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ROYAL AUSTRALIAN SURVEY CORPS ASSOCIATION
(WESTERN AUSTRALIA) INC.

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20th December 2006

COMMITTEE 2006 – 2007

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Mike VENN

Secretary/Treasurer/Westlink Editor:

Brian MEAD

Committee Members:

Eric CLUTTERBUCK, Phil BRAY.



The Royal Australian Survey Corps Memorial at Karrakatta WA.
Dedicated on ANZAC DAY, Tuesday 25 April 2006.

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FROM THE PRESIDENT

On ANZAC DAY this year, we dedicated a Memorial to the ROYAL AUSTRALIAN SURVEY CORPS that is located at the ROYAL AUSTRALIAN ENGINEERS PRECINCT, Karrakatta. A photo of the Memorial is featured on the Front Page of this Issue. My thanks are extended to Mick Ryan and the Engineer Association for site location and assistance with its erection.



Ryan Club, 13 Fd Sqn on ANZAC DAY – 2006

L-R: Brian Firms, Doug Bath, Howard Jones, Leo Clifford and Mike Venn.

It is of note that in the year - 2006, our Association is celebrating its 20th Anniversary.

A few months ago, I emailed some scanned images, of my own photos of Vietnam, to Bob Skitch. Bob is writing a history of **The First Year - 1 Topo Svy Tp** in that Country.

Reading the Dr Noel Sproles article about the F24 Camera, brought back some past memories. I can recall being “volunteered”, possibly by Major Clem Sargent, to hang over the rear door of a RAAF CARIBOU, on a harness with one of the same cameras attached by a wire cable. My task was to take “near vertical” photos of panelled ground survey control points. It was a frightening experience at first, but in time I was able to get used to it.



In conclusion, I would like to wish our members all the best for 2007.

Brian Firms

FROM THE EDITOR

Our Westlink Issue No. 28 is our Association Magazine for the year - 2006. Westlink is now available to Members in both digital (*.pdf) form and as a hard copy printout. The latest pdf file viewer Adobe Acrobat 8 may be downloaded free from <http://www.adobe.com>. Members who do not have Internet access will be posted a hard copy of the Magazine.

Bob McKenna has provided his second article in a series that he has written, covering his experiences as a young army surveyor during the late 1950's. His recollections of Capt A.G. Bomford's time with Western Command Field Survey Unit, provide not only humour but an insight into the Unit's working environment in the remote locality of the Kimberley Region, of Western Australia. A eulogy to Tony Bomford (1926 – 2003) has been included in order to provide some historical reference, to Bob McKenna's article.

Special thanks to Frank Cohen, Noel Sproles and Ray Wilkins for their literary input into this Issue. It was great to be able to include some - circa 1947 photos along with Frank's "Reminiscences". The image of the *Equipment Table – F24 Aerial Camera* was provided, courtesy of Betty Cherry.

Brian Mead

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FUP – ANZAC DAY MARCH 2006



Rear: *Brian Mead, Leo Clifford, Brian Firns, Mike Venn, Clive Craddon, Howard Jones, Cliff Webb and Gus Bottrell.*

Front: *Chris Dixon, Peter Bowen and Doug Bath.*

Pre-Dinner Drinks – Annual Dinner, Sat 1 July 2006



L-R: *Chris Dixon, Peter Bowen, Mike Venn, Beverley Bowen, Jane Clutterbuck and Betty Mazzarol.*

WX31873 Cpl Ray Wilkins – 4 Fd Svy Coy, WW2.

By Brian Mead



Ray Wilkins, Cedric Clutterbuck and Tom Lofthouse. HQ 4 Fd Svy Coy, Claremont – June 1941.

Ray became aware of our Association after reading the RAE. W.A. Association Magazine, “THE PURPLE CIRCLE”, covering Anzac Day 2005. In his email, Ray stated that after WW2 an Association of former and permanent Survey Corps members was formed in Perth. He attended the meetings for a number of years until he moved away from the city.

He then lost track of the blokes that he served with and was delighted to find out that the Association was still active (or had it been re-born). Ray was wondering if any of the old wartime mob were still in circulation. He responded to my request and provided a brief profile of his life story;

DOB - 20th July 1926. Enlisted in the 4 Fd Svy Coy on the 19th May 1941. Transferred to the 13th Army Troop Engineers as a Surveyor, mid 1945. Served about 20 months in Japan (B.C.O.F.) and discharged in August 1947.

Completed a Mechanical Draftsman’s Certificate Course through Rehab. At the same time I took up music (all strings but mainly double bass and rhythm guitar). I taught music and played professional bass for some years. I then went off to the oil fields to work on the rigs until I smashed a knee at Cape Range. Back to part time music (playing and teaching).

