriving at the '109-Mile' on 13 May. The final draft of men departed from Melbourne on 11 May, six days before 8MWS commenced work for 14 Aircraft Repair Depot at Gorrie. After completing the work at Gorrie, a detachment worked on taxiways and drainage at Venn and similar work at the heavy bomber base at Manbulloo. In addition, the Squadron was heavily involved with the maintenance of the airstrips at Fenton and Long, constructing a road between the two airfields before constructing a priority road to Fountainhead.

²⁰ AA1969/100/205 8 MWS item 2/5/Air .

²¹ *Ibid.*



In September 1987 the standard of ACS workmanship could be seen when the author visited Coomalie Creek (top) and Gould Airfields (below).



The major task undertaken by 8MWS was the construction of an airfield and flying boat base at Melville Bay. On 7 August, Davies and Rooney flew by Walrus aircraft to Melville Bay, landing at Kevin's Cove. The two men travelled by sea to Yarkalla next day and stayed overnight. Next day they commenced the 42 kilometre walk back to Melville Bay, inspecting prospective airfield sites en route. After camping out overnight, the men arrived back at Melville Bay during the early afternoon of the 10th. Next day, after conducting a series of soundings in the waters of Melville Bay, an inlet named Watson's Bay was selected as the site for the flying boat base. The survey party returned to the 109-mile on the 12th. Four days later the first draft of personnel departed for Melville Bay, travelling on the *Southern Cross* from Millingimbi. In all there were eight drafts from the '109-Mile' to Melville Bay, the last arriving from Millingimbi in the *Wanaka* on 24 October.

By 1 September three kilometres of road, later named Rooney's Route, had been cleared and the first camp site commenced. Within six weeks the construction of the airstrip had progressed to the stage where the first aircraft, with the Air Officer Commanding North-Western Area, Air Vice-Marshal Cole aboard, landed on 24 October. By December Dakota aircraft were regularly using the airstrip and at the end of March 1944 the airstrip had been extended to 2,134 metres. Work commenced on the flying boat base on 14 February, and the majority of this work was completed before the Squadron was deployed south during July.

The *John Owen* arrived on 11 July. After disembarking its cargo, the vessel was loaded with 8MWS stores and equipment. It was not an easy task. Equipment had to be transported by barge from the shore to the ship. During this process one barge capsized and two tractors sank in deep water. One was recovered on the 16th and the ship departed for Port Melbourne. After a pleasant cruise, the main party of 13 officers and 402 airmen disembarked on 29 July. The rear party, having successfully salvaged the remaining immersed tractor, departed by air for Perth on the 24th.

Coincident with the raising of 8MWS, 9MWS was formed at Royal Park, Victoria on 4 January 1943 and moved to Ryder Oval, Brunswick, on 26 February. Training of the unit followed an unusual course. On 17 April, the unit commenced preparation for a move to the Royal Army Engineer Training Centre at Kapooka, Wagga Wagga, New South Wales. The training, which commenced on 17 April, was wide-ranging in scope, covering field machines, water supply, explosives and demolitions, field defences and automatic weapons. 9MWS returned to Caulfield on 10 July to load equipment stored at the racecourse, and the first body of men departed on the Terowie/Alice Springs rail link to the north a week later.

When 9WMU arrived in the Darwin area it was deficient in essential machinery and men and it was decided at a conference held at Headquarters 61 Works Wing on 6 August that selected personnel would be loaned, pending the arrival of earth moving equipment, to other works units for three weeks. It was not until early September that the unit's heavy equipment arrived and was put to good use. Work was commenced on a new flying boat base at Darwin and a detachment commenced work on the reconstruction of the runway at Coomalie Creek on 21 October. Despite an air raid on 10 November, in which five bombs dropped a mile from the 9WMU detachment camp site, the detachment worked a three shift operation to enable 31 Squadron to return from Darwin to its home on 14 November. Although the detachment relocated its camp to Batchelor Road on 23 November, it completed the construction of taxiways at Coomalie Creek on 1 January 1944.

Even though the unit was under strength by 100 personnel at the end of November 1943, 9WMU assumed the responsibility for 3MWS activity at Batchelor and the adjacent airfield at Gould. At Gould, the unit worked a seven hour, three shift, six day a week program, and also constructed revetments and fighter inserts at Sattler, Hughes and Livingstone as well as a taxiway at Strauss. In addition it undertook maintenance work at the Darwin civilian and RAAF airfields. There was one fatality during this period. Leading Aircraftman S.J. Hall was killed in a freak accident when he was hit by a flying rock during a blasting operation at one of the quarry faces. He died on arrival at 109ACH and was buried on 12 May 1944.



Wing Commander A.M. (Stripper) Harrison returns to shore after greeting 2ACS at Darwin 1 June 1955. Like Group Captain Lings, Harrison was a leading light in ACS operations and administration. (RAAF)

The most interesting project undertaken by 9WMU was the construction of fighter strips on Melville Island. On 27 January 1944 Wing Commander Rooney, Wing Commander Maunder, Squadron Leader Harrison, Flight Lieutenant Garden and Flying Officer Clark flew by Catalina to reconnoitre airfield sites on the island. Before the group returned to Darwin on the following day, arrangements were made with Lieutenant Gribble at the Snake Bay naval watch station to enable the employment of some 40 Aboriginal labourers. This action was followed up by Flight Lieutenant A.B. Cochran, the commander of 12 Survey and Design Unit who surveyed, and reported on the site, during April and May.²²

Although it would not have been common knowledge at the time, the construction of the airstrips on

Melville Island was in preparation for an ambitious operation being planned by RAAF Command. On 3 March 1944 Headquarters North-Western Area was directed to create a task force to support amphibious operations by Allied forces against Tanimbar and Kai islands.²³ The dual airfield at Melville Island was to be 1,829 metres long and capable of operating a RAAF Fighter Wing Headquarters, three RAAF Fighter Squadrons, one US Fighter Group Headquarters, three US Fighter Squadrons and one Operational Base Unit, with a total of 2,290 personnel. This facility would enable long range fighters and attack aircraft to support the assault, but priorities imposed by General Headquarters for Papua New Guinea operations meant that the project did not proceed beyond the planning stage.

²² *NW Brief. Works Melville Is Construction of Fighter Strips Austin.* [RH].

²³ Wilson D., *Commander in the Shadow Air Vice-Marshal W.D. Bostock 1942-1945*, unpublished manuscript, p. 44 [RH].

Three vessels departed with the advance party and equipment from Darwin on 4 July 1944. The *Southern Cross* transported 25 tons of equipment and towed two barges to Snake Bay. The Army vessel *King Bay* was loaded with 50 tons of equipment and 20 personnel and also towed a barge, while the *Amaryllis* transported two men and ten tons of equipment. The landing was made across Banjo Beach and once the *Southern Cross* was unloaded on 6 July immediate action was taken to build the access road to the airfield site.

Due to the secrecy surrounding the project wireless silence was enforced. Commencing on 11 July, 6 Communications Unit established a Walrus courier service between Batchelor and Snake Bay every second day.²⁴ The *James Cook*, *Toorbul* and *Amaryllis* also retained links with the island. On 15 July 123 members of 9MWS and the Army 19th Works Employment Company and the 2/3rd Docks Operating Company travelled to Melville Island on the *James Cook*.

At the mid-afternoon point of the 7 July, work on the airstrip, which involved 40 'willing, intelligent and energetic' Aborigines, commenced.²⁵ By 14 July the steel mat had been laid and was ready for service. However the construction crew had a problem grubbing out tree roots. Approximately 4,000-6,000 stumps had to be individually shattered with explosives and then removed with a power rooter and 90-horsepower tractor. The unit history record of 30 August 1944 states that 'all works [had been] completed and [the airfield is] fit for operational use'. The airstrip was put to good use at midnight 31 August. The legendary 'Doc' Fenton (one of the original flying doctors and a well known Top End 'character') from 6 Communications Unit landed a De Havilland Dragon aircraft to evacuate a seaman from HMAS *Fremantle* who had been injured in a shooting accident. Trucks headlights were arranged to show a herringbone pattern of light into the wind direction.

The squadron had commenced its withdrawal on 22 August, when work on loading the *Matthew Flinders* commenced. The ship departed next day, with an LCM loaded with a D-8 tractor in tow, bound for Darwin. The construction of the airfield at 'Austin', as it was named, was a matter of pride to the commander, Squadron Leader Harrison. On 26 August he wrote to Wing Commander Rooney at 61 Works Wing that 'the job at Melville was completed several days ago and the plant and personnel returned here - better tell them at 62 [Works Wing] that 140 men from this wing built two strips in 21 days plus hardstands and incidental works'.²⁶

The squadron commenced packing for movement south on 22 September 1944 and the first convoy departed three days later. All the squadron's heavy equipment departed from Darwin for Sydney aboard the *Montoro* on 5 November and the final members of the Squadron, Sergeant Quinn and five airmen, departed from Darwin four days later.

One of the most significant tasks undertaken in the north was the construction of the Truscott airfield on Anjo Peninsular. This airfield, being built at the closest point on the Australian mainland to targets in Java, was ultimately utilised as a staging area for heavy and medium bombers based at inland airfields 'down the track' from Darwin. There was a dry weather airstrip at the Drysdale Mission, 56 kilometres inland, which was used for fighter operations but at which there was no room for

²⁴ NW Brief, *Works Melville Island Construction of Fighter Strips Austin*.

²⁵ 9ACS, Unit History record entry 11 July 1944.

²⁶ A1969/100/208 DWO Brisbane Item 42/501/Bris687.

expansion. Planning of the new airfield on the peninsula started in August 1943 with members of 12 Survey and Design Unit studying aerial photographs and maps of the area. Subsequently, Flying Officer 'Old Tom' Butcher and party completed a detailed survey of the peninsula and of Vansittart Bay on 13 November.²⁷ Wing Commander Rooney and the commander of 1MWS, Squadron Leader Chesterfield, and Flight Lieutenant Marshal (who was to command the 1MWS advance detachment at Anjo Peninsula) carried out an examination of the airfield and camp site on 1 January 1944. Included in the party from 1MWS were Sergeants 'Clarry' Castle and Bill Martin. Equipped with two tents, supplies and a basic wireless, they were remain in the area as Coastwatchers until the forward element of their parent unit arrived.²⁸

A few weeks after arriving at Anjo Peninsula Castle and Martin were walking along Vansittart Bay, on the west coast of the peninsula, when they heard a diesel motor out to sea. They reported the incident to North-Western Area Headquarters, who interpreted that the sound emanated from a Japanese submarine charging its batteries off shore. Post war research has brought to light the activities of a Japanese Army reconnaissance party led by a Lieutenant Mizuno of the Japanese 19 Army Headquarters on Ambon Island who claimed to have led a reconnaissance party on the Kimberley coast on 19 January 1944. It may have been that he was tasked to investigate suspected Allied activity at Drysdale and on the Anjo Peninsula.²⁹ Mizuno's attempt at intelligence gathering was inept. Of greater significance was the fact that high flying 'Dinah' reconnaissance aircraft had been sighted over the area and Spitfires deployed to Drysdale from Darwin to meet the threat. On 6 November 1943 a 'Dinah' was damaged by aircraft of 457 Squadron.³⁰ Next day an unsuccessful attempt was made to intercept another reconnaissance aircraft, and other incursions were reported on 3 and 20 February 1944. Irregular reconnaissance missions were flown by the Japanese until the successful interception of a 'Dinah' reconnaissance aircraft by three 54 Squadron (RAF) Spitfires on 20 July 1944 ended the practice. This aircraft was the last to fall on Australian soil during World War II.

These aerial activities had little effect on the activities of the airfield builders. The *Babinda* departed from Darwin on 16 January 1944 with 1MWS advance party stores on board and two 'dumb' barges in tow and unloading commenced on 22 January. This activity was hampered by the beach terrain and local tidal conditions. During the six hours of high tide, stores and equipment could be loaded direct from barges onto four wheel drive tip trucks, which were the only vehicles capable of negotiating the fine sand above the high tide line. However, the use of these vehicles below the high water mark turned the sand into a morass. The solution to this problem was the laying of steel mesh over the landing area to reinforce the beach sand. Mesh was expected to arrive on 14 February 1944 with the main advance party from 1MWS aboard the *Burwah*. Unfortunately the ship was not tactically loaded. The steel mesh having been loaded first at Darwin, was the last item to be unloaded at Anjo

By 1 March the 1MWS advance party had completed construction of camp facilities and 14 kilometres of access road to the beach in preparation for the arrival of the 14MWS equipment aboard the *William Prouse* on the 7th. The *William Prouse*

²⁷ Beasey J&C, *Truscott The Diary of Australia's Secret Wartime Kimberley Air Base 1943 - 1946*, Australian Military Publications, Loftus, 1995, p. 3.

²⁸ *Ibid.*, p. 7.

²⁹ *Ibid.*, p. 8.

³⁰ 457 Squadron Unit History Record entry 6 November 1943.

returned to Darwin with the majority of the 1MWS advance party. 1MWS finalised work on the runways and hardstandings at the RAAF Darwin airstrip before preparing for a move to Sydney during September, transferring the Anjo construction task to 14MWS.

This unit had returned to North-Western Area during February after re-equipping at Ransford and Wonga, Victoria. After a period of training, the men were flown north in a series of flights which commenced on 13 February 1944. Other members of the unit travelled by train to Adelaide before flying north. On arrival, the unit prepared equipment held at Coomalie Creek for loading aboard the *George Eastman* for shipment to Anjo. The *George Eastman* arrived at West Bay on 25 April and the unloading of cargo completed on 6 May. One of the squadron members, Humphrey Chrisfield, has left an account of the conditions that prevailed at Anjo:

We found our camp-site which was some distance from the strip by following a blazed path through the virgin bush; this track having been marked by... Flight Lieutenant Tom Butcher. There were plenty of flies, mossies, heat and, because of the isolation, no fresh food. It has been said that 50 tons of bully beef was taken to Anjo and that only three tons was taken out some five months later. During that time we virtually lived on bully beef and biscuits with an occasional feed of tinned goldfish (salmon or herrings). The question most often asked at meal times was 'what have you done to the bully beef this time?' To supplement the ration store, a group of boys were organised to do some fishing and were fairly successful. We were able to have a feed of fish now and then. As construction progressed and part of the strip was useable, aircraft from Darwin were able to fly in with limited fresh food supplies and mail. This was a boost for the 500-plus airmen and the ack-ack batteries in the area.³¹

The Liberty Ship had anchored under the protection of the escorting corvettes. Before the ship sailed to unload stores at Mission Bay, the inexperienced RAAF crews succeeded in overturning and sinking one of the barges being used to transport stores from ship to shore.

14MWS completed the construction of the airstrip on the Anjo Peninsula, nine kilometres of taxiway, 32 kilometres of formed roadway, three major camp sites and numerous smaller ones. In addition 160 buildings had been erected, a eight kilometre long base water supply system put in place and the preparation of a marine facility in West Bay were a legacy to the efficiency of the unit. The airstrip was 2,134 metres long and sealed with a bitumen compound and covered with ubiquitous pierced steel planking. During a visit to the site on 9 May 1944, Air Vice-Marshal Cole, the Air Officer Commanding, had expressed the view that distortion of the mat caused by it not being sufficiently bedded could result in the tyres of heavy aircraft being punctured on landing. Rooney discussed these matters with Cole on 13 July, and reassured him that his concern would be addressed during the course of construction. Even though the airfield proved suitable for use by heavy bombers, landing on the

³¹ Quoted in Beasey J&C, op.cit., p. 17.

matting could be disconcerting, as Cecil Smith, a cipher clerk at 58 Operational Base Unit recalls that 'over time there seemed to be some distortion or movement in these plates and when a heavy plane landed it produced a loud (rattling) sound and a kind of bow wave or ripple was visible ahead of each wheel.'³²



ACS life was not all work and no play. The ACS vaudeville troupe performed at Coomalie Creek in March 1944. (L-R): R. Rogers; H. Oliver; K. Summerfield; C. Winton; W. Burnett; T. Harvie; H. Kelly; L. Lavell; M. Dowsett; L. Rawady; J. Jessey; and, languidly lounging in front, G. Keenan. Who won the 'Miss Coomalie Creek' contest? (R. Rogers)

On 14 August 1944, 14MWS sailed on the *William Prouse* for Darwin en route for Morotai.

By the end of 1944, the RAAF Construction Units had deployed north, to undertake vital roles in the final campaigns of the war in the South-West Pacific Area.

³² Quoted in *Ibid.*, p. 22.

Chapter Three



The New Guinea Offensive

The Defence Program of General Headquarters, South-West Pacific Area requires an immediate construction of many more aerodromes in the New Guinea Area to permit the building of air strength sufficient not only to defend that Area ... but also to permit an offensive being launched ... [These will] involve amphibious operations ... in which aviation engineer troops will necessarily play a vital role.

Supplement No. 3 to War Cabinet Agenda No 117/1942 dated 9 October 1942

While 1MWS was preparing to deploy to North-Western Area, notification was received that a detachment would be created for special duty to North-Eastern Area. The officer selected to command the detachment was Flight Lieutenant T.M. Scott. The adjutant of 1MWS, Flying Officer Bill McCaughan, recalls the haste under which the unit was raised. Equipment had to be provided and 250 men made ready for embarkation on 25 July 1942. Purchases were made of D-6 bulldozers, small tipping lorries and road rollers - even a heavy duty rock crushing plant which the Air Force 'did not pay for until November of the following year'.¹ The perseverance and energy of Scott and his men resulted in the detachment embarking on the *Abel Foster* on 24 July. McCaughan remembers that there was a last-minute problem. Scott inspected the accommodation in the hold of the ship and declared that it was below standard for the accommodation of 250 men. After soliciting the support of the Director General of Medical Services for his protest, Scott prevailed. As a result Pilot Officers G.W. Barlow and K.W. Orr led 65 other ranks onto a train which departed from Melbourne for Townsville on 26 July.²

The *Abel Foster* sailed from Melbourne on 25 July, travelling direct to Townsville. The members of 1MWS participated in boat drill and shooting practise with rifles and machine guns. The submarine threat was not to be taken lightly and unit members undertook lookout duties. On the night of 31 July an escort dropped six or seven depth charges on a suspected submarine.³ Next day the ship approached Townsville and Syd Kildea, for one, had his bag packed in anticipation of

¹ Bill McCaughan; interviewed by Syd Kildea, 7 May 1996.

² A705/1 item 151/2/285 Nominal Roll No. 1 Mobile Works Squadron (Special Works Force). This document gives a total of 65 airmen. The Unit History Record entry 26 July 1942 gives a figure of 66 airmen.

³ 5ACS Unit History Record entry 31 July 1942; Syd Kildea, *1942 Diary* entry 31 July 1942.

disembarking.⁴ However, he was disappointed. The *Abel Foster* anchored off Magnetic Island. Two members of the unit were sent ashore by naval launch and hospitalised on 3 August. Another launch brought sailing orders that afternoon and the *Abel Foster* sailed for a still unknown destination.

The ship steamed north at full speed. For those not on duty a concert was arranged on deck. It was an idyllic tropical evening until 11.30 pm when the ship struck a reef. McCaughan and Scott shared a cabin, and were asleep when the Warrant Officer Disciplinary, Sergeant G.E. Hunter, knocked on the door. With due formality he requested: 'Mr Adjutant. I present the compliments of the engineering officer Flight Lieutenant Eastgate and would you kindly inform the commanding officer that we are aground'. McCaughan's initial reaction was one of incredulity until Hunter pointed to the reef light, which was 'practically on our bows'.⁵ Despite the efforts of the crew, the ship remained fast. At dawn the crew and passengers felt vulnerable to any marauding enemy aircraft or submarine. In an attempt to lighten the stern the men manned winches and man-handled ingots of lead ballast from the lower aft hold to the bow. The men in the hold battled against oppressive heat and stinging perspiration. Col Doughan, one of the men manhandling the ingots along the deck remarked that, 'after carrying 20 or so, you were buckling at the knees'.



Wards strip, Port Moresby, May 1977. The airstrip is flanked by trees which hide urban development. (Author)

At 8.45 am a small vessel was sighted to the north. By noon the *Karooona* lay alongside and preparations were being made to tow the *Abel Foster* into deep water. Under the persuasion of both ships' engines, and the acclaim of the passengers, the

⁴ Kildea, *op.cit.*, entry 1 August 1942.

⁵ McCaughan, *op.cit.*

Abel Foster slipped off the reef after being stranded for 16 hours. No damage had been suffered by the ship, and it proceeded at full speed for Port Moresby, arriving during the morning of 7 August 1942. However, it ran foul of another reef and the men transferred to a corvette before being landed at the wharf and marching three kilometres under a hot tropical sun in full military gear to quarters at the operational base, Port Moresby. The *Abel Foster* finally berthed on the afternoon of 8 August and unloading commenced late in the afternoon. The detachment which had staged through Townsville arrived on the *Matsuka* on 11 August 1942.

Flying Officer Edwards surveyed the Wards airfield site. However, an American engineer had visited the area earlier and commented favourably on the site. A construction gang had been employed to gravel the strip, which was useable 14 days later. This later became the foundation for the Wards aerodrome.⁶ The fact remains that 1MWS (Special Works Force) commenced work on Wards airstrip on 17 August 1942. The task was required to be completed by 10 September, but this was later extended by five days. The urgency was reinforced by the arrival of the advance party from 30 Beaufighter squadron on 4 September and the arrival of the majority of the squadron aircraft on the 12th. Progress on the project were hampered by inadequate equipment and sickness, such as dysentery and childhood disease like chicken pox and mumps - Syd Kildea and Charlie O'Bree were hospitalised suffering from the former, and Alex Brading and Harold Wilson with mumps.⁷ The unit, depleted in numbers by an average sickness rate between nine and ten per cent, worked a 12-hour day using inadequate equipment.⁸ As Edwards was to recall later:

When our unit first arrived at Moresby we had two D-6 bulldozers (medium), two D-6 tractors with six cubic yard carryalls, two caterpillar graders, one Malcolm Moore grader and one Barford-Perkins roller of about 1890 vintage. This was soon called the Bastard-Perkins roller ... There were also 23 tipper trucks of which ten were new and the others had done 20, 000 to 30, 000 miles [32, 200 to 48, 300 kilometres]. The graders had all been impressed and the only new machines were the caterpillar tractors and carryall ...⁹

On 11 September instructions were received to construct a new strip 45 metres to the west of the strip on which the squadron had been working. This airstrip was 1,829 metres long and 30 metres wide. On 5 October construction commenced on 24 B-24 Liberator heavy bomber dispersal bays and associated taxiways. In addition, on 29 October the unit started constructing water pipelines from wells in the Waigani swamp, and it was obvious that, due to the lack of fit men and the paucity of equipment, the Special Works Force required assistance to complete the construction. On 3 November, Colonel Sverdrup from Allied Air Headquarters and Colonels Matthews and Yoder, US Army Engineers, visited the construction site and arrangements were made for a US Army Engineer unit to be attached to 1MWS.

⁶ *Moresby Aerodromes Early History of Wards, Interview with Captain B.H. MacCormick ALO No. 30 Squadron at Noemfoor on 21/10/44.* [RH].

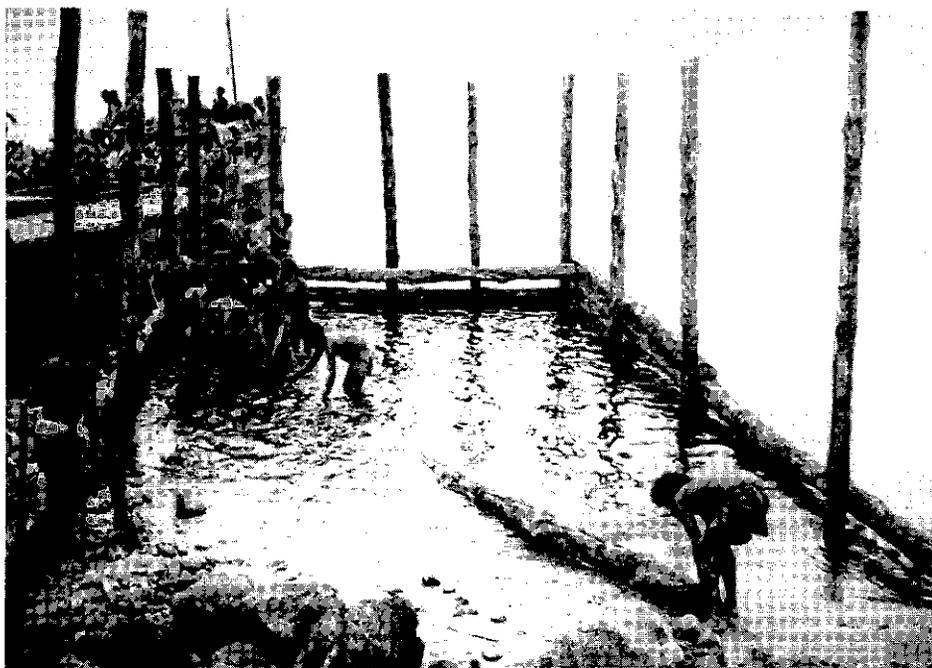
⁷ Kildea, *op. cit.*, entry 13 August 1942.

⁸ Flight Lieutenant Scott to Group Captain Packer, 20 November 1942. A1196/1 Item 42/501/182.

⁹ *Works in New Guinea No. 5 Airfield Construction Squadron. Interview with Squadron Leader J.O. Edwards, CO and Flight Lieutenant G. McCaughan, Adjutant No. 5 ACS at Noemfoor on 6/10/44.* [hereafter Edwards interview].

Construction equipment was obtained from US Army sources and the manpower problem was alleviated with the arrival of 'B' company 2/1st Pioneer Battalion on 13 November. This unit remained at Wards until 30 November. In the meantime a company of the 96th US Army Engineers arrived on 22 November.

The lack of manpower and equipment was the reason for the delay in completing Wards airfield. On 20 November 1942 Flight Lieutenant Scott wrote to Group Captain Packer, Commander, RAAF Headquarters Forward Echelon, that 'with the unit at full strength ... it is thought possible to repeat the work ... that took 22 days in 15 days.' The efforts of the enemy were of nuisance value by comparison. Although the Port Moresby area was bombed on numerous occasions during the period November 1942 - February 1943, there was only one occasion when serious damage was suffered at the field. On 27 January 1943 three enemy aircraft bombed the Beaufighter dispersal area, causing the destruction of one of the twin engine fighters. There were no personal casualties.



Construction of the docks at Bola Bola, Goodenough Island, took some months. Timber for the pylons was transported from nearby Fergusson Island. (G. Barlow)

Flight Lieutenant Scott, Pilot Officer B. Webb, Corporal H. Farlow and Aircraftman I. A. Barr left Port Moresby on 28 December 1942 to undertake a reconnaissance of Goodenough Island. With the completion of the Ward's Number 2 strip on 28 January, and the build up in momentum in aerial operations over New Guinea, there was an urgent requirement for new airfields. To meet this requirement an advance party of 5MWS (1MWS (Special Works Force) was renamed 5MWS on 1 November 1942) comprising four officers and 50 men arrived at Goodenough Island on 27 February 1943. Corporal Farlow surveyed the road from Bola Bola to Vivigani and construction of the road, with native assistance, commenced. Sergeant Eric

Edwards recalls being placed in charge of the native labour who had been recruited by the Australian New Guinea Administrative Unit (ANGAU). One of his duties was the transportation of timber from nearby Fergusson Island for use on the construction of two docks capable of unloading Liberty Ships at Bola Bola. 7MWS took a month to build each of these structures which were 100 metres long and nine metres wide. Edwards, using a barge which was towed by an American launch, gives an example of the problems which he faced. A storm blew up one day, and the barge threatened to drift onto the coral reef. The American launch circled the drifting barge twice, attempting to pass a tow line. On the second attempt one of the natives, Vickura, dived overboard, tied the rope around his waist and dived under the barge. Using the barge as protection against the swell, he handed the rope to Edwards, who secured it to the bollard. The launch took up the strain and towed the barge to sheltered water near Goodenough Island. Once out of the rough water, the natives began to sing.¹⁰

Edwards formed an affinity with his native labourers at Milne Bay and Goodenough Island and has fond memories of the experience. He recalls one night at the village of Lemarghi at Milne Bay:

It was a bright moonlight night and as we had Japanese air raids on such nights we were glad to be out of the target area. There was a hush and the headman spoke to the natives in their own language. There was complete silence then a small girl, with a beautiful clear voice began to sing the hymn 'When They Call the Roll Up Yonder, I'll Be There'. Gradually all of them joined in the singing as one big choir, the harmonising was perfect, the deeper men's voices blending in with the women and children, and to hear the little ones lisping 'Jeethus in the better land above'... I admit tears came into our eyes ... we all felt so humble ... They had taught us a beautiful lesson. We became very attached to them and they to us ...¹¹

Edwards carried his feeling toward the natives to Goodenough with him, and appears to have been a benevolent supervisor. The natives lacked initiative but were happy and eager to please. One day the Air Force padre travelled to Fergusson Island on the barge and, hearing that the natives sang well, requested an example of their talents. Edwards obliged and the head native, Yarmalika, arranged the men in a certain pattern for the best effect. An impatient Yarmalika yelled at his charges 'to stop f... about'. The padre smiled and turned to Edwards. 'They learn quickly, don't they?' But the vocal rendition was worth the effort.¹²

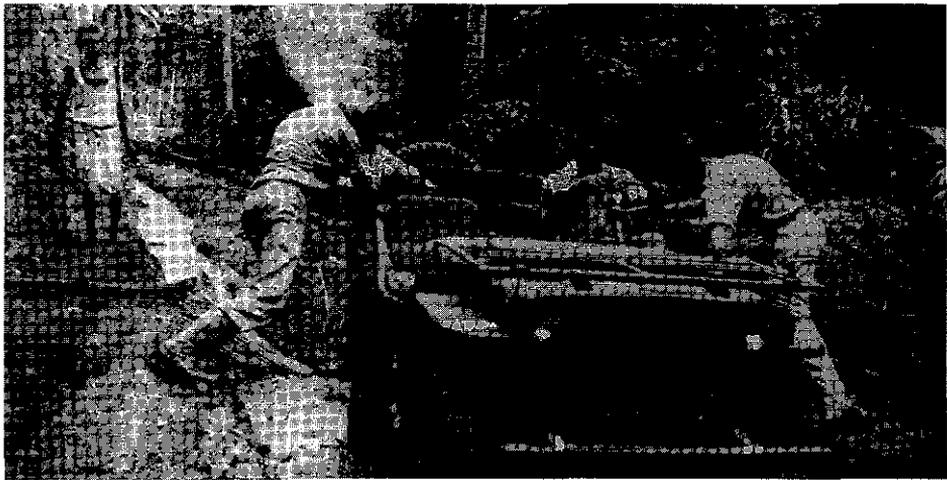
5MWS undertook a variety of work at Goodenough Island. The major task was the building of a 1,524 metres fighter and a 1,829 metre bomber strip at Vivigani. Landing jetties were constructed at Bola Bola and roads built and maintained between these two sites. Vivigani and the jetties were linked by an all weather road to RAAF Headquarters at Nubelai and facilities were constructed for the RAAF units based on the island. Kittyhawks from 77 Squadron landed on the fighter strip on 12 June 1943 and operational exigencies forced 30 Squadron to operate from the incomplete bomber strip on 10 October. This strip was completed on 20 October.

¹⁰ Eric Edwards, *A Sergeant's Story Airfield Construction in New Guinea and Goodenough Island During World War Two*, unpublished manuscript, p. 9 [RH]. [hereafter Edwards manuscript]

¹¹ *Ibid.*, p. 8.

¹² *Ibid.*, p. 9.

Work was hampered by enemy activity and mechanical failure. On 5 March the hut of Flying Officer R.T. Webb, the unit surveyor, was demolished by a direct hit during an air raid.¹³ Luckily Webb was not in residence, but valuable instruments were destroyed. The only other enemy raid which directly affected the unit occurred on 5 October when two bombs exploded in the centre of the bomber strip, but the damage was easily repairable. Although modern lend lease equipment was available, the 20 to 30 year old graders that had been impressed to meet initial equipment deficiencies were not easy to maintain. David Dickson recalls that they 'pinned and welded a broken dead axle for the Caterpillar 10 Grader and we caste a 10 inch pinion in phosphor bronze for the Harman shovel using a forge, oxy and makeshift ladle'.¹⁴



Road conditions at Goodenough Island. 'Nobby' Lings at the wheel of a bogged jeep on the Bola Bola - Vivigani road. (G. Barlow)

During March 1943 the Battle of the Bismarck Sea was fought. The subsequent arrival of Japanese survivors on Goodenough Island was cause for anxiety. Japanese troop landings were reported at Watalum on 8 March and at a position three kilometres from Vivigani on the 10th. Both incursions were met by Australian Army units. On the second occasion, nine enemy soldiers were killed and 13 captured.

5MWS was reunited on 11 April 1943 when 299 men arrived from Wards Strip, to be followed by two groups from Milne Bay: 132 who embarked on the *Mulora* on 3 April and another 38 who travelled on the *Wanaka* on the 10th. The unit remained at Goodenough Island until embarking on the *Reinjust* on 21 November 1943 for the voyage to Melbourne for retraining and reequipping.

¹³ *Ibid.*, entry 5 March 1943.

¹⁴ David R. Dickson, unpublished manuscript p. 3 [Hereafter Dickson manuscript] [RH].

On 16 January 1943 Flying Officer Flemming and 25 men of 2MWS arrived at the 5MWS camp at Wards to arrange for the former unit to take over residence. 2MWS had been raised at Pearce, Western Australia on 10 June 1942. Flying Officer T.M. Scott, who had been appointed commanding officer on 15 June, arranged for storage of equipment at Chittering Road, near Pearce. However it was not possible to fill all the requirements of the new unit from resources in the west. On 31 August Scott wrote that this problem was not eased by having no direct representation in the eastern states after the posting of a Flight Lieutenant Reardon had been cancelled. This was remedied with the departure of Pilot Officer G.E. White to Melbourne on 15 September. However, the urgent requirement for mobile works squadrons in New Guinea resulted in arrangements being made to transport the unit by rail to Brisbane during December. Three special trains departed from Midland Junction for Kalgoorlie, one each on 15, 16 and 17 December. Five special trains then transported 2MWS to Port Pirie, from where it deployed by rail to Brisbane and embarked for New Guinea on 4 January 1943.

The *Jason Lee* travelled via Townsville to Port Moresby, where it arrived on 14 January 1943. With the exception of guards, the 361 officers and men disembarked and proceeded to Konedobu, to be greeted by one of the ubiquitous Japanese air raids on the area. By 21 January all members were settled into camp at Wards, where they were employed building taxiways capable of handling heavy bombers, revetments, road culverts and repairing the airstrip. The work was undertaken in conjunction with the US 46th Engineers and was not restricted to work at the airfield. Men from 2MWS undertook construction work at the Sogeri Convalescent Depot and the Konedobu hospital before being ordered to move to Lae. Two LSTs were loaded with unit personnel and equipment on 1 December, and the unit disembarked at Lae on the 5th, before undertaking the gravelling of the Lae - Nadzab road.

There was one notable incident which involved members of 2MWS during the unit's stay at Wards. At noon on 18 October 1943 Corporal F. MacRae and Leading Aircraftmen G.G. Dean, L.J. Milligan and J. Roberts were driving along the Baruna Road. At the same time Lieutenant Rosenbloom from the USAAF 36th Fighter Squadron was turning his P-39 Airacobra onto his final approach to land at Wards. To the horror of the watching men in the truck, the fighter rolled over onto its back and plunged into the slope at the northern end of the airstrip. The fighter burst into flame on impact. Dean sped to the burning aircraft, and the three passengers, MacRae, Milligan and Roberts leapt off. Milligan doused his overalls with water from a nearby water truck and joined MacRae and Roberts in an attempt to free the pilot. The heat forced potential rescuers to retire twice, but still the three Australians persevered. Exploding ammunition added to the hazard as Milligan, using a piece of engine cowling as a shield from the heat, led MacRae to the cockpit, where they succeeded in tearing the left cockpit door from the aircraft. Rosenbloom was still strapped into the cockpit.

