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Open Day at royal Australian Survey Corps Museum Steel Barracks Moorebank 13.10.09



**Front Colin Laybutt John Lymbery Richard Jackson-Hope Brian McCloskey Ted Hunter
Back Phil Banister Frank Fischer John Read Bob Hopper Garry Fuller Peter Raue Dick Lovegrove**

The Royal Australian Survey Corps Association (NSW) held an open day for members at the Survey Corps Museum on the 13th October 2009 so members could see what progress has been made with the Museum. All the Survey Corps Associations owe a debt of gratitude to Bob Hopper for the work he has put into the preservation of the equipment and the documents. Plus sorting museum items and setting up displays, without his help the museum would not have progressed to the extent it has.

Frank Fischer and Phil Banister have been working most Tuesday at the museum over the past 6 months tidying up the storage room and setting up an office and map storage area. Plus moving map cabinets and maps stored in other storage areas at Steel Barracks. Well done Frank and Phil your efforts are appreciated.

During September some of the photogrammetric equipment was set up and is now operational and the aim is to have the rest of this equipment set up and in working order by the end of the year.

The NSW Survey Corps Association now has an office and a computer set up within the museum and we have applied for a grant under the Federal Government “Volunteers Grant Program” for \$5000 for equipment which will be required for recording and digitizing photographs and other documents.

With much urging by Phil and Frank we now have the Survey Corps flag flying from the flag pole at the front of the museum.



Royal Australian Survey Corps Flag

Item of Interest in the Museum



Ted Hunter with Japanese Level & Theodolite plus captured German Aerial Camera.



Box of German Aerial Camera captured from the Japanese during World War 2

The left hand photograph is of Ted Hunter with a Japanese level and theodolite which he brought back to Australia from the Celebes now known as Sulawesi.

The instruments were used by the Japanese during World War 2 to survey gun emplacements and a tunnel system they developed for concealed guns at Manado.

Ted was one of seventy men of Manado force whose job it was to round up 7000 Japanese troops in that area and disarm them and build a concentration camp to house the prisoners.

Ted said a week after capitulation the Japanese beheaded the eight prisoners they held two Americans and six Australians and Ted found the initial part of the evidence when he was asked to go to the local market place at Tomohon. Part of Ted's duties during that visit to Tomohon markets was raise the Australian flag on a flag pole. It was during the celebrations of the raising of the flag Ted saw one of the natives wearing an Australian green army shirt which had been stripped from the body of a Z special force soldier.

The other item below the survey instruments is an aerial camera in its original box also captured from the Japanese it is a German make.

If any one has any information on this camera or can translate the Japanese writing it would be appreciated if you could provide the information.

During the next twelve months we anticipate that all the items held at the museum will have been photographed and each item labelled if you feel you can spare some time assisting at the museum on a Tuesday contact Phil Banister or Frank Fischer. It is our history and it is important for future generations to see how and by what methods surveying and mapping was carried out by the personnel of the Survey Corps.

There are two books which we are trying to obtain for the museum they are;

Chambers 7 figure logarithms

Clark Plane and Geodetic Surveying Volume 1

If any one has a copy of these books and they would like to donate them to the museum it would be appreciated.

In recognition of the role and the contribution of the Lithographic section to the corps one of this months what did we do has been dedicated to Litho.

WHAT DID WE DO?

**Howard (Sonny) Dingle's Recollections of his tenure in:
The Printing battery Fortuna' 1958/1964**

The Survey Regiment Lithographic Squadron on my arrival in 1958 consisted of Lithographic drafting section, Plate making section, Camera section and Lithographic printing section, the latter consisting of two Mann double demy single colour presses manned by Hop Stanley and Hec Webster.

Three double crown Mann single colour presses manned by Frank Gibbons, Johnny Rankine, Reg Smith, Jim Mulqueen, Tom Pattison and Warren Gruver.

The Mann quad demy two colour press was manned by Peter Saunders and Sonny Dingle and the proof press by Wonga Payne.

In addition a single colour press destined for removal was used as required.