I joined Westrail as a draftsman in 1954 and left as Assistant Engineer in 1972. At this time I became a professional fisherman at Jurien Bay after I passed my skippers (Master 5) ticket. After my wife died in 1984, I ran away from everything and ended up in Darwin in 1986, where I bought a 5 acre block in Humpty Doo.



Ray Wilkins – Darwin, Jan 2006

I am still living in Darwin and it is where I will probably stay – though nothing is concrete in this life. I have a Toyota troopy, rigged for camping. I like to travel for 2 – 3 months each year, usually to the Tamworth Country Music Festival and then where ever the mood takes me.

Ray’s contact details are quoted in the Membership Listing, page 23 of this issue.

Jo Mazzarol's 80th Birthday.

By Brian Mead

Jo's 80th Birthday Celebration took place at the Matilda Bay Restaurant on Sat 16th Sep 2006, at 8 am. The Restaurant setting on the northern banks of the Swan River, overlooking the moored yachts of the Matilda Bay Yacht Club, was very picturesque. Annette and I were greeted upon our arrival, by Jo's daughter Peta Monley. We were offered a glass of champagne to "begin our day".

The whole occasion was meticulously organized by the Mazzarol family. The seating plan for the 100 or so guests, allowed for a spare chair at each table – so that Jo could table-hop!! A power point presentation covering the phases of Jo's life was hosted by Jo's granddaughter - Danielle Monley. Several musical interludes during the presentation took place – all provided by Jo's talented siblings and their families.



Jo's children all spoke, at various times, of their life with their father. He was always a devoted family man. Mention was made of his time with the Survey Corps and the long separations endured, when Jo was away on field survey operations. In 1965, Jo was awarded the BEM for his outstanding contributions in the field – in the maintenance of the Unit's vehicles and equipment.

L-R: Nicholas George, Kim Mazzarol, Betty Mazzarol, Jo Mazzarol, Joanna Hudson, Danielle Monley and Peta Monley. (Those obscured not named).

Further mention was made of Jo's life, after his time in the Army, when he began his second career as a Manual Arts Teacher with the Western Australian Education Department. He held appointments at several Senior High Schools – Belmont, Eastern Hills and finally at Mount Lawley. During this time Jo was awarded Life Membership of the Schools Volunteer Program – that provides additional teaching and training for Students, after hours.

Prior to the cutting of the Birthday Cake, Betty Mazzarol spoke of her long and happy marriage with Jo. "Life with Jo was never predictable!!" Jo responded with a short speech thanking everyone for coming – he quipped, "I didn't know that I was so good".

1959 – BOMFORD’S YEAR

By WO1 Bob McKenna (Retd)



Bob McKenna – Anzac Day 2003

Abstract: *Capt A.G. Bomford RE, a UK Exchange Officer was sent to Western Command Field Survey Unit, on detachment from AHQ Survey Regiment. Capt Bomford had earlier completed a La Place Observers Course at the School of Military Survey and was appointed IC of the Unit’s 1959 Astronomical Observations Program. At this time the Unit was tasked with the Geodetic Survey of the Kimberley Region of Western Australia.*

This trip started with four people driving by road to Derby. The four were Spike Jones and Tony Bomford in one jeep and Jo Mazzarol and Bob McKenna in the other. This journey was the start of what could be called Bomford’s Year with the Unit.

Tony was the son of Professor Bomford of Oxford University fame; he was in the “Pommy Army” and without a doubt, the most un-military man you could ever come across.

He rolled up to the Unit in Fremantle, dressed in kaki trousers, a shirt, and a tweed jacket and desert boots. Cpl Lyal Johnson was working on a vehicle in front of the main building and was told “I’m Captain Bomford of the Royal Engineers”. Cpl Johnson got off to a great start by saying; “Yer and I’m Bob Menzies. I’d piss off out of here, if I was you. This is Army Property”. Things were eventually sorted out, but Tony’s dress sense did not improve – military-wise that is.

Anyway the first day of our trip to Derby was uneventful, until we arrived at Three Springs, where my cousin Jean and her husband Alf ran the local pub. Bomford wanted to press on, but he had no hope. Spike “discovered engine trouble”, so he reluctantly decided to stay. The next day, (after Spike put the battery lead back) we left at about 6.30 am and stopped to refuel in Geraldton. Lunch followed near the Murchison River, where Tony went looking for lead. Why we don’t know.

The bitumen stopped at Northampton and the made gravel stopped at the Murchison River. After that it was just graded dirt. When we reached the Shark Bay turnoff, a young

couple was camped in a tent, in the process of setting up what is now called the “Overlander Roadhouse”. They were waiting on a truck with stores etc and were down to their last five gallons of fresh water. We gave them the majority of the water out of our 80 gallon water trailer, despite protests from Tony. We camped about 60 miles short of Carnarvon, where the big trees consist of scrub 18 inches high and bull dust holes are all over the road.