The crash truck and fire tender arrived. MacRae commenced spraying the cockpit with foam as Milligan and Roberts continued their attempt to release Rosenbloom. The nozzle broke from the hose. Undeterred, MacRae directed foam to suppress the fire in the cockpit, before handing the hose to Dean and joining Milligan and Roberts. Milligan, in the meantime, had obtained a pocket knife from a bystander and was able to cut through the pilot's harness and the three airmen were able to extricate the pilot from the inferno. The men were exhausted from their efforts, and

Milligan received minor burns to his hands and arms. For their heroism MacRae was awarded a British Empire Medal, Milligan a Mentioned in Despatches and Roberts a 'commendation'.¹⁵

The third works unit to arrive in New Guinea was 4 Works Maintenance Unit (WMU). This unit was raised at Flemington Racecourse by Flight Lieutenant R.U. Hoddinott on 9 June 1942. The integrity of the unit was broken when Pilot Officer W. Derbyshire, 25 airmen of 1 Section and equipment departed for Bradfield Park, Sydney on 6 July. The men travelled through Tocumwal, where, due to the difference between State rail gauges, they changed trains. On arrival at Bradfield Park four days leave was granted. The troops 'wearing tan army boot and khaki capes with blue uniforms', toured the sights of Sydney before boarding the *Both* on 13 July for the voyage to Port Moresby.¹⁶ One of the members of the party was John O'Toole who recalls that the conditions aboard were primitive. Orderlies distributed meals which were eaten 'wherever one could find space - under a hammock or on deck'. Toilet facilities for the men consisted of a 'hanging arrangement suspended over the side of the deck [which] resembled a swinging scaffold on a building ... and to see the sea rushing underneath when "sitting" was not a pleasant experience'.

The *Both* anchored off Townsville for a short period and the officers went ashore for instructions before the ship weighed anchor and headed north. On 20 July weather conditions deteriorated. Sea sickness and the confinement of the men to the hold resulted in air becoming foul. To overcome this problem canvas funnels were erected between the decks and the hold in an attempt to improve the air circulation. Next day the hold was washed out with a mixture of phenyl and water to ease the discomfort of the men, and the arrival of the ship at Port Moresby on the 25th was a welcome relief. The *Both* tied up alongside another ship at the wharf, and passengers disembarked over the deck of that vessel - a hazardous passage for persons wearing steel heeled and nailed sole army boots.¹⁷ The men were housed at Konedobu before settling in at a camp site at John's Gully, 14 kilometres from Port Moresby. Once the *Both* was unloaded, the detachment personnel commenced a program of camp site preparation, road construction and the maintenance of existing facilities.

The 4MWU Headquarters moved to Townsville in August, where the unit undertook work at Bohle River and Garbutt. In addition, minor tasks were carried out at Kurrajong Hospital and Aitkenvale as well as building a petrol dispersal facility at Ingham Road and road construction at Mount St John. On 5 September 2 Section, comprising 36 men under the command of Pilot Officer S.O. Edwards departed for Horn Island where they were employed on road construction, sign writing and unloading petrol. The deployment to Townsville was transitory. On 29 October a further 25 men (3 Section) were sent to join 4 Section, commanded by Pilot Officer G.C. Guy and arrived at Gurney airfield, Milne Bay, New Guinea on 19 November 1942. On 1 January 1943, Headquarters 4MWS received warning of a move to Gurney. However the destination of 4MWS Headquarters was varied to Port Moresby on 12 January.

Four officers and 139 men embarked on the *Joseph Holt* at Townsville on 10 February 1943 to join a convoy of six ships and a Royal Australian Navy escort for

¹⁵ A1969/100/198 62 Works Wing 908/1/P1. Report by 1st Lieutenant Elmer M. Bothum. Ordnance Officer, 36 Fighter Squadron dated 20 October 1943.

¹⁶ J. O'Toole, *The First Works*, p. 23 unpublished manuscript [RH].

¹⁷ *Ibid.*, p. 25.

the four day voyage to Port Moresby. A full deck cargo of motor vehicles resulted in the men being confined to the ship's hold with little respite from the heat. To add to the discomfort cyclonic weather was experienced for two days, causing the men to be issued with a tin of meat and vegetables (M&V) and a tin of biscuits as the deck mounted kitchen was inoperable. Another cause for concern was the lack of fresh water - none was available for bathing during the whole voyage. In these circumstances the seven men detailed for hourly shifts on aircraft spotting duties would have found the task a welcome relief from the claustrophobic atmosphere of the ship's hold.

An unidentified aircraft flew over the convoy during the night of 13 February, bringing the crew and passengers to the alert. Although the aircraft proved to be friendly, the sighting of a suspicious object in the water during the morning of the 14th caused more anxiety. On closer examination the suspected submarine was found to be floating logs and the *Joseph Holt* arrived at Port Moresby without further incident.

The Headquarters resided at the camp at John's Gully, which had been established by 1 and 3 Sections. The unit constructed 15 Aircraft Repair Depot and 6 Supply and Support Unit over a three-month period and was in constant demand to undertake building and road maintenance tasks.¹⁸ To meet the manpower requirements of the large building program planned by 62 Works Wing, 60 carpenters and 23 general hands arrived from the Works Training Unit on 9 March 1943. Although the area was frequently bombed by the Japanese, there was little damage done to the unit facilities. The exception was quite dramatic. On 12 April a detachment of 4WMU was employed at the Berry strip when it was attacked by 32 enemy bombers. At 10.20 am the alarm sounded and the men, working near the 33 Squadron and the Rescue and Communication unit camps, sought the shelter of slit trenches. Sixteen bombs straddled the camps, badly damaged the 33 Squadron mess, tore up water pipe and claimed a direct hit on the rescue squadron's kitchen.

Flying Officer N.A. Moore and 51 airmen travelled to Goodenough Island in four Dakota aircraft on 20 May 1943. The aircraft flew via Milne Bay, where they met 17 escorting fighters for the flight to the island. On landing the 'Yanks gave us 20 minutes to get out stuff out of the planes so that they could get airborne again. We did the job in 12 minutes'.¹⁹ At Goodenough, the detachment built the 73 Wing operations room and maintained roads and buildings, thus augmenting the work being undertaken by 5MWS.

Although the 4MWU Headquarters was relocated to Goodenough Island by air on 23 November, the unit was not united. On 12 June Pilot Officer Daley and 43 airmen had boarded the *Joseph Holt* at Port Moresby for the voyage to Milne Bay and Flying Officer K.W. Storey and 60 men were flown to Goodenough Island during November as the headquarters advance party. Even as this movement took place, Flying Officer B. Thompson and 19 men accompanied the same number of aircraft loads of building materials to the airfield complex at Nadzab. The original Goodenough Island party under the command of Flying Officer Moore had left for Kiriwina on 3 August. Flight Lieutenant Moore later recalled that:

¹⁸ Interview with Flight Lieutenant N.A. Moore at Noemfoor on 6/10/44, [hereafter Moore interview].

¹⁹ *Ibid.*

...We moved to Kiriwina by barge and it rained all the way ... Everything we had was wet through. As usual nobody knew anything about us when we got there and everything was haywire. We got there about 7 at night and had to unload the barge ourselves. 6MWS had come in the day before and we put up there for the night. The boys had to sleep in their wet clothes and it was a very miserable night. Next day we had to trek across the island to our camp site about five miles [nine kilometres] away. The journey took six hours by truck; it was just a sea of mud all the way ...²⁰

The detachment, augmented by a building party of 100 men from 6MWS, built the RAAF and American camps, operations rooms, fighter sector and 'the marvellous AOC's place [with] six bedrooms, septic tanks and other conveniences'.²¹



A US Army LST unloads at Kiriwina. (US Corps of Engineers Office of History)

4WMU Headquarters remained at Goodenough Island until September 1944, when the unit moved to Noemfoor Island.

A detachment of 150 officers and men from 6MWS travelled by barge from Gili Gili and arrived at Kiriwina on 3 August 1943; the same day as the 4WMU detachment. Unit personnel had gathered at Ascot Vale on 10 December 1942 before moving to Royal Park on 17 December. By 19 January 1943 the unit had moved to Bankstown, New South Wales, from where an advance party led by Pilot Officer J.D. Alexander departed on 27 January. The party departed from Townsville by Dakota for Milne Bay on 3 February.²² The remainder of the unit embarked on the *George W McCrary* which arrived at Milne Bay ten days later where the unit constructed 1,600

²⁰ *Ibid.*

²¹ *Ibid.*

²² A705/1 Item 151/2/262, correspondence 3 February 1943. The members of the party were Pilot Officer J.W. Alexander, Corporal N.T. Wallace and Leading Aircraftman J.H. Wilson, W.T. Jones, C.R. Butler, D.R. Burford and F.J. Boyle.

metres of the proposed 1,829 metre sealed runway being built parallel to the existing PSP strip before deploying to Kiriwina on 30 July 1943. However, the unit was criticised for being 'rather slow in getting on with the strip'.²³ The Commanding Officer of 62 Works Wing, Wing Commander H.E.S. Melbourne, agreed but pointed out that the unit had been formed hurriedly and consisted of a high proportion of unskilled and untrained men, that the unit was 15 per cent under strength and that Squadron Leader J.F. Keays, the commanding officer, was 'gradually welding his unit into an efficient organisation and his construction methods cannot be faulted. A high standard of work can undoubtedly be expected from this unit in a very short time'.²⁴ This prophesy was vindicated. The combined effort of 4MWU, 6MWS and American units, including the 856th Engineer Aviation Battalion, resulted in the airstrip on Kiriwina being serviceable for use by aircraft participating in the first large scale raid on Rabaul on 12 October 1943.

The RAAF Airfield Construction Squadrons at Goodenough Island and Kiriwina were under the operational control of the United States 6th Army, Alamo Force. The RAAF supplied all its own construction materials, and this was a cause for some disquiet for Brigadier General Casey and Colonel S.D. Sturgis, the Chief Engineer, Alamo Force. Casey had argued that since Alamo Force had operational control of the RAAF Construction Units assigned to it they should be supplied by the United States Army. The Director of Works and Buildings did not agree. In his reply to Casey's letter of 18 August 1943, he stated that 'it is not desired that the RAAF should be dependent on 6th Army for this service'.²⁵ The matter was one of control - and of national prestige. By having independent sources of supply, the RAAF units did not fit into the United States Army concept that 'where Army had control, RAAF stores should be eliminated' and that they should be wholly dependent on United States sources of supply.²⁶ In fact, during the Kiriwina operations, Colonel Sturgis was to note that 'with respect to supply of engineer materials ... the RAAF is better supplied ... than the ground forces ... This is embarrassing'.²⁷ The US Army authorities were seeking 'unquestioned control' of the RAAF units.²⁸ This was an option that the RAAF Air Officer Commanding, 9 Operational Group, Air Commodore J.E. Hewitt did not favour. He 'insists he has command'.²⁹ However, every effort was made to retain a good working relationship between the two parties and Sturgis openly commended the generosity of Wing Commander Dale in giving RAAF materials to his engineering units to enable them to complete the work on Kiriwina.³⁰

Another issue which blossomed at this time was one of works priorities *vis-à-vis* the United States Army and the United States Army Air Corps. The latter saw the construction task as being prioritised toward the completion of airfields and the

²³ A1969/100/204 6 MWS item 7/3/Air.

²⁴ *Ibid.*

²⁵ Correspondence, Wing Commander Melbourne to Brigadier General Casey 23 August 1943. Personal Papers of Major General H.J. Casey, Office of History, US Corps of Engineers. [Hereafter Casey papers].

²⁶ Correspondence Colonel S.D. Sturgis to Colonel Carew, Alamo Force, 24 October 1943. Casey papers.

²⁷ *Ibid.*

²⁸ Sturgis to Casey, 16 October 1943 Casey papers.

²⁹ *Ibid.*

³⁰ Sturgis to Carew, 24 October 1943 Casey papers.

subsequent maintenance of them to enable aircraft operations. The Army concept, articulated by Casey, was that roads and other facilities should be completed before airfield construction was contemplated. Hewitt and Dale were members of the Air Corps School. When General Kreuger, the Commanding General of 6th Army requested that the RAAF construction units be employed in road construction on Goodenough Island, Dale 'protested that his first responsibility was the serviceability of the airstrips and taxiways'. The Australians had worked hard before the arrival of 6th Army on Goodenough Island and, although Hewitt 'did not want to get unnecessarily mixed up in the US Army's internal affairs',³¹ a compromise was agreed to where the RAAF would work in areas skirting around RAAF dispersal areas.³² The issue could have developed to the degree that 'resentment could easily have been aroused'.³³

Resentment was engendered by an action beyond the control of the soldiers and airmen at Kiriwina. The work undertaken resulted in a newspaper article being published in the Sydney *Daily Telegraph* during December which emphasised the role of the American Negro engineers. Keays claimed on 29 December 1943 that:

... This article is a typical example of the lack of appreciation shown for the work of the RAAF Works Units and naturally produces a feeling of despondency throughout the unit. The men know that their efforts at Kiriwina were outstanding and naturally feel resentful when other units receive the credit and publicity for their work. It is requested that arrangements be made for the Press Relations Officer from No. 9 Operational Group to visit Nadzab in the immediate future so that some publicity can be given to the units efforts at Kiriwina and the activities of the Wing generally.

It should be pointed out that the construction of the two landing strips of the north aerodrome at Kiriwina was carried out by this unit and not by the naval CB Battalion. The naval CB Battalion constructed two of the taxiway loops and hardstandings, the other loops being allotted to the 856th Engineer Aviation Battalion. Although the facts cannot be publicised this American Negro Battalion fell down badly on the job, and this unit and the 46th GAS. Regiment had to take over and complete their work.

The naval CB Battalions are possibly the finest construction units in the world, but from experience at Kiriwina and elsewhere in this area the organisation and efficiency of the RAAF units is equal to or superior to other American units ...

Attention is drawn to No. 9 Operational Group Routine Order 387/43 quoting various letters of commendations on the part played by the RAAF in the raids on Rabaul on the 12th and 13th October. It is obvious from the tone of those letters that high ranking 5th Air Force officers are not aware that the northern strip was constructed by the RAAF and that the allotted work had been

³¹ Hewitt J.E. *Diary for my Daughter*. unpublished manuscript, p. 131 [RH].

³² *Ibid.*, p. 160.

³³ *Ibid.*, p. 161.

completed to time on what appeared an impossible schedule. The men noticed these omissions and the effect on morale is very marked.

With the men tired after almost 12 months of hard and continuous effort every endeavour should be made to hold the morale. A certain amount of publicity in southern papers would assist materially.³⁴

Keays had a valid point, and the RAAF works units were not to receive any official publicity until September 1944 when the Department of Air Directorate of Public Relations released Special Release No. 657 *RAAF's Important Role - Construction and Offence in South-West Pacific*.

As 6MWS commenced activity at Kiriwina, 7MWS was being settled in on Goodenough Island. The unit had been raised at Royal Park on 18 January 1943. The unit followed the same route as 6MWS - to Bankstown on 8 February and then by ship, departing from Sydney on 2 March 1943. The squadron arrived at Port Moresby on 15 March and unloading commenced. However next day the unloaded stores and equipment were reloaded and the ship diverted to Milne Bay. An air raid at Milne Bay on 20 March gave the unit its baptism to bombing. Next day, Pilot Officers D. Lawrence and A. Green departed for Goodenough Island with an advance party of 38 men and their equipment. This party was followed by 64 officers and men aboard the *Mulcra* on 3 April and the *Nujinco* followed next day. A camp was established at Bola Bola in preparation for the arrival of the *George Peat* with the heavy equipment on 11 April. With the arrival of Pilot Officer Green and 30 personnel on the *Koomeela* on 17 April 1943 work commenced. Enemy air raids were a nuisance, and a serious outbreak of malaria, dengue fever and dysentery on 26 April retarded the work. The unit remained at Goodenough Island until it embarked on two LSTs for Lae on 1 December 1943.

Flying Officer David Dickson, Aircraftman 1 Eddy Dillon, a flight sergeant and five other ex-members of 5MWS arrived at Lae in an unusual mode of transport. A Japanese barge, a survivor of the Bismarck Sea Battle in March 1943, was salvaged from three metres of water off Wataluma Beach. As the four cylinder kerosene engine was refurbished and the electrical system modified to use a Ford coil, a 12 volt battery and a magneto as a distributor, Dickson saw the barge as an ideal method of transporting tools and equipment to Lae. A trial run was made to neighbouring Fergusson Island where:

We went down the north-east coast of this equally lush timber covered and mountainous island, till we came to an inlet that led into a tidal estuary extending quite a way inland. This was a deep water estuary teeming with fish and had a secluded village at the end of it with what appeared to be people who hadn't realised there was a war going on just outside their own particular territory. We left it as we found it and headed for the outside world.³⁵

³⁴ A1969/100/204 item 7/3/ Air Keays to HQ 62WW 29 December 1943.

³⁵ Dickson manuscript, p. 6.



7 Mobile Works Squadron workshop, Nadzab. (G. Barlow)

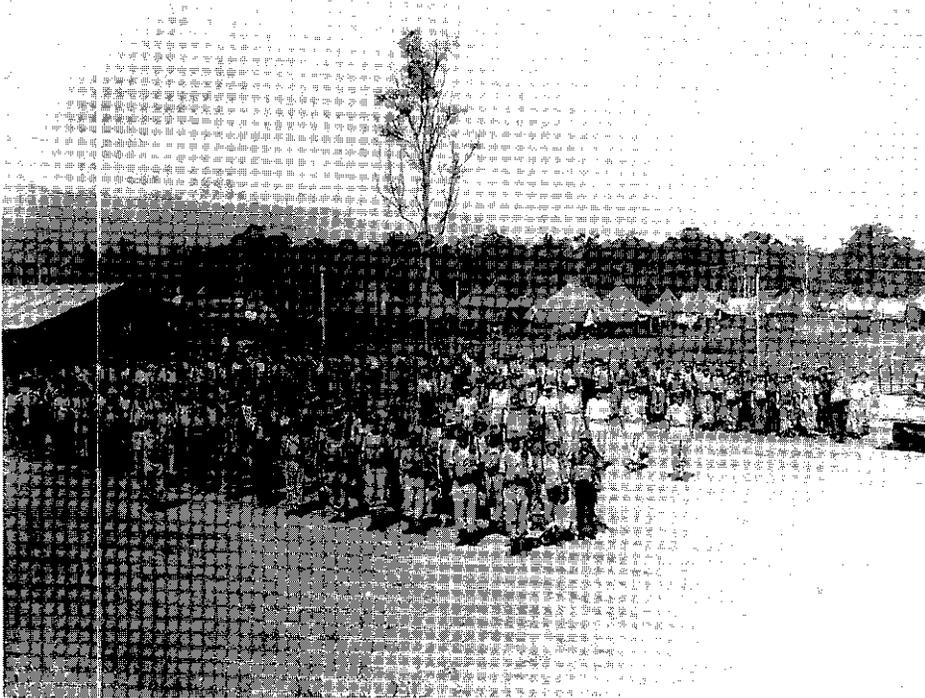
The mariners were now ready. Loaded with lathes, drilling machines, welders and small hand tools, the barge departed from Bola Bola and headed across Ward Hunt Strait for the New Guinea mainland. The plan was to head for Collingwood Bay at sunset and reach Cape Nelson at dawn. The crew proudly flew the Union Jack to identify them as friends - later Dickson discovered that the flag was completely unknown by the Americans.³⁶ After buying fresh fruit and vegetables from natives at a mission station in Collingwood Bay, the barge set course for Cape Nelson. About 16 kilometres off shore, Dickson was navigating by moonlight when his attention was directed '... at something moving towards us almost on a collision course, coming from the west or out of Collingwood Bay. It needed no nautical knowledge to identify it - a periscope, at least 2 metres of it, travelling at about our speed of eight to ten knots ... It had to be Japanese.'³⁷ Dickson feared that, being in a Japanese barge, the submarine may surface to contact his crew, and ordered a rapid return to the shore. The incident was reported when the barge and crew arrived at Oro Bay next morning and it was confirmed that it was probably a Japanese submarine that had been sighted. With the dominance of Allied air power, the Japanese had resorted to using submarines and barges to attempt to run supplies to her beleaguered outposts along the northern New Guinea coastline. Dickson called at Salamuau, where he had spent ten years as an engineer with the Bulolo Gold Dredging Company before the war, before sailing on to the hive of activity that was Lae. Here Dickson off-loaded their valuable cargo. The barge, now surplus to unit requirements, was 'swapped for a brand new Jeep from one of the American outfits'.³⁸

³⁶ *Ibid.*, p. 7.

³⁷ *Ibid.*, p. 8.

³⁸ *Ibid.*, p. 10.

This, and later deployments of Australian construction units were to develop an airfield complex in the Nadzab area of the Markham Valley. On 5 September 1943 American and Australian parachutists landed on the airfield at Nadzab and the 2/4th Australian Field Regiment and the 2/2nd Australian Pioneer Battalion deployed to prepare the airfield.³⁹ On 7 September 1943 elements of the US Army 871st Engineer Aviation Battalion landed on the airfield and by 11 September the strip had been extended to 1,500 metres to enable the Australian 9th Division to be flown in to participate in the Markham Valley campaign which resulted in the fall of Lae on 16 September.⁴⁰ Of greater long term importance was the development of an extensive airfield complex to enable long range missions to be flown against Japanese targets along the north coast of New Guinea.



7 Mobile Works Squadron on parade at Nadzab. Note the 'Yankee tents' in the background.
(G. Barlow)

Wing Commander W.A.C. Dale and an advance party of 62 Works Wing Headquarters flew from Goodenough Island to Nadzab on 1 December 1943. The three RAAF construction units (2MWS, 6MWS and 7MWS) arrived at Lae on 8, 1 and 3 December respectively and were deployed to Nadzab by the end of the month.

³⁹ G. Odgers, *Air War Against Japan 1943-1945*, Australian War Memorial, Canberra, 1957, pp. 76-77

⁴⁰ US National Archives ENBN-870-0.2 Unit Military Records *871st Engineer Aviation Battalion 20 August 1942-31 December 1943*, 'The Nadzab Mission', p. 1.

The move was hampered by the condition of the Lae/Nadzab road. Eric Edwards has recorded that 'there was no road, just a native track, and parts of it through thick jungle. We bogged down ... In very bad spots we used saplings to lay a corduroy track, but progress was slow because it rained practically every night'.⁴¹ The road was completed by 15 December and by the end of the month the three squadrons were in camp at Nadzab, housed 'in what we called Yankee tents, four even sides of about three metres and a centre pole ... the men were eight men to a tent.' With the temperatures exceeding 120 degree Fahrenheit and the men working a three shift day, it was difficult to rest amongst the 'smell, noise and dust'.⁴²



Part of the Nadzab airfield complex under construction. 2, 6 and 7MWS were involved with building the airfields at Texter and Newton. (RAAF Museum)

The major tasks allocated to the units were the construction of the Newton and Texter airfields, associated hardstandings and taxiways, a major portion of the Lae/Nadzab road and 250 buildings for the newly formed RAAF 10 Operational Group. Work on the field at Newton commenced on 16 December and the first aircraft landed on the strip 15 days later, with the Kittyhawks of 75 Squadron commencing operations from the airstrip on 20 January 1944. Texter was commenced on 5 February and completed on 10 March. Both airfields were sealed with gravel and bitumen. To bring them up to an all weather capability a 'chinaman' was constructed to supply metal to an adjacent crusher. Work was undertaken under floodlights, and one night Edwards recalls that:

⁴¹ Edwards manuscript, *op.cit.*, p. 11.

⁴² *Ibid.*, p. 12.

I had an uneasy feeling and I said to the boys 'we won't stop [Let us] get finished and get to hell out of here ...' Just down from us we could hear loud music. A Negro unit had a public address system going and all lights on ... We had driven a few hundred yards when we heard planes and then [saw] the flash and [heard] the noise of exploding bombs ... We heard more bombs and machine gun and cannon fire behind us ... ack ack fire opened up and the noise and flashes were like a giant fireworks display. [In the morning I was called to the commanding officer who told me that] an American Negro unit had their lights on and were bombed and strafed ...⁴³

There were several air raid warnings while the construction of the airfields was in progress, but only two resulted in daylight enemy attacks. During 15 January 1944 six 'Tony' fighters strafed the 7MWS camp area, the bullets kicking up dust all about Eric Edwards as he headed for the protection of the jungle. A Zeke 'shot up the strip' on 3 February.



7MWS bogged down on the Lae-Nadzab road. (RAAF)

On 8 February 1944 2WMS was tasked with the completion of the Newton airfield before handing over its equipment to 6 and 7MWS at the end of March preparatory to returning to Australia for refurbishment. 2WMS embarked on the *Khota Baru* for passage to Brisbane, where they disembarked on 28 May 1944. After

⁴³ Edwards manuscript, *op.cit.*, p. 12.

spending two days at Sandgate, the unit travelled by train to Melbourne, arriving on 4 June 1944.

On 7 March 1944 General MacArthur issued instructions for landings to be made at Hollandia and Aitape to exploit the Allied successes in the Admiralty Islands and the growing weakness of the enemy in western New Guinea.⁴⁴ The bold projection of force to Hollandia, 805 kilometres to the west of Lae was known as Operation 'Reckless'. US Navy aircraft carrier support was required to cover the initial landing, but such support would be available for a limited time. Therefore it was imperative that a simultaneous landing be effected at Aitape 185 kilometres east of Hollandia. Engineer intelligence observed that the Japanese had commenced the construction of three airstrips near Aitape during December 1943. The capture, development and exploitation of these facilities would enable Allied forces to prevent by-passed Japanese units in the Wewak - Hansa Bay - Madang area from moving north to attack Allied forces and shipping at Hollandia. The importance of the airfields is exemplified by the fact that the engineer units accounted for over 5,000 (some 40 per cent) of task force numbers.⁴⁵

Wing Commander Dale was advised verbally of his appointment as Persecution Task Force Engineer on 3 April 1944 and commenced planning at the Task Force Headquarters at Finschhafen. A detachment of 13 Survey and Design Unit under Flight Lieutenant A.J. Fowler, using aerial photographs and other intelligence information planned the airfields, camp sites, lines of communication and attendant aerodrome services.⁴⁶ For the operation Dale had a combat battalion (plus one company), one shore battalion, one boat and shore regiment and three airborne aviation battalions of the US Army, and the RAAF works wing consisting of three mobile works squadrons, a survey and design unit, one works maintenance unit and a supply unit under his control.⁴⁷ In preparation for the landing 6MWS and 7MWS commenced loading LSTs at Lae on 8 and 6 April 1944 respectively. The latter participated in a practice landing at Lae on 10 April. The trial was successful with the exception that a proposed bivouac area was untenable due to swampy ground. As the force withdrew, tragedy struck. Leading Aircraftmen Armstrong, Roberts and Dumschat of 7MWS were killed on 11 April when an elevator used to lift light vehicles to the upper deck from the well deck on LST 122 malfunctioned and they were crushed; four others were injured.

The third works unit was 5MWS which, after rest and re-equipping, joined the task force after travelling from Melbourne on the *David F. Barry* to Lae, arriving on 1 April 1944. An advance party of 41 had departed from Melbourne on 15 February and arrived at Townsville on the 23rd. On 1 March two Dakota aircraft landed at Port Moresby. The third, for an unexplained reason, had to turn back and the passengers were not reunited with the main advance party until 4 March. In the meantime, the first aircraft had proceeded to Saidor, where the men remained as guests of the 808th Engineer Aviation Battalion until they rejoined the main body at Lae on 1 April. From 5 April, the complete unit undertook intensive infantry training before commencing to load two LSTs on the 17th. On the following day the two vessels sailed to

⁴⁴ Odgers, *op.cit.*, p. 202.

⁴⁵ *Airfield and Base Development*, p. 237.

⁴⁶ A1969/100/206 9 WMU 4/3/Air. *Report on Occupation and Development of Tadi Airfield Near Aitape New Guinea*, by Flight Lieutenant A.J. Fowler, dated 2 May 1944.

⁴⁷ *Airfield and Base Development*, p. 327.

Finschaffen, where 100 members of 80 Squadron were embarked to participate in the assault on Aitape. The Persecution Task Force departed from Finschaffen on 18 April. Next day the convoy was joined by the Hollandia assault convoy, an impressive sight - 'destroyers dashing about ... battleships, cruisers and aircraft carriers, plus many ... LSTs and troop ships' moving in concert until 1800 hours on the 21st, when the Aitape force left the main convoy for its approach to its target.⁴⁸



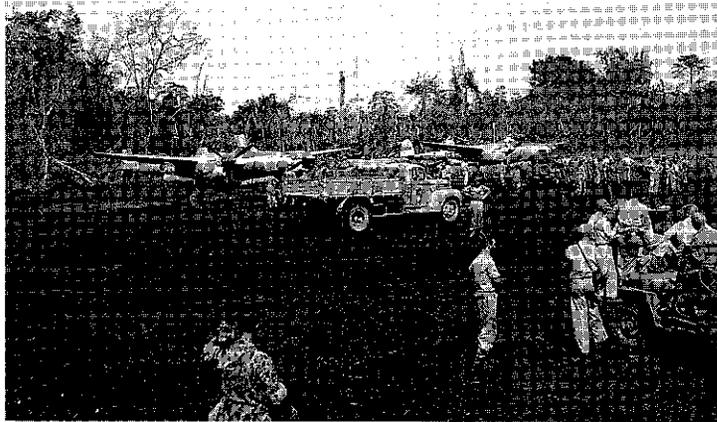
Bringing engineer equipment ashore at Aitape on D+1. (US Corps of Engineers Office of History)

It was pitch dark as the convoy made its approach to the beachhead. As dawn broke, the palm trees were an idyllic picture against the backdrop of the Torricelli Ranges, five to twelve miles inland. Along the beachfront the invaders could see the Japanese cooking fires. It was a tranquil tropical scene soon to be turned to bedlam. Alan Robson recalls that he 'couldn't imagine that [the naval bombardment and the air strikes] could [create] that much noise. It was deafening ... you could see the coconut trees being flattened ... The fighters came in and strafed ... you could see the tracer bullets ... and then the big bombers came over and you could see the bombs dropping'.⁴⁹ The 163rd Regimental Combat Team landed at the village of Lemieng at 0645, killing several Japanese soldiers and taking 50 Javanese labourers prisoner. The fourth wave included Wing Commander Dale, Squadron Leader Jamieson and 18 members of 13 Survey and Design Unit who landed at 7 am to undertake a reconnaissance of the area. In all 50 RAAF Works personnel landed.⁵⁰ The troops had

⁴⁸ Lindsay Hodges, diary entry 19 April 1944 [RH].

⁴⁹ Alan Robson interview 12 October 1996.

⁵⁰ *Works Units at Nadzab*, p. 3 [RH].



Lightning fighters, one flown by Brigadier General Wurtsmith, 5th Air Force Fighter Command, were the first Allied aircraft to land at Tadjji. (US Corps of Engineers Office of History)



Above and Left: 7ACS surveyed and built the bomber strip at Aitape. (US Corps of Engineers Office of History)

landed at the village of Wapil, about three quarters of a mile from the planned site of Koroko, causing minor confusion. RAAF equipment had to be parked on the beach until the opportunity offered to move it to Koroko and unloading was hampered by heavy rain. It was not until midday that the northern airstrip was captured and the surveyors could peg out the runway so that the construction of the fighter strip could commence.

The intelligence report that the airfield had been paved with coral was erroneous. It was found to be roughly graded natural surface strip, overgrown with kunai grass and too short for operations. Even though the infantry were still patrolling the area, 7 Mobile Works Squadron commenced grading and extending the airfield. Although the southern airstrip was captured late in the afternoon of the landing, survey work did not commence until the morning of the 23rd. Like the northern strip, it was a natural surface with grass cover and pitted with bomb craters.

5MWS landed at Aitape on 23 April to face the realities of the invasion, as Lindsay Hodges recorded in his diary:

... there were ships and hundreds of barges everywhere. We eventually landed and the sight which met our eyes was beyond description, desolation and dead everywhere, floating in the water, lying on the beach. Horrible sight ... nearby was a Jap hospital, between 20 and 30 dead, some had been dead a few days and just left where they died. The others of course were shot up properly, dead lying everywhere. The smell is horrific ...⁵¹

This unit joined 7MWS personnel who had, despite the possibility of Japanese attack, worked under floodlight. The airstrip was declared serviceable on the 24th and two Lightning fighters landed at 9.45 am.

Due to the urgent requirement to have fighter aircraft flying operationally from the airfield insufficient attention had been paid to the drainage of the fighter strip. Heavy overnight rain rendered the strip unserviceable on 25 April. To overcome this problem the engineers worked overnight to commence the laying of steel mat along the whole 1,189 metre strip.⁵² The fighter strip was completed on 15 May, 15 days before the bomber strip was declared useable.⁵³ In addition, the engineers were responsible for building a 105 metre long box girder bridge over the Raihu River and the development of port and road facilities. The overall standard of the workmanship was high. During May 1963 John Lessels and Peter Ashley visited Tadjji whilst undertaking a reconnaissance to recommend a site for a second major airfield in Papua New Guinea. After 20 years:

The pavements were made of thick and compacted coral, with a surface of pierced steel planking ... Through the planking was growing a thick mat of grass, which created a surface in effect of reinforced grass. The strength of the pavement and the length of the runways were such that they would sustain usage by most aircraft, no matter how high the weight and tyre pressure. The rideability would leave, however, something to be desired ...⁵⁴

⁵¹ Hodges, *op.cit.*, entry 24 April 1944.

⁵² *Airfield and Base Development*, p. 238.

⁵³ Extract from Task Force Engineer's Report on Persecution Operation.

⁵⁴ J.D. Lessels, correspondence 12 January 1998.

Japanese troops were within 14 kilometres of the airfield, and there was always the possibility of enemy infiltration through the Allied defence lines. Although no casualties could be attributed to enemy action, there were incidents which kept the men on the alert. Lindsay Hodges wrote in his diary on 25 April 1944 that 'a machine gun had opened up on a Yankee camp behind us, bullets flying right through our camp. A Jap had crept into a fox hole where they had installed a machine gun ... he shot one yank.' Japanese aerial resistance was negligible. On the same night a Liberty ship was hit by a low flying enemy bomber but this was the only damage inflicted.

On 20 June 1944 6MWS handed its serviceable equipment to 5 and 7MWS and was directed to assemble personnel at Goodenough Island and Milne Bay for transport south. The *Oumibah* departed from Lae on 6 July with 32 members of the unit aboard bound for Goodenough Island. A week later 437 officers and men embarked on the *Reinjust* at Aitape for Milne Bay. In the meantime, the advance party of 51 troops had arrived at Goodenough Island and were ordered to travel to Milne Bay by barge, departing on 16 July. The barges had not arrived at Milne Bay by 21 July, and bad weather prevented a Catalina from undertaking a search for the overdue vessels. Two days later a Catalina found the barge in Sura Bay, Normanby Island, and landed to pass rations to the hungry men. A US Navy craft picked up the castaways and landed then at Milne Bay 'all well but very hungry after living on native food for six days'.⁵⁵

The main party departed from Milne Bay on the *Lurline* on 26 July, and was reunited with the Goodenough Island party at Brisbane on 30 July. Next day the unit left Brisbane by troop train and arrived in Melbourne on 2 August. Members were sent on leave before undertaking defence training at Mount Martha and returning to Morotai in June 1945.