The guillotine was manned by Ray Bishop and later by Hec Webster. Jack Gore was I/C of the section.

The photos show the two Mann single colour presses in the foreground and in the back ground the two colour quad demy.

The photo shows the roof unlined and subsequently an extensive building program was undertaken in early 1960 and the whole area had a ceiling added.

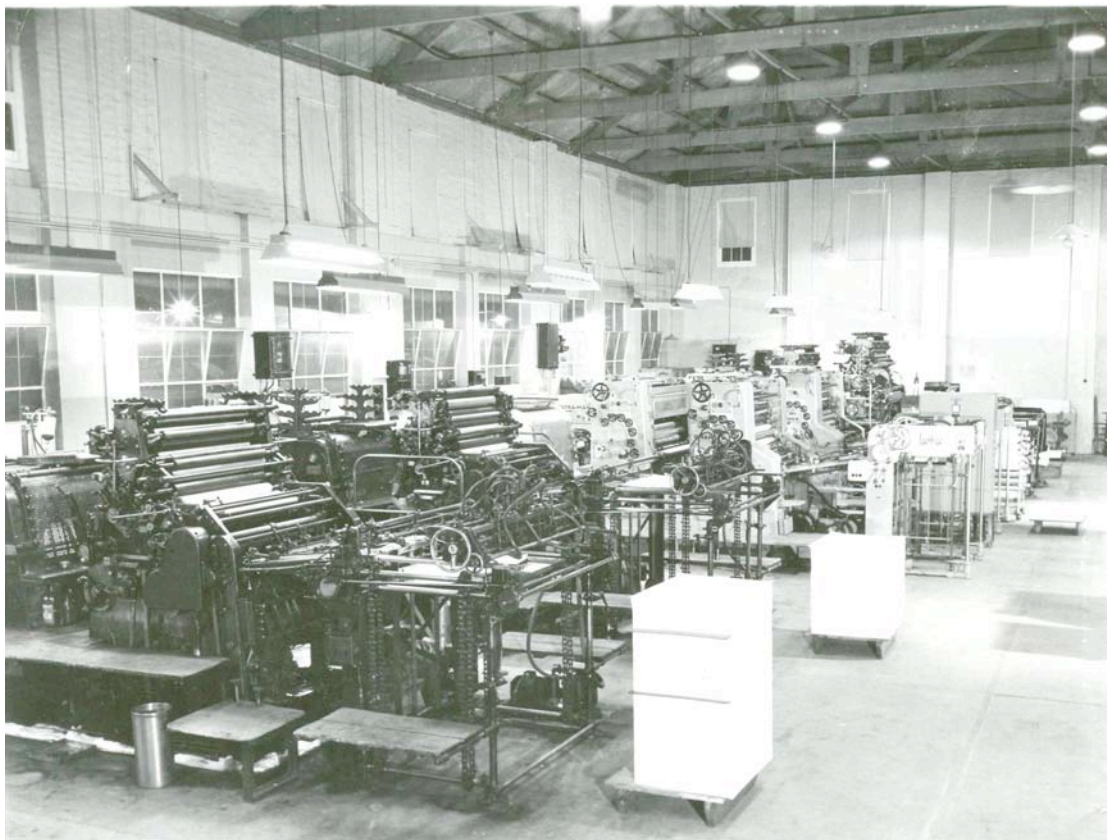
The ceiling and external awnings over all windows was not for the comfort of the personnel however, but to eliminate the condensation which occurred in cold weather and caused pools of condensation from the huge "Dravo" humidifier which had been installed to stabilise the atmospheric moisture and thus reduce paper stretch.

The second photo shows the two MANN two colour presses added to increase production and reduce production time.