We refuelled at Carnarvon next morning and at Onslow that afternoon. The road used to pass by Onslow in those times, whereas today it is some 50 miles inland. We came to the Yule River about 5 pm and Bomford wanted to camp in the “clean sand” at the bottom of the river bed. This may have been OK in most cases but for the weather. It was raining heavily and with all the thunder and lightning Jo, Spike and I camped up on high ground, out of the river bed. We left him in his one man tent in the river.

It was about 5.30 in the morning, just breaking light, when we heard this rumbling sound. The three of us ran down the concrete ribbon into the river, woke Tony, grabbed his gear and tossed it into the jeep. We drove out of the river, just before the water came and flooded Tony’s camp site.

The last camp of the trip was behind the sand hill, which runs along the Eighty Mile Beach. Tony decided to do the cooking of the evening meal, while the three of us wandered up and down the beach. It was some two hours later, when tea was ready. Despite Tony’s assurances otherwise, the main course was what in Unit terms was “Train Smash”. In all aspects – taste, appearance, smell and the number of empty tins.

The trip north was to give Tony an initial look at the Australian North, before the actual surveying tasks began. The dominant saying that we were to hear many times that year was the phrase – “*Quite so, quite so, but we will do it mai way*”. The initial camp at Derby soon became covered with small signs like “*Mai Tent, Mai Table, Mai Jeep*” – to name a few.

1959 - The Main Task

The Main Task was the establishment of a first order traverse from Fitzroy Crossing – north along the 126 degree meridian to the coast and from there, along the coast to Wyndham. The next task was the observing of La Place Stations on the previous 1958 Traverse.

The first task to be undertaken was the La Place Station at Go Go (Mt Campbell). While we waited for the helicopter to arrive, I don’t who made the big decision, but we all moved to Fossil Downs Station, where we set up camp, adjacent to their “chook yard” on the bank of the Margaret River. At this time it started to rain and rain it did for a week. The result being that we spent the next three weeks watching the River rise rapidly and fall very slowly – until we could cross the Margaret back to the western side and start work.

During this forced stay, we were taught a system of sending messages that Tony used with the natives in Africa. The fact that all of us could read and send morse code was frowned upon by Tony as being far too involved. The signal for finishing for the night in Toni's code was something like "*dash - dash - dot - dot - dash*" to which you replied with the same.



Capt Tony Bomford – at work.

Well the second night, George Gruszka and I were on a hill called G2. It was freezing cold and getting late, when "*dash - dash - dot - dot - dash*". We replied and left the hill and drove back to Fossil Downs. We did pass a car about half way home, but paid no attention to it, until we had returned to the Fossil Downs. On arrival, we were told in no uncertain terms that we had ruined the night's work. It was at this time that we realized that it was the car's headlights that we had seen. Not Tony's light !! The outcome was "*Quite so, quite so, but we will do it mai way*".

The La Place Station at Go Go (Mt Campbell) was eventually finished and during this time we all learned a lot more about this sort of work. The next task was the Geodetic Traverse to the north. The helicopter had not arrived and as a result of the rain, the fuel for its operation was not in place. As a result we started the same way as the previous year, by driving by jeep as close as possible to the actual Trig Station. From this point walking, or should I say climbing, as the case may be.

George Gruszka and I were in the forward party, Tony Bomford and Pat Woods were the centre (observation party) and Bev Uwins and Spike Jones were the rear party. From Mt Campbell (Go Go), you could see Mt Leake in the Leopold Ranges about 60 miles away. This was outside the line measuring range of the tellurometers, so George and I went to Hooper Hills by vehicle.

The Support Party, led by Major Sprenger and Snow Simpson, drove overland with fuel and stores, via Lansdown, Glenroy to Mt House using station tracks. The Gibb River Road of today just did not exist. This trip of about 200 miles took about a week and when the fuel arrived at Mt House, the helicopter operation started.

Helicopter Operations

This type of operation was a whole new approach to the job at hand. We quickly learned new techniques to make the job easier. Flying from one trig to the next would take about half an hour and when we arrived at the new hill, the two items that were looked for were as follows:

- A landing site as near to the top as possible.
- Water!!

The helicopter did not have the capability to move any of the three parties in one trip, so the system adopted was:

- The helicopter from its base (usually at fuel localities e.g. Fossil Downs, Mt House) to the rear party, pick up half the party. Move to the centre party and drop that load.
- Pick up half the centre party and move to the forward station. Drop that load. Pick up half the forward party and fly to the new station. (hence the two items mentioned earlier about landing sites and water.)
- The helicopter would then return to the rear station and complete the task by shifting the second half of the parties – people or gear forward to the next station.