On 2 July 1944, after a preliminary naval and aerial bombardment, the United States 158th Regimental Combat Team landed unopposed by direct enemy fire on Noemfoor Island, opposite Kamiri airfield. Noemfoor had been selected due to its position at the northern limit of Geelvink Bay, midway between the Vogelkop Peninsula and the island of Biak, which had been assaulted by United States forces on 27 May. The three airfields on the island, Kamiri, Kornasoran and Namber, would give protection to the bomber bases at Biak and enable the projection of air power over the Vogelkop Peninsula, Halmahera Island and the island of Morotai.⁵⁶ Group Captain Dale was selected as the Task Force Engineer and was allocated the US Army 1874th Engineer Aviation Battalion, the 857th Engineer Aviation Battalion and the RAAF's 4 WMU and 5 MWS to rebuild the airstrips and on 20 June his Headquarters, 13 Survey and Design Unit and a detachment of 4 WMU embarked from Tadjien route to Hollandia.⁵⁷ On the 28th the group participated in a trial landing east of Toem, before departing from that port as part of a convoy of seven LSTs two days later. Thirty minutes after the first wave of combat troops waded ashore at Noemfoor, Group Captain Dale and a reconnaissance party landed from an 'alligator' amid heavy mortar fire bursting along the shoreline. The party reconnoitred the area as far as the Kamiri river in preparation for the work to be undertaken on the airstrip and roads.

⁵⁵ F.K. Tighe, correspondence November 1997.

⁵⁶ Odgers, *op.cit.*, p. 236.

⁵⁷ US National Archives X-58-2 *Task Force Engineers Report on Tabletennis Operations (Noemfoor)*.

5MWS remained operational at Aitape until it embarked on two LSTs for Noemfoor on 3 July 1944 and was the first of the Australian construction squadrons to land on the 6th. David Dickson recorded that the landing was:

... over a coral reef on the north side. The LSTs nosed their way in very gently and stopped ... we had men in and around the vehicles and plant ready to make a quick exit as soon as the unloading door was dropped. To facilitate this the equipment lashings had been removed, thus increasing the hazard if we had a rough approach ... All seemed well till we commenced unloading. Then ... we discover[ed] that we had a 30 foot [nine metre] bomb crater right in front of the opening ... The tide was still going out and so there was no way the vessel could go out and come again. We were stuck; a sitting duck for the bombing raid expected at any moment.

What seemed hours later we were able to signal one of our kindred squadrons ... Just as soon as they could spare a heavy dozer they sent him over to fill in the crater. Unfortunately by this time the tide was coming in and apart from ... plant we also had 600 drums of fuel to manhandle off the vessel ... Most people got very wet, trucks and light vehicles had to be towed ashore through water three feet [1 metre] deep. Fuel was floated ashore and bulldozers worked overtime ...⁵⁸

Hodges recorded that once ashore that the men 'moved through ankle deep mud to our bivouac ... which was found to be partly outside the perimeter which the [503 Parachute Battalion had] dug in a ridge'.⁵⁹ The Defence Officer, Flight Lieutenant Stanley Fogarty has written that that:

The job that really kept us occupied trying to get done, by dark, was the de-lousing of 11 parachute and 1/100 pound bombs in our bivouac area of approximately 100 yards [91 metres] square. Twelve UXBs in such a small area isn't bad going. Lieutenant Dick Bowden of the Naval Bomb Disposal Unit was attached to our squadron and by a spot of luck most bombs were cleaned up by dark and only one or two had to be attended to by camp light ...⁶⁰

On the 7th work commenced on the road east from the Kamiri airfield and also on a road to a planned jetty site on the west coast of the island. As in the latter case when the bulldozer was operating outside the defence perimeter it was given an armed escort to protect it from the enemy. While pushing through the almost impenetrable jungle the D-8 bulldozer dropped into a deep creek. As the unit had only two D-8 bulldozers on strength, it was imperative that the stranded machine be salvaged. After collecting a tractor, steel ropes, block and tackle and other pieces of salvage gear a salvage party, protected by Air Defence Guards, successfully extracted the bulldozer. On completion a gruesome but essential task was undertaken; the mass burial of '200-

⁵⁸ Dickson, *op.cit.*, p. 14.

⁵⁹ Northmore, D.F. No. 2 Addendum to No. 5 Airfield Construction Squadron RAAF History Part 1 1941-45, p. 3.

⁶⁰ *Ibid.*, p. 4.

300 semi-decomposed Japanese bodies, the victims of two suicidal attacks on [a US Army machine gun emplacement] some days before'.⁶¹

Even though there was a high probability of action with the enemy, work commenced on the Kamiri airfield on 8 July. Leading Aircraftman G.F. Gardiner and Leading Aircraftman F.L. Wendt captured 5ACS's first prisoner at Noemfoor. Fogarty records that 'he was a poor undersized, undernourished, pitifully weak Formosan, one of the labour gang ... I am afraid that the knife drawn by Gardiner, who is a great stocky fellow with the pugnacious looks of a prize-fighter must have frightened hell out of him.'⁶² Warrant Officer H. Farlow and 12 men commenced a reconnaissance of the Namber airfield in preparation for making it suitable for C-47 operations on the same day. Leading Aircraftman C.J. Doughan captured another prisoner at that airfield and a party reconnoitring the Kornasoren airfield captured two unarmed Japanese soldiers on the 12th. The Namber group captured three more enemy troops two days later.

7ACS also arrived on the 12th, and, like 5ACS, faced physical security problems. The Army reported on 19 July that they had lost contact with an estimated enemy force of 400 soldiers. 5ACS would be the first unit contacted by the enemy should they advance to the north, and seven Bren gun positions were set up, Tommy gun and rifle positions dug to meet such an eventuality. Areas to the south of the 5ACS defensive position were booby-trapped, and the positions manned for the following four days. On 23 July, a flare was tripped and two grenades thrown as a reaction to suspicious rustling in the jungle outside the perimeter. A patrol subsequently searched the area but no evidence of an enemy presence could be found. On the 30th three red flares were sighted outside the southern perimeter, and both 5ACS and 7ACS personnel participated in a minute and a half of intense small-arms fire. The defences were manned. Flying Officer Ballantine and Sergeant McDonald investigated the occurrence and the all clear was given half an hour later. After a patrol around the perimeter on the 31st showed no sign of enemy activity, 62 Works Wing Headquarters ordered the abandonment of the perimeter defence.

7ACS were allocated the responsibility for construction of the AVGAS jetty. The lack of suitable equipment slowed progress, resulting in Lieutenant Colonel W.R. Harrison, US Army Chief Engineer, Headquarters US 6th Army writing to his superior on 8 August 1944 that construction on the AVGAS facility was 'unsatisfactory' due to lack of day-to-day planning and 'a lot of fooling around causing lost time' by the officer in charge. However, once the officer concerned had been replaced 'progress was satisfactory'. 5ACS was also the brunt of criticism, much of it of a technical nature and related to the inadequacy of equipment and lack of experience, but Harrison conceded that once realistic liaison between the American and Australian units was developed they operated 'smoothly'.⁶³

The US Army Commander, Brigadier General Edwin D. Patrick, was not so balanced in his approach. In a private letter to Colonel Sturgis, the Chief Engineer at Headquarters Alamo Force on 14 August Patrick was vitriolic, claiming that his 'biggest pain in the neck has been the Aussies. I'm going to make certain recommendations in my report on this operation and the gist of them will be that we

⁶¹ Dickson, *op.cit.*, p. 16.

⁶² Northmore, *Addendum 2*, p. 7.

⁶³ Lt Colonel W.R. Harrison to Colonel Elliot 8 August 1944. Personal papers, Lieutenant General S.D. Sturgis Jr Folder 88 [Hereafter Sturgis papers].

have none of the Aussies from now on. If we have, then at least three quarters of their equipment should be dumped into the ocean before they embark.' He conceded that Group Captain Dale 'was a very fine, sincere fellow', but asserted that he had no control over his Wing.⁶⁴ Sturgis wrote to the Chief Engineer, General Headquarters SWPA on 18 August supporting Patrick's contention. His letter received no reaction, so he followed it with another on the 31st. If the recommendations made had been acceded to the future operations of the Airfield Construction Squadrons would have been placed in some jeopardy. Sturgis had written that:

... the personnel and equipment of these squadrons need to be improved vastly, the weak and incompetent to be weeded out carefully and replaced with a higher type average officers and men. There are a number of good officers and men in these squadrons, but they are in a great minority; they all seem to lack purpose and drive and to be indifferent to fast, quality work. As previously reported, the equipment situation is deplorable ... In other words it is suggested that a frank talk be had with Group Captain Knox and he be made to understand that if he is going places with us there is a lot of work for him to do with his people, military and civil, to improve the support of these units.

Group Captain Dale ... is a fine man individually, but it would take a son-of-a-bitch to rule the present crowd and he is too much of a gentleman.

... The question is: are we to expect the Australian units to be at least equal to the *average* American Aviation Battalion? Should we give them ship space to forward areas and support if they are less effective? Possibly a proper appeal can be made to Group Captain Knox for his people to work up enough pride to compete with us. Right now they are a drag.⁶⁵

In his report on the Noemfoor operations Dale does not rate the Australians' performance as highly as he had for the Aitape operation. Dale gave his top assessment to the American 1874th Engineer Aviation Battalion and rated the relative performance of 5 and 4ACS at 70 per cent and 65 per cent respectively, reversing the ratings that he had made in his Aitape report.⁶⁶ The actual directive which defined the airfield construction to be undertaken on Noemfoor was not issued until 9 July 1944.⁶⁷ 5ACS, which had only received the balance of its equipment and members of its rear echelon on 14 July, had Kornasoren ready for operations on 25 July, eight days after commencing work. Ironically, next day Brigadier General Patrick was a passenger in the first aircraft to use the strip. Given the potential threat from enemy troops this is a commendable performance and the 62 Works Wing Unit History Record states categorically that all works carried out under the direction of the Wing were completed to schedule despite the fact that they did not have time to rehabilitate equipment after the Persecution Operation at Aitape.⁶⁸ 7ACS had seen 15 months tropical service and its personnel were tired and jaded from their efforts. From the

⁶⁴ Brigadier General E.D. Partick to Colonel Sturgis dated 14 August 1944. Sturgis papers.

⁶⁵ Colonel Sturgis to Chief Engineer, GHQ dated 31 August 1944. Sturgis papers.

⁶⁶ US National Archives, X-58-2 *Task Force Engineer's Report on Tabletennis Operation (Noemfoor)*.

⁶⁷ *Engineers of the Southwest Pacific 1941-1945 Vol 4*, p. 259.

⁶⁸ *Task Force Engineers Report Tabletennis Operation*.

content of Harrison's and Dale's report, it is evident that Patrick over-reacted to the situation on the ground at Noemfoor. There is no doubt that the language and tone of his letter of 14 August, and subsequent correspondence, if it had not been confined to US Army channels, would have had repercussions on the attitude of the men on Noemfoor. Dale reported that 'there were no outstanding difficulties in the control of engineer units mainly due to the personalities involved. There was the best possible spirit of cooperation everywhere and never, I believe, have Australian units worked alongside American units, both white and coloured, with such a spirit of comradeship'.⁶⁹ Had the attitude of Patrick been made public, combined with the lack of public commendation for previous work done by the RAAF construction units, such a spirit would have been difficult to retain. Thankfully, wiser heads prevailed and the RAAF and the US Army were to later serve side by side in the invasion of Mindoro where 3ACS was reported as 'doing remarkably well'.⁷⁰

The rear party and equipment of 4WMU arrived at Noemfoor from Goodenough Island on 8 September. Rough weather delayed the unloading of the rear party over the reef for several days. After the reunion the unit constructed facilities for 25 Air Stores Park and 10 Recovery Centre. In addition to laying 2,439 metres of pipeline, the men cleared and graded the northern runway at Kornasoren airstrip. Other projects included the construction of the airstrip at Kamiri and a timber landing platform for use by 7 Transport and Movement Office. Road maintenance and defence training was also undertaken, the latter in preparation for the move to Biak in January 1945.

On 9 September 1944 a bombed up B-24 Liberator crashed on take-off from Kornasoran airfield. The aircraft landed half a mile off shore. Leaking fuel represented a fire hazard. Alone, Leading Aircraftman B.A. Churchill swam out to the aircraft and saved two members of the crew. Three other members of 5ACS, Leading Aircraftman H.J. Flannery, J.R.C. Thompson and L.W. Walsh paddled a native canoe and a dinghy to the crash site, where they joined Churchill. Between them the four men saved five airmen from the wreckage. Churchill was awarded a British Empire Medal for his courage and the three others were Mentioned in Despatches.

In January 1945, 4 and 5ACS deployed to Biak Island which had been assaulted by the US Army 41st Division on 27 May 1944. The two squadrons sank wells for use by 105th and 132nd General Hospitals and 433rd Troop Carrier Group. In addition, they undertook road maintenance and supplied coral for use at the LST and Liberty ship dock which was being constructed.

5ACS suffered four casualties in March. Leading Aircraftman J.A. Holdstock suffered a bullet wound when his own rifle discharged. On the 22nd Leading Aircraftman J.C. Payne died as a result of a motor vehicle accident, in which Corporal N.J. Scarsbrook and Leading Aircraftmen J.P. Smith and A.F. Bolden were injured. Ironically, during an air raid on the same night two sticks of bombs fell, one within 250 yards of the 5ACS night shift working on the Sorido airstrip without causing damage, and the second, aimed at the Mokmer airstrip, fell a mile from the camp.

⁶⁹ *Ibid.*

⁷⁰ Lieutenant Colonel J. Ellison Jr, Task Force Engineer to General Sturgis, 23 December 1944 Folder 89. Sturgis papers.

Engineering construction by 4 and 5ACS was curtailed on 31 April and the units commenced loading their equipment aboard LSTs during the first week of May. 5ACS boarded LST 806 and 912 to be transported to Morotai, where they arrived on 13 May. 4ACS arrived on the same day. Both units retained maintenance crews aboard their respective LSTs, with the remainder being billeted ashore. In the case of 4ACS, the men shared accommodation with 2 and 6ACS. 5ACS established camp and supplied working parties for camp duties and to undertake tasks for various units based on the island. Both 4 and 5 Squadrons sailed on 4 June 1945 to participate in the Labuan landing.



Bronzed Anzacs 14ACS style at Morotai: L-R (Back row): W. Crawford; A. Adams; J. Pratt.
(Front row): L. Goldsmid; K. Thomson. (K. Thomson)

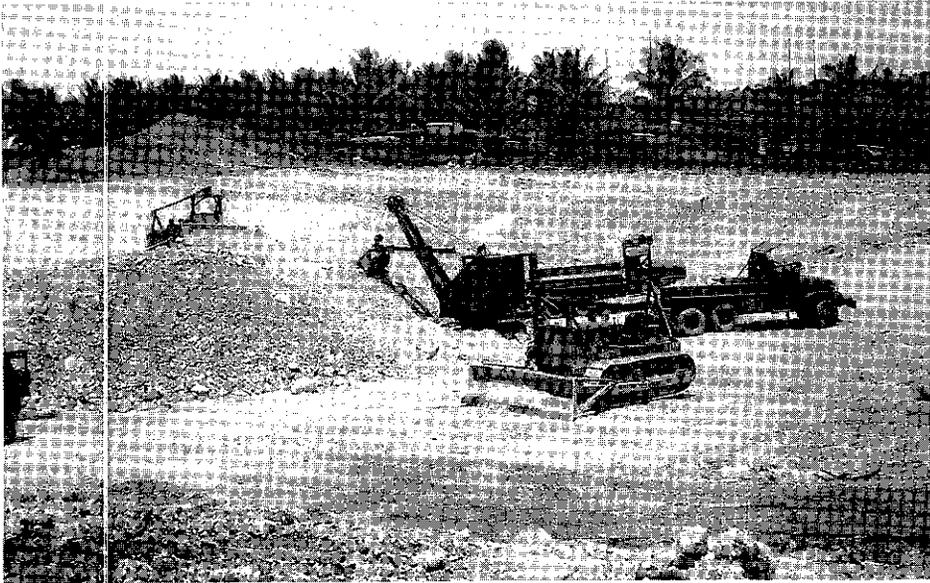
The 2ACS advance party arrived at Morotai on 21 April 1945 to enable preparation of a detachment to participate with 4 and 5ACSs in the Labuan landing. The squadron was to take part in the landing at Balikpapan in July. 2ACS personnel had, after leave, returned to the unit at Melbourne to commence weapon training at Shepparton, Victoria, on 5 July 1944 before moving to Mount Martha for similar training on 8 August. The Squadron deployment to Sydney commenced on 2 September 1944 and the unit was used to construct facilities at St George's Basin, near Nowra, New South Wales and at Schofields, west of Sydney. The Squadron moved to Fleurs on 22 January 1945 where it was employed in the construction of the airfield, before moving to Randwick on 2 March. Equipment was loaded aboard a ship on 22 March and all personnel travelled to Brisbane where they were embarked on the *Swartenhondt* for Morotai on 10 April.

With the exception of 7 and 14ACS, Morotai was to be the staging area for construction squadrons participating in the Oboe landings in Borneo. 1ACS travelled from Sydney aboard the *John Segewick* and arrived at Morotai on 14 March to disembark the airmen. Unloading of stores and equipment commenced on the 18th and the period between then and when the squadron embarked on 23 April for the voyage to Tarakan was filled with planning conferences, the waterproofing of vehicles and the construction of LST loading ramps at Blue Beach. Early in May 6ACS disembarked at Morotai and despatched a detachment to Tawi Tawi on the 24th, before commencing preparation for the Balikpapan landing.

14ACS had travelled from Darwin via Hollandia, landing at Blue Beach three days after the assault force from the US Army 31st Division and the 126th Regimental Combat Team of the 32nd Division landed on 15 December. The invasion was to secure airfields where long range aircraft could operate over the Philippines, Celebes and Borneo.⁷¹ The initial landing was made on the west of the Gila Peninsula, but difficulties of unloading equipment through the mud forced subsequent landings to be made on the eastern side next day. On 19 September 1944, 14ACS commenced road work and the construction of the airfields at Pitoe and Wama had started before 3ACS landed on the 30th. On 25 November 14ACS was allocated to complete the construction and maintain all Air Corps areas. By July 1945 the members of the squadron were finding their duties lacking in interest and the detachment of 135 officers and men to serve on Balikpapan was a welcome break from routine. This detachment returned to Morotai on 15 September, and the unit was disbanded in the field on 1 December 1945.

After serving at Noemfoor 7ACS was ordered to return to the mainland. Plant was transferred to 4ACS during August 1944 in preparation for the move. The first party of 52 personnel were flown south early in September. More personnel were flown south as air transport became available and the unit was relocated at Ransford on 19 September. The Squadron moved to Mount Martha for defence training on 15 October 1944 before moving to Randwick Racecourse on 30 January 1945 and commenced loading the *John Marshal* on 19 February. A detachment of 102 airmen and four officers (Flight Lieutenants K.W. Storey and D.R. Dickson and Flying Officers D.G. Aitken and J.T. Inkster) to be based at Emirau and Green Islands and the advance party of the squadron headquarters boarded the ship on the day of departure, 25 February. Arrangements were made for small parties of squadron personnel to travel by rail to Cairns and then by air to the Solomon Islands.

⁷¹ *Engineers of the South West Pacific 1941-1945 Volume VI*, p. 270.



Morotai - winning coral for use on the Wama and Pitoe airstrips. (B. Peake)

On 26 March 1945 the Squadron took over the maintenance of the Piva airstrip on Bougainville from the American CB unit. By this time the Squadron had planned to deploy detachments to Tadjj. In conjunction with the Royal New Zealand Air Force, the Squadron maintained airfields at Bougainville, Green and Emirau Islands, and the strength of the unit was raised by 75 personnel to meet this commitment. The Tadjj detachment departed from Sydney by rail on 24 April to be followed by Flying Officer C.R. Stoneham and 35 troops three days later. This group boarded the *Katoomba* at Cairns and proceeded to Bougainville, where they were joined by the remaining personnel and equipment aboard the *William A. Henry* on 31 May. The voyage was uncomfortable due to the lack of deck space and facilities aboard the ship. The whole deck and hatch areas were covered with cargo, barges and equipment, causing the messing staff untold difficulty. They were forced to work on top of piles of cargo and to drag hot meals under barnacled and coral studded barges. The men had to negotiate the same obstacles to reach serving tables and to eat their meals. Men were confined to the holds during the heavy seas encountered during the last four days of the voyage and the fetid atmosphere aggravated seasickness. Recreational activities were impossible due to the lack of space. When the men arrived at Bougainville they discovered that no domestic facilities were ready for them.

A detachment was established at Jacquinot Bay on 6 June 1945 and the *Otto Mears* arrived four days later with equipment. By July 1945 the Squadron had detachments based at Aitape, Emirau Island, and Bougainville to undertake maintenance on the airfields and roadways. The detachment at Jacquinot Bay was to

undertake major construction work. The duties were mundane and routine, but the news that most of the troops at Bougainville would be home by the middle of January 1946 raised morale considerably. However, words and actions did not result in the outcome expected. However when January 1946 came morale deteriorated as the promise of discharge was not met. In March the unit moved on the *Crusader* to Lae where the Rapopo airstrip was surveyed and road maintenance undertaken. 7ACS ceased to function on 2 January 1947.

During the early months of 1945, with the exception of 7 and 14ACSs who were involved in essential maintenance tasks, the RAAF Construction Squadrons were poised to make a significant contribution to the final campaigns of World War II.

CHAPTER FOUR



THE FINAL CAMPAIGNS

The RAAF Airdrome Construction Squadrons were very young a year ago. Since that time, they have won their spurs and I know they will add considerable lustre to their name during 1945 when the campaign against Japan, in all probability, will reach a climax.

Brigadier General L.J. Sverdrup
Office of Chief Engineer, General Headquarters
South-West Pacific Area, 16 December 1944

When General Douglas MacArthur was ordered from his command clinging to a tenuous foothold on the island of Corregidor and the Bataan peninsula in 1942, he uttered the famous promise that he would return to the Philippines to rid that nation of the Japanese invaders. At the end of 1944 the American forces were poised to land on the island of Leyte. US forces landed between Dulag and Tacloban, Leyte, on 19 October 1944. Although 'for political reasons, GHQ had adopted the principle of not allowing foreign forces to play a part in the liberation of the Philippine Islands'¹ there was one notable exception. On 1 November 3ACS received notification from 6th Army Headquarters to load four LSTs and proceed to Leyte prior to participating in the invasion of Mindoro. Arrangements were made for a liaison party from 61(AC) Wing to maintain contact between the Wing, General Sverdrup and the Western Visayan Task Force Engineer, Lieutenant Colonel Ellison. This group was comprised of Squadron Leader Overland, Flight Lieutenants Endean and Belcher, Flying Officer Williams, Pilot Officer Beavis, two public relations officers and nine other ranks.²

The completion of tasks formerly undertaken by 3ACS were devolved to 14ACS. Overland returned to Morotai on 16 November in time to embark with 3ACS aboard LSTs 457, 465, 471 and 697 for Biak to join the fleet bound for Leyte. Except for an enemy torpedo bomber attack on the convoy on 23 November the voyage to Leyte was uneventful.

On 24 November 3ACS landed near Dulag. The LSTs dropped their ramps in a metre of water and vehicles stalled due to the depth through which they had to pass. A heavy swell made the dozing of approach ramps difficult. Heavy rain was falling making the beach road hard to negotiate, and items of plant bogged down on the beach or the road to the camp site at Vigia Beach, 11 kilometres away. The squadron camp was established on a well drained sandy site, with the sea on one side and a river on the other. Sanitary arrangements were unsatisfactory and those of the villages in

¹ Odgers, *op.cit.*, p. 302.

² *Mindoro Operations*, p. 2.

the area extremely primitive - merely a hole under the house. Water was drawn from a water point about five kilometres distance from the camp, and the combination of site, sanitation and provision of water was to have a dramatic effect on the health of the unit. The first sign of a health problem occurred on 29 November when 30 per cent of the unit was affected with ptomaine poisoning for two days. Worse was to come.

Pilot Officer McGlashan and 100 men were detailed to load LSTs 734, 911 and 1018 at White Beach, Tacloban, on 1 December. On 4 December the squadron commenced work on the Tanuan strip and assisting with the preparation of a hospital site. The Tacloban to Dulag access, a single lane macadam road built through coconut groves and on a one and a half metre high embankment through sago palm and rice paddies, was also maintained by members of the unit. This activity was hampered by enemy air activity, the weather and the requirement to prepare equipment for the Mindoro operation. On 9 December the three LSTs loaded by McGlashan and his party proceeded to Catmen Beach, where they were loaded with the remaining unit equipment. Coconut log ramps were constructed to ease the loading of equipment over a 'bad' beach. A fourth, LST 460, reversed from the beach with only half of its planned consignment of aviation fuel aboard, due to an enormous fire developing in the fuel dump.



Flight Lieutenant Roy Langley briefs 3ACS members en route to the Mindoro landing. (RAAF)

The Australians on their LSTs were aware of at least 87 LSTs, Landing Ships Medium (LCM), destroyers and cruisers in the invasion convoy. It was not an uncontested voyage. The men were at battle stations one hour before dawn, acting as ammunition handlers for the gun crews. Watertight doors were closed and all personnel wore helmets and life jackets. The enemy shore was a mere 13 kilometres away as the convoy, now protected by two battleships, two cruisers and five aircraft carriers deployed into the Sulu Sea on 13 December. Attacks by enemy aircraft were

anticipated. The command cruiser was hit by a suicide dive bomber and other suicide aircraft fell to Navy Corsair and Army Lightning fighters. The action continued throughout the night. Next morning the escort carriers launched air strikes and the men could see bombs and shells bursting on the shoreline.

The 3ACS LSTs headed south-west through a passage marked in a minefield . Two mines were sighted and exploded en route before the LSTs were in position for the run into the beach next morning. Shell fire on the beach and enemy air activity added to the tension. Breakfast was at 4 am. At dawn the men could see Mindoro dead ahead, the red roof and black stack of the San Jose sugar mill standing out behind the beach markers. Enemy aircraft attempted to harry the landing, but met accurate anti-aircraft fire. As the infantry landed and penetrated inland enemy aircraft were sighted overhead. Five were shot down by anti-aircraft fire. Two LSTs were hit by diving suicide bombers as 3ACS landed on White Beach at 8.45 am on 15 December.

The unit was the first to unload, but, according to the Filipinos they were late - the landing had been expected on the 12th. Without delay, the surveyors established the centre line for airfield 'A2'. The squadron, disorganised by lack of communications and with plant spread out or bogged on the route to its allocated camp site, established a temporary overnight bivouac. Half hourly enemy raids continued throughout the night. Next morning the squadron moved to its permanent camp site.

The squadron commenced work on the 'A2' taxiway on 16 December. It was a day of high drama. The command cruiser was hit by a suicide bomber in Magarin Bay. Casualties were heavy. Colonel Hill, the Task Force Chief of Staff was killed - one of 350 casualties.³ 3ACS also suffered its first casualties. Leading Aircraftman W.E. Barham was killed by debris from a suicide plane which attempted to dive through the open doors of an LST on Red Beach and Leading Aircraftman P. Cutajar suffered from petrol burns in the same incident.

3ACS combined with the 866th and 1874th Aviation Engineer Battalions to construct the 'A2' airfield (now named Hill Field) near San Jose. Work commenced on the main runway on 17 December. Three days later 15 Dakotas landed on the airfield, confirming the urgency of the requirement. This was also reflected in the shifts worked - only two and a half hours each day were allocated as non-productive.⁴

The defending Japanese did not abide by the invader's plans. During daylight hours the beachhead was under constant threat from enemy aircraft and surface units. Overhead the P-38 Lightnings, P-47 Thunderbolts and Navy Corsairs countered the incursion of Japanese fighters and suicide bombers. Squadron Leader A. Overland has left a graphic account of one dog fight. On 20 December he records that there was:

... a terrific dog fight overhead, at least 50 fighters involved at once and at least five fights going on simultaneously, Lightning, Thunderbolts and latest model Zeros. Had a bad scare watching belly tanks falling into camp thinking they were bombs. Watched at least 14 aircraft shot down, and two Lightning forced landed on strip. One made a perfect belly landing but caught on fire and the second coming in the opposite end with port engine ablaze had to be waved

³ *General Diary Operation Love Three*, entry 16 December 1944.

⁴ Squadron Leader C.A. Bouch, *Construction Report*, ND, A1969/100/97 61ACW item 2408/1/W Pt 3.

onto taxiway. He lost speed in swerve and bounced once over one C-47 and then bounced over another C-47. A remarkable sight ... Aircraft destroyed one Zero [which] suicide dived into strip but missed a C-47 ... Final scores over strip, 12 enemy shot down and six of our destroyed ... but only one pilot was killed.⁵



General view of Mindoro beachhead. (RAAF)

Shipping losses could not be prevented. On 22 December, for example, LST 749 was sunk with the loss of a quarter of the strength of the American 340th Engineer Aviation Battalion.⁶ Flight Lieutenant O'Brien and his detachment were aboard LST 460 which was also sunk. There were no Australian casualties. The daylight hours were filled with the noise and vision of the exploding anti-aircraft shells, the whine of supercharged aero-engines, the death dives of aircraft, burning and mutilated ships - and tension.

Night brought no respite. Enemy aircraft guaranteed that nights 'were damn uncomfortable ... [flying] over every quarter of an hour over [the] camp, so what with flares and bombing [the night was] spent ... getting in and out of bed'. A fuel dump was hit, 'a bright spectacle viewed not too closely nor courageously by CO 3ACS [Boucher] and myself [Overland]'.⁷ Despite the men operating equipment until bombs were actually falling in the area, the nightly Japanese air raids restricted the time spent on construction tasks to three hours per night. Overland describes the events of Christmas Night:

⁵ *General Diary Operation Love Three*, entry 20 December 1944.

⁶ *Ibid.*, entry 22 December.

⁷ *Ibid.*

Great enemy air activity after dusk. One shot down immediately above strip from 200 feet [61 metres] after dropping bombs. Twin engine bomber dropped heavy stick immediately after. Stream of single enemy aircraft operating. Amid great cheering red alert given five minutes after action joined. Fire merrily blazing on strip is our first and only avgas storage tank completed this afternoon and hit by aircraft shot down. More aircraft burning on strip as strafing continues. Loud cheering from adjacent ack ack crew who have got a direct hit at range of two miles [three kilometres]. Very nice work. Continue all night. Unfortunately one Black Widow [P-61 night fighter] crashed and burnt taking off.⁸

The enemy air activity had material effect on the night of 3 January 1945. A bomb penetrated into the soil of one of the aircraft inserts before exploding, leaving a crater 13 metres in diameter and six metres deep. Clods of earth were found on aircraft parked hundreds of metres from the explosion. Of the three aircraft in the insert, one was smashed to smithereens, the second crumpled 'like a concertina and the third only slightly damaged'.⁹ The confusion of the night made it dangerous for friendly aircraft as well. On the night of 1 January Wing Commander Rooney was a passenger on a C-46 Commando which was illuminated by a searchlight and fired upon. The pilot decided to circle until his aircraft could be positively recognised in daylight. Unbeknown to him, the C-46 'spent the hour circling around nearby gullies which ... comprised the main route in and out for enemy aircraft ... The C-46 was caught in an ever rising, ever narrowing gulch.'¹⁰ The pilot ordered equipment to be jettisoned to enable the aircraft to climb to safety.

If Japanese air strikes were a tangible threat, the reports of potential Japanese parachute landings had an insidious effect on the troops. As part of the second defence line, members of the squadron manned a perimeter of 2,285 metres on a 24-hour basis. The defensive perimeter was linked by telephone with the American 19th Regimental Combat Team. Coincident with the report of lights and fires being lit in the hills (interpreted as signals for a possible parachutist landing) this link was broken on the night of 17 December. Although the incidents were not related the tension was so evident that 3ACS considered that it was 'not possible to send men over [to 19 Regimental Combat Team] as guards would shoot'.¹¹ A walkie-talkie radio was borrowed to augment the communications between the two units. Another alert was sounded on the night of the 20th, resulting in considerable confusion and a 'sincere exhortation from Squadron Leader Bouch urging his men to use their bayonets and cut the throat of the bastards'.¹² The potential for suicide attacks by Japanese parachutists was real; groups had landed on the Leyte airfields and caused considerable damage to aircraft and facilities.

The potential threat of paratroop landings, often based on unsubstantiated rumour, doubt and uncertainty had a psychological effect on the troops. A Japanese naval foray was a matter of fact, not rumour. At 6.55 pm, 26 December 1944, the warning of the approach of a Japanese fleet activated the defence plan. The 'Green'

⁸ *Ibid.*, entry 25 December 1944.

⁹ *Ibid.*, entry 3 January 1945.

¹⁰ *Ibid.*, entry 1 January 1945.

¹¹ *Ibid.*, entry 17 December 1944.

¹² *Ibid.*, entry 20 December 1944.

defensive line was manned. At 8.00 pm orders were received at 3ACS to evacuate the camp area. Action was expected within the hour. For the men there was a confusion of reports and visual impressions. Bombs dropped by Japanese aircraft burst along the beachhead against a background of tracer bullets and the lights of fighters attempting to intercept aerial intruders. Fourteen kilometres to seaward, naval Patrol Torpedo Boats sortied to attack the approaching Japanese warships. Hill Field became the target of the Japanese heavy guns. Star shells burst over the strip and camp site, which was also subjected to the attention of enemy bombers. Two unexploded bombs were later discovered between the tents and dealt with by the Bomb Disposal Unit. The men, huddled in their gun posts could feel the reverberation of heavy shells striking nearby, and see star shells illuminating the sky over San Jose. Squadron Leader Overland understated the situation when he recorded that 'the whole evening performance is developing into quite an alarming affair'.¹³

Personnel of 3ACS remained at readiness until 5.30 am. For the men huddled in cold defensive positions, unaware of the overall situation, it had been an anxious night. Those men who had volunteered to transport ammunition and bombs to the San Jose airfield and troops from the Blue Beach to battle stations during the bombardment had many narrow escapes. The night shift operators, aware that the airfield would be required to be operational by dawn, displayed courage and fortitude by standing by at the airstrip during the shelling. In the light of day the impact of the enemy activity could be assessed. Although a liberty ship had been lost, damage to the facilities ashore was negligible. The raid had little effect on the activities of 3ACS. Fatigued but unbowed, the men continued - it was another day at the office.

The lack of mail and amenities was a matter for concern. At Christmas the members had reason to complain as there was 'no leave, no Christmas comforts fun issue, no mail for four weeks [and] no liquor'.¹⁴ The mail situation was investigated by the staff of 61 (Airfield Construction) Wing. On 21 December 11 Postal Unit advised that two despatches of mail had been made, one by aircraft on 7 December and one by sea on the following day. However the American postal authorities were unable to ensure that more RAAF mail could be forwarded to the Philippines after these shipments. On Christmas Day, 77 Wing was tasked to make a Boston aircraft available to fly 1,100 kilograms of mail to Mindoro.¹⁵ This aircraft arrived at Mindoro on the 29th to the huge delight of the Squadron. Mail was flown in whenever possible, sometimes aboard Liberators of 200 Special Purpose Flight (the task of which was to insert and supply agents in enemy territory) as they staged through Mindoro and Beauforts of 11 Communications Unit. As the war proceeded further north, time was available for recreation in the form of Australian Rules Football matches with crews from visiting Royal Australian Navy ships and attendance at concerts arranged for American troops. There were also regular visits by RAAF Chaplains to tend to the spiritual needs of the Australians.