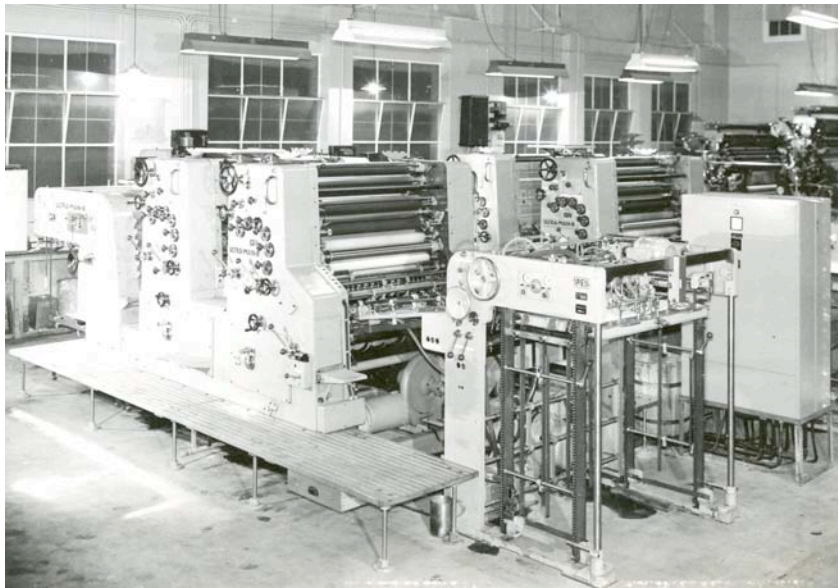
The final photo was taken in the late nineties was for the latest Hi-Tec multi colour press printing up to 13,000 sheets an hour and to celebrate the photo includes Evan Giri, Jack Gore, Sonny Dingle and Lofty Turner and was in an air conditioned area. The squadron was commanded by Major Bill Howarth.
Photographs supplied by Howard (Sonny) Dingle.



**Photo taken on a return to “Fortuna” day in front of new high speed multi colour Heidelberg
From the left
Evan Giri Nooker Rankin Jack Gore Sonny Dingle Not Known Not Known Lofty Turner**



**Battery prior to new ceiling being installed
Single colour MANN presses in foreground 2 colour Quad in background**



New 2 colour MANN Press



Fortuna" Basket Ball Team

Back row Peter Saunders Sonny Dingle Bill Hook Barry Spears Tom Pattison
Front row Peter Bates-Brownsword Bluey Turley **Ike Leaver** Brian Redstone

Vale

Ian Charles "Ike" Lever passed away on 23rd May 09. Ike had a distinguished army career and could be best described as a great team player. Ike was real character and a much loved individual by those who knew him he will be missed by all his friends in Harvey Bay.

Restoration a Survey Ground Elevation Meter Vehicle known as the 'GEM'.



Volunteers from the Australian Army Museum of Military Engineering (AAMME) are currently restoring a Survey Ground Elevation Meter Vehicle known as the 'GEM'.

The vehicle was extensively used by the Survey Corps within Australia from the late 1960s.

The GEM, which was manufactured by GMC (USA), is unique in that it was never imported into Australia for sale. The vehicle was converted into a survey ground vehicle by Sperry-Sun Well Surveying Company in the USA and also converted into a right hand drive.

The elevation meter assembly consists of a four-wheel drive, four-wheel steer vehicle. Four wheels steering of the vehicle is necessary to avoid systematic errors which would be introduced by non-tracking of front and rear wheels on conventionally steered vehicles.

A small fifth wheel that provides the velocity or distance signal through a pulse generator system is mounted on a cantilever arm suspension midway between the front and rear wheels on the left side of the vehicle. It is lowered to and raised from its operating position by use of a constant pressure air cylinder. A telescopic bar, suspended between the front and rear axles, provides the reference datum for the angle measurement. A sensitive pendulum mounted on this bar provides the angle measurement for each minute distance traversed.

The GEM contains electromechanical instruments which are used to determine relative elevations, by trigonometric principles, along a traversed path.

These relative elevations are obtained through apparatus which measures the instantaneous angle of inclination of the road and the instantaneous velocity of the meter along such a path. The meter is not affected by normal acceleration and deceleration experienced during a traverse, nor is it affected by changes in barometric pressure and temperature. The system operates efficiently under visible conditions which would make surveying by optical means impossible.