The first few stations were not too bad as far landing as close to the hill top but things did get worse, as we progressed. At Mt Leake we established a few stations in and around “Diamond Gorge” for the WA Lands Department, which was investigating sites for dams on the big rivers.

Station Party Movement - Approach to Mt Lacy

Both Mt Leake and Mt N.E. Clifton were old trigs with stone cairns on them. These were the only ones on the trip. We had to dismantle the cairn, “snakes included”, establish a RA Svy Corps ground mark, usually drilled into solid rock and cemented, along with three reference marks. The reference marks were pieces of brass rod, cemented into a drill hole in the rock. Any clearing that was required for either helipads or line of sight from the hill was then carried out. The priority was always given to helipads with other work completed depending on the day’s program.

After completing a couple of Stations, we soon developed a routine for the first load of a move. It consisted of: George and I, plus two axes, a radio, water bag and empty water jerry can. This meant that we could fill the water jerry can if we saw water and carry the can, axes and radio to the top of the hill. We could then clear a pad for the second helicopter trip to land on.

River Crossing

When we reached Mt Phillips (just north of Mt House) we were all lifted into Mt House Station for about a week because the support team had struck trouble at the Hann River. All of the creeks and rivers were running, some quite deep at the points of crossing. At the Hann River was one such deep crossing, so the “Sage of the Age, Mechanic Extraordinaire”, Jo Mazzarol, ably assisted by Lyal Johnston, fitted one of the trucks (Studebaker 6*6) with a high air-intake for the carburetor and dual wheels for the front set, in case a soft patch was encountered. The Studebaker was then driven across.

It all went like a dream, except that some drums of petrol on the tray of the truck floated off in the deep water. A lot of swimming and drum rolling, retrieved the missing drums and I believe the “next lot” was tied down. Over the next week, further crossings followed, plus numerous bogs in the wet terrain, but we eventually made the 60 miles to the Gibb River Homestead.

Major Sprenger on a trip south to Perth found out that the SAS were having a training exercise up north. The SAS in combination with the RAAF, organised several drops of fuel from the air by Hercules aircraft. The pads had been prepared by members of the SAS.

At about this time an old track was located – to Wyndham, via Karunjie, Pentecost Crossing and Diggers Rest. While quite rough, the track was not as bad as the way out to Derby.

Geodetic Traverse Resumed:



When Snow Simpson’s party reached Gibb River, we resumed the traverse north from Mt Phillips. When we reached Mt Russ, a La Place Station was observed. Once finished we all moved to Gibb River Station where all Station - La Place Observations were hand computed and checked.

George Gruszka – Light Keeping

From Gibb River, George Gruszka went off to the School, at Balcombe, on a Sgt's Course and Rod Keene joined me in the forward party. The Support Party moved to the Drysdale River where the SAS established an airstrip. The one and only pilot to land a fixed wing aircraft on this strip stated that it was no good. Years later when Drysdale Station was established, a far better strip was constructed.

The Traverse progressed to a hill called Osborne, where the direction of the Traverse turned east and another La Place Station was observed. A couple of stations after this I was sent to the Wyndham base camp, via MMA station run, which went to every station in the Kimberley and arrived in Wyndham, two days later. At Wyndham I had the task of writing the observing programs for the La Place Stations at Mt Thurburn and the six that were part of the 1958 Traverse. This took about a week or so because it was all done by hand using logarithmic tables – not the calculators or computer software of today.

Once the observing program was finished, Lyal Johnson, Barry Paxton and myself were sent with a boat load of fuel to be “dumped” on Cape St Lambert. This task was to support the Traverse Parties along the North Kimberley coast.

A La Place Station was observed at Mt Thurburn and then the Traverse went south, joining the 1958 Traverse at West Bastion – at Wyndham. Tony Bomford, Pat Woods, Bev Uwins and Con Tzakalos were in the observing party. Rod Keene and I worked as the azimuth light keeping party for the La Place Observations of the 1958 Traverse Stations.

Editor's Note:

The purpose of La Place Observations was to support the relatively new Geodetic EDM (Tellurometer) Traversing Techniques, that were first used by the Unit in 1958. The high precision La Place field observations data were used to determine astronomic longitude and azimuth at the occupied point. Differences between the astronomic and geodetic longitudes were utilized in the “La Place equation” adjustment for the necessary corrections to the astronomic azimuths. These corrections were to be used in the geodetic adjustment process.

In 1966 an Australia wide distribution of 155 astronomic / geodetic comparisons were utilized in the determination of the Australian National Spheroid (ANS) and the origin to which all co-ordinates would be related. This provided the essentials for the Australian Geodetic Datum (AGD) and uniformity for all mapping carried out throughout Australia.