The first raid free night occurred on 7 January 1945 and enemy air activity had ceased by the middle of February. The Airfield Construction Units could concentrate on the maintenance of the airfields, roads, bridges and the construction of facilities for units such as 2 and 115 hospitals. On 7 March 3ACS took over the maintenance of the

¹³ *Ibid.*, entry 26 December 1944.

¹⁴ *Ibid.*, entry 24 December 1944.

¹⁵ Correspondence 11 Postal Unit, 61ACW and ITAF December 1944, A1969/100/197 61 ACW, item 2408/1/W.

San Jose Field from 866 Aviation Engineer Battalion and added the responsibility for 50 per cent of road maintenance when the 240th and 1874th Aviation Engineer Battalions departed from the area on 12 April. When planning the construction of Hill Field it had been decided that 'the quality of both the runways and taxiways will be secondary to speed of construction'.¹⁶ As a result, the airstrip required constant maintenance. Several areas were damp and required grading and rolling and periodic tropical downpours closed the airfield. Steady work was required to dry out the strip and taxiways after rain and, due to the tropical sun, settle the dust during the dry periods.

Although the efforts of the enemy to hamper operations proved little more than a nuisance, a more insidious enemy had to be faced. During January, the unit averaged 20 personnel being hospitalised for one reason or another. During February, the rate of illness increased alarmingly. At the end of the month members of the unit were diagnosed as suffering from Asiatic Schistosomiasis, a legacy of the transient period at Leyte. On 10 February 1945 a laboratory technician, Sergeant Dunn, arrived from Morotai and established a field laboratory to assist the unit medical section to diagnose the condition. Thirty cases a day were examined and it was decided to evacuate severe cases to Morotai for treatment. Less severe cases were treated at Mindoro, and another doctor, Squadron Leader Ogle, arrived on 26 February to commence treatment with the drug Fuadin. It was estimated that there were 100 diagnosed cases in the unit when Ogle arrived; by 7 April the number increased to 227. However, the crisis had passed. A week later, there were only 13 cases requiring hospitalisation.¹⁷

The effort at Mindoro was constant. On 13 May the unit had its first stand down since the December landing. The American forces were penetrating into the hinterland of Mindoro and 3ACS was threatened with being relegated to a maintenance role in a rear area. However, the planning of Australian operations in Borneo recognised that the unit could be utilised effectively. On 19 June LSTs 72, 593, 718 and 719 departed for Morotai, where the unit disembarked on the 23rd. 3ACS remained at Morotai until 12 July when it left for Balikpapan, arriving on 16 July.

While the American forces were involved in the liberation of the Philippines, planning was in train for Australian forces to recapture Borneo. Originally, six operations were scheduled under the 'Oboe' code name - Oboe One (Tarakan Island), Oboe Two (Balikpapan), Oboe Three (Bandjermasin), Oboe Four (Surabaya or Batavia), Oboe Five (Netherlands East Indies) and Oboe Six (British Borneo).¹⁸ Of these plans, only Oboe One, Two and Six reached fruition and the ACS's had essential functions to perform during each. 1 and 8ACS were involved in the first of these operations, the landing at Tarakan Island off the north east coast of Borneo on 1 May 1945.

The men and equipment of 1ACS were loaded on LSTs 624, 742 and 924 for passage to Tarakan. 8ACS were transported aboard LST 924 and 1035 and LSMs 224 and 267. Leon Bloom was aboard LST 742 and has recorded that the sea was calm

¹⁶ HQ Western Visayan Task Force, Office of the Chief Engineer, 26 November 1944 A1969/100/197 61ACW item 2408/1/W.

¹⁷ ITAF to HQ 61ACW February April 1945 A1969/100/197 item 2408/1/W.

¹⁸ G. Waters, *Oboe Air Operations Over Borneo 1945*, Air Power Studies Centre, Canberra, 1995, p. 7.

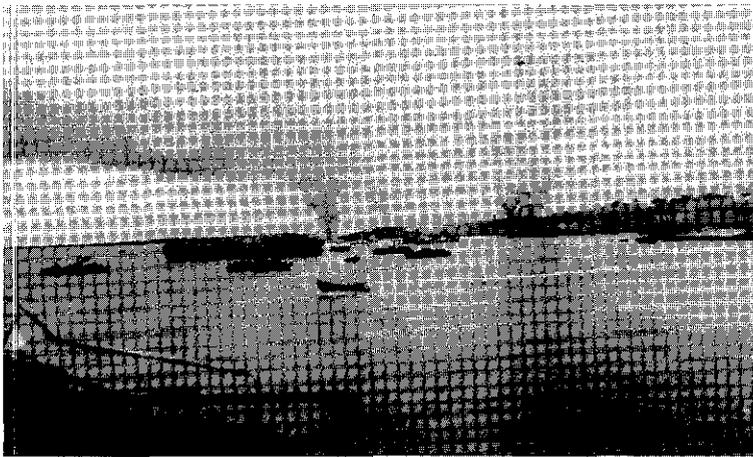
and that the orderly progression of the convoy was marred by the appearance of a Japanese reconnaissance aircraft after breakfast on Sunday 29 April.¹⁹ The convoy arrived off Tarakan during the early hours of 1 May. At 7.30 am the preparatory bombardment of Lingkas beach commenced. Half an hour later the assault force landed and pushed inland against ever increasing Japanese resistance. LSTs commenced unloading at 10 am, but it was not until 11.30 am that the first 1ACS vessel was called to the beach. LST 742 grounded twice before withdrawing to anchor off shore. In all probability the honour of being the first ACS members ashore at Tarakan belong to Flight Lieutenant Baylis and his party from 8ACS, who landed, under sniper fire, from LSM 224 at North Pier.



The Tarakan Landing. (RAAF)

¹⁹ Leon Bloom diary excerpt 29 April 1945 [RH].

At 10 pm LSTs 626 and 924 were beached and a 109 metre pontoon drawn up to the bow of the former to enable it to be unloaded. LST 742 approached the shoreline early next morning. However, due to the state of the beach, traffic congestion and conflicting orders between the Army and Navy authorities, unloading was not completed until the early hours of 3 May. A corduroy ramp was built by hand - bulldozers having become bogged attempting the task - through a nine metre high bank above the high water mark to enable equipment to be driven onto the road parallel to the beach. This access became greasy due to intermittent rain falling during the night of 2/3 May. Trucks lost traction on the timber and had to be winched up the slope. To maintain the integrity of the corduroy construction, vehicles were unloaded before attempting to clear the beach. Problems were not only on shore. When LST 626, the first to leave the beach, attempted to reverse from the shoreline, the assistance of Patrol Torpedo Boats and other small craft was requested to produce small waves behind the ship to break the suction between the hull and mud. The waves also had a detrimental effect. The pontoon, loaded with trucks, tractors and trailers broke loose and was not secured to an adjacent LST until the next high tide. It had been a difficult day. As the contemporary IACS unit history recorded 'Pilot Officer Borchers (sic) is to be commended for his determination, cool-headedness and leadership exhibited in the extremely difficult task of unloading this LST'.²⁰ He was ably assisted by Flight Sergeants Hardy and Clark, Sergeant Gillespie and the men of both squadrons.



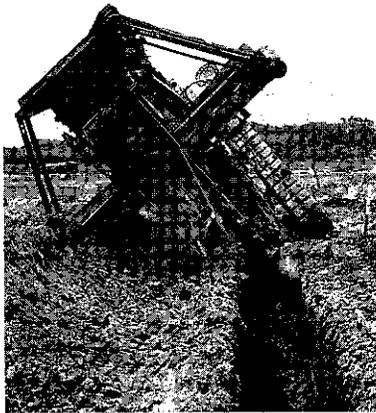
Tarakan (L. Bloom)

The inland advance had not proceeded as quickly as anticipated. Space for the parking of equipment was a premium, and Flight Sergeant Excell toiled for 24 hours without rest to control traffic and allocate parking areas at the junction of Anzac and Collins 'highways'. The men, under spasmodic sniper fire, established a temporary headquarters in a house east of the former road. A workshop was constructed and accommodation found in nearby houses. One flight assisted 2/13 Field Company to repair Anzac highway and liaison was established with the 2/24th and 2/48th infantry battalions with regard to defensive positions to be maintained by 1 and 8ACS personnel. Defensive posts were manned at the rear of the area occupied. The first

²⁰ IACS *op. cit.*, entry 3 May 1945.

night ashore was quiet, although there was evidence of enemy activity on features to the rear of Headquarters. On the night of the 5th Japanese troops infiltrated into the defensive position. During the early hours of the morning Leading Aircraftmen Stevens and Kleidon were wounded by a Japanese hand grenade. Stevens opened fire and killed one of the intruders.

Plans to commence work on the airfield on D+2 were impossible to fulfil.²¹ It was not until 5 May that the Army occupied one side of the strip. Next day the airstrip was recaptured, but an inspection by Flight Lieutenant G.W. Barlow and other officers confirmed that the airstrip was badly damaged, waterlogged and infested with mines and booby traps - the Bomb Disposal Unit deloused 114 mines during 6 and 7 May.²² Bomb craters, ranging from six to eighteen metres in diameter and up to three metres deep, were filled with water to within 60 centimetres of the surface. Side drains had to be excavated and the bomb craters pumped out to enable the airstrip to be consolidated. Although IACS prepared a serviceable area to enable an Auster Army Cooperation aircraft to commence flying at 4 pm, it was evident that the airfield would not be suitable for operational use by heavier aircraft in the near future.



A Barber-C ditcher bogged on the Tarakan airstrip. An example of the waterlogged conditions under which IACS strived to build an airstrip. (L. Bloom)

Rehabilitation of the airfield was hampered by nature and the enemy. Drainage ditches were dug and pipes were laid by unit members and native labour - the saturated soil caused by the high water table meant that 'machines were bogged everywhere'.²³ Overnight rain left unconsolidated areas soft and the porous nature of the airfield caused construction problems. Rollers, used to compact the filling of bomb craters, bogged in the mire, and graders left deep ruts in the soft airfield surface. There was perpetual competition between water and men. Bomb craters, once pumped out, refilled with overnight rain and ground seepage. Low quality gravel was obtained from two pits at Snags Track. Rain was a constant factor. However, by 18 May the drainage effort had progressed to the point where most of

the surface water on the airstrip was being carried away. It was evident that drastic action was required to make the airstrip operational, and the ingenuity of the engineers was taxed. One of the techniques tested to enable consolidation of material in badly cratered areas was to excavate down to 60 centimetres below the permanent level required, level the floor with selected gravel and then construct a raft of heavy bridging timber and salvaged metal over the base. This 'raft' was then covered with

²¹ 8ACS *op. cit.*, entry 3 May 1945.

²² *Ibid.*, entry 6 May 1945; Waters, *op. cit.*, p. 54.

²³ Bloom, *op. cit.*, entry 11 May 1945.

gravel. Another method of consolidating soft areas was by using a combination of bags and old petrol tins as fill.

On 30 May the men began the slow process of laying matting and slow progress was made on the runway. The first use of the airfield was made when a damaged American B-24 Liberator belly landed on the strip on 21 June. On 28 June 1945 Wing Commander C. Read landed Beaufighter A8-196 on the airfield, to be followed by Kittyhawk fighters of 75 Squadron.²⁴ The arrival of the aircraft caused a 'great uplift of spirits' for all the troops, who felt that they had 'at last mastered the weather and the conditions'.²⁵

Leon Bloom noted in his diary on Sunday 13 May that while assisting to lay drainage pipes on the strip he 'heard bullets whizzing by from snipers in the hills'.²⁶ Larger calibre weapons also interrupted the already slow progress. A 75mm gun, sited in the hills to the north east of the strip, shelled the airstrip in a desultory fashion. On 21 May a Gletrac F.D. tractor suffered a direct hit, obliterating the driver's seat and resulting in 'the natives and whites (in the lead) racing from the strip with the shells blowing up behind them'.²⁷ The gun was captured by the Army on 25 May, thus removing the danger. The Japanese, however, were adept at infiltrating defensive positions. On 6 May a 75mm shell was discovered under the house occupied by the cooking staff. The movement of the domestic camp to a site near the airfield on 24 May did not ease the defensive problem. During the night of 31 May Leading Aircraftman Daniels tossed a hand grenade at infiltrators, killing one enemy soldier. However, Sergeant Bradshaw was killed and Sergeant Essenberg wounded when a Japanese hand grenade exploded in their tent during the action. Army troops killed four Japanese soldiers attempting to cross the airstrip. As late as 7 June intelligence reports were received to the effect that the enemy proposed to stage a 'banzai' charge, and defensive measures in the airfield area were coordinated by Flight Lieutenant Burnell, the defence officer of 1ACS.

Once the airfield became operational, its shortcomings became obvious. Landings could only be made into the east, and take off to the west. As Flying Officer Neville McNamara (later Air Chief Marshal Sir Neville) recalls 'it was one of the few airfields in the world where one end rose and fell with the tide. There was in fact a bulldozer buried beneath the strip because it just sunk to such a depth that they gave up trying to get it out'.²⁸ The loss of a bulldozer may be apocryphal, but the airfield was never an operational success. It required constant maintenance. Matting required lifting and replacing. In the words of the commander of 8ACS, Squadron Leader H.V. Davies, the airstrip 'while serving its purpose, can only be regarded as a apology for an strip ...'. He criticised the intelligence information that was made available to the planners of the landing regarding the state of the airfield and of the availability of construction material, which he considered misleading 'in every particular and conjecture must occur whether the Dutch deliberately misled the Army so as to have their oilfields restored'.²⁹ Due to the inability of the engineers to produce a serviceable airfield from where fighter cover could be given to the subsequent landings at Labuan

²⁴ Waters, *op. cit.*, p. 54.

²⁵ 1ACS, *op. cit.*, entry 28 June 1945.

²⁶ Bloom, *op. cit.*, entry 13 May 1945.

²⁷ *Ibid.*, entry 21 May 1945.

²⁸ Waters, *op. cit.*, p. 55.

²⁹ 8ACS *op. cit.*, general entry June 1945.

and Balikpapan, later studies have classed the Tarakan operation as a failure.³⁰ The failure was not due to the superlative effort of the members of the Airfield Construction Squadrons involved, but may be attributed to weaknesses in staff work by the overall planners of the operation.

The inability of fighter squadrons to use the airfield at Tarakan created problems for the planners of later Oboe operations. To facilitate these operations, 6ACS deployed a detachment of nine officers and 229 airmen to Tawi Tawi island in the southern Philippines to refurbish the airfield at Sanga Sanga. The detachment, which left Morotai on LST 699 on 21 May was preceded by two survey officers and six airmen who flew to Sanga Sanga the day before. On 6 June, the detachment completed work on the Sanga Sanga airstrip which enabled 31 Squadron Beaufighters and 76 Squadron Kittyhawks to participate in operations over Labuan. On 7 June the detachment embarked on LSTs 470 and 168 for the return trip to Morotai, and preparation of the Balikpapan landing planned in July.

The next in the Oboe series of operations was the landing on Labuan Island and the adjacent Muara-Brookton area of Brunei Bay. The island was strategically placed in that aircraft based there were capable of supplying air cover along the Asian coastline from Singapore to Shanghai, as well as interdicting Japanese lines of communications in Indo-China and Malaya.³¹ The United States Navy Task Group 78.1 provided 230 vessels to transport the attacking force to Labuan. The RAAF engineers were represented by 4ACS and 5ACS, who were aboard four of the 76 vessels which departed from Morotai on Monday 4 June 1945. During the following afternoon, the fleet sailed into stormy weather and that night a severe electrical storm and torrential rain made conditions miserable for the troops, who were sleeping on open decks. George Park recalls that 'the sea would occasionally wash over the deck and pass under my stretcher'.³² The weather improved as the convoy passed south of the Philippines. A fleet oiler had taken station astern of the LST to replenish the fuel stocks of escorting destroyers, giving the men a chance to study ship-to-ship refuelling at close quarters. Under an umbrella of Lightning fighters and the vigilant eyes of Catalina crews, the convoy turned south on the 9th. The men prepared for the landing scheduled for the next morning. Live ammunition was issued as the assault force manoeuvred for position in the night.

As dawn broke on 10 June the island of Labuan and the township of Victoria could be seen to the port side of the LSTs, which were anchored a mile and a half off shore. Four destroyers were positioned closer inshore and the heavier cruisers steamed further to seaward. At 8.10 am the destroyers and cruisers opened fire on the beach defences. For the men on the LSTs the noise was deafening. The concussion from the heavy calibre guns of the cruisers battered their ear drums. Landing craft equipped with rocket launchers cruised close inshore, the flash and smoke from the salvoes of rockets a spectacular sight. The shoreline erupted in a composition of smoke and flame for an hour. Eight squadrons of Liberator bombers added their weight of explosives to the deadly symphony, and low flying Beaufighters and Mitchells flew ground support missions in support of the advancing troops.

³⁰ Waters, *op. cit.*, p. 55; Odgers, *op. cit.*, p. 461.

³¹ Waters, *op. cit.*, p. 57.

³² G. Park, *Personal Diary Extracts*, p. 13; V.W. Stone, *Personal diary* [RH].



LSTs unload at Labuan. (RAAF)

Although the landing had been unopposed it was not until the morning of 11 June that the Airfield Construction Squadrons landed. It was a day of hard work and humour, against a background of 25 pound artillery firing into the hinterland. The water depth averaged 60 centimetres, but there were variations, as Douglas Perry of 5ACS recalls: 'when we went ashore ... we were directly over a bomb hole full of water. We had trouble getting the equipment out and getting it on to the beach'. Pilot Officer Bennett learned this from personal experience when he stepped off the ramp of an LST - all that could be seen was a revolver held above his head as he waded ashore. To Alex Clarke, a member of 4ACS, the sight of bulldozers pressing shoreward with only exhaust pipe extensions and drivers visible above the water was memorable. George Park remembers that late in the afternoon the driver of the Survey Section Dodge Blitz Buggy, Vince Sewell, negotiated the water barrier with success but was not as adept at driving on dry land. The Blitz jammed in gear. The Army beach controller, to whom they were to report, was not impressed when Vince yelled 'I can't stop' as the recalcitrant vehicle hurtled passed.³³ By 9 pm the LSTs had been partially unloaded; one of the remaining tasks was to roll 200 litre drums of fuel off the ramp to float ashore. The following morning the incoming tide refloatated the

³³ Park, *op. cit.*, entry 11 June 1945.

drums. Some had ruptured. The reluctant men had to be threatened with disciplinary action before they stripped and entered the scum to rescue the errant drums.

In the meantime a camp had been established near the airfield. The men slept with a 'rifle by your side, and small arms fire 20 yards away was no joke'.³⁴ The airmen were each rostered to undertake one hour's guard duty. Incessant artillery and small arms fire was incompatible with sleep. In the early hours the tension broke. One of the guards challenged a strange figure. When no pass word was forthcoming alarmed airmen groped for rifles in the gloom. The call went out to 'bayonet the bastard'. A terrified voice quavered from the darkness: 'No. Not Me. I'm 4ACS'. Following a call of nature, the airman had little thought of remembering the word-of-the day.³⁵

On the morning of 12 June, the Army was pressing the enemy located around the airfield. The two construction squadrons commenced the rejuvenation of the strip, which was 'a mass of bomb craters, some small, some great gaping holes nine metres deep and fifteen across'.³⁶ The Survey Section was up at dawn and breakfasted close to the airfield. They drank foul tasting chlorinated water as they heard the rattle of small arms fire and the rush of artillery shells overhead before:

Led by [Flying Officer] John 'Dan' Daniel ... we walked to a position behind an earth mound at the south end of the airstrip which formed part of a revetment ... It afforded us protection as we cautiously examined the area, the fighting appeared to be taking place to the west of the strip, so we moved out. [We] worked feverishly all morning, setting up a line of reference pegs ... It wasn't easy working amongst the water filled bomb craters which was about all the airstrip consisted of at that ... time.

We had a brief lunch from our field rations and one of our general hands ... became curious about the war being waged some little distance from us so he climbed on top of the survey wagon for a better view. He had not been there long before he attracted gunfire ... in spite of the danger we were in ourselves, we roared laughing when he fell to the ground in his haste ... to get down.

We took shelter in a bomb crater and shortly after several Australian infantrymen came by and expressed their surprise at our being there; it appeared the ownership of the airfield had not been completely determined!³⁷

By 17 June the efforts of the two construction squadrons had improved the serviceability of the airstrip to such a degree that Dakota aircraft and two 76 Squadron Kittyhawk fighters were able to land. Next day twelve 457 Squadron Spitfires landed. Although two crashed, the remainder commenced operational flying on the 19th.³⁸

The reconstruction of the airfield had not been without difficulty. 4ACS was constructing the southern portion of the airstrip and 5ACS that to the north. For some unknown reason, the surveys undertaken by the two teams varied by 30 centimetres

³⁴ Stone, *op. cit.*

³⁵ Park, *op. cit.*, entry 11 June 1945.

³⁶ Stone, *op. cit.*

³⁷ Park, *op. cit.*, entry 12 June 1945.

³⁸ Waters, *op. cit.*, p. 87.

and the Wing Headquarters was called to arbitrate in favour of the 5ACS survey - a decision which 'did not prevent us [4ACS] from letting all and sundry know that the fault lay elsewhere'.³⁹ The two squadrons used different techniques to fill bomb craters - 4ACS pumped the water out, then blasted the remaining mud out with explosives, while 5ACS simply filled the craters - but all worked a 24-hour day. The area was floodlit. Warning of enemy incursions could not be heard over the noise of the machinery and plant operators were vulnerable in the event of enemy activity. Even during daylight the men were not out of harm's way. George Park noted in his diary that it was nerve wrecking working steadily in light jungle to be interrupted by three or four rifle shots being fired in one's direction by an invisible assailant.

By 16 June the Japanese defenders had been forced into a defensive pocket opposite the ACS camp and the Australian artillery was firing across the airfield to support attempts to break into the Japanese redoubt. Although the permanent camp was established three quarters of a mile from the airfield, the men were aware of the proximity of the enemy and their propensity for nocturnal infiltration of the Australian positions. There was little enthusiasm to sleep in the outermost positions in the tents, and the men slept with their rifles close at hand. George Park recalls one incident where he was woken by a burst of sub-machine gun fire. There was bedlam in the tent as bemused men sought boots, personal attire and weapons in the dark. The reason for the furore was simple. One of the guards was coming off duty when he spotted a python slithering along the pathway and decided to shoot the reptile. Not a bullet hit the snake, which was despatched with the judicious application of a piece of timber. However, the night of 20/21 June was of less levity. Approximately 100 Japanese soldiers, each with a fused aerial bomb on his back, broke out from their defensive positions and attempted a suicide attack on the airstrip and beach area. Several skirmishes occurred during the night. By morning 49 of the enemy had been killed and the remainder captured.⁴⁰ The following day the last pocket of organised resistance was assaulted. Labuan Island was under Australian control.

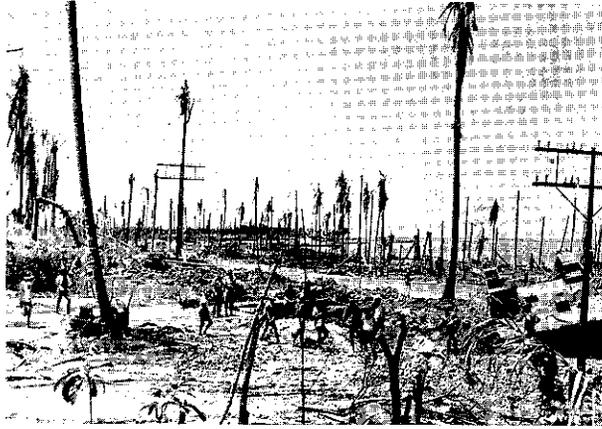
The third landing, which involved 2, 3, 6, 8 and a detachment of 14ACSs was the Oboe 2 landing at Balikpapan, used by the Japanese as one of its main sources of aviation fuel.⁴¹ The landing was made east of Klandasan, where the main coastal road allowed access to the two airfields, Mangarr and Sepinggan, respectively a distance of 20 and 10 kilometres east, of the landing beach.⁴² Although Sepinggan was secured by the 2/14th Battalion on 2 July, 2 and 6ACS did not land at Klandasan until 5 July. However, a bulldozer and two operators had landed from LST 466 on the previous day to undertake work on the beach and to push a track across an anti-tank ditch near Sepinggan Creek. For the veterans of Tarakan the landing went smoothly. LST 910 was unloaded during the morning and LST 466 beached closer to Sepinggan next day. Construction commenced on the airfield on 7 July, with the main task being the back-filling of bomb craters. Work was on the usual ACS three shift 24-hour basis, and the airstrip was ready to accept a Catalina, Beaufighter and 11 Spitfires on 15 July. The day before, work commenced on surveying the airfield at Mangarr and 8ACS assumed the task of building a 2,134 metre heavy bomber strip there on 9 August.

³⁹ Park, *op. cit.*, entry 13 June 1945.

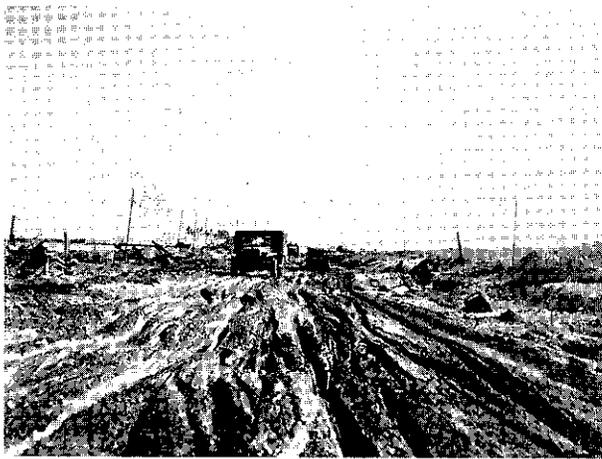
⁴⁰ Waters, *op. cit.*, p. 115.

⁴¹ *Ibid.*, p. 115.

⁴² *Ibid.*, p. 116.



The Balikpapan landing beach with road to airstrips in the centre. (N. Reichman)



The road to the oil refineries at Balikpapan was hardly a highway. (N. Reichman)



'Top end' of Sepinggang airfield with buildings of 23 Air Stores Park behind the Bailey Bridge. (N. Reichman)

The last construction squadron to arrive at Balikpapan was 3ACS, which landed from LSTs 466, 470, 476 and 911 on 19 July. In addition to the bitumen sealing of Sepinggán, the construction units were tasked with the maintenance of the Vasey Highway and the construction of facilities for other units, such as 23 Air Stores Park, the clearing of sites for radar stations and, after the war, the development of cricket pitches and other sporting facilities.

The two Airfield Construction Squadrons at Labuan could now concentrate on the upgrading of the airstrip. By 12 July the airstrip had been sealed with bitumen. The construction of bomb dumps, dispersal bays, and the development of Ground Control Interception facilities, the drilling of water bores and the erection of prefabricated buildings for various units occupied the men. The tension of the first weeks dissipated. Men now found time for leisure. The 4ACS blacksmith, callused hands notwithstanding, manufactured the 'most delicate bracelets from silver obtained from coins'.⁴³ Other enterprising entrepreneurs fermented 'jungle juice' in stills hidden in the jungle, following a precedent set at Biak and Morotai where one Norm Widders had created an exclusive franchise to supply alcohol to an American Liberator Squadron.⁴⁴



Padre Funnell's dream. 'Saint Stephen the Martyr' Chapel. (A. Funnell)

The cease-fire was announced on 15 August 1945. The last entry recorded in the 4ACS Unit History Record was dated 30 October 1945, when it noted that it was 'due for disbandment during November - December'. Although many of the units at Labuan had decreased their activities, the men of 4ACS were discontented with the

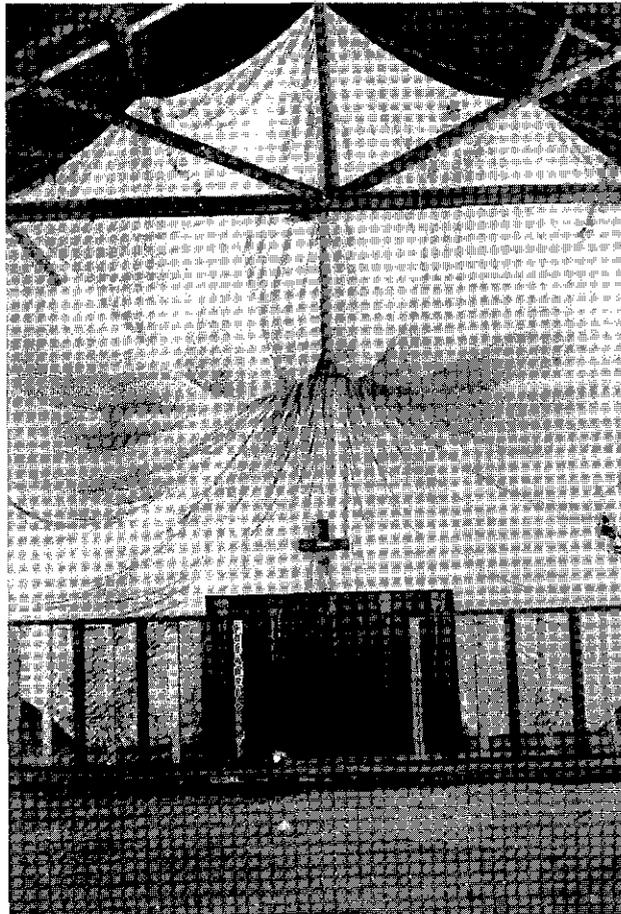
⁴³ Park, *op. cit.*, entry 6 July 1945.

⁴⁴ *Ibid.*, entry 16 July 1945.

long hours that they were working by comparison, and the lack of information regarding their evacuation home. There was one project which was given the full support of all squadron members: the construction of a permanent chapel.

Padre Allen Funnell had joined 4ACS at Noemfoor and his aim to build a chapel on the island was thwarted by the move of the squadrons to Biak. Here a squad tent served as a temporary house of worship, and Funnell was still frustrated in his aim of building a chapel in which his 'parishioners' could find spiritual solace and worship in comfort. It was not until the Australians occupied the island of Labuan that Funnell's ambition and perseverance was to be rewarded. After obtaining permission from Squadron Leader Trench to build the chapel adjacent to the unit Headquarters, Funnell sought the assistance of Flight Sergeant Ben Kennedy for the supply of some hundreds of tons of coral. So successful was the padre's exhortation that Trench, who had been absent on duty, returned to be confronted with a three metre high heap of coral in the swamp that he had allocated as the chapel site. Once the coral had been levelled, the construction of the chapel could commence. Without the expertise of a local Malay-Chinese carpenter, Fong Ah Lu, the chapel would not have been erected. Fong discovered stands of bamboo, some of which was up to eight inches thick, and directed the men in harvesting the material with jungle knives. In addition to the propensity for minor cuts and abrasions due to the hardness and sharpness of the bamboo, Japanese troops were also a factor to be considered.

One morning as the men prepared to cut into an excellent stand of bamboo, they had to seek shelter under their 6x6 truck to escape a cross-fire between Japanese and Australian troops. However, Fong was aware of the



'Padre, when your sermon is dull ... ' (A. Funnell)

whereabouts of a newly constructed Japanese building relatively close to the chapel, and it was a simple task of transporting the atap roof from this building to the new chapel - after the unwanted tenants had been forcibly evicted.

The chapel was erected using a bamboo framework with the sides criss-crossed with split bamboo. Furnishing had been brought from Biak and a feature was the parachute borrowed from the Americans 'for the duration' and 'draped above and behind the Communion Table. To give a dramatic effect we placed a series of lights behind'. Funnell was brought to a more earthly plane when several of the men commented: 'Padre, when your sermon's "dull" we can spend the time counting the insects inside the parachute.' It was a proud Padre Funnell who attended the official dedication by Chaplain A.E.S. Begbie, Senior Chaplain of the 9th Division, of 'Saint Stephen The Martyr' in July 1945.⁴⁵

5ACS had an even greater challenge. On 17 November 1945, the unit was notified that it would come under the command of 81 (Fighter) Wing and become an integral part of the RAAF Occupation Force which was to proceed to Japan.⁴⁶ Volunteers were sought and preparations for the deployment were made during December.

With the exception of 5 and 7ACS, all the construction units were disbanded by the end of 1945. They had campaigned in all RAAF operational areas in the South-West Pacific Area. Sometimes maligned, but never undaunted, these troops had made it possible for superior air forces to be deployed with imagination and operational effectiveness. One has only to peruse a map of the South-West Pacific to recognise the importance of airfields to the war effort. MacArthur's leap frog strategy was restricted by the range of the strike aircraft available for operations, and air power was a potent weapon in isolating by-passed Japanese garrisons by cutting their supply lines, thus ensuring that they were militarily non-effective.

⁴⁵ Padre Allan Funnell, correspondence 23 September 1997.

⁴⁶ 5ACS Unit History Record entry 17 November 1945.

CHAPTER FIVE



COLD WAR AND EXOTIC PLACES

Geography and the experience of World War II indicated, however, that if the RAAF went to war again it would not be from those bases [on the mainland] but from the 'strategic' airfields in the north or overseas.

Alan Stephens¹

At the Potsdam Conference of July 1945, the three Allied leaders, Churchill, Truman and Stalin, agreed that Japan should be completely disarmed, war criminals brought to justice and the Japanese government made responsible for the strengthening of democratic tendencies among the Japanese people. These objectives were to be supervised by General Douglas MacArthur. The Australian Government assessed that involvement with the occupying force would enhance Australia's political, economic and military prestige in the Pacific region. After discussion between the Australian Chief of the General Staff, Lieutenant General Northcott, (who subsequently Commanded the British Commonwealth Occupation Forces), and MacArthur in October and representations to the United States Government by the Minister for External Affairs, Dr H.V. Evatt, it was agreed that forces from Australia, Britain, New Zealand and India would comprise the British Commonwealth Occupation Force (BCOF) and be responsible for the Hiroshima Prefecture.² The air contingent of this force was known as British Commonwealth Air Group (BCAir). The Australian element of the group was 81 Wing which comprised three Mustang fighter squadrons and supporting units, one of which was 5ACS. This construction squadron was answerable to RAAF Headquarters in Melbourne and not formally under the command of BCAir.³

A works survey party departed from Labuan for Tokyo on 6 October 1945 to select airfields and accommodation for 81 Wing.⁴ The party travelled in two Dakota aircraft, arriving at Tachikawa airfield, Tokyo, on 12 October. The airmen were billeted with members of the US 5th Air Force opposite the Imperial Palace in the Marunouchi district of central Tokyo, where each man had a private room, slept 'comfortably on stretchers and ate particularly well ... fresh poultry, fruit and ice

¹ Stephens, Alan, *Going Solo: The Royal Australian Air Force 1946-1971*, Australian Government Publishing Service, Canberra, 1995, p. 51.

² *Ibid.*, p. 208.

³ *Ibid.*, p. 210.

⁴ The party consisted of Wing Commander W.A.C. Dale, Squadron Leader J.F. Liberty, Flight Lieutenants M.E. Collard, N.F. Binks and W.L. Harrison, Sergeant R.M. Kilpin, Corporal T.E. Davis and Leading Aircraftmen M.G. Maher, J.H. Symes, D. Frost and G.W. Park.

cream etc'.⁵ The group stayed in the Tokyo area until early in January 1946, undertaking the survey of the Narimasu airfield, absorbing culture and noting the effects of the American bombing of the city. Vast areas of suburban Tokyo had been gutted by B-29 fire-bombing raids at the end of the war, but the better side of civilisation was still in evidence. On the evening of 26 November, George Park attended a performance of Dvorak's *New World* Symphony in Hibiya Park and, at a later date, an outstanding performance of Handel's *Messiah* at the same venue. Tokyo supplied both cerebral and earthy diversions. Black marketeers were rampant and there were a multitude of premises opened ready to exploit young men in search of wine, women and song.