The advantages of this surveying system over the more usual methods are found in greater speed of operation. Under favorable conditions it was possible to survey as much as 160km in an ordinary working day.

The vehicle was donated to AAMME with the Survey Corps collection when the Survey Corps was integrated with the Royal Australian Engineers in 1996.

Considerable time and effort by Military Engineering Heritage Company (MEHC) volunteers has already been put into the restoration of the GEM's bodywork and mechanical repairs. It is anticipated that restoration work will be completed later this year at which time the GEM will be in a roadworthy condition. RAMME proposes to exhibit the GEM at the museum's travelling exhibitions.

**Major Bob Petrenko
Museum Manager 18 Apr 09**

Foot note to the article by Major Bob Petrenko on the GEM vehicle.

A spokesperson, from MEHC advised that all the mechanicals and electricians of the vehicle have been checked and over-hauled, as necessary, and every effort has been made to keep the vehicle to its original design. He also advised that the equipment to undertake the surveys appears to be all there as he said; "It will take one of Survey Corps operators who operated the equipment in the late sixties to see if it still operates normally." With regards to the on board computer, he said; "I can only tell you that all the lights come on when the computer is fired up."

All we need now is a few ex Survey Corps operators to come forth and fix up the survey equipment. As one can see from the photographs the volunteer MEHC personnel have done a wonderful job with the restoration of GEM and they are to be congratulated for their efforts. We owe a special thanks to *Paul Martyn-Jones for the Mechanical work, Bob Rassmussen for the wonderful paint job and Bill Johnston for his carpentry skills.*

RECOLLECTIONS OF 1 TOPO SURVEY COMPANY CMF.

The Royal Australian Survey Corps CMF was established around 1950 with two units; 1 Topo Survey Coy at Randwick and 2 Topo Survey Coy in Melbourne.

National Service was introduced by the Menzies Government in 1954 and applied to men 20 years of age and over who were resident in Australia.

In the official history of The Army after WWII it is said:

With the introduction of the scheme of National Service Training it became possible to raise CMF units of the Royal Australian Survey Corps in Melbourne and Sydney. In addition to the creation of these units as bases for mobilisation, their raising provided a very valuable link between the Survey Corps in the Regular Army and those forming its civilian technical counterpart. Surveyors, draughtsmen and lithographers in civil life have been allotted to CMF units to which they have brought their technical skills and knowledge; these CMF members have, in their turn, been taught technical facets doubtlessly of value to them in their civilian careers. Members of the Survey Corps CMF units are eligible to attend the School of Survey and many have availed themselves of the opportunity.

(History Of The Post War Army By J.E. Murphy 1955 (at the direction of the Military Board).

1 Topo Survey Company CMF

After leaving high school I joined Charles Stoddart & Associates, a survey practice at Manly NSW. Charles was a Major (later Lieutenant Colonel) in the CMF and was commanding officer of 1 Topo Survey Company CMF at Bundock Street, Randwick.

Charles (Charlie) Stoddart was born at Lindfield in Sydney in 1910 and then moved to St Matthews' rectory in Manly when he was 6 where his grandfather was Minister. It had been because of his father's appointment as officer in charge of the prisoner of war camp at Berrima in World War I that Charles went to live with his grandfather who had served as a chaplain in WWI. Because of his father's death when he was 6, he remained in Manly with his grandfather attending Sydney Grammar School. He started working in Sydney as a surveyor and while studying surveying received his Surveying certificate in 1933. He then worked in London, Hong Kong, West Africa and Canada and on his return to Australia, he joined the Army reserve. Sometime before this I believe he did a stint at the RMC Sandhurst perhaps for first commission and later moved to The Royal School of Artillery, Larkhill on the Salisbury Plain, where he completed the Long Course in Artillery Survey, Sound Ranging & Flash Spotting.