Technical References:

Westlink Issue No 4, 1992, page/s (12 – 15). **A HISTORY OF WESTERN COMMAND FIELD SURVEY CORPS**, compiled by Major Pat Wood. BEM (Mil)

AUSTRALIA ON PAPER. Author John D. Lines, published by Fortune Publications in 1992.

Bomford. **A EULOGY TO TONY BOMFORD**, written by John Farquharson and dated May 30, 2003

Eulogy

Anthony Gerald Bomford, Surveyor and map-maker, 1927-2003

By John Farquharson, dated May 30 2003

" A friend once called Tony Bomford, a former director of National Mapping Australia, "a Renaissance man". He was certainly in that mould."

Professionally he was a brilliant surveyor, map-maker He gloried in the challenge of little-known landscapes, kindled early in his career when he undertook several mapping projects for the British Schools Exploring Society on expeditions to northern Quebec, Iceland and Lapland. from travel in wild and remote places and kayaking to stamp collecting, poetry, music, making woollen rugs to mathematical and geometric designs and carving polyhedrons from red box timber.

Two of his rugs with designs based, in technical terms, on "tessellations of the infinite hyperbolic plane", are going through the final processes of being accepted into the collection of the National Gallery of Australia.

A larger-than-life figure, Bomford, who has died aged 76 in Canberra of pancreatic cancer, was essentially a restless, irrepressible adventurer. And his "glad passion for surveying" was a passport to seeing country no one had seen before. Of surveying, he once said, "there was nothing I would rather be doing", adding that "If I'd been born in Captain Cook's day, I'd have wanted to be one of his lieutenants".

But what gave him most satisfaction in his many years of surveying was his secondment from the British Army in 1955 to Duncan Carse's South Georgia survey as its chief surveyor. In six months, Bomford and his seven companions surveyed the whole island in atrocious weather, hauling heavy sledges over mountainous terrain, living in two-man tents and negotiating innumerable first ascents with their survey gear.

His map of the British-owned island, south of the Falklands won him the Ness Award of the Royal Geographic Society, the citation stating that his work had established a new standard in Antarctic mapping. For more than 40 years his map has remained the definitive one of South Georgia and one of the sharp spires marked on it bears the name Bomford Peak. His lucid narrative of the expedition, superbly illustrated with photos taken by himself and others, is preserved in the Port Stanley museum in the Falklands.

Bomford was born in India of English parents. The family was in India because Bomford's father, Guy, an officer of the Royal Engineers, was attached to the Survey of India, of which, with the rank of brigadier, he later became director. Brigadier Bomford, the British Army's noted geodesist, went on to be head of survey for General Slim's 14th Army in Burma before later teaching geodesy at Oxford University.

With that background, it was not surprising that Tony Bomford would follow his father into the Royal Engineers and elect to serve in the Survey Corps after enlisting in the army in August 1944 straight from Shrewsbury School. The opportunity for tertiary education came when the army gave him two stints at Cambridge University, where he completed the short course in engineering with first-class honours in 1945.

A few years later he was back at Cambridge's Pembroke College to do the engineering tripos. Again he graduated with a first, as well as winning an extra year - giving him three years in all - to do specialist studies in mathematics. While at Cambridge in 1951 he married Adelaide-born Elizabeth Honey, whom he had met the previous year. Back with the army, he went on a two-year secondment with the British Overseas Survey to Tanganyika (now Tanzania).

While there, interest in Australia, which his marriage had stirred, led him to take leave in 1954 to visit the country. Four years later he was back on exchange from the British Ordnance Survey to work with the Royal Australian Survey Corps (RA Survey Corps). He worked on mapping projects in central Queensland and the Kimberley where, in the more difficult country, surveying was done with the use of helicopters. His work in the Kimberley led to one of the features he mapped being named Mount Bomford.

After that stint, Bomford returned to Britain determined that he would make his future life in Australia. He spent two years with the Ordnance Survey before moving to Australia and joining the Division of National Mapping in 1961 as a senior surveyor. The next 20 years at National Mapping saw him become supervisor of geodetic surveying, assistant director and then director in 1977, after having turned down the offer of an academic post at London University a year earlier.

He remained director for five years, before taking early retirement in 1982. During those years he made a significant contribution as a member of the National Mapping Council's technical subcommittee, as well as to the Institution of Surveyors, of which he became president, and as examination secretary of the Institution of Cartographers. As surveyor, assistant director and director, he made a major contribution, particularly on the technical front. He worked hard to establish harmonious working relations with state surveying organisations and the RA Survey Corps.