Travelling from Tokyo could be a cultural shock. George Park recounts that on 24 and 25 November:

I travelled by train with several American servicemen to Atami where we stayed in a Japanese hotel. Excellent accommodation and being in a thermal spring area the hotel had a large communal spa bath where the hot springs water flowed through continuously. One entered the spa room, undressed, took a shower and then lowered oneself into the water - very, very slowly - it was so hot.

It was a pleasant experience for a young fellow like me, nude bathing was something I had only read about, and every time I thought of getting out another attractive Japanese girl arrived to take a bath and I would remain a few minutes longer.

Next day George visited the mountain resort at Nikko, where the 'temple with its gold leaf finish to the ornamentation was breathtaking' before seeking 'accommodation in a Japanese guest house where we donned kimonos and when we went to bed, laid out our sleeping roll and slept on the tatami mats under warm eiderdowns'. It was exotic and hedonistic, a sample of an alien culture.

On 11 January 1946, George Park and Flying Officer J.T. Georgeson (who had left Labuan on 27 November 1945 with Pilot Officers S.R. Scott and A.J. Robertson) departed from Tokyo for Hiroshima. The flight hit severe turbulence as it closed with Mount Fuji to enable the men to photograph the Japanese icon. Georgeson was standing in the aisle when the aircraft dropped in a severe air pocket; he hit the roof before sprawling unceremoniously on the floor. The last half hour of the flight was made at sea level, below the cloud base. On landing, the passengers, tired and dishevelled, welcomed the presence of a vehicle which took them to their billets at Kure. A preliminary survey of the Hiroshima airfield was made, but it was found unsuitable for RAAF operations. At the landward end of the airstrip was the Hiroshima jail, and the two Australians approached the jail governor for discussions regarding the possible extension of the runway through his establishment. Naturally, the governor was not pleased with the prospect. An inmate proved a helpful interpreter during the discussion. As a paymaster in the Japanese Navy he had exploited the pandemonium resulting from the atomic bomb explosion to abscond

⁵ Park, *op. cit.*, p. 35.

with the paymaster's safe and its contents.⁶ On 20 January 1946, the two Australians drove by jeep to Iwakuni to assist with the survey of the airfield preparatory to the arrival of 5ACS.

Despite being seriously understrength (only 14 officers and 189 airmen had volunteered for service in Japan⁷) 5ACS prepared for deployment to Japan while the survey party was enjoying its first contact with Japanese culture. LSTs 321, 324 and 403 arrived at Labuan on 5 February 1946. The convoy departed on 11 February. Alan Robson was one of the volunteers and recalls that the convoy ran into a typhoon. The shallow draft, flat bottomed LST on which he was travelling was not the most comfortable ship at the best of times and the fully loaded LST bent, twisted and turned with the motion of the sea. A D-8 caterpillar tractor broke loose, threatening to ram the bow door of the ship. The men, battling the slippery combination of water and fuel from a burst fuel tank, secured the runaway machine. To retain the stability of the ship, much of the upper deck cargo had to be thrown overboard. When the weather settled and an assessment of the damage was made, it was discovered that vehicles containing spare parts and the winter clothing for the men had been jettisoned.⁸

The three LSTs grounded at the seaplane base slipway at Iwakuni on 22 February. Three days later the unit established itself in the hangars and existing buildings at the slipway, thus ending George Park's comparatively luxurious life style. For the newcomers it was even worse. They had landed in summer uniform. To sleep, a blanket would be placed on the ground on which four men would lie, cover themselves with three more blankets and trust that the combination of body heat and the covering would counter the freezing temperature.⁹

Clothing deficiencies were a vexing problem for the unit's equipment staff. The clothing supplied did not meet the extremes of the Japanese climate. All personnel had been issued with blue battle dress before departing from Labuan, but many did not have overcoats or gloves to counter the bitterly cold winter. In the summer appropriate uniforms were unavailable. As late as August members travelling off the base on leave were forced to wear dress 5A, which was incompatible with the heat.¹⁰

Flight Lieutenant P.G. Lings and Flying Officer A.L. Clarke supervised the rehabilitation of seven accommodation blocks at Iwakuni. Work on the replacement of windows, doors, ceilings and electrical and plumbing installations commenced on 1 March. The rehabilitation of another six buildings commenced on the 13th. On the same day, an agreement was made on an acceptable policy under which Japanese tradesmen would be employed. However, 5ACS was not to benefit from their toil; on 11 April the Squadron Headquarters and all personnel moved into new quarters at the Toyo cotton mill employees dormitory. Don Holdsworth, who 'still does not know why [he] was posted to an ACS as my mustering was an airframe fitter' wrote that:

⁶ *Ibid.*, p. 38.

⁷ 5ACS, *op. cit.*, entry January 1946.

⁸ Alan Robson, interview, 12 October 1996.

⁹ Robson, *op. cit.*

¹⁰ Dress 5A was made of blue coloured heavy gaberdine material. The uniform consisted of tunic, trousers, blue shirt with semi-stiff collar, black tie, black socks and shoes, topped off with a blue forage cap. My thanks to Flight Lieutenant Steve Wright, Administrative Officer, RAAF Central Band, for his advice.

The barracks were in the two storey wooden dormitory ... They consisted of about seven parallel buildings joined by a covered walkway and in each building there were [about] eight bedrooms on each floor, sleeping six or eight [men]. The floor was rice straw mats (tatami), made to be walked on with slippers - not air force boots. The ceiling was light loose board and a home for large rats which would race across it at night and occasionally falling through and landing on some unsuspecting airman below. The problem of rats was soon overcome after someone came up with the idea of putting a few snakes in the ceiling. However, one snake happened to find its way into an NCO's bed ...¹¹

The manpower situation was alleviated with the arrival of 95 personnel from Labuan on 1 April 1946. Another 78 arrived on the *Duntroon* direct from Australia on the 13th, enabling the work force to be better utilised with the tasks of rehabilitating the three airstrips assigned to BCAir - Bofu, Miho and Iwakuni. On 4 March 1946 Jack Georgeson (newly promoted to the rank of flight lieutenant), Jim Symes and George Park travelled by train to Bofu to survey the airfield. The 80 kilometre trip took two and a half hours, and the men found the work difficult due to the icy winds and snow covered ground.¹² The heavy equipment was transported by rail. There was no passenger accommodation on the train so the men had to sit in on the vehicles, exposed to the elements and the irritation of coal dust in the eyes and nose. The road from the disembarking point to the airfield was windy and narrow. Where the graders could not negotiate an 's' bend, the D-7 bulldozers were used to cut the corners.

The wisdom of including a construction element in the RAAF contingent was vindicated when the concrete runway at Bofu 'failed' unexpectedly in June 1946. The original runway had been completed just prior to the end of the war and appeared to follow then current Japanese construction practices. The concrete used was low in cement content and layed, unreinforced, to a depth of five to ten centimetres on an ungraded base. Expansion gaps consisted of timber fitches.¹³ A natural surface runway and taxiways were completed by August, pending approval for the construction of a 1,615 metre permanent runway of 16 centimetres deep reinforced concrete. In January 1947, 235 Japanese and 15 Australians were employed on this task, which was completed in July. The following month the taxiways were prepared to handle the first Qantas Lancastrian courier from Australia.

The facilities at Bofu were also improved. A service road was constructed between 81 Wing Headquarters and the city and a hospital and dental facility was built. An amenities room was provided. Hangars were refurbished and an armoury constructed for the use of the fighter squadrons of BCAir. During April 1947, construction of 42 family units were commenced. All this refurbishment, new construction and the maintenance of existing facilities placed a heavy work load on the unit. During March 1948, 5ACS personnel worked 591 man hours and the Japanese employees 20,494.¹⁴ The base was in good shape when it was handed over to the US 5th Air Force 347th Fighter Wing on 19 October 1948.

¹¹ Don Holdsworth, correspondence 1 September 1996.

¹² Park, *op. cit.*, p. 39.

¹³ 5ACS, *op. cit.*, June 1946.

¹⁴ *Ibid.*, March 1948.

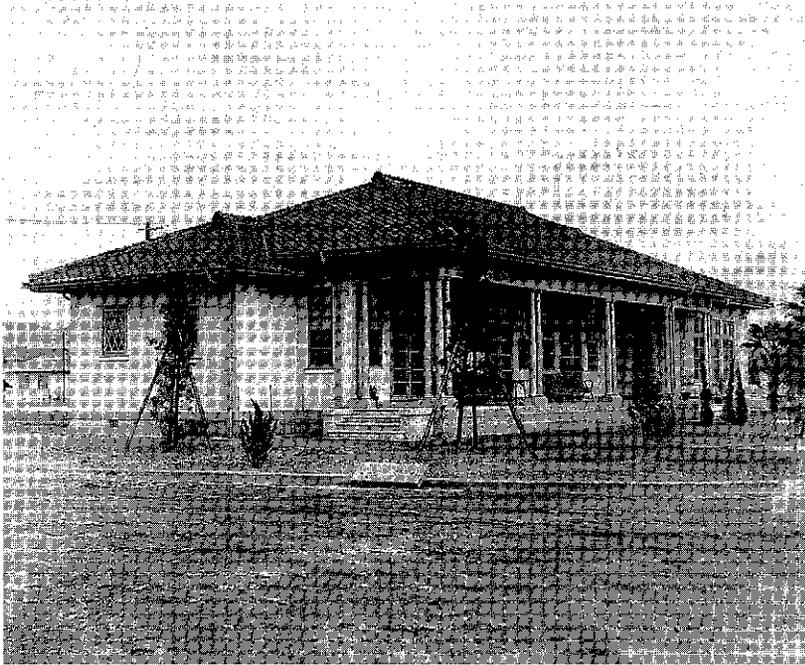
The airfield at Miho, east of Kure on the Inland Sea, was inspected by Wing Commander A.M. Harrison, Group Captain D.G. Christie and unit civil engineering officers on 26 March 1946. The runway at this base was found to be satisfactory - Miho became BCAir's main armament training base - but a vast amount of work was required to rehabilitate camp and engineering facilities. Flying Officer H. Pannell remained at Miho to direct the work being controlled by the Japanese technicians of the Tittori Prefecture. Pannell was replaced on 13 May 1946 by Flying Officer S.R. Scott, who continued with the work of building water and electrical reticulation systems, fuel installation and camp buildings. By the end of May sufficient buildings had been refurbished to accommodate 500 personnel. Two months later, plans for the semi-permanent development of Miho involving the building of personnel amenities and facilities such as a canteen, recreation hall and messes were developed. Hangars were re-roofed and a station sick quarter built before the commencement of the construction of homes for 56 families in April 1947. During September work commenced on the Sakae jetty for use by the Air Sea Rescue launch assigned to the base. Miho was handed over to the 5th Air Force on 7 May 1948.



The base at Miho, December 1949. (RAAF)

The development of a major base at Iwakuni followed a similar pattern. The squadron was involved with the rehabilitation of the facilities at the base and, from early 1947, the construction of dependant housing. These projects were undertaken by Japanese contractors who were supervised by members of the squadron. Hal Pannell recalls one incident involving dependant housing which had scalding repercussions:

Heating of the buildings was by reticulated steam. Arthur Harrison's wife arrived and, after the usual receptions etc, arrived at the house and wanted to use the toilet. However, when she flushed the convenience, it was found that the Japanese contractor had connected the steam to the toilet. I got the rounds of the kitchen by Arthur Harrison [as a result].¹⁵



Senior Air Staff Officer's residence at Iwakuni. (RAAF)

Not all the incidents involved the misreading of plans. Eric Graham was a carpenter who recalls working with a fiery tempered offsider. The two tradesmen had been tasked with the installation of interior fittings in the married quarters and were hampered by the daily vacillation of certain ladies-of-the-house regarding the installation of interior fittings. Eric's partner's patience, never long, was at breaking point; he advised the ladies to 'stuff off'. As a result the two tradesmen were required to explain the situation to the commanding officer. Next day, when the ladies in question commenced to give instructions in Harrison's presence, they were told by him that 'they had been told what to do on the previous day, and that they should do [as they had been told]'.¹⁶

During May 1947, the existing concrete strip at Iwakuni began to break up. As it required constant maintenance, work commenced on a new 1,829 metre foot runway in November 1947. One of the major problems was that 'there was very little land available. We had to rehabilitate or resume a square mile of sea adjoining the mainland at Iwakuni and construct a bund round [the southern end] and then pump out water and ... fill [with material] on which to build the actual runway'.¹⁷ Work

¹⁵ H. Pannell, interview 12 October 1996.

¹⁶ Eric Graham, interview, 25 February 1997.

¹⁷ Air Commodore P.G. Lings, interview with Ken Llewellyn, 1 July 1993 (AWM SO1660).

proceeded using Japanese contractors and airfield construction squadron personnel expertise to supervise the task. The runway was constructed of 516 concrete slabs, the last of which was laid on 23 April 1948. During the period of construction 22 tip trucks of the unit travelled 73,730 kilometres and moved 8,195 cubic metres of gravel from pits along the Monzan river.¹⁸ These activities were not without humour. On 7 June 1947 the men were loading decomposed granite onto tip trucks. A small bulldozer was being used to push the granite into a chute, from where it dropped into the tray of a truck below. The bulldozer did not stop in time and slid down the chute onto the truck. A crane, applied with typical ACS ingenuity, extracted the dozer and the undamaged truck went on its way.¹⁹



Flying Officer Perry supervises the work of a Japanese surveyor at Iwakuni. (RAAF)

All these construction projects depended on local Japanese labour. The members of the ACS provided expert plant operators, drivers and other specialists. Percival Lings was the area labour officer, responsible for the employment of a total of 10,000 Japanese labourers and tradesmen employed on the three bases.²⁰ Another example of Japanese labour being supervised by Australians was that of Don Holdsworth's Engineering Stores Section, where 150 Japanese were controlled through three Nishi (Japanese who had lived in continental USA or Hawaii) interpreters. Obviously work contacts between the two nationalities could result in social contact, disregarding the official policy of non-fraternisation between BCAir members and Japanese nationals.

¹⁸ 5ACS, *op. cit.*, April 1948.

¹⁹ Holdsworth, *op. cit.*

²⁰ Lings, *op. cit.*

By June 1946 the initial morale problems had been virtually overcome. The men worked ten days without respite, followed by four days of relaxation. During this time, they could requisition a truck and driver and undertake one-day exploration of the spectacular scenery or use the improved welfare amenities and facilities at Iwakuni. Australian Rules, Rugby Union, Cricket and individual sports were available to unit members to play competitively or as relaxation. Leave facilities had been established in Tokyo to cater for the Australian airmen on leave. For those seeking something different, American leave hostels in Tokyo and Osaka, although officially off limits, welcomed the Australian Servicemen. Travel was by special forces trains. However, it was more challenging to travel by normal civilian train. A visit to the ancient city of Kyoto, which was officially off limits, was a battle of wits between the men and American military policeman intent on discovering their presence on the train.²¹

Trains are prominent in the folk lore of the squadron during this period. Enterprising members would board a train at one station, travel to next and catch the return train, selling sweets to the confectionary starved Japanese. At the end of a series of transactions the train would be stopped outside the barracks, halfway between Fuzyu and Iwakuni, and the entrepreneurs disembark. When alighting they were within sight of the commander's office, and the order went out for the practice to desist. As a result the men got off on the blind side and Harrison could truthfully say that he did not see anyone alighting from the stopped train.²²

During this period Japanese trains stopped for tea, and this practice was the reason for drastic action by two members of the squadron. The delay would mean that the men would be absent without leave. After considering their options, a decision was made to 'pinch the train'.²³ To an accompaniment of gesticulating passengers and a slamming of doors, the train puffed towards Iwakuni, where it literally ran out of steam. The two tyro train drivers disembarked and took to their heels through the paddy fields with the Service Police in hot pursuit. A shot over the evader's head from a service revolver only added impetus to their flight. After evading pursuit our heroes, freshly bathed, were sleeping like innocents when a check of the barracks was made.

During 1948 the British forces withdrew from the occupation forces and the Australian Government decided to reduce the Australian air commitment to a single squadron and supporting services.²⁴ In November 1948 the responsibility of works projects was assumed by the Works Engineer of 77 Squadron and equipment to be returned to Australia was withdrawn from operation. 5ACS, Iwakuni, disbanded on 15 February 1950.

As the workload and responsibilities of 5ACS in Japan declined in 1948, negotiations between the governments of Great Britain and Australia were to result in a major deployment of 2ACS to Cocos Island during 1951. An airfield had been constructed on West Island, the largest island in the group, during World War II. During May 1948, the United Kingdom High Commissioner enquired regarding the requirement to maintain this airstrip for defence purposes. On 10 June 1948 the Australian Defence Committee recommended that the facility be retained. However, in March 1949, the United Kingdom High Commissioner advised that the United

²¹ Graham, *op. cit.*

²² *Ibid.*

²³ Alan Robson, *op. cit.*

²⁴ Stephens, *op. cit.*, p. 222.

Kingdom Government did not regard the Cocos Island airstrip as essential for its defence purposes. The Australian Prime Minister, Ben Chifley, and Lord Pakenham discussed the matter during April 1949. On 29 June the British Government conceded that if Australia was interested in using the airstrip that it would be the responsibility of the Australian Government to rehabilitate it.²⁵

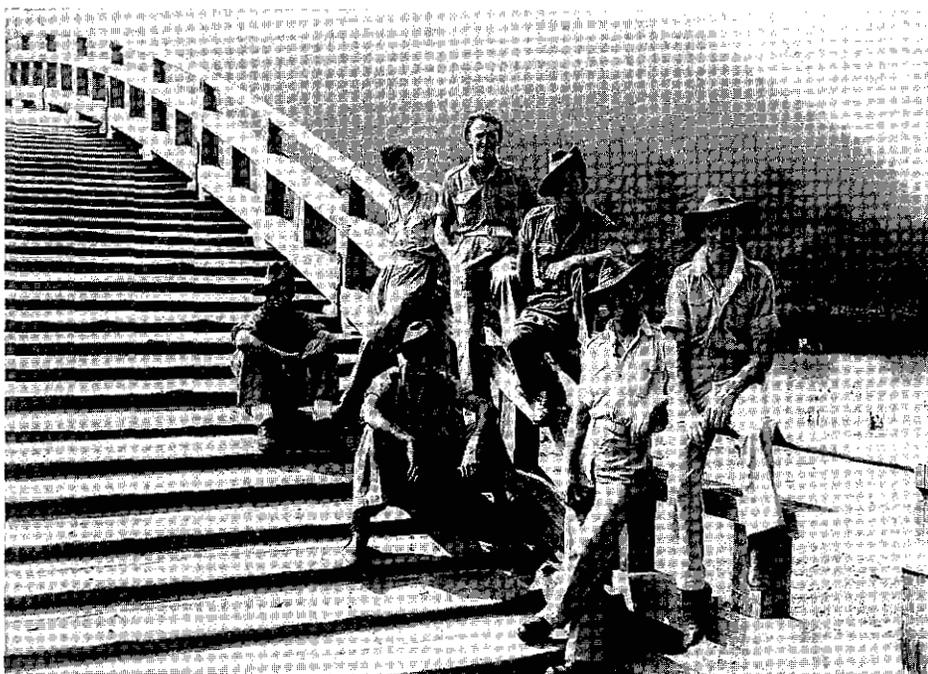
In November 1948 Qantas Empire Airways flew a survey flight from Perth, via Cocos Island and Mauritius to Johannesburg. The results of this survey were analysed by the Department of Civil Aviation whose Minister submitted a proposal to the Prime Minister, Mr R.G. Menzies, on 27 April 1950 that a direct air service between Australia and South Africa was a viable proposition. An essential element of the project was the rehabilitation of the airfield on Cocos Island. This proposal added weight to the strategic assessment that the Cocos Islands 'would be necessary as a staging point on the only alternative route' should the normal air route to the United Kingdom through Indonesia and Singapore be broken. In the case of war, the airfield would be used as a base for maritime reconnaissance aircraft on anti-submarine and convoy escort work. The Chief of the Air Staff, Air Marshal George Jones, was of the opinion that it was 'essential that the Cocos Island airstrip be rehabilitated as soon as possible'.²⁶

2ACS was allocated the task. Squadron Leader Percival Lings travelled to Melbourne for discussions with Wing Commander Dale and his staff at the Directorate of Works and Buildings on 25 June 1951 to discuss the move from Woomera. The first members of 2ACS arrived at Cocos Island on 18 November aboard the *Dongala*. An officer and eight airmen arrived from Port Adelaide aboard the *Canara* on the 28th. The third party of 40, led by Flight Lieutenant S.R. Scott, welcomed the trip after spending three weeks on the drill square at RAAF Base Pearce. They arrived at Cocos Island on 25 November and established themselves in a group of buildings near the old control tower on West Island. Although in good condition, the buildings were full of rubbish and swarmed with centipedes. The men suffered discomfort until stretchers were unloaded and a mobile cooker made available to supply hot meals. The party worked from 6 am to 9 pm daily to unload 500 tons of stores and equipment before preparing a camp site for use by the main body on its arrival on 19 December.

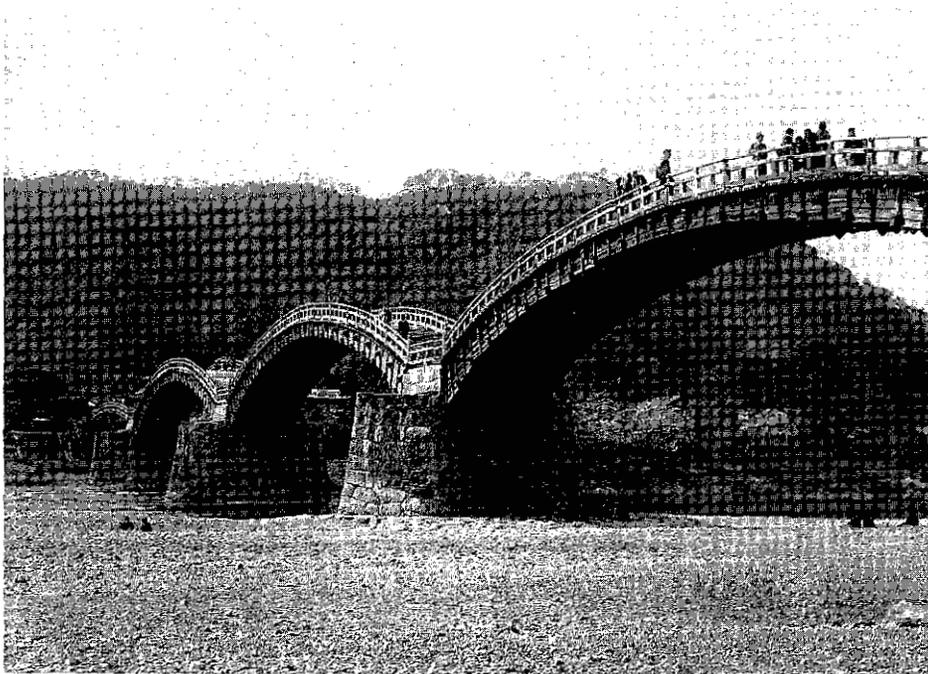
The main body of 2ACS consisted of 444 officers and men who embarked by train at the Woomera Siding on 8 December. The train travelled through Port Pirie and arrived at Outer Harbour, Adelaide next morning, where they boarded the *Cheshire*. After suffering from heavy seas en route to Fremantle - three sets of dentures were lost overboard - the men were given a day's shore leave at Fremantle on 14 December.

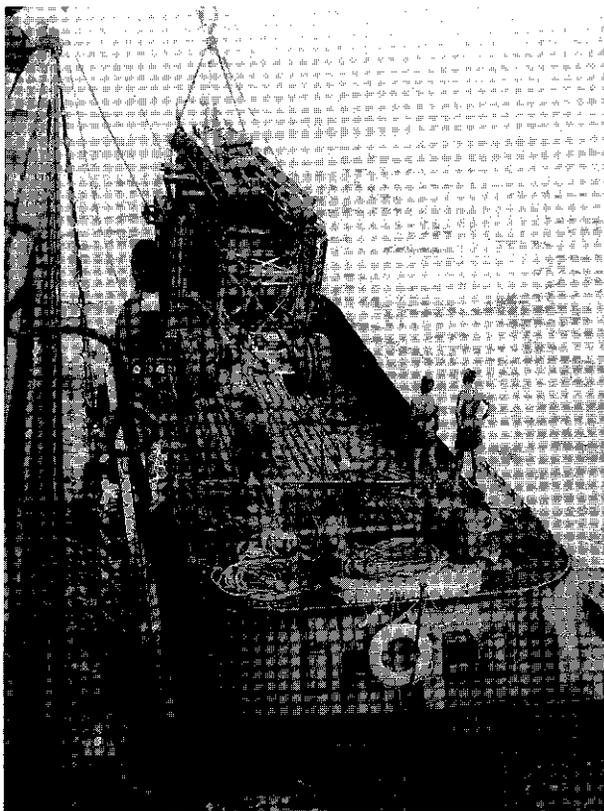
²⁵ Air Board Addendum No. 10550, CAS Minute of 7 August 1950.

²⁶ *Ibid.*



Allan Harrington, Norm Baker, Eric Norris and Army friends enjoy the scenery at Kintai Bridge.
(A. Harrington)





Unloading plant from the *Cheshire* at Cocos Island. Barges were used to transport equipment from the ship anchored 8 kilometres offshore. (RAAF Museum)



5ACS members enjoy a break among unloaded stores. (RAAF Museum)

The subsequent voyage to Cocos Island was a mixture of pleasure and training to prepare the men for disembarkation. Pleasure came in the form of games of skittles, tombola and tours of the engine room and bridge. A highlight was the concert performance by members of 2ACS two nights out from Cocos Island, the climax of which came when Captain D.K. Potter [the ship's master] was presented with his own gold cigarette box. This item had been skilfully removed from his day cabin. No doubt the captain was equally amazed to be presented with the ship's bell, which had been removed from the forepeak under the nose of the officer of the watch.²⁷ For training, a scrambling net was slung from the highest deck aft down to the hatch cover of No. 5 hold. Three disembarkation trials were personally supervised by Captain Potter and the value of this training was apparent when the men disembarked on 19 December without incident.

The arrival of the main force coincided with the failure of most of the unit's refrigeration units. Due to the unavailability of freezer space, almost 20,000 pounds of fresh meat and fish remained aboard the *Cheshire*.²⁸ By the end of December basic foodstuff like potatoes, fresh fruit and canned vegetables was being replaced by rice, barley and paw-paws. Despite the efforts of the refrigeration mechanics, the units in the butcher's shop failed resulting in a possible health risk in that thawing meat dripped blood and water onto the sand, becoming a breeding ground for flies. The medical officer arranged for the area to be treated with a mixture of sump oil and distillate, the sand dug out from beneath the refrigeration unit and a concrete block poured in its place. Fly wire was placed around food storage and preparation areas to prevent food contamination, and innovative garbage can holders manufactured to lessen the area available for flies to breed. Before the hygiene and dietary problems were overcome, dysentery was a cause of concern. Conditions at Cocos Island were the subject of adverse reporting; the *Brisbane Telegraph* of Monday 4 February 1952 stated that the 'shortage of fresh meat and vegetables and lack of proper facilities has brought most of the 500 airmen working on Cocos Island to "near mutiny"'. This claim was contradicted by Squadron Leader Lings who reported on his arrival late in January that 'the high morale already existing mounted still higher with the arrival of mails, fresh foods, cigarettes and tobacco, films, amenities and equipment with which to work'.²⁹

An unfortunate accident occurred while men were attempting to augment their slender fresh food supplies by using a barge to fish off Direction Island. Leading Aircraftman A.D. Jones was hit on the head by the handle of a winch used to wind in the anchor.³⁰ The medical staff decided that he required medical treatment not available on Cocos Island, and arrangements were made for a Lincoln aircraft to fly a mercy mission from Pearce, Western Australia. As the squadron lacked heavy equipment the preparation of the old wartime strip for the arrival of the aircraft had to be undertaken by hand. A wartime Liberator bomber, which had been abandoned on the approaches, was burned. The Lincoln, captained by Flight Lieutenant A.B. Boyle, landed on 3 January and Senior Sister Helen Cleary took charge of the injured airman for the flight back to Pearce. The aircraft had carried much-needed mail, and a small

²⁷ 2ACS Unit History Record entry November/December 1951 January 1952.

²⁸ *Ibid.*

²⁹ 2ACS Commanding Officers report Nov/Dec 1951, Jan 1952.

³⁰ R. Ramsay, correspondence 28 September 1996.

amount of fresh food to the island on its outward flight.³¹ Unfortunately, refuelling the aircraft for the return flight depleted the existing stock of aviation fuel on Cocos Island, delaying the inauguration of a scheduled air courier service until further supplies were received aboard the tanker *Heather* on 26 January.³²

The food situation was brought to the attention of Squadron Leader Lings at Fremantle by Scott on 16 January. Lings, three other officers and ten airmen had departed from Port Pirie on the *Palikonda* on 28 December 1951. Lack of space on the ship resulted in 66 items of plant and motor transport equipment and 220 tons of cement and 430 drums of bitumen being left behind. Unforeseen delays due to a lack of urgency in loading the ship (five days in Melbourne, 12 days at Port Pirie and 13 days in Fremantle) resulted in the ship arriving at Cocos Island on 23 January 1952. The cargo of the ship, which included 50 tons of fresh and tinned foodstuffs, was unloaded on West Island. The unloading of the *Palikonda*, anchored eight kilometres off shore, was completed on 12 February.

During February construction began in earnest. The men toiled 24 hours a day, seven days a week, in the debilitating climate to remove the old wartime pierced steel planking before preparing the new airfield. To ease the workload, the squadron technicians modified a standard le Tourneau ripper by welding a cutting edge to the router shank in place of the shoe. This machine was used to cut the matting into 50 metre squares, which were rolled up and towed away by D-7 and D-8 tractors. As there were no building materials on Cocos Island it had to be imported. The only natural resource, coral, was obtained from 'below water level using drag lines, excavators and bulldozers and excavating the coral into big stockpiles [from] where we would transport it by carry-all [to the] area where we were excavating the runway'.³³ To obtain clean coral aggregate for concrete work, a gravel washing and screening plant was improvised to remove silt. Four or five hundred thousand coconut palms had to be removed before the construction of the runway could commence. Work progressed steadily and the first aircraft to use the new airstrip was a Qantas DC-4 courier, which flew three test flights from the new strip on 18 July. The main runway was completed on 26 July, enabling a Constellation flying the route proving flight to Johannesburg to land and depart for Mauritius next day. The inaugural flight on the route passed through Cocos Island on 1 September. To make this possible, the men of 2ACS had unloaded 19 ships, constructed a 3,048 metre runway, a control tower, permanent buildings and roads in addition to maintaining its own installations and equipment.³⁴

Individuals worked six days before being given a day's relaxation. A five team cricket competition was arranged, and a three match series of soccer was played between the squadron and Malays who were employed by the owner of the island, John Clunies-Ross and his family, on Home Island - and lost two games to one. An open air beer garden was constructed with a bar equivalent in size to the best in Kalgoorlie and the recreation area included facilities for entertainment and boxing tournaments. Once a fortnight the courier aircraft from the mainland brought in fresh

³¹ *Ibid.*; Ramsay, *op. cit.*; Bill Woodfrey, *No. 2 Construction Squadron RAAF Cocos Islands 1951-1952*, unidentified newspaper cutting.

³² Ramsay, *op. cit.*

³³ Lings interview.

³⁴ 2ACS Unit History Record October 1952.

food and six 16 mm movies films.³⁵ Excursions were made to Home Island by parties of 100, where the copra sheds, native villages and boats built by the Clunies-Ross family objects were of interest. The Commander, Percival Lings recalls that John Clunies-Ross:

... lived in the manor or the Oceania house which had been transported brick by brick by [his] ancestors ... I liked him very, very much. He was always in trouble with the Australian government over the costs of the clearing and his demands for five pounds per tree for compensation for the coconut palms which were pushed down. Mind you they were worth it because each tree would produce something like four or five hundred nuts each ... at sixpence a nut.

He was very, very generous ... socially. He would invite me across on Saturday night to have dinner ... and we would play chess ... till all hours of the morning and then he would bring me back ... to work on West Island.

[His wife] would come across ... and we made her an honorary bar manager so she would get behind our bar at Cocos Island and dispense drinks to the officers, and she was rather friendly with our two nurses [who] would reciprocate by assisting for any medical requirement at West Island ...³⁶

The two nursing sisters, Ethel 'Maggie' Morgan and Vivienne Boswell, who arrived with the main party aboard the *Cheshire*, were the only females on West Island. They had a remarkable effect on the morale of the troops. A hospital was established in the dilapidated control tower and the two nurses domesticated themselves in a tent 'comprising two folding camp stretchers, two folding chairs and two wooden packing cases for clothes. At a later stage ... the Department of Civil Aviation Project Administrative Officer, Mr Jim Thompson, supplied us with mattresses, mosquito nets, cupboards with drawers and ground covering malthoid'.³⁷ A lounge was fabricated by relocating their second tent fly, so they could entertain in style against the backdrop of breakers breaking on the reef 180 metres offshore.

The western foreshore of West Island consists of a coral shelf extending 180 metres seaward before falling away steeply into the ocean. At this point there is always a heavy break and a very dangerous undertow. Swimming near this area was forbidden.

³⁵ Bill Woodfrey, *No. 2 Construction Squadron RAAF Cocos Island 1951 - 1952* [RH].

³⁶ Lings interview.

³⁷ Senior Sister Ethel L. Thompson, 'The Cocos (Keeling) Island Project' in *Wings*, Vol. 49, No. 1, p. 14.



A major problem to be overcome before construction of the main airstrip at Cocos Island was the removal of wartime pierced steel planking. This was overcome by using a D-7 or D-8 tractor to cut it into 50 metre squares so that it could be rolled for ease of handling. (RAAF Museum)



On Sunday, 6 April, HM ships *Zeebrugge* and *Narvick* were anchored off shore, and Wing Commander Lings invited officers and men to spend the afternoon ashore to be entertained by members of 2ACS.³⁸ The intention was for the men to participate in sporting contests and social activity, but the former was curtailed due to heavy morning rain. The visitors from the two ships arrived at mid-afternoon and other ranks were welcomed at the airmen's beer garden overlooking the reef. Although the senior naval officer, Captain G.C. Colville, had been advised that swimming was not allowed on West Island five members of the naval party did not heed this advice, or that of 2ACS members on the safest areas to swim, with tragic results.

The first intimation of danger was when the men were sighted on the reef. By the time Corporal J.D. Kelly swam to the reef, the five men had been swept to seaward. Kelly, too, was swept out to sea by the huge surf. He advised the Englishmen to swim further to seaward, away from the dangerous surf, before being dumped back on the reef. He told Leading Aircraftmen R.M. Stewart and M.P. Rowan who had arrived to assist that it was too dangerous to proceed over the reef. Stewart and Rowan did not obey and dived into the surf. At this stage the Englishmen had been in the water for half an hour and Stewart was able to assist one through the breaking surf, before noticing that Rowan was in difficulties. Leading Aircraftmen E.J. Black and R.K. Higgins were now in the water, and Black was able to push another sailor onto the top of a wave from where he was washed to safety. Higgins supported Rowan until a huge wave engulfed all the men. Rowan was torn from Higgins' grasp, and disappeared.