When the Second World War broke out he joined The Australian Survey Corps where he rose to the rank of Major and was discharged on the 31 January 1946 as Major with his last posting noted as Headquarters First Australian Army. I believe he held the appointment of Assistant Director of Army Survey perhaps in PNG. He saw active service in New Guinea and Malaya. Mr. Stoddart stayed on in the army after the war and served in the Australian Artillery Special Survey Corps and later as commanding Officer of 1 Topo Survey Company CMF. When 1 Topo Survey was disbanded in 1957, he moved to 20 Location Regiment RAA (which had been raised in 1950 at Moore Park) to join Lt Col who was CO. He commenced a surveying in 1951 at Manly. He was Vice President and foundation member of the Manly Rugby Club patron of the Manly Art Gallery. Another of Stoddart's great interest was history and he was of the Manly Warringah & Pittwater Historical for many years. Amongst his hobbies was the of historic maps. Mr. Stoddart died in 1982 and obituary appeared in the Manly daily.



Scarlett practice and a Mr. a member Society collection his

Officers of 1 Topo Survey Coy (CMF), out and about from Bandiana Camp. Here at Albury War Memorial.

Although I had only started work as a surveying pupil in February of 1953 Mr. Stoddart soon convinced me that I should join the CMF as a volunteer. It was made convenient for me to do so as I was able to travel over to Bundock Street with him. The first camp I attended was in March 1953 at Studley Park and whilst at Studley Park over the next several years took part in the creation of many maps in the district.

I believe that the first map that was produced by 1 Topo Survey from Studley Park was the 1:25000 Camden map in 1953 which was followed by Bringelly 1:25000 (1954) and Picton & The Oaks 1:25000 (1957).

In 1955 we journeyed to Broken Back west of Cessnock, in the Singleton Military area and produced 1:25000 map of the training area on Broken Back range. I think this mapping area was an area north of the Broke Road and west of Range Road. That was the year of disastrous floods in the Hunter and some of us went into Maitland from camp to help relieve the flood damage in the town. In 1956 we journeyed to Tianjara west of Sussex Inlet and North of Pigeon House Mountain to map the artillery range of Tianjara, memorable for the leeches and bogged jeeps. In 1957 we were back at Studley park where we completed two maps, Picton & The Oaks. Just when we had reached the peak of our skills in 1957, due to the reduction of the National Service scheme, the Army chose to disband the 1 Topo Survey Company in Sydney and in 1960, 2 Topo Survey in Melbourne.

1 Topo Survey (CMF) on the Trig.

My service was then again interrupted by a move to Goulburn to take up a private practice position as a transmission line surveyor in country Australia working from Corryong VIC to Townsville Qld and out to Broken Hill. The result was my inability to put the necessary time and effort into a regular posting so I was posted instead to Eastern Command, Command and Staff Group in 1958, which coincidentally used to assemble several times a year at Studley Park. The purpose of the ECC&SG was to train selected offices in South-East Asian warfare which



then occupied my military involvement for about 4 years with 5 annual camps at Studley Park. From that training I developed a good understanding of what the 1960s and 70s were to expect of young military men. On departure from ECC&SG in 1962, I was posted to the 131 Divisional Locating Battery RAA at Manly where I served for less than two years as Communications and Survey officer. Sound Ranging & Flash spotting were still being taught but the main focus was on the newly introduced portable projectile Radar sets, in those days an amazing piece of equipment to watch in operation.

In 1961 I had returned from the country and joined Manly Municipal Council as an Assistant Engineer and Council Surveyor. I transferred to the Reserve of Officers in October 1963 shortly after commencing a business as a private consulting surveyor. I think it was in late 1964, that I received a letter from the Department of Defence, advising that I had 14 days to decide to re volunteer for overseas service as a commissioned officer on the reserve or resign my commission. Australia had not declared war (and never did) and by that stage I had married, we had three young boys and a new business and so I reluctantly resigned my commission.