Retirement gave Bomford what he said were the best 20 years of his life, opening the door to creative work at home and adventurous travel abroad. As his close friend Grahame Budd recalled, he walked and climbed in many parts of North and South America, Iceland, the Himalayas and other countries; kayaked in Greenland, New Guinea and other waters; and revisited South Georgia. Every trip yielded a written and illustrated narrative. Those narratives, along with his field and personal diaries, more than 80 volumes in all, will go into the National Library's manuscripts collection.

In the eyes of those close to him, he was a warm-hearted, generous man with a gift for friendship, invariably exuding cheerful matter-of-factness in trying circumstances. To any task in hand his commitment was absolute. However, his abounding enthusiasm was sometimes a trial to his colleagues, especially in the field when he would insist upon working, even on rest days.

When cancer was diagnosed early last year, he was given about six weeks to live. In the event, he had 15 months, enabling him last November to undertake one last adventure - a visit to Heard Island and some of the other more remote islands of the South Indian Ocean, then, six weeks before he died, one last kayaking outing on Canberra's Lake Burley Griffin.

His wife, Elizabeth, two sons (Richard and Philip) and two daughters (Mary and Annabel) survive him.

Internet Reference:

"May 30 2003. **Anthony Gerald Bomford**, Surveyor and map-maker, 1927-2003. A friend once called Tony **Bomford**, a former director of National Mapping Australia, ... www.smh.com.au/articles/2003/05/29/1054177675349.html - 27k -"

“Cameras are not just for taking photographs”

By

Dr Noel Sproles.

As we were waiting around for the 2006 Anzac Day parade to commence, John Harrison told us of the time that Don Ridge wanted a unit photograph taken of the squadron at Keswick Barracks. The only camera available was the unit's F24 aerial camera so John arranged for it to be used for the shoot. He said that the photos turned out well and I believe him. My father was in the RAAF during WWII and our family album has several of his RAAF squadron photos taken with F24 cameras. The resolution is so good that, even after scanning, the photos can be enlarged on the computer to show not only the features of individuals but even fine detail such as aircrew brevets.

The F24, along with its US version the K24, was a mainstay of aerial reconnaissance during WWII. In the 60s they were used by the Corps for post-photography of survey stations to overcome the inaccuracies inherent in the then current method of field identification. Disposable panels of varying types of material were laid out in a pattern around the ground mark and then the station was photographed from the air.



The resulting photograph could then be used to transfer the identification onto the mapping photography. In the days before cameras were fitted permanently to the aircraft, the technique was to hang out the window of the plane, or door of a helicopter, with a hand held F24. In Queensland we used Army Cessna 180s and we would bank sharply over the station so as to get as close to vertical a photograph as possible. You did not want to suffer from acrophobia or fear of heights, but on those few occasions when the pilot lost it and stalled the aircraft, not even the strongest stomachs could avoid a sharp intake of breath.

My introduction to F24 cameras was in N Comd Fd Svy Unit courtesy of Kevin Walsh. He taught me how to load and unload the film magazines so well that I could do it blindfolded. This was to serve me well in 1966 when I was detached to Topo Squadron of the Regiment in PNG.

Equipment Table – F24 Aerial Camera

We had our base at a place called Green River, on the bank of the mighty Sepik. Kevin Walsh was pretty wily as he had acquired several spare magazines for the F24 so as to avoid having to load film when in the bush, but we had no such luxury at Green River. There were no spare magazines so when we completed a roll of film, we had to reload it ourselves. The trouble was that dark rooms are hard to come by in the Sepik Valley so we had to improvise by erecting a one man tent in a dark spot in the jungle and use it as our darkroom. A dark night was also needed which was not too difficult as the clouds usually rolled in by the evening blocking out the stars and any moonlight. As an added precaution, the loading and unloading would be done under several army blankets in the tightly laced up tent. Unfortunately I was the only one who had even the remotest idea on how to go about the loading and unloading process, let alone being able to do it by feel alone in the pitch dark. I would strip off to my underpants, get into the tent and under the blankets while the tent flaps were laced behind me and then I would unload the exposed film and seal it in its container. Speed was of the essence as Green River was hot and sticky at the best of times let alone inside a closed tent under two army blankets. Once the film was unloaded it was out into the open to suck in relatively cooler air, dry off and get a drink and then back into the tent to load the magazine. I had to do this several times during the trip and reckon I lost a kilo or two of moisture each time.



'Witness post adjacent to panelled control station'

We would panel not only new stations but also previously established control. One such occasion was in western Queensland in 1964 following the completion of the Charleville to Bourke first order traverse. The area around St George and Surat had been surveyed some 80 or so years previously and the majority of the timber pegs marking the surveys were still in existence due to the dry nature of the country.