Black and Higgins, completely exhausted, managed to regain the reef and were assisted ashore. Leading Aircraftman K. Mason had entered the surf to assist Rowan, and was within a few yards of him when a breaker hit them both. Mason swam to seaward. Leading Aircraftman I.A. Hamilton had arrived at the surf-line in a life line. Seeing Mason in difficulties, he slipped the line and swam to assist. The two men found an English sailor, Pringle, and were later joined by Stewart.

A second line was deployed. The rescue party (Aircraftman P.J. Eccleston, Leading Aircraftmen Craddock and D.H. Lorman and Squadron Leader S.R. Scott) swam over the reef. Scott, realising that the party was not serving any useful purpose, signalled the linesmen ashore to haul them back. As the line had caught in a crevice in the reef and broken on the landward side, it was some 15 minutes later that Scott and his party realised that they were not being hauled to safety. The four men were exhausted, and Eccleston sank before the rope could be tied around his waist. The three survivors hauled themselves to the reef using the lifeline, but Craddock was so exhausted that Leading Aircraftman L.D. Sorenson swam out to him and supported the exhausted airman until the two men were pulled to safety.

In the meantime, Stewart and the three other survivors had been sighted about half a mile off shore. Rain reduced visibility to 18 metres, but a fortuitous break enabled the searching airmen to sight them about 600 metres from their point of entry. Stewart had remembered a break in the surf some five kilometres from the accident and guided the exhausted party to this haven, where they were assisted ashore by a party of searching airmen. Mason collapsed, and Stewart, although chronically

³⁸ Michael Jones, Administrator Cocos Island to The Colonial Secretary, Singapore, 12 April 1952. Personal papers of Air Commodore P.G. Lings [Hereafter Lings papers] [RH].

fatigued, insisted on personally applying artificial respiration to his colleague. The four men had been pummelled by tumultuous surf and heavy swells for two and a quarter hours.³⁹

On 4 February 1953, 2ACS was advised that the Queen had approved the award of the George Medal to Corporal R.M. Stewart. On 1 September 1952 the Minister for Civil Aviation, Mr H.L. Anthony, unveiled a plaque erected in memory of the three servicemen who lost their lives on 6 April 1952: Aircraftman Peter James Eccleston, Leading Aircraftman Michael Paul Rowan and Able Seaman John Emery Atkinson, Royal Navy.

The airfield at Cocos Island was officially handed over to the Department of Civil Aviation on 30 September 1952. Prior to this event, 2ACS had begun their withdrawal from Cocos Island aboard the *Dorsetshire* on 9 August 1952, when 224 men and equipment returned to Australia. Projects to be completed for the Royal Navy on Direction Island and for the Department of Civil Aviation at West Island were the responsibility of a detachment of 65 personnel (known as Detachment 'A') under the command of Flight Lieutenant Hal Pannell. The main body departed on the *Tyalla* for Townsville, on 23 September 1952. The final eight remaining members of Detachment 'A' - tradesmen no longer required were posted from Cocos Island as tasks were completed - departed for RAAF Base Pearce on 24 January 1954.

Events initiated in 1947 resulted in the main body of 2ACS being deployed to the airfield at Momote, Manus Island, on 7 November 1952. On 16 December 1947, the Air Board agreed that the base be occupied by the RAAF as an advanced operational base after the United States Air Force had completed photographic operations over New Guinea. These operations, agreed to by the US and Australia, were due for completion in January 1948 and it was expected that all American personnel would leave the island by the end of April. The airfield was 2,225 metres long and the facilities capable of housing 690 personnel and up to 70 aircraft.⁴⁰ A small party of RAAF servicemen was sent to Momote after the base was taken over in August 1948 to prevent looting and deterioration of the facilities. The Department of Works and Housing was responsible for the refurbishment of the buildings but was unable to make sufficient manpower available 'even to halt deterioration, much less rehabilitate structures and improve the installations required for RAAF purposes'.⁴¹ It was planned to raise a Works Maintenance Unit to undertake this task, but this proposition was dropped in favour of deploying 2ACS to Manus Island.

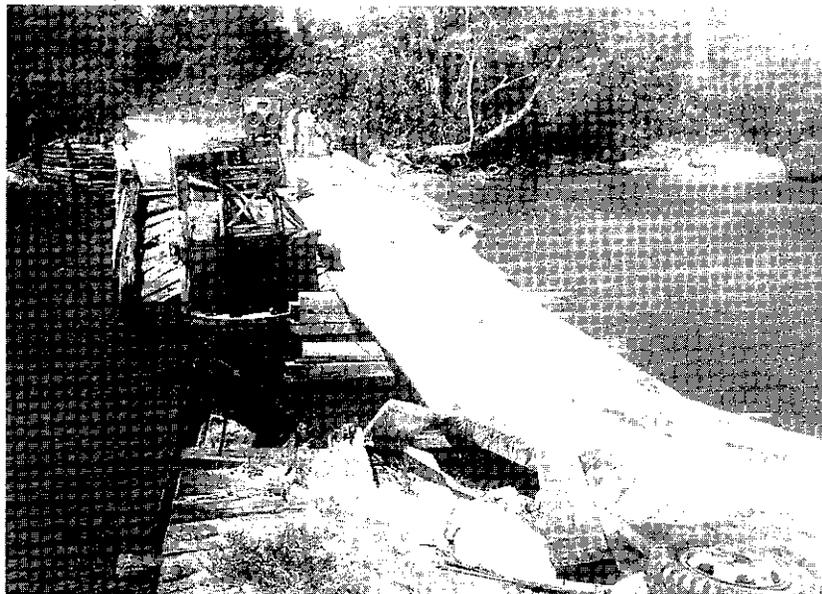
Flight Lieutenant G. Purdy, the temporary commanding officer, had led a small works party which was an element of Base Squadron Momote. On 15 November 1952 the *Malekula* docked at Lombrum with stores and equipment. Lings arrived on 21 November 1952 to assume command of 208 inexperienced newly posted airmen and 92 naval technicians. The unit commenced work on the rehabilitation and replacement of the buildings at Momote, but work was inhibited by the low serviceability of equipment and a lack of design expertise in the fields of road, water supply and drainage. During November 1952 Flight Lieutenant E.T. Oppy was attached from Townsville to fill this requirement. Administrative duties and works supervision placed a high work load on the depleted number of officers at the unit.

³⁹ *Report on Drowning Fatalities*, N.D. Lings Papers.

⁴⁰ Air Board Agendum No. 8511, 10 December 1947, 19 December 1947; 9 November 1948.

⁴¹ Air Board Agendum No. 12174 22 October 1951.

Although the cooperation between the two units based at Momote was 'excellent', divided control between the commanders of 2ACS and Base Squadron Momote meant there were occasions where 'far too much time ... [was] wasted in consultation'.⁴² This was a problem during March 1953, when, with the commander and two other officers absent, officers promotion examinations and a visit by the Air Officer Commanding Northern Area distracted the remaining executives from the construction tasks in hand.



Bridge construction at Momote. (H. Pannell)

Between 1-6 June 1953 the Squadron was involved in celebrations marking the crowning of Queen Elizabeth II. Lings gave a special address to a combined parade of Base Squadron and 2ACS members and 120 personnel participated in a parade at Lorengau, the administrative centre, where the District Commissioner, Mr M. English, took the salute. A round of social functions ensued. On the 3rd representatives of the squadron and their wives attended the coronation ball at the Civil Administrative Centre in Lorengau and all the officers were invited to a ball at the RAN shore establishment, HMAS *Tarangau*, on the 5th. Next day a cocktail party was held as a final celebration.

The works effort had been concentrated on the construction of buildings and it was not until May 1953 that work commenced on the northern end of the runway. Work on the runway and the construction program was inhibited by low Plant serviceability. Equipment received from Townsville required overhaul. Maintenance of equipment became critical in November when the supply line of spare parts for earthmoving equipment was broken. Despite efforts to alleviate the position, at the end of January 1954 only 50 per cent of the squadron's heavy equipment was serviceable.⁴³ Spare parts were purchased from Lae during March 1954, thus enabling

⁴² 2ACS Commanding Officers report March 1953.

⁴³ *Ibid.*, December 1953/January 1954.

Plant to be utilised in the stockpiling of coral material and subsequent rehabilitation of a 610 metre length of runway and hardstanding.

The non-commissioned officers and airmen were initially accommodated in overcrowded huts and sub-standard tentage. This weakness was overcome by March and the living conditions steadily improved. Welfare facilities were provided. During the Christmas stand-down period in December 1952 a derelict building was converted into an airmen's club which featured a 16 metre long island bar. A shark proof swimming pool was constructed from salvaged pontoon tanks and boom defence netting in Hyane Harbour.

By the end of 1953, with the imminent withdrawal of Australian forces from Korea, the strategic value of Momote decreased.⁴⁴ In January 1954 work commenced on the reorganisation of 2ACS to reflect the lower priority of the work at Momote. The packing of stores and equipment to be returned to Australia commenced during March. Headquarters 2ACS opened at Townsville on 30 April and Detachment 'B' ceased to exist. The troops remaining at Momote were known as Detachment 'C', which came into existence under the command of Squadron Leader Ken James on 21 April. The Detachment entertained sailors from the aircraft carrier HMAS *Vengeance* and the destroyers HMAS *Bataan* and HMAS *Anzac* who were visiting Lombrum during April. The *Nankin* arrived on 30 May to transport stores and equipment to Townsville and the support given to 'Satex' exercises during the last two weeks in July and the first week of August drew heavily on the resources of the detachment; in comparison with the normal complement of 170-180 men, 550 personnel had to be fed and sheltered. Despite these diversions, construction work continued. The runway pavement was completed during September 1954 and the remaining works personnel were incorporated into Base Squadron Momote before the detachment was officially closed on 19 August 1955.

On 1 April 1955, Prime Minister Robert Menzies announced that, an Australian force would be committed to the Commonwealth strategic reserve in the Far East established to deter and counter communist aggression.⁴⁵ The RAAF contribution to the strategic reserve was to be a composite wing of two Sabre fighter squadrons and a single squadron of Canberra bombers, with logistic and administrative support provided by a Headquarters, Base Squadron and Maintenance Squadron. The force was based at the RAF airfield at Butterworth on the north west coast of Malaya. This facility was made available as a free loan from the United Kingdom Government, with the Australian Government assuming responsibility for its maintenance and subsequent upgrading. Although the RAF had undertaken some work to bring the Butterworth airstrip up to jet standards, much more work was required before the airfield would be fit to operate Sabres and Canberras on a permanent basis.⁴⁶ 2ACS was allotted this task.

Wing Commander A.G. Wilson welcomed the advance party of 2ACS, Flying Officer D.W. Jacob and 30 other ranks, to Butterworth on 8 July 1955. This group had departed from Townsville by air two days earlier, and immediately commenced work on clearing sites for the unit technical, equipment and domestic quarters preparatory to the arrival of the first echelon of the main party on 11 August. Wing Commander

⁴⁴ Stephens, *op. cit.*, p. 54.

⁴⁵ *Ibid.*, p. 257.

⁴⁶ *Ibid.*, p. 258.

Lings arrived on 13 August to assume command of the Squadron from Jacobs. The *Tyalla* commenced unloading the unit's heavy equipment at Penang on 19 August. It was not until 12 September that the main party arrived aboard the *New Australia*.⁴⁷

In October excavation of the southern extension of the north-south runway commenced. Lings described the construction difficulties:

... the terrain was extremely difficult. It was all rice paddy field which is 14 or 15 feet [4.5 metres] deep in mud ... the topsoil vegetation had to be removed in the first instance. All of the topsoil ... had to be excavated and transported away and dry fill ... brought in until we had the right ... depth ... of stabilised ... soil on which we built the runway. The runway at Butterworth was constructed in concrete and we [used]... pavement laying equipment which was operated on a continuous basis. Once it was started it had to be continually utilised twenty-four hours a day ... the concrete pavement was reinforced with steel

...⁴⁸



Work at Bukit Guar Ipoh, Malaya. (RAAF)

The fill was retrieved from granite quarries at Bukit Guar Ipoh 18 kilometres from Butterworth. The Bukit Mertajam area in which the quarry was located was declared 'black' - an unsafe area due to the activity of communist terrorists (CTs),

⁴⁷ 2ACS Unit History Record, entry 12 September 1955.

⁴⁸ Lings interview.

who had commenced a campaign of terror to free Malaya from Great Britain in 1948. During October, guards armed with Sten guns and in two-way radio contact with Butterworth were established at the site. The quarry was surrounded by barbed wire and declared a protected area during November and remained so until the local CTs surrendered on 9 December. The guard was reduced accordingly, but the threat of the CTs presence in other areas was still real. For example, during June 1956 two armed convoys transported explosives from Taiping and Prai to Butterworth. An armoured car was employed as part of the Taiping convoy escort.

The squadron had been at Butterworth for three months before the first families arrived. On 26 October 1955 17 families arrived in a Qantas DC-4 from Australia. By the end of March 1956 all those members entitled to be accompanied by their families overseas had been found a married quarter at Penang or Butterworth. Most married quarters were located on Penang Island which was linked to the mainland by ferry. The squadron was working a full 24-hour day and this placed pressure on personal relations; Lings recalls that there were a 'few misdeameaning young wives [that we had to] ... send them back to Australia, which was not a very pleasant thing to do'.⁴⁹ The raising of the Garrison Club for RAAF and Army other ranks in Penang gave a social outlet to members on the island. Another less reputable source of entertainment was the City Lights dance hall, where many a young airman was led astray. However, there were less erotic means of pleasure. Rugby became a popular sport (the squadron Rugby team was a major force in the local competition), and the building of Gwen 12 sailboats gave a nautical air to relaxation. The provision of volley ball and basket ball courts added to the physical challenges offered to members of the squadron. One of the more exciting 'sports', which took place during April 1956, was reminiscent of the Raj in India or the legendary Great White Hunter, Frank Buck - a search for a 'rampaging tiger' reported in the 2ACS area. Enthusiasts from Penang organised a hunt, which resulted in the 'shooting of a black panther a few [kilometres] from the Station'.⁵⁰

John Lessels recalls another incident involving animals - 'Nobby' Ling's pet gibbon monkey who had lascivious eyes on the squadron's mongrel dog mascot. It was during 1957 that Nobby handed over temporary command of the unit to Wing Commander George Purdy whilst undertaking medical treatment. The gibbon decided that, master away, he would play. As Lessels continues:

... the monkey got off its chain, wrecked the CO's office, and leapt onto the back of the mascot ... I heard shrill barking as though a dog was having its throat cut. On walking out of the office the scene was unbelievable. The monkey with one hand was grasping the dog by the scruff of the neck, and the other was holding the dog's genitals. The monkey had a leer, if not a grin, of unbounded satisfaction. All its anticipations and hopes had been fulfilled. The dog displayed unmitigated anguish. The faster the dog ran, the tighter the monkey's grip. The tighter the grip, the faster the run. It seemed like perpetual motion had been achieved! They shot through the drawing office which was next to mine, plans went flying, and then through my office to the soils

⁴⁹ Lings interview.

⁵⁰ 2ACS Commanding Officers report April 1956.

laboratory, only to disappear out onto the construction project. I was never certain at the finish what happened at the end of the *tail!*⁵¹

Travel from Penang was eased when two coaches were provided in April 1956, thus enabling a schedule to be followed which took into account the squadron shift times. These vehicles were maintained on the island by a small administrative staff established for this purpose and to pay married member's servants and other routine matters. In general, the relations between the Australians and the indigenous Malay, Chinese and Indian population were friendly; in January 1956 a member of 2ACS announced his engagement to a Eurasian girl. Despite the general tolerance of the Australians by the Malay population, Butterworth and other Service establishments were closed over the three main days of celebrations marking 'merdeka', the declaration of the independence of Malaya on 31 August 1957.



Crushing site at Butterworth. (RAAF)

The construction of the main runway was tardy due to the delay in acquiring land required for the northern runway extension. In July 1956 discussions with the Province Wellesley Senior District Officer were arranged to expedite the matter. During September, as a result of constant pressure, access was granted to the land along the planned centre line of the runway extension. The land acquisition program was finalised during the following month, and the construction continued at a steady rate. Contracts had been let to Chinese contractors by the Public Works Department for the supply of crushed rock from the Guar Ipoh quarry, but there was a serious shortfall in deliveries from that source in November. The deficiency was overcome and the work progressed with intermittent delays caused by seasonal weather and the non-availability of equipment. However, on 20 March 1958 a British Valiant bomber

⁵¹ Air Vice-Marshal John Lessels, correspondence 12 January 1998.

landed on the new north-south runway, to become the first 'V' bomber to operate from the strip. The effort of 2ACS had been vindicated; 'the runway, taxiways, fighter and bomber hardstands being available for operational use on 23 May 1958 - one month ahead of schedule'.⁵²

On 15 April 1958 a Qantas DC-4 arrived for the first party of 2ACS personnel to be repatriated. The final aircraft assigned to fly members back to Australia took off from Butterworth on 20 August. The affairs of the unit at Butterworth were finalised during October and the Squadron took residence at the RAAF base at East Sale, Victoria.



In May 1958, 2ACS handed over a first-class facility to the RAAF. (RAAF)

The Butterworth deployment was the last undertaken by 2ACS. It was the lot of 5ACS to supply personnel for the three final overseas deployments by Airfield Construction Squadrons at Ubon in Thailand, and Vung Tau and Phan Rang in South Vietnam. After the cessation of the first Indo-China War in 1954 the area was in political turmoil. The forces of Ho Chi Minh controlled Vietnam north of the 17th parallel, and tiny Laos was of strategic importance. North Vietnamese supplies were routed through Laos for use by anti-government forces in South Vietnam. Laos was identified as a buffer between Thailand and China. The situation in Laos remained fluid and was assessed as threatening to the stability of the region, and the South-East Asia Treaty Organisation (SEATO), of which Australia was a member, developed contingency plans to protect Thailand. Under SEATO Military Plan 5, Australia was to contribute an infantry battalion, together with a 'Sabre Squadron operating from

⁵² 2ACS Commanding Officers report May 1958.

Thailand'.⁵³ On 23 May 1962 the Minister for External Affairs, Sir Garfield Barwick announced that, at the invitation of the Thai Government, Australia would contribute forces. To meet this commitment, eight Sabre fighters of 79 Squadron arrived at the Royal Thai Air Base at Ubon, Thailand, on 1 June 1962.

Ubon is located 48 kilometres and 80 kilometres from the Laotian and Cambodian borders respectively, some two kilometres north of the town of the same name. When 79 Squadron arrived, the only unit operating from the base was a US radar unit and the squadron technical and domestic facilities were under canvas. Although the 2,134 metre runway was of concrete construction and in good condition, more permanent structures were needed. Squadron Leader J.D.G. Lessels flew by civilian aircraft from Darwin on 31 May for duty at Butterworth and Ubon. He flew to Ubon on 2 June, but the Hercules on which he was a passenger was unable to land due to 'buffalo and saffron robed Buddhist priests being on the runway' which meant that the aircraft had to stay overnight at Bangkok.⁵⁴ After talks with the 79 Squadron commander, Wing Commander John Hubble, and his officers, Lessels completed his assessment of the situation and submitted a report on 11 June. He recommended that the type of hut to be constructed would be 'a timber framed hut with a timber floor on stumps about 25 centimetres above ground level. The wall will be of timber up to about three feet [one metre] from ground level, then fly wire to the roof level'.⁵⁵ Special buildings would be built with concrete floors, and those occupied during daylight hours would be roofed with corrugated asbestos cement. This was considered cooler than the corrugated iron planned for the roof of the other buildings. It was decided that the work would be undertaken by a 'crew of experienced RAAF tradesmen' who would supervise an indigenous labour force of approximately 100. Lessels was, no doubt, swayed by the experience of the USAF radar unit who 'had some work done by contract and [was] most dissatisfied with the results. eg. the floor in a SAL block sloped away from the drain, also on the same job contractors attempted every possible crooked dodge with the quality of the concrete'.⁵⁶

As soon as the report was accepted, Lessels arranged for land to be allocated for the RAAF development at Ubon during a visit to the Royal Thai Air Force Headquarters at Don Muang Air Base. The timing of the visit was of great importance. Only days after returning to Ubon a United States Air Force Colonel from Hawaii visited Ubon to plan the development of facilities for the subsequent deployment of USAF units to the base, only to find that the area which he had coveted had been handed over to the Australians.

⁵³ P. Scully, *Submission in Support of Recognition of Service by Members of Royal Australian Air Force Contingent Ubon, Thailand 30 May 1962 - 31 August 1968*, p. 3 [RH].

⁵⁴ Lessels, *op. cit.*

⁵⁵ *Work Aspects of the Establishment of a RAAF Contingent at Ubon Thailand*, dated 11 June 1962, p. 2, Lings papers.

⁵⁶ *Ibid.*, p. 5.



When 79 Squadron deployed to Ubon in June 1962, they were forced to operate 'under canvas'. (RAAF)

The construction team of 100 locally engaged civilians and contractors who were supervised by RAAF personnel did not let the monsoonal rain, 82 per cent humidity and 81 degree temperature prevent them preparing over 50 huts as messes, accommodation, recreation, technical and administrative facilities. Power and water reticulation systems were installed. Roads were constructed using equipment flown in from Australia⁵⁷ - this was the first time a D-6 bulldozer had been transported by a RAAF Hercules aircraft. There was 'one scare when it was thought the base was under attack' and security considerations dictated the need for a curfew on the town between 10 pm and 7 am, although there was one incident when the Service Police discovered an ACS airmen in a 'well known establishment' having a shower early one morning with three attractive young ladies.

⁵⁷ *RAAF News*, Vol. 4 No. 6, July 1962.

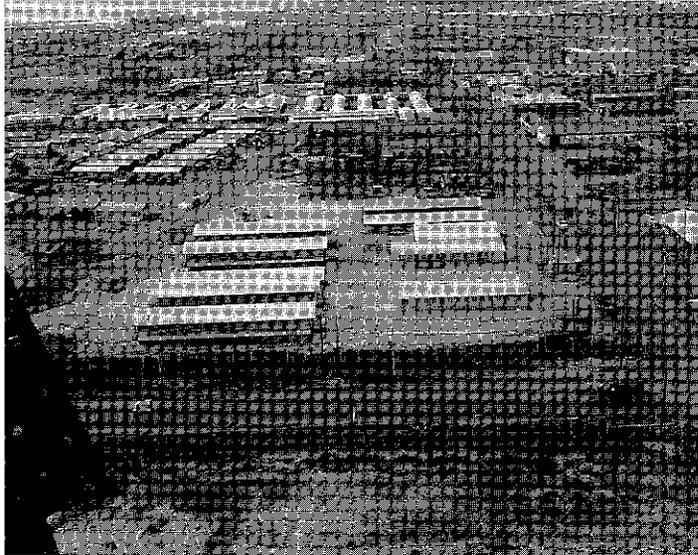


Building construction at Ubon was undertaken by Thai labour supervised by 5ACS staff. (RAAF)



A D-6 tractor was deployed to Ubon by C-130 Hercules. Only centimetres separated the tractor and the rear door of the transport. (J. Lessels)

After participating in 'one of the most professionally satisfying' projects of his RAAF career Lessels returned to Darwin on 23 November, but the work continued at Ubon to complete the task he had commenced.⁵⁸ A swimming pool and tennis court were completed and a three month repair program to patch the crumbling runway commenced during January.



Facilities at Vung Tau. The airfield is at the extreme top of the photograph. (RAAF)

During 1964 the deployment of the RAAF to South Vietnam commenced, but it was not until May 1966 that 5ACS was directly involved with operations there. In May 1966, responding to the statement made by Prime Minister Harold Holt on 8 March that the size of the Australian force in South Vietnam would treble,⁵⁹ Detachment 'A' was established at Vung Tau in South Vietnam to construct and improve airfield and domestic facilities. Warrant Officer Peter J. Davern and Leading Aircraftmen C.E. Sproul and R.J. King arrived at Vung Tau on 13 May 1966 to prepare for the arrival of the members of Base Support Flight. When that unit arrived on 13 June, the men were accommodated in tents supplied by the US Army. The officers moved to the Villa Anna, an old building which required considerable refurbishment to bring to acceptable standards - work which was beyond the available resources of the US Army repair organisation.⁶⁰ The detachment was to oversee the preparation of a tarmac area, landing pad and the erection of a Bellman hangar for the helicopters of 9 Squadron. Showers and toilet blocks were erected in the tent lines, thus making living conditions more comfortable before the troops could be moved into permanent accommodation. Five Kingstrand huts to be used by technical sections of 9 Squadron were completed in August, and the Bellman hangar was ready for use on 30 September. The hangar area had, however, been put to good use previously. On 19 August it was the venue for a concert by Col Joye, the Joy Boys and 'Little Patti'

⁵⁸ Lessels, *op. cit.*

⁵⁹ Coulthard-Clark, C., *The RAAF in Vietnam Australian Air Involvement in the Vietnam War 1962-1975*, Allen and Unwin in association with the Australian War Memorial, Sydney, 1995, p. 70.

⁶⁰ Base Support Flight Vietnam, Commanding Officers report June 1966.

Amphlett. The entertainment attracted the attendance and approbation of many of the American Servicemen in the area.

Peter Davern and his men (a total of 19 members of 5ACS served with Detachment 'A' between March and November 1966) were supplemented by manpower supplied by Base Support Flight and 9 Squadron. Additional manual labour to barrow and spread concrete at construction sites was supplied from local Vietnamese sources. Davern followed a daily ritual with the women (the major numbers of his labour force) who insisted on following the national custom of taking a two hour siesta over the hot midday period. He lost the argument, but was well pleased by the work ethic of the women during working hours.⁶¹



Rear view of the Villa Anna. Servants quarters are on the right. (RAAF)

The fact that Vung Tau was in a war zone was brought home on 6 August 1966 when a curfew between 9 pm and 6 am next day was placed on all the airmen at the base. This action was justified on the night of 9 August. At 1.45 am 50-60 gunshots were heard coming from the top of the hill opposite the Villa Anna. The roads to the area were sealed off by Australian Military Police and Vietnamese police, but the intruders were not captured. The members of Detachment 'A' returned to Australia on 8 October 1966.

5ACS Detachment 'B' deployed to South Vietnam in January 1967. Squadron Leader G.P. Anderson officially assumed command of the detachment on 31 January with the task of constructing domestic and technical facilities to enable eight 2 Squadron Canberra bombers to operate from the American base at Phan Rang, 257

⁶¹ *RAAF News*, Vol. 8, No. 8, September 1966.

kilometres north-east of Saigon. The plan called for domestic facilities (accommodation, messing, generating and reticulation of 415 volt electrical power, purified water reticulation and the construction of a septic tank system) to be built. A Bellman hangar with double story annexes and a Headquarters/Operations and Communications building were also to be erected. In addition, there was a requirement for a bomb fusing area close to the aircraft hardstanding. Squadron Leader Richard Gurevitch had been on site, discussing the works arrangements with the 554th Civil Engineering Squadron (USAF) prior to the arrival of the advance party of the detachment on 28 January.⁶²

The arrival was not auspicious. The advance party, dressed in civilian clothes, had flown from Singapore to Saigon, then by Caribou transport to Vung Tau, where they were given a meal and issued with weapons. After being ushered back into the Caribou, the group was flown to Phan Rang where they were met by the Americans, expecting to 'welcome the Aussies in their slouch hats'; instead they were confronted with a group 'dressed in new suits (purchased in Singapore) with rifles on their shoulders'.⁶³ The bad first impression was negated by the subsequent performance of the detachment.

On 5 February Flying Officer H.S. Gordon and six airmen travelled to Cam Rhan Bay to supervise the unloading of unit store from HMAS *Jeparit*. Two days later, the first convoy of 28 vehicles arrived at Phan Rang, followed on the 8th by another convoy of 25. When the main body of 43 airmen arrived on 17 February they were housed in recently completed two story sleeping quarters. Now at its full strength of 70 personnel, the detachment commenced work early in the morning and, as the 2 Squadron communications officer, Flight Lieutenant John Coomer recalls, 'would knock off at dusk, the colour of their faces and their clothes the same as the ground; only eyes showed through, the whole streaked with sweat ... teams of men worked everywhere erecting buildings, working on roads, sealing some, finishing a power house'.⁶⁴ Much of the construction was after discussion with 2 Squadron staff on the requirements of the squadron, and close liaison between the two units was maintained before (and after) the Canberras arrived in April.

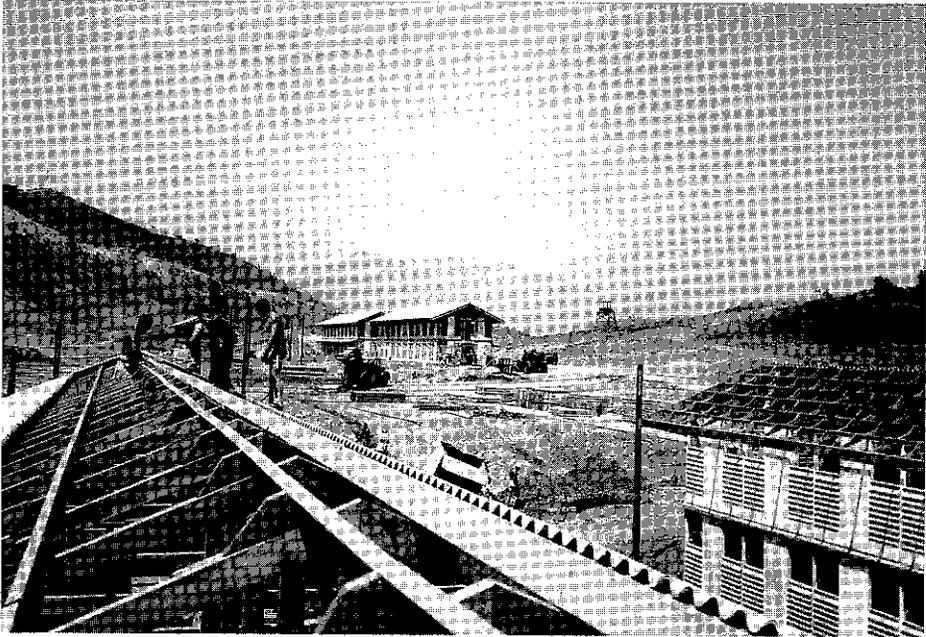
The highlight of the work undertaken by the detachment was the provision of a unique facility at Phan Rang - flushing toilets. The septic system installed in the domestic area was a wondrous thing. Some American servicemen were known to seek invitations to visit the Australians to enable them to use these examples of the plumber's art. Coomer recalls that it was common while following the call of nature to be requested by a 'USAF chicken colonel on the next seat, "Say Aussie, when can I come up and use your fancy crappers?"'⁶⁵

⁶² Coulthard-Clark, *op. cit.*, p. 99.

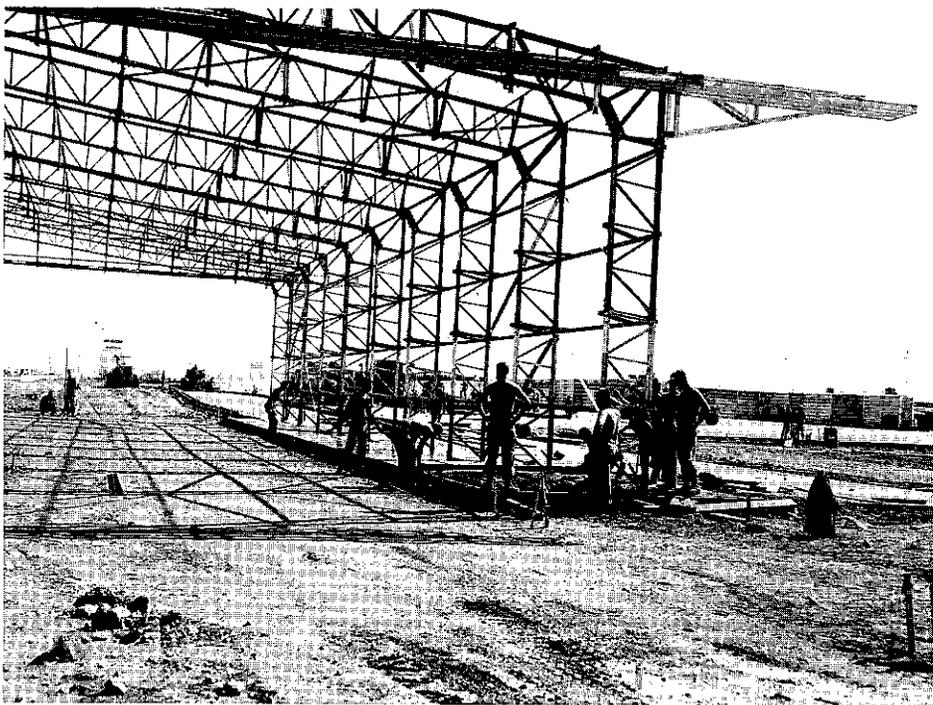
⁶³ Eather, S., *Magpie Strike 2 Squadron in the Republic of Vietnam 1967-1971*; Staff Officer Publications, Headquarters Logistic Command, Melbourne, p. 3; Eather S, *Target Charlie*, Aerospace Publications Pty Ltd, Canberra, 1993, p. 58; Coulthard-Clark, *op. cit.*, p. 99.

⁶⁴ Eather, S., *Magpie Strike*, p. 4.

⁶⁵ *Ibid.*, p. 5.

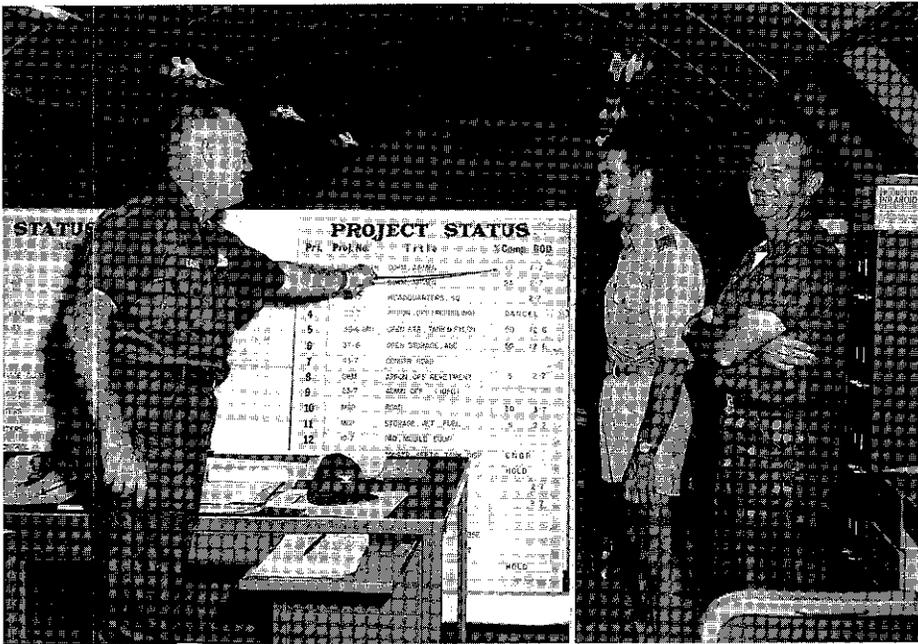


Construction of the domestic facilities at Phan Rang. (RAAF)



The skeleton of 2 Squadron's hangar takes shape. (RAAF)

The assistance of the 554th Civil Engineering Squadron, the famous 'Red Horse' unit of the USAF, was invaluable. This unit supplied initial messing facilities for 5ACS until the arrival of a brand new stainless steel and aluminium kitchen on HMAS *Boonaroo* during March. The men had access to USAF sporting and entertainment facilities thus giving them the opportunity to be entertained by well known American artistes; on 10 February one lucky member of 5ACS was appropriately recompensed by the singer, Nancy Sinatra, for donating a slouch hat to her as a souvenir. The beach at Phan Rang, where men could relax in the surf, fish or water ski, was accessible on Sundays. 5ACS personnel participated in the base sporting competition without, it must be admitted, great success. The softball team was, at least, enthusiastic. During March Anderson was to comment that 'with further tuition from an American expert [they] should win their first game in the near future'. However, he was still waiting for this magic result at the end of June.