The experience I gained in camp at Studley Park in 1953 in surveying for both military and topographical maps, convinced me that I had certainly selected the most exciting and suitable vocation for my interests in astronomy, geometry, the land and the outdoors. I found the work was challenging, demanding and interesting. During the period between 1953 and 1957, I was promoted to the rank of Sergeant several times; the first occasion was at 1 Topo Survey at Randwick in 1954 as a volunteer. Then in National Service at Balikpapan Barracks at Ingleburn in 1955 and then again when I return to 1 Topo Survey but this time as a “Nasho” to complete the National service obligation.

In 1956 I attended the Army Survey School (after 1960, School of Military Survey) at Balcombe on the Mornington Peninsula by Mt Martha and on passing the exams for first commission was promoted Lieutenant. This promotion enabled me to take over the role of assistant survey officer to Capt Ian Foxhall for the production of the 1:25000 Broken Back Topo map near Cessnock and the subsequent map production at Tianjarra and back at Studley Park. While I was at Balcombe I meet again with Les Bailey who had joined the Army and was undergoing initial survey training. I had grown up with Les as a kid at Dee Why.

1 Topo survey company was organised along standard lines with one survey section with several field parties, one drafting, cartographic and photogrammetric section and one lithographic and printing section. Each section had a full list of appropriate equipment.

*Dick Lovegrove (RAA) with father (RAEME) about 1964.
(Notice the bursting grenade of Artillery.)*



The survey section used Cook Troughton and Sims Theodolite, which I imagined would have been one second precision. Surveys were based on long wire traversing, short bases for angular observation, subtense bar traverses and triangulation with resections and intersections all for the creation of the required control points to control aerial photography. In addition, we ran level traverse, trigonometric heighting and barometric heighting to determine contours. Field details were filled in by plane table traversing and photo interpretation. We used Odhner, Munroe, Brunsviga and Kurter calculators (perhaps not all of them at 1 Topo) but most of our calculations were resection calcs and were carried out by pen & pencil on pro-formers with Shortread & Chambers trig tables.

The drafting section was provided with vertical aerial photography for the subject area and surrounding localities. Their task was to integrate the photographs mechanically using slots in the photographs and screw posts inserted through the slots which allowed the photos to be jiggled into a state of least stress between fixed posts representing the survey control points as supplied by the survey section. In addition they had available

various instruments including simple mirror stereoscopes, Multiplex instruments in the camp and I believe stereo comparator graphs at Bundock Street to assist them in the interpretation, drafting, contouring and fair drawing from the photography. They prepared colour separation fair drawings for 5 or 7 colour map production. The colour separation drafting was handed over to the Lithographic Section.

The Lithographic Section used a large trailer mounted centrifugal plate making tank, a large trailer mounted flat plate camera and dark room and an even larger trailer mounted printing press. Photographic light sensitive plates were made in the whirly (centrifugal tank) by spinning a metal plate (may have been an aluminum alloy) while pouring on the light sensitive emulsion. The colour separation fair drawings went to the camera where the images were exposed to the photographic plate and the plates were etched. That process was repeated for each colour separation plate to be prepared. The plates were then mounted one at a time on the printing press master roll and printed for the quantity of maps required. I am sure the information above will not be a new or a surprise to most RA Survey readers.

I only remember a very few of the people involved in 1 Topo Survey. First there were the volunteers; Lieutenant Colonel Charlie Stoddart CO, Capt Bob Alderton, surveyor from Rygate & West in private practice, Keith Smith, surveyor from Rygate & West, Capt Geoff Foxhall, surveyor from Foxhall & Lines in private practice, Maj., Ian Foxhall surveyor, previously Chief Surveyor of the Snowy Mountains Hydro Scheme, Capt Jim Ovington, photogrammatists from Ultimo Tech, Capt Benyon, master printer from private commerce, Lt Dick Lovegrove, surveyor from CR Stoddart & Associates. Then some of the National Service members, Bill Moore who later moved to 20 Locating Battery RAA in 1957, where he achieved promotion to Captain, Bob Ackerman surveyor and Reg Grady surveyor both from the Dept of Main Roads, Peter French surveyor, Geoff Murphy surveyor, Keith Cadogan surveyor, Terry Meakin surveyor from Rygate & West, Dave Johnson, surveyor from CR Stoddart & Associates, Ken Angel surveyor from private practice in Narrabri. The Regular Army cadre included Capt Harvey Hall, adjutant and may have included Jim Long & Ted Laker. I wish I could remember more or that I had better records but the information has been filled out with help from Keith Cadogan, Wal Knowles, Brian McCloskie, Bill Moore-