Many of these stations had been connected to recent surveys and the entire system had been recomputed so as to provide third order mapping control. All that was needed was identification and we did this by recovering and panelling selected stations and then photographed them hanging out an aircraft window with a F24. We did this in two-man teams and it was a most enjoyable period working on warm cloudless winter days and camping at night by a campfire under silvery starry skies. People pay good money to go on 'safaris' just to enjoy the same experience these days. Grant Small and I became dab hands at recovering these stations and soon got to recognise the idiosyncrasies of each surveyor. Men long dead came to life for us and gained our respect as we recovered their work just where they said it would be. Once we knew who had done the original survey, we got to be able to recognise from a distance where the big timber post marking the point we were looking for would most likely be. Even today when driving in the bush I look at fence lines and corners and say 'I bet there is a peg just in there'.

Ross McMillan and I were recovering and panelling mapping control in the mountainous area between Canungra and the state border around 1963. We were looking for a particular point and we thought that we had finally tracked it down but there was one problem. A pig styie had been erected over it and the area was a deep stinking morass. The pig farmer stated that he believed that the mark was in the yard somewhere, but how to find it? With some trepidation, we waded in to the mess and probed around for a while with our shovels until eventually we snagged a length of fencing wire used to support a bush beacon. It was still attached to a post in the ground so we fished around for others, which we eventually found. Then in the best tradition of plane tabling, we traced out arcs using the stay wires that we had found and where they intersected in the mire, we dug. Sure enough, in a short while, we uncovered the ground mark. We were rather chuffed at that one but needless to say we could not panel it. In this instance we established an off-set and panelled that instead.

But the big heavy F24 had other uses as I was to find out, again when with the Regiment in PNG in 1966. We had to find, panel and photograph one of the traverse stations established a few years previously by the Corps. I cannot remember the exact circumstances but I ended up on a sand bar in the August River while another member of the detachment (he was a corporal and we called him 'Dutch', but I am no longer certain of his surname) went in the helicopter onto the hill to clear and panel it. It was probably because the helicopter did not have enough power to get two passengers on the hill and I was along as I was the only one who knew how to operate the F24. As the noise of the helicopter died away in the distance I settled down on the sand bar to wait with just the F24 for company. Everything became quiet and peaceful and I started to admire the thick jungle, interspersed with imposing and impenetrable stands of two metre high kunai grass, which surrounded me. The August River flowed quietly by and although it was not a great slug of a river like the Sepik, of which it was a tributary, it certainly put the Torrens to shame.

My reverie and the silence were broken by the crash and splash of a crocodile, or puk puk as the locals called it, breaking cover on the opposite bank and diving into the August. That changed the colour of my day, I can tell you. I was on my feet in an instant backing into the kunai but knowing that I had absolutely no where to go if this big puk puk decided to come out and have me for lunch. I stood my guard for about an hour before the welcome sound of the returning helicopter could be heard. All the while I was scanning the river for a pair of beady eyes or a lazy wake on the surface of the water. My only weapon was the heavy F24 which I was determined to use with as much effect as I could. It was therefore with some sympathy that I read of the park ranger who was cleaning up a tree that had fallen into a crocodile pen as a result of Cyclone Monica last April. There a crocodile named 'Brutus' had rushed him and he ran along the fallen tree fending Brutus off with his chain saw. Brutus grabbed the saw and took it with him back into his pool and they are now thinking of renaming him 'Two Stroke'. I wondered what would be a suitable name for my puk puk if he had chased me along the sand bar and I had succeeded in fending him off with the F24. What would be a suitable name for a big ugly crocodile with a large camera? 'Paparazzi' perhaps?

Reminiscences of the Army Survey Corps.

By Frank Cohen

Survey of the North West Cape – WW2.



Frank Cohen

Whilst camped at Ningaloo Woolshed during 1943, a rather funny (to us anyway) incident occurred. Sunday afternoons enabled members free time for recreation. One practice was to shoot at fish from the beach, with a 303 rifle. A member of our section, namely Chris (“Nelson” – he only had one eye) Sutton and a few of his mates were doing just that.

Walking along the shoreline was Nelson, with his rifle loaded ready for a quick shot, but alas no fish were sighted. So he decided to ease the cocking piece down, ready for a later shot. The art was to hold it, release the trigger and ease the cocking piece, all the way down!! Placing the muzzle on his boot (“to keep it out of the sand”), Nelson proceeded to execute the practice. Unfortunately his grip slipped and the rifle discharged and put a perfect .303 hole through his boot – the bullet missed going through any of his toes.

The muzzle opened up like a blunder buss. It was quite a parade on the Monday Morning, when the order was given;

“For Inspection - Port Arms”.

The Troops could not keep a straight line as “Nelson” held up his rifle or should I say, something that resembled a wooden “Y”.

Bill McDonald - Cattleman of the Kimberley, Western Australia.