The assistance of the 554th Civil Engineering Company USAF (Red Horse) was invaluable to the operation of 5ACS. Colonel Carey, commanding officer of the 554th, and Colonel Mix (an ex-commander) discuss progress with Squadron leader G.P.L. Anderson, the 5ACS commander. (RAAF)

On 19 April 1967 a ceremonial parade was held on the north ramp of the 2 Squadron area to mark the arrival of the unit at Phan Rang. It was a proud moment for Anderson and his men, who began preparations to close the detachment. At the end of April the officers and men, with expectations that they would be soon be returning to Australia, arranged a series of social functions to say farewell to friends and colleagues from the 'Red Horse'. But the departure from South Vietnam was to be delayed. On 13 May Squadron Leader Anderson flew to Saigon for discussions at Headquarters Australian Force Vietnam with the Commander RAAF Vietnam and the

Officer Commanding the Task Force at Vung Tau. As a result of these discussion, it was decided to postpone the disbandment of the detachment and move it to Vung Tau to complete the construction of domestic and technical facilities at the aerodrome. After transferring stores and equipment from Phan Rang, Detachment 'B' moved to Vung Tau by Caribou aircraft on 21 June 1967.

The works program at Vung Tau included the construction of senior non-commissioned officers and airmen's blocks and laundry facilities, a chapel, a casualty staging unit and a 91,000 litre water tank. To provide 35 Squadron (the Australian Caribou squadron based at Vung Tau) more office space for its Headquarters Flight and Maintenance Sections, two Lysaght huts were erected. An aircraft nose dock was poured adjacent to the eastern end of the Bellman hangar which was expanded with the erection of a further six bays. While this activity was progressing the strength of the detachment was waning. On 23 October 13 members were repatriated back to Australia, and they were followed by three more three days later. Despite the run-down in manpower, the construction program was completed on 20 January 1968 and the detachment finally disbanded on 17 February 1968.

5ACS Detachment 'B' has the honour of being the final works unit of the RAAF deployed overseas.

CHAPTER SIX



CONSTRUCTION IN LONELY PLACES

According to advices received by the Ministry of Munitions from the Department of Works and Housing, the latter Department is unable to muster from civilian sources personnel or plant required for the construction of the airfield and other works required in connection with the Long Range Weapons project under which circumstances those Departments propose that RAAF personnel and equipment (Airfield Construction Squadron) be provided for the purpose ... I concur in principle in those proposals on the definite understanding that the Department of Works and Housing cannot provide its manpower and equipment needs.

Arthur Drakeford, Minister for Air, 9 April 1947

There exists today a very great civil engineering capacity in all localities, however remote, as compared with the situation 15 - 20 years ago

Air Vice Marshal C.G. Cleary
Air Member for Supply and Equipment
1 November 1972

After a visit by the British Rocket-Bomb Experimental Mission in March 1946, Prime Minister Chifley announced that a range would be established in central Australia to enable the testing of bombs, anti-aircraft missiles, guided bombs and long range missiles. The Long Range Weapons Project agreement between the governments of Australia and Great Britain was signed in September 1947 and Woomera, South Australia, selected as the administrative centre for the range.¹ 2ACS reformed at RAAF Base Mallala, South Australia, on 19 May 1947 with the specific task of building the airfield and facilities for the Long Range Weapons establishment at Woomera. Prior to the main body moving to the rail head at Pimba, personnel were detached to Darwin and Uranquinty, New South Wales, to disassemble surplus pipes and the control tower, respectively, for use at the desert airfield. The main body commenced its move from Mallala to Pimba on 19 June. The Headquarters arrived on the 25th.

Between June 1947 and November 1951, 2ACS constructed two airfields, one at Woomera and the other at Koolymilka. In addition, the squadron constructed access roads to various facilities, such as the Launching Site, Short Brothers' Missile Range

¹ Stephens, *op. cit.*, p. 446.

and a Bomb Ballistic Range. Additional tasks were the erection of domestic buildings to replace the original tent accommodation and the layout and establishment of streets and excavating trenches for the Postmaster Generals' Department in the Woomera Village. By January 1949 the squadron had erected 498 prefabricated huts and built individual messes for officers, sergeants and airmen, latrines, laundries and a water reticulation system based on a 318,500 litre water tank fed from Lake Richardson. To supply drinking water a 6,825,000 litre capacity dam was excavated.

The main airfield at Woomera was a complex of two, later increased to three, runways and associated taxi-ways, hardstandings, hangars, control tower and access roads which was commenced in July 1947. The third runway of 1,829 metres was approved in November 1950 but was not completed before 2ACS deployed to Cocos Island at the end of 1951. Progress was retarded by the lack of water to consolidate the airfield, and high winds formed corrugations on the finished surface which had to be evened out before work could progress. The lack of water was a problem until a 644 kilometre pipeline was laid to the Murray river by the Department of Works and Housing, but there were occasions when an unseasonable downpour would delay construction. Six days were lost in September 1949 - almost four metres of rain had been recorded in the year, compared with the annual average of one - but did have the advantage of enabling maintenance work to be undertaken on equipment. In April 1950 the commanding officer reported that 'rain was badly required to alleviate the dust menace'.² During the following month eight working days were directly lost to rain, but the actual loss in productivity was due to the 'slowness of drying out [of the airfield] preventing the use of mechanical plant'.³ However, these were exceptional circumstances. A description of conditions in December 1949/January 1950 is indicative of the conditions met by the men: '... some very hot and trying weather, the maximum temperature having exceeded the century on a considerable number of occasions, and on one occasion reached a maximum of 120 degrees in the shade'.⁴

A detachment of 2ACS commenced serious work on the Koolymilka airfield in June 1949 and 20 accommodation huts were moved from Pimba as quarters for the men involved. However, the squadron was not able to fully commit itself to this project until August after participating in mining operations at the Ben Bullen open cut mine near Lithgow, New South Wales. This deployment was in response to a general strike called on 27 June 1949 by 23,000 coal miners organised by 'a sprinkling of militant unions and the Communist Party' in direct confrontation with the Federal and New South Wales State Governments, the Australian Labor Party and the Australian Council of Trade Unions.⁵ Within a fortnight the number of national unemployed reached a million and soup kitchens 'dotted Sydney's industrial suburbs'.⁶ On 27 July Prime Minister Ben Chifley announced that the Army, with the assistance of Navy and Air Force personnel, would be used to break the strike. The Services started coal mining on 1 August.

² 2ACS Commanding Officers report April 1950.

³ *Ibid.*, May 1950.

⁴ *Ibid.*, December 1949 & January 1950.

⁵ Deery, P. (Ed); *Labour in Conflict The 1949 Coal Strike*, Hale and Iremonger, Sydney, 1978, p x.

⁶ *Ibid.*

On 31 July three Bristol Freighters, a Vickers Viking and a Dakota flew 123 members of 2ACS from Pimba to the RAAF Base at Schofields, from where they moved to Marangaroo, north of Lithgow. The main party was joined by 26 officers and men who had been recalled from leave and four others who travelled from Pimba in four buses and a flat top truck. After a survey of the coal field by the Commanding Officer, Squadron Leader Harrison and his Works Officers, Flight Lieutenants Lings and A.H. Perry, it was decided to familiarise the airmen with the equipment that they were expected to operate. At one minute past midnight on 2 August 1949, the first shift of 2ACS personnel commenced work at the Ben Bullen mine and two-shift operations continued until operations ceased at midnight on 14 August. Initially the coal output was relatively small due to the low serviceability of the Joint Coal Board owned equipment and the operators inexperience. Due to the superb efforts of the fitters equipment serviceability increased and the developing experience of the operators themselves increased output. It was a matter of pride for the squadron that during the period of operations that 13,756 tons of coal were produced⁷ and that the '... high spirit shown by all ranks ... [resulted in the squadron producing coal at a rate higher than] ... the coal miners themselves and, proportionately, ... [produced] more coal than the Army'.⁸

Two Bristol Freighters and two Dakotas flew 103 officers and men back to Pimba on 19 August. After refuelling at Broken Hill, the last aircraft arrived at 6 pm to enable the weary men to rest before recommencing work at Woomera and Koolymilka on the 22nd.

On 15 May 1951 Koolymilka airfield was officially named Evetts Field in honour of Lieutenant General J.F. Evetts, who led the English party that selected the Woomera site for the Long Range Weapons Project, and handed over to the Department of Supply. The construction had not been without problems. Limestone was one rock used to form the runway, but overwatering and heavy rolling created a surface 'unfit for sealing', so the process required 'fine judgement and careful supervision' to obtain a suitable surface.⁹ Another problem arose in June 1950. The surface primer tended to bubble and flake. It was considered that the heavy application of water from Koolymilka Lake formed a concentration of salt in the surface layers of the airfield. After many trials a procedure was adopted in November which appeared 'quite satisfactory'.¹⁰ However, the permanent solution was natural - rain dissolved the unwanted salt and, once the surface was impervious to water, the problem did not recur.

Given the problems faced by 2ACS the squadron's achievements were remarkable. It was chronically understrength. The monthly average deficit in manpower was 13 officers and 301 airmen. It was only in October 1951, just prior to its deployment to Cocos Island, that 2 ACS was at peak strength - 14 officers and 530 airmen compared with a manning level of 14 officers and 553 airmen.¹¹ Such deficiencies placed heavy responsibility on relatively junior members of the squadron. For example, in July 1949 there was only one Works Supervisor on strength - and he

⁷ 2ACS Unit History Record August 1949.

⁸ 2ACS Commanding Officers report August 1949.

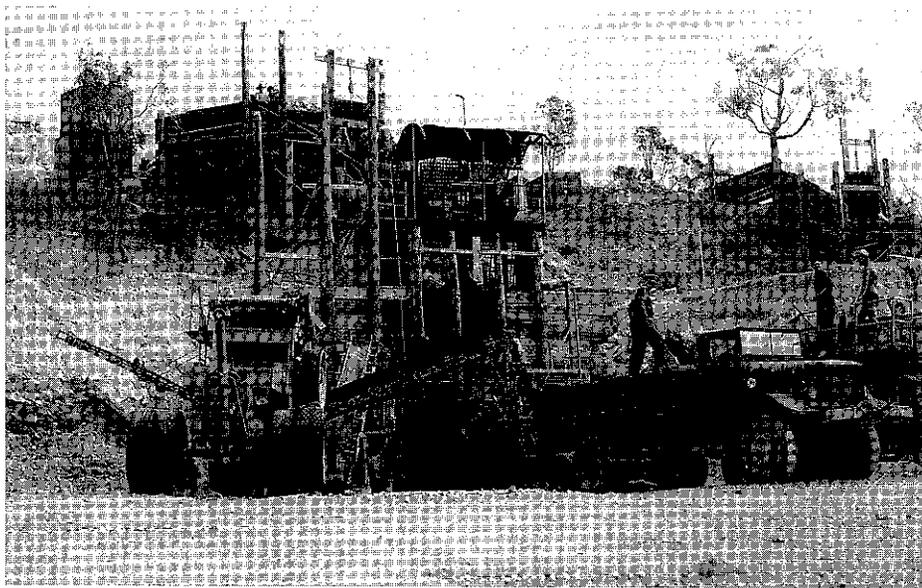
⁹ 2ACS Unit History Record May 1950.

¹⁰ *Ibid.*, November 1950.

¹¹ *Ibid.*, October 1951. The figures are derived from the Establishment/Strength figures published in Unit History Records from July 1947 to October 1951.

was awaiting discharge. The supervision of the construction of the hardstands and technical area at Woomera was the responsibility of a corporal plant operator, who undertook this task under the overall guidance of the Senior Works Officer.¹² Despite efforts to redress the situation, the lack of motor transport and works fitters and the related serious delays in the overhaul of works plant is a recurrent theme in commanding officers reports.

Conditions at Woomera were 'rough but livable'.¹³ Squadron members became involved in local sporting competitions, playing tennis, cricket and football on purpose built facilities. In August 1949 Leading Aircraftman D.K. Prizibilla and Aircraftman R.J. Mahoney tied for third place as the local football competition 'best and fairest player' award and Leading Aircraftmen Saint, Morgan and Badke were selected in the Woomera Area cricket team which participated in the Country Week competition at Adelaide during March 1950 - which they won. Snooker, billiards and table tennis tournaments were popular indoor sports and the thrice weekly film show proved extremely popular. The open air theatre was threatened by fire in February 1951, and it was only by the prompt action of Leading Aircraftman T.W. Leahy and Corporal A. Shand that the damage was superficial - one reel of film lost and slight damage to the projection box. Both men were hospitalised with burns to their arms and legs. Despite this alarm, most members of 2ACS who served at Woomera would probably agree with Ron Ramsay and say that 'I enjoyed my time there'.¹⁴



The winning of materials from the Bohle River quarry was essential to enable the Townsville runway to be upgraded. (RAAF)

¹² 2ACS Commanding Officers report July 1949.

¹³ Ron Ramsay, correspondence 28 September 1996.

¹⁴ *Ibid.*

From January 1952 until August 1958 the majority of the work undertaken by 2ACS was outside the Australian continent - Cocos Island, Manus Island and Butterworth. However, after the Cocos Island deployment, the unit moved to Townsville for a short period before transferring to Manus Island. Detachment 'B' was raised during November 1952 to undertake the construction of a new airstrip at Townsville. Initially work was restricted to servicing equipment shipped from Cocos Island and winning material from a quarry at Bohle River. The latter activity was suspended in August 1953 due to the lack of technicians, the re-organisation of the sub-unit and the need to prepare for the construction of a new runway. The clearance of swamp land commenced in September. Quarrying operations at Bohle River recommenced in October and the runway, taxiways and access roads at Townsville were close to completion when the squadron commenced its deployment to Butterworth in July 1955. Delays to the project were caused by monsoonal weather and lack of manpower and a requirement in December 1953/January 1954 to repair a 'failure' in the intersection of the existing 21 degree/129 degree runway (which required the removal and replacement of 16,994 cubic metres of material and the closure of both runways) during January 1954. In February 1955 the Chief Engineer for Roads and Aerodromes, Department of Works, advised that to cater for the wheel loads of aircraft expected to use the runway the minimum thickness of the pavement would have to be 250 centimetres. An extra 104,575 cubic metres of selected fill and another 65,359 cubic metres of other material was required to meet the revised plan and specification.

After completing work at Butterworth, 2ACS was reformed at East Sale, Victoria on 1 August 1958. Group Captain Percival Lings resumed command from Wing Commander Ken James on 13 October and the squadron was initially tasked to develop its own infrastructure. Three Bellman hangars were used as building areas, and annexes built as offices for the workshop, administrative and technical staff. Civilian contractors moved the ex-airmen's mess which was modified to house the administrative and construction sections. The diversion of approximately 80 men and equipment to supplement the strength of 5ACS detachment 'A' at Williamstown delayed work at East Sale. However by February 1959 a works program had been submitted to the Department of Air and the winning of river gravel from sites at Stratford and Boisdale commenced. Operations from the former were marred by the injury of Aircraftman J.R. Fox on 18 January 1959, and his subsequent death in Base Hospital East Sale on the 21st. Fox was buried with full military honours at the Sale Cemetery. Fox is a good example of the variety of background and experience of personnel attracted to service in construction squadrons. He had been appointed as a commissioned officer with the Royal Air Force Volunteer Reserve during the Second World War and served as a Wireless Operator/Air Gunner. In 1941 Fox was awarded a Distinguished Flying Cross whilst serving with 59 Squadron (RAF).¹⁵

2ACS's main task was to strengthen and lengthen East Sale's east-west runway, and resurface the airfield pavements with an asphalt overlay. Work was scheduled to commence on 30 September 1959. Delay in completion of a similar project by 5ACS at Williamstown prevented the timely release of the 2ACS detachment personnel and specification changes made by the Department of Works called for the hiring of rollers from that Department to enable the new requirements to

¹⁵ Air Force Historical Branch (RAF) D/AHB (RAF) 8/18 of 20 August 1997 on file AF96/12157 Pt 3.

be met. It was obvious that the original completion date of 31 December 1960 would not be met. Many factors contributed to the inability to meet the original schedule: manning deficiencies in construction trades, above average rainfall, the non-receipt of appropriate approvals to monies to be committed for additional works, and the age of equipment. For example, the tip trucks used dated back to 1942, and there was an embarrassing delay in replacing them with brand new International six-wheel drive vehicles. To further complicate the situation, the squadron was tasked with the construction of concrete hardstands and taxiway extensions.

In August 1960 priority was given to the completion of an asphalt surface on the 90 degree runway for a distance of at least 1,372 metres. This had to be completed by 31 October to enable US Air Force U-2 aircraft to undertake 'Operation Crowflight VI', gathering high altitude air samples south of Australia as part of an 'international study into the rate of fall-out in the upper atmosphere'.¹⁶ To meet the deadline the squadron as a whole worked a six-day week; the asphalt section working an 11-hour day during August. The weather in the ensuing months was unfavourable. In October a concerted effort was made to meet the end-of-the-month deadline; 'plant serviceability was improved to the extent that a two-shift six-day week effort on asphalt laying [enabled] the target [to be met] one week ahead of schedule'.¹⁷ Richard Gurevitch and Gordon Worrall were two of the officers intimately involved with the process. After having placed the last load of hotmix on the site:

Richard and I decided to put on a few beers for the boys because of their great effort in getting the strip finished in time. I was just about to tell them to go to the site hut when the Senior Works Officer, Squadron Leader John Lessels, turned up. Consumption of alcohol on the RAAF Base was forbidden except at the approved beer halls and messes, and these had long since closed. I was in a bind, as the guys were starting to wander off so I told John Lessels what was planned and invited him along. He then proceeded to read the riot act to me about contravening standing orders and expressly forbade me to have drinks on the Base. So I passed to the guys to hop into our two trucks and meet Richard and me a mile outside the gates of the RAAF Base. We then backed the two trucks together. Light was provided by my spotlight and a motor bike battery, and we knocked off a few cases of cold beer. I'm sure John Lessels suspected that something was on but no-one put him wise.

We kept a few coldies back and shared them with the roller crew when they finished rolling the hotmix at 4 am, so we did actually contravene standing orders by consuming alcohol on the Base.¹⁸

By the end of January 1959, 78 of the 118 married personnel serving with the squadron had been allocated a married quarters. This semblance of permanency was short lived. In January 1960 the commanders of 2 and 5ACs were summoned to Department of Air for discussion on the reorganisation of the construction units which was followed by another in May. On 23 February 1960 it was planned to reduce

¹⁶ Lax. M (Ed), *Always Ready A History of RAAF East Sale*, RAAF Publications Unit, Melbourne ND, p. 97.

¹⁷ 2ACS Commanding Officers report, October 1960.

¹⁸ A.G. Worrall, *Extract from unpublished Autobiography* [RH].

2ACS to a 'name' basis by December 1960. This deadline was not met. In November 1960 Lings and the Senior Equipment Officer visited Darwin in January to discuss the disbandment of 2ACS and the amalgamation of the works force into a single unit.

Every effort was made to complete the work at East Sale before 2ACS was officially disbanded. However, there were some tasks which could not be completed by the given date, and 5ACS Detachment 'C' was formed, with a strength of two officers and 62 airmen, to complete the task. The detachment completed the work allocated to it and was disbanded in September 1961.

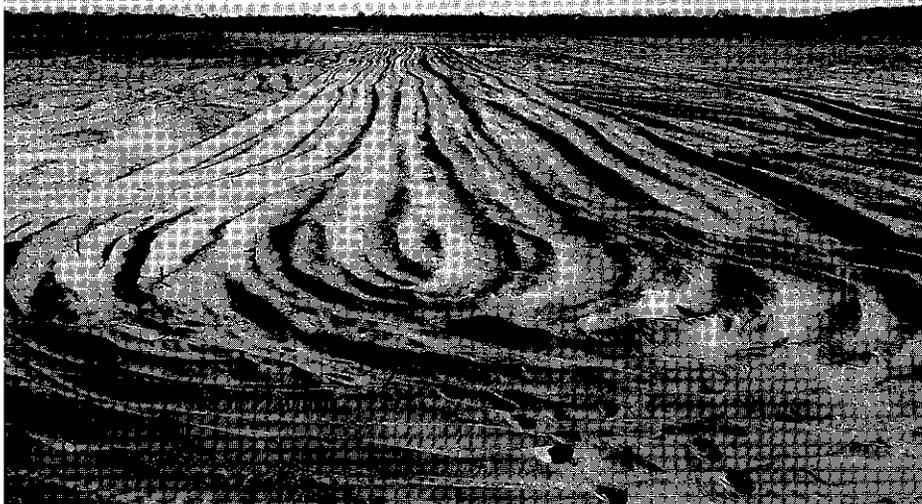
Flight Lieutenant T.R. Rees supervised the disbandment of 2ACS. There is evidence of creative accounting during the process. Gordon Worrall was a member of a Board of Survey established to 'write off' unserviceable equipment and recalls that 'some of the items were sentenced so many times that I soon got to recognise them as "old friends"'.¹⁹ It had been an unstable period for the members of the unit, and the disbandment ended on a sour note. Advice on the posting of personnel not remaining with the 5ACS detachment or the disbandment party was not received until the last working day of April - and then by telephone. Such thoughtless action could only be interpreted as showing a lack of concern for the welfare by the men and families involved.

After a total of 17 years of distinguished service, 2 Airfield Construction Squadron was officially disbanded on 28 April 1961.



When 5ACS moved to RAAF Base Williamtown they had to erect a temporary camp before domestic facilities were constructed. (RAAF)

¹⁹ Worrall, *op. cit.*



Above and below: Problems faced during the construction of the runway at RAAF Williamtown were the overnight encroachment of drift sand onto prepared surfaces and the dismantling of a bomb dump located on the centre line of the new runway. (RAAF)



Wing Commander A.M. Harrison had re-established 5ACS at Bankstown on 8 August 1951 for airfield construction tasks and as 'a training organisation from which could be developed further ACSs in the event of war'.²⁰ The men were accommodated in the administrative block of the Department of Immigration hostel and in tents at the rear of the 5ACS Headquarters at Bankstown. This arrangement was far from ideal. Due to heavy rain during the period 3 - 4 October the headquarters building and domestic tents were completely surrounded by water, and it was only the good drainage of the area which prevented water overlapping the tent floors. For administrative purposes (messing and pay) 5ACS was initially classified as a lodger unit at 2 Stores Depot, Regents Park, but this dependence was lessened after the squadron took over the 2 Aircraft Depot Radar Section building at Bankstown as a barracks and equipment store at the end of September 1951.

The squadron remained at Bankstown until the final elements were deployed to Williamtown, New South Wales during November 1952. While based at Bankstown the squadron undertook construction tasks at the explosives storehouse at Kingswood, Regents Park and at Bankstown itself. Commencing on 20 August 1951, a detachment of the squadron constructed revetments and erected two Bellman hangars at Kingswood, completing the project on 18 December. The Regents Park task involved the sealing of internal roads, the building of various culverts and site preparation for Bellman hangars. These tasks were completed by August 1952. Similar tasks were undertaken at Bankstown. However, the most important project was the expansion of facilities at Williamtown, which commenced on 5 February 1952.

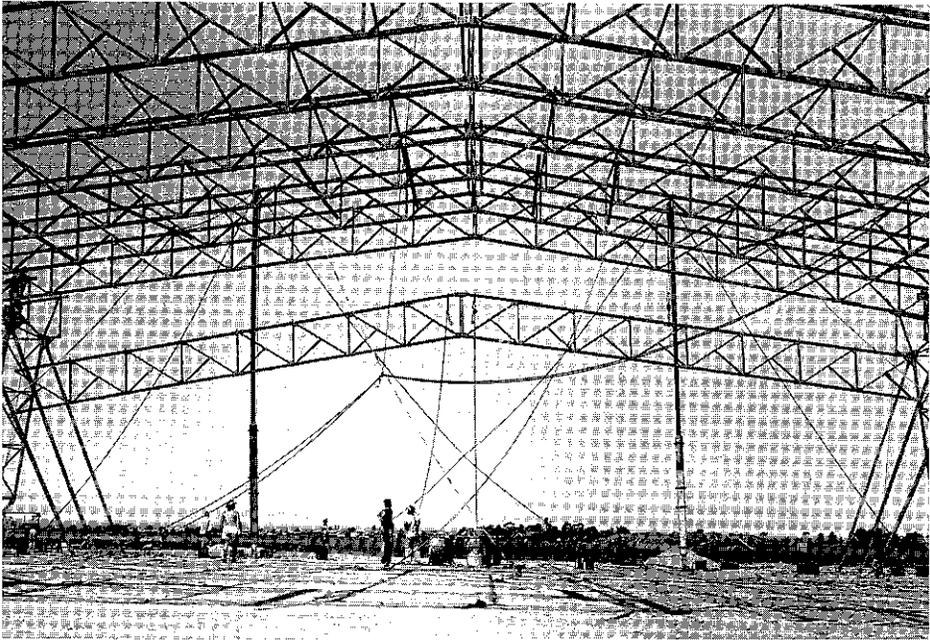
After three years at Williamtown the squadron left a new 2,652 metre runway, complete with concrete aprons at either end, as a visible legacy of its presence. Prefabricated huts, which had been constructed at Richmond and forwarded by road, were erected for domestic purposes. At times the men were working three shifts daily to meet construction deadlines. Long hours and the prevailing westerly winds made the work arduous; in the latter case personnel were forced to wear goggles as eye protection against flying sand particles. During May 1952 sand encroached onto newly prepared surfaces. Levels had shifted as much as 22.8 centimetres to 61 centimetres in 24 hours, thus retarding the construction process. Erosion was finally overcome by seeding grass over 370 hectares adjacent to the runway. The dismantling of a bomb dump located on the centre line of the new runway and delays in the delivery of surfacing material by civilian contractors also inhibited progress.

Construction work was not limited to Williamtown. During August 1952 Squadron Leader A.K. Gordon headed a detachment of 30 men detailed to undertake preliminary work at the British atomic bomb test site at Monte Bello Island, off the Western Australian coast.²¹ Here they were joined by the British Army 180 Engineer Regiment who were more than favourably impressed with the work of the Australian engineers.²²

²⁰ 5ACS Unit History Record entry 8 August 1951.

²¹ Some outstanding members of the party were Flying Officer R. Johnson, Sergeants Ringland, Danielson and Segrue, Corporals Edwards, Nugent and Treers. Correspondence, LTCOL A.P. Smith, CRE Hurricane Force Engineers to Detachment 5ACS, 2 September 1952. [RH]

²² *Ibid.*



Pentad hangars under construction by 5ACS Detachment 'B' at RAAF Base Richmond during 1953. (RAAF)

The squadron works program also included tasks at Richmond, Kingswood and Regents Park. Detachment 'B' was raised at Bankstown on 12 January 1953 to coordinate the various activities at these sites. The major task at Kingswood was to lay concrete floors for Bellman hangars which were to be used as armament storage areas and three Bellman hangars were erected at Regents Park. Pentad hangars were erected at Richmond and the runway and associated taxiways and earthworks constructed. An additional task was the erection of Bellman hangars, which had been recovered from Evans Head, for the motor transport repair section. This task was completed on 30 September 1953 and the men returned to Williamtown for similar duties.

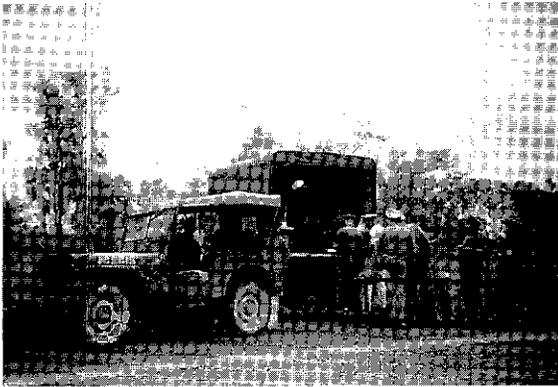
Another important project undertaken by 5ACS was the site preparation for 1 Control and Reporting Unit at Brookvale, New South Wales. Flight Sergeant L.F. Whitecross and his D-8 bulldozer commenced clearing this site on 14 March 1955. Although the presence of a layer of haematite and clay required that a roter be obtained from Williamtown to break through this barrier, the site was ready by April. The erection of the second radar antennae during August 1955 completed the squadron's involvement. When placed in the context of the overall Williamtown project, and the fact that experienced men were detached to assist in the construction of the facilities at Woomera during March 1953, these extra activities placed severe pressure on the limited manpower available to 5ACS.

Despite the workload, members of 5ACS participated in both local and interservice sport. A Rugby team competed in the Port Stephens Association competition and a cricket team was entered in the Newcastle competition. However, the squadron's heavy commitments resulted in the team being withdrawn from the competition in September 1953. The unit did have success in interservice athletic competitions. On 25 April 1952 Flying Officer F.I. Hogan won the inter-service 100

yard sprint. During the following year he was joined by Flying Officer B.T. Oliver, Flight Sergeant L.C. Thompson, Corporals J.D. Kelly and A.G. Jeffries and Aircraftman A.E. Bentley to represent the squadron and the Air force in the March 1953 competition. The outstanding athlete was Oliver, the holder of the New South Wales and Australian hop, step and jump record of 48 feet 3 1/4 inches [approximately 14.6 metres], who was selected as a member of the 1954 Australian Empire Games team. Oliver participated in two individual events. Unplaced in the broad jump, he won third place in the hop, step and jump and was a member of the third-placed 4 x 100 yards and 4 x 440 yards relay teams.

Along with the other units based at Williamtown, 5ACS was heavily involved with flood relief work during the 1955 Maitland floods. On 25 February 32 men under the command of Flight Lieutenant K.R. Cook and four vehicles were made available from the squadron for flood relief duties. A water tanker was brought into service to supply fresh water to flood victims. Two days later the Williamtown to Stockton road was impassable to normal vehicles, and a grader operated until mid-afternoon of the 28th towing RAAF vehicles through the flooded sectors. Three airmen, Corporal R. Olson and Leading Aircraftmen R.A. McLaren and R. Delanty, supported the relief efforts of the Salvation Army until 8 March.

During March Wing Commander Harrison had discussions with the Director of Works and Buildings, Group Captain Dale, on the move of the squadron to undertake runway construction at Darwin. The advance party departed in a British Hastings transport on 11 March. Sergeant A. Fort and three persons travelled by similar means to join them on the 20th, and RAAF Dakota aircraft deposited further personnel at Darwin on the 21st and 22nd. Arrangements were made for the equipment to be forwarded to Darwin by rail and aboard the *Tyalla* before the main body (241 officers and men) embarked aboard the *New Australia* at Darling Harbour, Sydney, on 26 May 1955.



Warrant Officer W. Smith's party stop en route for refreshment at Barry Caves, Northern Territory. (RAAF Museum)

The equipment forwarded by rail was delayed at Bowen due to the flooding of the railway line to Mount Isa. Road connections were also disrupted, delaying the departure of Warrant Officer W.T. Smith, a party of 28 airmen and a convoy of 12 vehicles for Darwin until 13 April. This convoy arrived at Archerfield on the 16th after being delayed by minor mechanical breakdowns and the sickness of Leading

Aircraftman Morgan en route. Morgan was admitted to Tamworth hospital and later airlifted to a RAAF hospital. Two days after arriving at Archerfield, the convoy departed from the Roma Street goods yard for the second stage of the journey to Mount Isa. Although a passenger carriage was supplied for the airmen there was inadequate space for them to sleep comfortably. Meals were a problem as many of the

railway refreshment facilities were closed; even when they were open, meals and the purchasing of supplies had to be rushed. The convoy arrived at Mount Isa on 24 April. Next day the party participated in the Anzac Day march before commencing the lonely road trip to Darwin on the 27th.

The convoy crossed the Northern Territory border before a slight accident occurred between a civilian utility truck and one of the semi-trailers. One of the four-wheel drive trucks was forced off the road and temporarily bogged. The convoy passed through Frewin's Road House, Phillips Creek, Renner Spins, Stuart Plains, Larrimah, Mataranka, Katherine, Pine Creek and Adelaide River with the men camping in the bush at the end of each day. Fuel for the vehicles was in short supply, and they often required refuelling from stocks carried by the convoy. Despite slight illness suffered by Leading Aircraftman Johnston and Leading Aircraftman Socrati, the convoy arrived at Darwin during the afternoon of 3 May after a journey of 5,416 kilometres, of which 2,706 had been spent behind the wheel. It had been a journey through the vastness of northern Australia which members of the 'party will remember ... for the rest of their lives'.²³

Although 5ACS was to be based in Darwin the work at Williamtown had to be completed and Detachment 'A' was raised on 26 May 1955 for this task. The asphalt overlay of the runway was completed on 12 June 1959. Whilst at Williamtown, the men had built the officers' mess, a swimming pool, diverted the Medowie road, erected hangars and aircraft crash barriers at each end of the runway. The detachment remained active until June 1963. A second detachment was raised to undertake projects at Brookvale, Richmond and Regents Park. The commitment at Brookvale was to erect buildings which had been removed from Richmond. The Richmond program included the repair of runways, the erection of Pentad hangars, the construction of a swimming pool and the removal and re-erection of a hangar from the old Rathmines site on Lake Macquarie. This structure was dismantled and the components placed aboard lighters which were towed down the coast then up the Hawkesbury River before being unloaded at Windsor.

Detachment 'D' was raised at Amberley on 12 July 1962 to reconstruct the main runway.

5ACS constructed domestic facilities and amenities before work commenced on the centre-line of the main 3,963 metre Darwin runway on 5 July 1955. But this was not their only task. The Department of Civil Aviation took over a new control tower from the squadron on 2 February 1969 and the unit was also responsible for the construction of new accommodation for airmen and non-commissioned officers as well as undertaking major renovations to the airmen's and sergeant's messes and a maintenance hangar. In undertaking these tasks, the squadron set new standards and records. When constructing the pavement for the fighter operational hardstanding a record 1,346 cubic metres of concrete was laid in an 8½ hour period. Flying Officer Ron Lopaten and his men surpassed themselves a few days later, laying 1,679 cubic metres of concrete in nine hours.²⁴

Working conditions were less than favourable. The heat and humidity sapped energy and red dust clogged nostrils, penetrated clothing fabric and permeated into

²³ *Report on Road Convoy to Darwin*. Report by Warrant Officer Smith to CO 5ACS, 13 May 1955. [RAAF Museum, Point Cook]

²⁴ *RAAF News*, Vol. 5, No. 8 September 1963.

mechanical components. While the annual 'wet' gave some relief, it sometimes - but not always - delayed construction. Gordon Worrall records that on one occasion he was in charge of a small concrete batching plant when the rains broke. He and his men headed for the protection of the site shed, and Worrall considered that work would cease for the day. But not so; 'the guys took off all their clothes and returned to work, wearing boots only'.²⁵ The 'wet' could be malicious. On 1 February 1962 a severe storm was centred on the 5ACS airmen's lines. The roof of a Rudnev hut was separated from the walls and deposited on the roof of the hut next in line. Four other accommodation huts were damaged beyond repair and 40 personnel had to be billeted in Base Squadron huts for a week while repairs were made.