My involvement with 1 Topo Survey Coy (CMF) was not the result of the advent of National Service but it did improve the experience by having more manpower (as it was before political correctness had become the popular rule of the day) to allow us to do more adventurous work, to exchange knowledge and experience with colleagues and by giving us contact with many young men with a wide experience, a varying vocation and significantly different levels of interest and commitment.

In saying that however I must say I know nothing about the creation of 1 Topo Survey CMF. When was it established? I have searched for an answer to this question but part of the problem is the confusion of names for survey units. For example there was an Army Topo Survey Company during the WWII, The best reference I have found is from Coulthard-Clark's "Australia's Military Map-Makers" which says P138;

"In 1951 a deteriorating international situation [Korean War, June 25, 1950 to July 27, 1953] prompted the introduction of a national service scheme, which aimed to produce large numbers of partially trained men for all three services who, on the outbreak of war, could be brought to operational efficiency without the need for a prolonged period of training. For those 18 year-olds undertaking training for the Army, the requirement was, initially, to complete a full-time phase of service with the regular forces lasting 98 days, followed by a further 78 days (usually spread over three years) in the Citizen Military Forces (CMF). Subsequently, in 1953, this obligation was reduced for Army trainees to a total of 140 days. In April 1957 the scheme ceased to be a universal obligation on young Australian men and was replaced by smaller selective annual intakes, until finally the government abolished national service altogether in November 1959.

For the Survey Corps the scheme's impact was two-fold. The first effect was the approval obtained late in 1950 to raise CMF units specifically to cater for national servicemen once they had completed their full-time training and still had the balance of their obligation to complete. Only two Army-level units were

involved: 1st Topographic Survey Company at Randwick in Sydney, under Lieutenant-Colonel AM. Allen, and 2nd Topographic Survey Company at East Melbourne, under Lieutenant-Colonel A.F. Kurrle. These units were formally brought into being from 1 July 1951 and reached a peak strength of about 180 (including a Regular Army cadre of seven) before 1 Company was disbanded in 1957, following the reorganization of the scheme that year, and 2 Company in 1960 upon the scheme's cessation."

I don't attest to the complete accuracy of the above information. I have not referred to all the references in Coulthard-Clark's history. I would welcome corrections and especially expansion of the story.

Dick Lovegrove
Sept 21, 2009

Royal Australian Survey Corps Association (NSW) Lunch on Tuesday 9th February 2010 at the Sydney RSL George Street Sydney. Time 1200hrs. Dress casual.

It is a long time since the association has had a get together and in view of the interest displayed by members it has been decided that the association would hold a get together on Tuesday 9th February 2010 at the Sydney RSL. The club has a buffet style menu and we have booked a table for 20.

Annual subscriptions

Membership fees are due and I thank those members who have paid. We can only keep members informed of our activities if there are funds and our only source of revenue is annual subscriptions.

Papua & New Guinea Plaque.

There is still no news on the status of the PNG Plaque the NSW Survey Corps Association is still holding funds in a separate account for this project.

If any members have any information or items for the next news in March 2010 letter please send to the secretary by post or e-mail.

As president and secretary I wish all the members and their family all the best for Christmas and the New Year. May 2010 be a great year for Australia and for those who call Australia home.

Richard Jackson-Hope



Photo gallery over the page



Robert Thompson Camooweal Qld 1960



Mal Hayes & Joe Farrington Richmond Qld 1960



Out side Doomadgee Mission OLD 1960



Ian Bryant Barry Harmes Tom Royal Bob Thompson 1960



HMS Steel of Papua 1962



**Front Bruce Cockburn Andy Miller Bill Hook
Annual Training Bendigo 1960**