This well known identity was Bill McDonald of Fossil Downs Station. For those readers who never had the privilege of knowing Bill, I shall simply say that Bill wanted, and usually had, the best of everything. He had the finest home in the area, the finest of furnishings, art, etc. His daughters went to the best private college in Perth. When possible Bill's family would dress up for a formal dinner every night he wore a dinner suit, his wife Maxine, an evening frock. They had cocktails before tea, the works. Bill loved to invite famous persons to his home. Amongst those who signed his visitors book included royalty, Governors General, many heads of states, me and even Jo Mazzarol.

On one occasion a cattle baron from Texas, USA, was visiting him and Bill was anxious to show off his newly acquired stud bull that he had imported for breeding purposes. When the price of a good stud bull was around \$1000 this one cost \$6000. It was a beautiful animal. When the time came for the big display, Bill turned up in cowboy attire

to impress his guest. Leather chaps, spurs on his boots, twin 45 revolvers at his hips (pearl handles of course) and a white '10 gallon' hat. He looked just like Hoppalong Cassidy. The man from Texas wore a pair of jeans and a shirt.

The prize bull was led along the cattle race towards the cattle yard but balked at the entrance when it saw Bill and his guest standing in the middle of the yard. "Come on bully - bully. Here boy". No movement from the animal despite prodding from its handlers. This stand-off went on for some time until Bill's patience ran out. "Here bully bully, come here you bastard", screamed Bill. With that he drew one of his revolvers to fire a shot over its head. Unfortunately it reared up at the wrong moment, caught the shot right between the eyes and dropped dead. "We don't go to those extremes back home", said the Texan.

Delicious steak was had by all at the barbecue that night.

Kangaroo Shooters

The skills of the post-war surveyors are numerous, not just the few trades as were required during war time. The new surveyors were required to be capable draftsmen, good cooks, tellurometer operators, radio operators, mechanics, drivers of all types of vehicles, axemen, computer operators, etc.



Ashton Hill Trig Station, Woomera Rocket Range - circa 1947

L-R: Frank Cohen and Len Beadell

Did you know that nearly all the fieldsmen of early 4 MD (South Australia) section carrying out the initial Woomera Rocket Range surveys in February 1947, were licensed Kangaroo shooters? The army pay during those days was pretty terrible and so the revenue from kangaroo skins helped to balance the budget.

When a field party returned back after a three day "flying" camp and was asked for a report on their efforts in the field, the usual reply was, "not too bad, I got five roos and a dingo!" As an after thought, " Oh! yes, we also finished that north west section we set out to do".

Jake Santing – the “Royal Mail” !!

(One of the most colourful characters in the Kingoonya area at the time was Jake Santing.) Now Jake was a fairly old Dutchman who had been servicing the area for years. He had the mail run for Kingoonya to Cooper Pedy as well as carting general goods from Port Augusta. When we gave Jake a pile of kangaroo skins for disposal, back would come a professional kangaroo shooter's licence plus a cheque for the skins.



It wasn't unusual for a person to find a wad of bank notes on the ground outside the Kingoonya pub of a Sunday morning. On handing them in to the hotel owner (there was no police station) one was told, "Oh they're Jakes. He carries them in his open shirt pocket for security. He loses them nearly every Saturday night when he crawls back to his truck for a sleep".

Sunday Morning at Kingoonya Hotel – circa 1947.

L-R: Harold Watts, Max Pickering, John Showers, Frank Cohen, Blue Hunter and Bill Fitzgerald.

Old Jake had two trucks. He drove one, whilst the other, was being driven by his mate. One day, both vehicles were being driven in opposite directions along the wheel ruts that were the main road to Cooper Pedy. Nothing obscured the horizon for miles around, just like driving across the Nullarbor Plain. Neither driver would give way and pull off the road. Crash! Jake was livid. He jumped out of his cab and abused his mate. "You always get off the road for the Royal Mail", he screamed. That both vehicles were his own was besides the point, Jake's truck had 'Royal Mail' painted across the cab and so had right of way.

At one time a fellow decided to open a general store in opposition to Jake at Cooper Pedy, but the only way he was able to get his supplies was to have Jake cart them for him. None of the tracks were sealed in those days and it was common for Jake to often be bogged. Guess whose stores were put under the wheels to extricate the truck? The poor chap only lasted in business a short while.

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Subject: Aerodist Party Positioning

From: Dr Noel Sproles.



What do you reckon, some poor survey team being dropped off for a four week stay?

On my last trip into the Kimberley in 1971, we put a two man aerodist party on a feature similar in nature to this - albeit the top was a damn sight larger. They could at least go for a walk but could not get off the top.

As I recall, they stayed there for well over a month. We had the CO SASR with us when they finally got off and came back to Kalumburu.

When he saw how fit and well adjusted they were, when they came off, he assured them a place in SASR anytime and I believe that he was serious.