An important source of raw material was opened on 23 August 1955 with an advance party travelling to open the Darwin River Quarry. The life style there was informal, as Gordon Worrall discovered when he arrived to convert the crushers from diesel power to electric. He arrived on Friday afternoon just in time for the biggest party he had ever seen. There 'were eight 18 gallon [81 litre] kegs and a bus load of sheilas from Darwin'. A celebration of this magnitude had more than social repercussions. It had been planned to detonate six tons of explosives primed in a tunnel which had had been dug into the quarry face on the following Monday. At midnight eight sticks of gelnite were detonated behind the huts bringing the party to a dramatic halt. All thought the tunnel had blown. As retribution the squadron administrative officer attempted to put the camp on the 'dry' but his ban could not be enforced.²⁶ Personnel at the quarry worked, and drank, hard. The crusher was always in motion, making it impossible for Worrall to fit the electric motors until a fire broke out 'in the oil soaked ground around the Gardner diesel on the primary crusher and destroyed most of its alloy parts. Fitment of the electric motors them became top priority and I had the crushers operational again in three weeks'.²⁷

Every morning the delicate tracks of small lizards traced a path through the layer of thick fine dust which covered the site. Never sighted, these little animals were named 'gernomees' and blamed for breakdowns and loss of equipment. At other times nature was not so benign. Worrall recalls one Willy Willy extending several hundred metres into the air, wandering through the buildings 'collecting dried grass and airmen's washing. Then it found what it wanted - the motor bike shed. It rushed between a couple of buildings, grabbed the motor bike shed and demolished it, adding numerous sheets of corrugated iron to the spiralling debris. It was very spectacular'.²⁸ The 'wet' resulted in mud, not dust, and was a contributing factor in the accidental death of Warrant Officer J.C. McLean on 4 March 1956. He had been directing the towing of a semi-trailer through a boggy section of the Mount Finnis/Southport road 64 kilometres south of Darwin when, attempting to mount the running board of the towing vehicle, he slipped and fell. The rear wheels of the vehicle passed over him. McLean, a willing, effective and tireless worker had served with Airfield Construction Squadrons since January 1943 and was survived by his wife and two sons, Maxwell and Lionel.²⁹

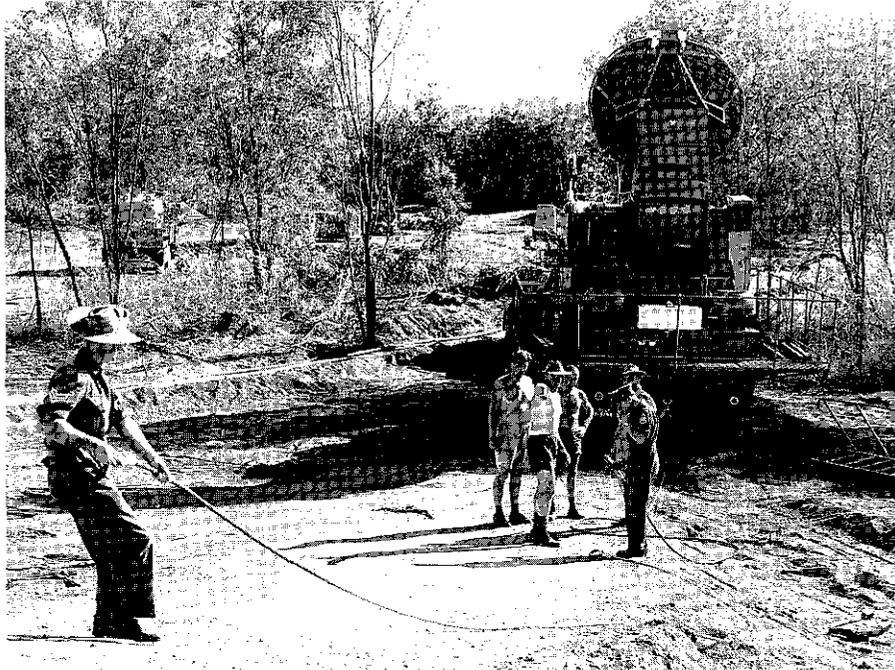
²⁵ Worrall, *op. cit.*

²⁶ *Ibid.*

²⁷ *Ibid.*

²⁸ *Ibid.*

²⁹ 5ACS Unit History Record entry 5 March 1956.



The 30 Squadron Surface-to-Air Missile site at Darwin was established during July 1965. (RAAF)

While the squadron was based at Darwin there were two other projects which required its construction expertise and an incident requiring the use of its equipment. On 5 February 1961 a pontoon-equipped Trans-Australia Airline helicopter crash landed in Darwin harbour. A Navy launch towed it to a wharf where a 20 ton crane borrowed from the squadron was used to lift the aircraft from the water on to a low loader for return to the airfield. In January 1965 Flying Officer Lopaten led 15 airmen to commence the preparation of the 2 Control and Reporting Unit site at Lee Point.³⁰ To provide power for this establishment two separate parties travelled by service air to recover power house equipment from Manus Island. The first party, led by Flight Lieutenant P.L. Ashley departed on 26 April. The second party of Flight Lieutenant D.B. Willis, Sergeant J.A. Kropp and Leading Aircraftmen L.B. Lee, G.V. Blake, M.B. Blackhall and R.W. McCluskey flew to Manus on 3 July to pack and crate the equipment. The second construction task was the development of a site for four launcher pads and associated electrical and water reticulation services for the deployment of Bloodhound Surface-to-Air Guided Weapons from 30 (SAM)

³⁰ A1969/100 5ACS File 3102.22/W.

Squadron at Williamtown. Work on this project commenced after a party headed by Wing Commander J.S. Latham surveyed Darwin sites during the period 12-14 January 1965.³¹

The antecedents of 5ACS's next major task date back to 21 December 1956 when the Air Member for Supply and Equipment wrote to the commander of 5ACS, Wing Commander Harrison, that the decision had been made to select a site for an airfield which would be 'mutually supporting with Darwin'. The conditions laid down were that the site should be in an area that would not be 'subjected to fall-out from a nuclear weapon aimed at Darwin, be easily accessible by road or railway, have an adequate water supply and to be no further from Darwin than 200 miles [322 kilometres]'.³² Harrison undertook a reconnaissance of the Katherine - Larrimah area from 15-18 June 1957 and recommended that 'the Tindall (sic) airfield be accepted as a base suitable for development'. However, this did not finalise the matter. A survey team comprising Group Captain J.F. Lush, the Director of Air Force Plans, Wing Commander J.E.S. Dennett from Headquarters Operational Command, Flight Lieutenant W.D. Pronger (Directorate of Works and Buildings) and a representative of the Department of Works, Mr H. Williams, were tasked to survey the Katherine area on 6 July 1960. The team surveyed the wartime Venn airfield east of the town. Lush recommended that 'subject to a survey of the Venn area proving that runway gradients to the required standards can be achieved ... the new airfield should be sited at Venn [and that if not] the new airfield should be constructed at Tindall (sic)'.³³

A survey of the Venn site by Squadron Leader Lessels and Flying Officer W. Peck from 7-10 August 1961 confirmed in a report signed by Peck on 31 July that the 'Venn site is unsuitable for an airfield owing to the sub-surface instability'.³⁴ This was also supported by a soil survey of the site undertaken by a party leader by Flying Officer R.N. Gurevitch, which had left Darwin on 24 July 1961.³⁵ The party lived under canvas with a brilliant piece of innovation by the Motor Transport Fitter, Finnegan, supplying one small luxury. He fitted hoses to the engine of a Diamond 'T' prime mover to enable water to be heated in the engine block and then supplied to the shower. Gurevitch boasts that the group had the only '200 horse power shower in the Air Force'.³⁶ The survey established that the Venn site was superior to Tindal in regard to access to gravel and the soil type. However a resistivity survey confirmed Peck's earlier assessment; there were many sink holes along the proposed line of the runway.

Gurevitch's relationship with Tindal continued when he led the advance party of 30 members to the site on 8 October 1963. Four convoys were despatched from Darwin during November to join the advance party which had, in the meantime, established themselves in tents so old and rotten they had to be changed twice weekly in the 'wet' season.³⁷ Building materials were scrounged from the RAAF dump at Darwin to improve the lot of the men, water bores sunk and portable showers erected. Conditions were primitive and even the charms of local belles such as 'Sexy Lexy'

³¹ A1969/100 5ACS 3101/3/Wks.

³² A9775/3 5ACS 3102/28/Wks.

³³ *Ibid.*

³⁴ *Ibid.*

³⁵ 5ACS Unit History Record entry 24 July 1961; 3102/28/Wks.

³⁶ Gurevitch, *op. cit.*

³⁷ *Ibid.*

and 'Hot Tubes' were no competition for the attraction of home and family in Darwin. Members travelled by road between the two areas and this local derby was not without personal cost. Leading Aircraftmen K.J. Sherlock and J.R. Kennedy were seriously injured on 13 May 1964 and E.G. Perse was involved in a motor vehicle accident on 12 March 1967. Sergeant R. Pointon died in Darwin on 9 April 1966 as a result of an accident. The situation improved after July 1966 when the 114 married quarters allocated to the base were completed and occupied, thus decreasing traffic between Darwin and Katherine. Landscaping of the 'married patch' made it more comfortable and hospitable with gardens and lawns, although Worrall reflects that the houses themselves 'were pretty rough and leaked when it rained. There was such a gap between the walls and the ceiling on one of our rooms that I could see cars driving down the road in front of the house. It made for good ventilation but lots of dust used to blow in'.³⁸

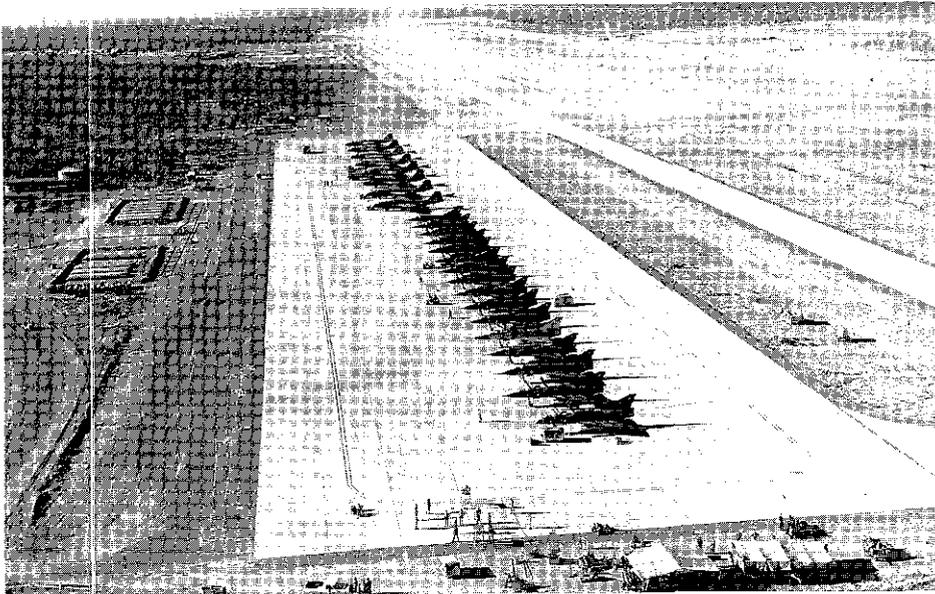
The 'Tank and Tummy Station' at Pine Creek was a popular 'watering-hole' for members of 5ACS, travelling to and from Darwin. Many men made friends with the publican's shaggy Airedale dog. As a result, 5ACS gained a new recruit named Trevor (in recognition of the Works Supervisor, Flight Sergeant Trevor Christie, 'who was also a bit shaggy').³⁹ 'Trevor' joined 'Oilcan', 'Dipstick' and 'Suitcase' as canine members of the squadron, proving his worth, carrying nuts and bolts in a bag tied around his neck for use by the hangar erection team.

Planning and preparation prior to earthworks on the 2,743 metre runway and associated taxiways started at the end of 1964. The camp was completed by the end of January 1965. Progression on airfield was steady and had reached the stage that Wing Commander J.L. Ingate AFC was able to land Dakota A65-96 on 10 March 1967 to become the first aircraft to land since reconstruction of the wartime airfield commenced. Three months later the airfield had been developed to the stage that Canberra aircraft from 1 Squadron, 81 Wing fighters and a unit from the Singapore Air Force were able to use it as a base during exercise 'High Venus'. This exercise highlighted weaknesses in the 'bare base' concept under which the airfield was built. On 29 March 1968 Air Vice-Marshal K.S. Hennock, the AOC Operational Command, identified areas where improvement was required to 'establish those facilities required for the effective conduct of peace time exercises ... and construct those facilities required in a war situation'.⁴⁰ Tindal required extra work to enable facilities to be available for the use of deployed squadrons. Thus squadrons did not have to transport equipment from their home bases. Tindal had reached this stage when 3 Squadron deployed Mirage aircraft for 'High Jupiter' in January 1968.

³⁸ Worrall, *op. cit.*

³⁹ Gurevitch, *op. cit.*

⁴⁰ A9775 5ACS 3101/18/W.



Mirage fighters of 3 Squadron use the Tindal hardstanding during Exercise 'High Jupiter' in January 1968. This was the first time the squadron used facilities at Tindal under the 'bare base' concept. (RAAF)

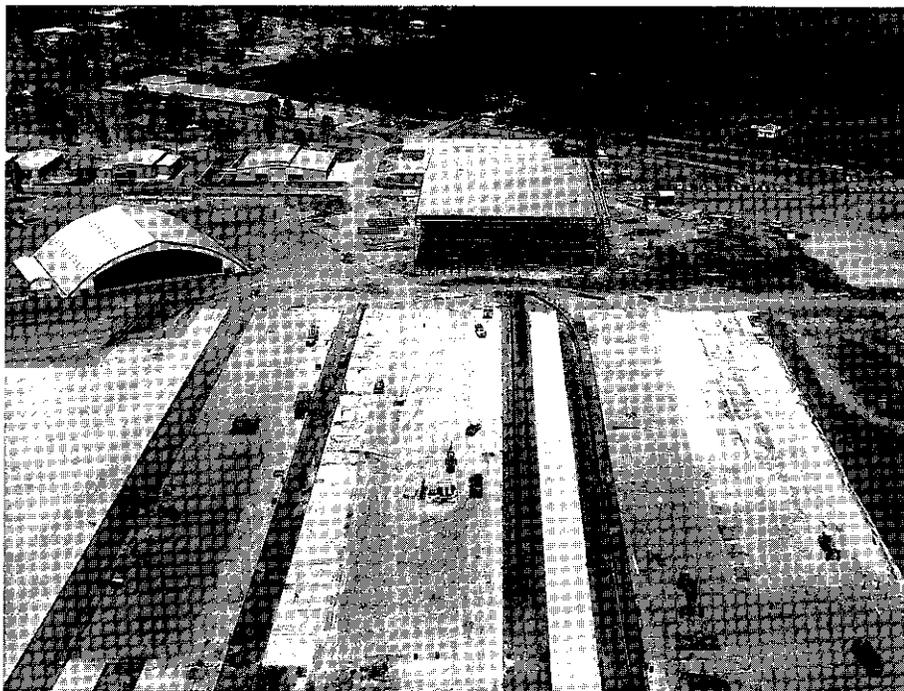
On 10 March 1969 Detachment 'A' was formed at Darwin to undertake a five month task to resurface the airfield pavements.⁴¹ Detachment 'C' operated at Amberley from 26 June 1967 to 15 September 1969 to extend and reconstruct the 82 Wing hardstanding,⁴² and Detachment 'F' poured the concrete pavements on the runway and aircraft hardstanding at Amberley between 1 February 1971 and 30 September 1973 in preparation for the delivery of Chinook Heavy Lift Helicopters to the RAAF in March 1974. When the Headquarters of 5ACS was moved to Amberley on 14 September 1969, the element remaining at Tindal became Detachment 'D'. The last, Detachment 'E' at Learmonth, was formed on 26 March 1970 and remained there until it was disbanded on 1 February 1971 when the squadron was formally transferred there.

During World War II an airfield was developed near Learmonth on Exmouth Gulf in Western Australia as a base for fighters giving air protection to the navy base and as a staging post for aircraft movements along the west coast. On 11 April 1964 the Chief of the Air Staff, Air Marshal Valston Hancock, signed a memorandum recommending development of the existing airfield to meet current defence requirements. Recommendations were made against a strategic assessment which identified a general threat to South-East Asia by Communist China and anxiety as to Indonesia's ambitions. Having identified that most Indonesian military facilities were

⁴¹ A9775/1 5ACS 3/16/Air Pt 1.

⁴² A9775/1 5ACS 3/12/Air Pt 1.

located on the island of Java, Hancock compared the advantages and disadvantages of staging the RAAF's newly ordered F-111C strike aircraft through Learmonth and Darwin. The former was 483 kilometres closer to potential targets and less vulnerable to interdiction by enemy aircraft.⁴³



5ACS Detachment 'C' extended and reconstructed the hardstanding at RAAF Base Amberley between June 1967 and September 1969. This photograph shows progress as at February 1968. (RAAF)

Two thousand one hundred and sixty six hectares of land were resumed to permit the expansion of the runway and an area of 19,035 hectares to the west of the airfield was purchased as an air weapons range.⁴⁴ When the runway was officially opened on 15 December 1972, the quantity and quality of the work undertaken by the squadron was evident. The original runway had been covered with a five centimetre mat of asphalt and extended to 3,080 metres. A parallel taxiway with eight associated taxiways linking it to the runway, alert bays, servicing and civil terminal aprons and associated access roads, car parks, drainage and domestic facilities had all been constructed. One of the unusual aspects of the design was the construction of a 14 kilometre levee bank to protect the airfield from cyclonic tidal waves.⁴⁵

Moving equipment from Tindal and Amberley to such an isolated site as Learmonth was a huge logistic problem. Warrant Officer L.D. Alexander and Leading Aircraftmen J. Pollard and I.S. Sandwith arrived at Learmonth by air on 19 March

⁴³ Air Board Agenda 13048 dated 11 April 1964.

⁴⁴ A9775 5ACS 3110/1/W.

⁴⁵ *Program of Official Opening Friday 15 December 1972*. [RAAF Museum]

1970, in time to meet the first consignment of plant and motor vehicles from Amberley. The complex move of heavy equipment across the continent was organised by the Commonwealth Railways. The first stage of the move was by rail to Larrimah, then south. The final move was by road to Learmonth and the transfer of equipment to and from different modes of transport caused 'disastrous [damage] ... heavy articles were stacked on top of light weight equipment'.⁴⁶



Learmonth Airfield 18 April 1969. (RAAF)

The unserviceability of equipment was a factor which delayed construction. In the period February/April 1971 the power scraper and water tanker serviceability rate fell as low as 25 per cent. The Western Australian representative of the suppliers, Mr K. McGuiness, spent a month with the squadron to give assistance. He returned in May to assist in the rectification of further problems. However, even though the plant serviceability improved as the workshops gained more expertise and spare parts backing, the power scrapers remained a problem. In October 1972 the squadron stopped using this machinery due to the 'unserviceability of the scrapers [being so] bad that they could no longer be taken into account in project planning ... they caused

⁴⁶ Gordon Worrall, interview 24 November 1996.

ineffective and inefficient use of construction personnel, and have been a sink for workshops labour, which could be ill-afforded'.⁴⁷

The vagaries of the weather was beyond human control. The commencement of the project was delayed by Cyclone 'Rita', which crossed North-West Cape in late January 1971, and periodic rain prevented any work being undertaken at all. For example in the five months to May 1971 520 millimetres, double the average annual rainfall, had fallen. If work was not curtailed by the heavy rain, the presence of moisture in the heavy clay soil in some areas made working conditions extremely difficult. When it was not raining extremely high temperatures, combined with a layer of characteristic red dust, gave no respite to man or machine.

Moreover, the effort was not without a social cost. The original advance party of Detachment 'E' arrived at Exmouth on 26 August 1970 and were housed in the Commonwealth hostel until service accommodation became available. With the arrival of the main body in January 1971 the housing problem became critical. During the months of January/February 1971 a dozen married quarters became available, but this did not ease the situation. By 30 April it had been planned that a further 30 homes would be made available, but only one actually was allocated to the squadron. The commanding officer, Wing Commander John Lessels, was to comment in June that some squadron members were facing matrimonial crisis. To many there was no escape. As Lessels reports, marriages 'are breaking down under the stress of domestic and financial pressures. Some wives want to take their children, leave the area, and return to their homes elsewhere in Australia but cannot afford to do so'.⁴⁸ Families were forced to find accommodation in the Exmouth Caravan Park or local guest houses, and the overcrowding of the limited domestic resources, high cost of living and high rents exacerbated the problem. The absence of their menfolk, often working on shifts at the construction site some 48 kilometres away, did not ease the situation for wives and families. Married men, separated from their families, saw little hope for a reunion in the immediate future and this led to 'letters full of tales of sorrow and trouble' and subsequent personal pressures between separated spouses. Despite efforts to ease the situation, the last married quarter was not made available until 3 March 1972, eight months later than originally planned.⁴⁹

Running parallel with the problems related to married quarters were efforts to improve sporting facilities and develop social contacts. In June 1971 the sporting facilities at Learmonth consisted of a volley ball court, an ungrassed oval and three 12 foot dinghies. It was planned to build a squash court and to obtain materials for use to construct a tennis court. By February 1972 the squadron had entered two teams in the four-team Exmouth Cricket Association competition. As an example of personal association with the local sporting community, Flight Lieutenant J.F. Kennedy, as well as starring with the bat, was the president of the cricket association. Corporal T. Whitelaw won the Exmouth yachting trophy for 1972 in his catamaran, and RAAF personnel successfully competed in softball and ten-pin bowling competitions held at the US Navy base at North West Cape. Although recreational facilities improved, there was one proposal which caused some disappointment. M.G. Kailis Gulf Fisheries Pty Ltd were required to vacate, dismantle all structures and clean the site

⁴⁷ 5ACS Commanding Officer's report October 1972.

⁴⁸ *Ibid.*, June 1971.

⁴⁹ *Ibid.*, March 1972.

which they occupied on Commonwealth Land by the end of December 1972. It was assessed that some of the structures would be suitable for recreational use by members of 5ACS and Lessels approached the Department of Air for permission to use the buildings for this purpose. On 22 December 1972 advice was received from the Department of the Interior, Perth, that 'the facilities would be left at the Lyndon Location 49 for use by 5ACS'.⁵⁰ But Lessels' plan did not mature. On 28 May 1973 he was to complain that the buildings had been seriously vandalised. Windows were broken, internal fittings torn out and toilets stuffed with paper. As late as 21 August, Lessels was still reporting that there 'was no significant change to the situation ... The Kailis Fisheries old area is still a mess'.⁵¹

Squadron personnel participated in community life and assisted in a successful search for a local resident missing in the Cape Range. A total of 130 members of the squadron joined the search over the period 8-14 February 1972. Next day 5ACS members were involved in controlling a serious scrub fire which had been started by a lightning strike 29 kilometres south of Learmonth.



During May 1996, as part of the RAAF 75th Anniversary celebrations, a Dakota visited Learmonth during a tour of Western Australia. The caretaker was an ex-5ACS member and even after 22 years, the runways were still in good shape. The night after the party departed, it was rumoured that a Singapore Airlines Boeing 747 made an emergency landing, proving that the facility is still a viable defence and national asset. (Author)

⁵⁰ A9775 5ACS 3110/1/W Pt 1.

⁵¹ *Ibid.*

During August 1973 the announcement that 5ACS would disband produced 'an understandable reaction of shock and concern'.⁵² The squadron commander, Wing Commander A.G. Woolley, recognised that there would be uneasiness associated with the future careers of members in the specialised works mustering. Therefore the decision to delay the disbandment of the unit until 15 December 1974 was 'received with some relief'.⁵³ During April 1974 the strength of the unit declined as members sought immediate discharge, posting and retraining. The end result of this process was that by May the unit was seriously understrength in specialist categories, and supplementary manpower was sought to enable planned works to be completed. The administrative procedures related to winding up the unit progressed steadily to enable the disbandment date to be met. Items of plant and equipment were transferred to the Army or sold to civilian contractors. The married quarters became the property of the Navy or the Commonwealth State Housing Authority.

The population of Exmouth farewelled 5ACS at a civic function on 21 September 1974. The squadron marched through the town and then joined the community of 2,000 at the town oval for the formal addresses, a barbecue and refreshments. On 27 September 1974 a Squadron Disbandment Ball was held in the Exmouth Shire Hall where three former commanding officers, Air Commodore P.G. Lings (rtd), Group Captain A.M. Harrison (rtd) and Group Captain J.D.G. Lessels, joined the Air Member for Supply and Equipment, Air Vice-Marshal L.J.K. Holten and local dignitaries.

The final comment of Wing Commander A.G. Woolley in his Commanding Officers Report dated 30 October 1974 is appropriate:

This is the last monthly report submitted by the seventh and last permanent Commanding Officer of 5 Airfield Construction Squadron prior to his departure in late October 1974, on retirement. Apart from the final stages of disbandment, it marks an end of 32 years of achievement in war and peace - the end of a special chapter in the history of the Royal Australian Air Force.

⁵² 5ACS Commanding Officers report, August 1973.

⁵³ *Ibid.*, March 1974.

ANNEX A



WORLD WAR II ROLL OF HONOUR

Armstrong	Arthur Ray	1 MWS	Heidelberg	6/7/42
Armstrong	James	7 MWS	New Guinea	11/4/44
Barham	William Edward	3 ACS	Philippines	16/12/44
Bartley	Herbert Arthur	6 MWS	New Guinea	16/3/44
Beer	William James	4 WMU	New Guinea	27/10/43
Bertram	Eric Charles	62 (AC) Wing	New Guinea	3/1/44
Bradshaw	Keith Gittus	8 ACS	Borneo	31/5/45
Brown	George Allan	8 ACS	Borneo	2/5/45
Brown	Keith Lawrence	2 MWS	New Guinea	14/1/44
Campbell	John	1 ACS	Morotai	3/4/45
Cheney	Clarence Albert	3 ACS	Kilburn	17/5/45
Clark	Keith Joseph	1 ACS	Sydney	4/9/45
Clarke	Morris Rex	1 MWS	Mataranka	10/1/43
Cook	William Walter	5 ACS	Melbourne	18/2/47
Cooper	James William	3 MWS	Batchelor	11/6/43
Drew	Leslie Roy	5 MWS	New Guinea	27/2/43
Dumschat	Allen John	7 MWS	New Guinea	11/4/44
Durrant	Allan John	5 ACS	Japan	5/6/46
Foote	Kenneth Ernest	8 MWS	Melville Bay	6/1/44
Ford	Cecil Richard	5 ACS	New Guinea	23/4/45
Fox	Francis John	8 MWS	Alice Springs	2/7/43
Grant	Herbert Blackman	1 MWS	Pine Creek	18/6/43
Griffiths	Harold Charles	6 MWS	New Guinea	25/4/44
Hall	Samuel James	9 WMU	Darwin	11/5/44
Hamilton	David	4 ACS	New Guinea	3/11/44
Hiles	Christopher Cyril	6 MWS	New Guinea	23/8/43
Holdstock	James Adrian	5 ACS	Goulburn	8/8/45
Jarrett	Hedley Vicas	61 (AC) Wing	Morotai	7/8/45
Jenkins	William Joseph	14 ACS	Morotai	4/5/45
Kearns	Max Frederick	3 MWS	Batchelor	16/6/43
Lancaster	Percy John	3 MWS	Batchelor	7/7/43
Lunn	Raymond George	9 ACS	Borneo	24/10/45
MacLeod	Norman	3 ACS	Mindoro	19/4/45
Marr	David Mailis	7 MWS	New Guinea	6/9/44
McCallum	Gregory Alexander	8 MWS	Rocky Bay	4/3/44
McCormick	Andrew	5 MWS	New Guinea	30/8/44
McGuinness	Reginald Brendon	9 ACS	Borneo	12/12/45
Mercovitch	John Leo	WTU	Lara	2/11/44

Morris	Dudley John	14 ACS	Morotai	7/12/44
O'Brien	John George	9 ACS	Mornington	7/2/45
Olney	Leslie John Keith	12 SDU	Goulburn Is	29/5/43
Orphin	Walter	6 ACS	Morotai	22/7/45
Patience	Thomas Raymond	2 MWS	New Guinea	5/11/43
Payne	James Geoffrey	5 ACS	New Guinea	22/3/45
Riley	Alan Walter	62 (AC) Wing	Borneo	26/7/45
Roberts	Hugh Eric	7 MWS	New Guinea	11/4/44
Roussy	John Edward	5 ACS	New Guinea	27/9/44
Shaddock	Royce Charlton	1 MWS	Darwin	16/10/42
Size	John Aloysius	10 WSU	New Guinea	19/3/44
Storer	Gordon William	8 ACS	Bankstown	21/11/44
Warren	James Popple	2 ACS	Bairnsdale	8/12/44
Watt	Rowland Hill	5 ACS	Borneo	8/12/45
Weir	Hilton Kennedy	10 WSU	New Guinea	17/4/43
Werner	Keith Walter	4 ACS	Morotai	17/5/45
Whittaker	William Alexander	7 MWS	New Guinea	29/4/44

Reference: *Register of Deaths and Burials of Royal Australian Air Force Personnel who Died in Service 1939 - 1947.*

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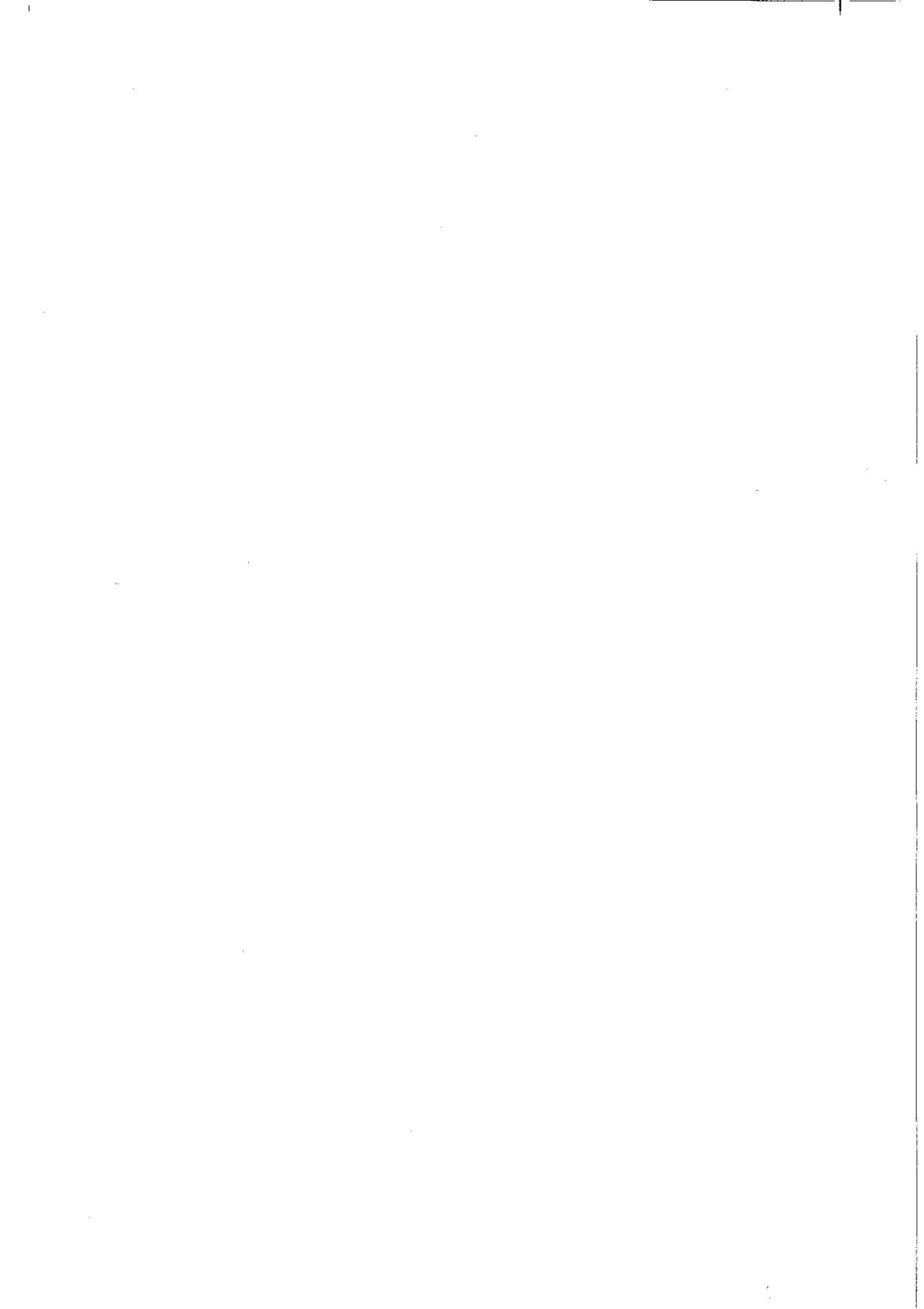
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MALAYSIA

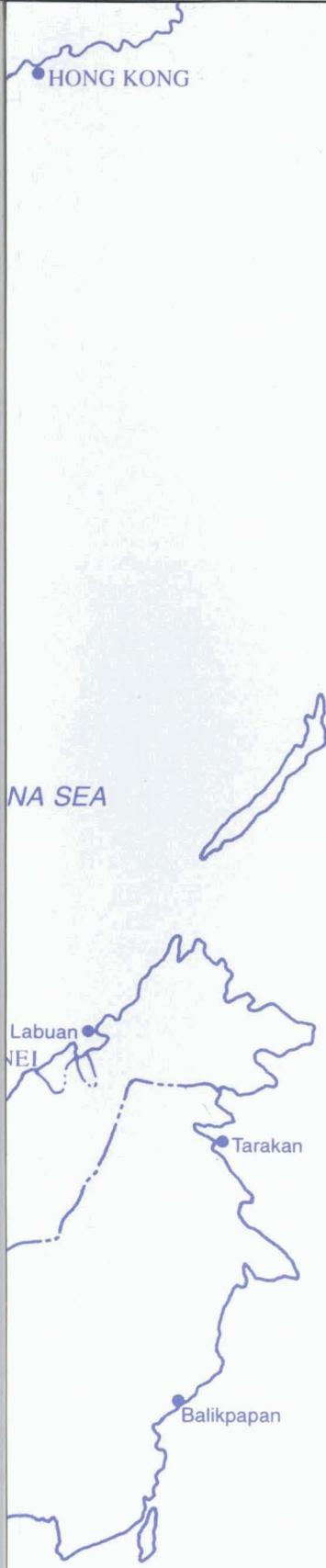
Johore Bahru

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INDONESIA



ALWAYS FIRST

Between 1942 and 1974 the Royal Australian Air Force Airfield Construction Squadrons operated under adverse physical conditions in peace and war.

Forward airfields, vital to the aerial campaigns in the South-West Pacific, were developed, often under fire. In addition to the post-war development of facilities on the mainland, Airfield Construction Squadrons served with the occupation force in Japan, built the airfield at Butterworth during the Malayan Emergency and developed facilities at Phan Rang and Vung Tau in South Vietnam.



Always First is based on official records and personal memories.

The organisation, development and manning of the force are detailed.

Operations are described from an official and human perspective.

The sometimes critical nature of relations with our American allies is discussed.

Air Vice-Marshal John Lessels' foreword adds a personal insight to

post-war operations and the developments in the field since the final construction unit was disbanded in 1974.



This book is a long-overdue tribute to the unsung heroes of the RAAF's Airfield Construction Squadrons.