Canberra Survey Corps Association

Canberra Newsletter

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From the Editor/President

Welcome to all members of the Canberra Survey Corps Association to this second newsletter of 2018. For this edition I especially thank Bill Boyd, Phil Bray, Gary Hunter, Peter Clark and Charlie Watson, from near and far, for their most welcome contributions.

Bill’s story ‘Major Bert Eggeling’s Last Parade’ is a commemoration to the silent bond between two Survey Corps Warrant Officers who served more than a generation apart and had never met before. Bert was nearing the end of his life and words were not needed to share the pride and value that only service in something important and worthwhile can bring.

These next few months one hundred years ago, the First World War was ending. Warfighting in Europe had developed from static trench warfare into large scale combined arms offensive manoeuvre, where the need for accurate and timely survey and mapping was essential. In this period two topographers were recognised for their gallantry under enemy fire, both being
awarded the Distinguished Conduct Medal (DCM). The award citations for Sergeant Stafford and Warrant Officer Murray are included in this issue.

Please continue to send to me for publication your stories, anecdotes, photographs etc, which collectively go to the rich history and culture of RA Svy and military survey more broadly.

Last but not least please add the events for the remainder of the year (see the Fridge Magnet) to your diaries if you are going to be in town.

Peter Jensen
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Anzac Day 2018 and the 103rd Birthday of the Royal Australian Survey Corps

Photographs and attendance rolls provided by Charlie Watson - captions by Peter Jensen

John Bullen once again led the march of the Canberra Survey Corps Association at the National Anzac Day Service along Anzac Parade to the Australian War Memorial with his very smart and proper but recognisable marching style. The marchers, not big in number, then joined with other Association members to enjoy lunch at the Kingston Hotel. Those who could attend were: John Bullen, Len Kemp, Steve Cooper, Anthony Hesling, Trevor and Robyn Marsh visiting from Newcastle, Charlie Watson, Duncan Burns visiting from Newcastle, Ross Jenkins, Dawn Laing and Roger Hancock. Apologies received were from: Kevin Miles, Roger Rees, Les Dixon, Peter Jensen, Noel Ticehurst, Steve Black and Cathrine Jenkins.

Anzac Day lunch at the Kingston Hotel - L to R Roger Hancock, Len Kemp, Dawn Laing, Ross Jenkins, John Bullen, Robyn Marsh, Trevor Marsh, Duncan Burns, Charlie Watson

(Note: the print on the wall is of a Sidney Nolan Ned Kelly with what looks like Mt Glenrowan viewed from Glenrowan town in the background. If that is true, atop is a trig survey station which was used for training at School of Military Survey, Bonegilla.)
The sixteen of you who bravely held rear guard in the Canberra winter to attend the 103rd Corps Birthday lunch, which was once again at the familiar Kingston Hotel, were: Charlie Watson, John Mobbs, Andrew McLeod, Noel Ticehurst, Roger Rees, Effie Rees, Kevin Miles, Kevin Kennedy, Roger Hancock, Rob McHenry, Owen Moss, John Bullen, Mark Heinrich, Dennis Puniard, Cliff and Dianne Webb visiting from Perth. Apologies mainly from travellers were: Dawn Laing, Steve Black, Peter Jensen, Paul Leskovec, David Miles, Gary Drummond and Ross Jenkins.

L to R Rob McHenry, Owen Moss, Roger Rees

L to R Kev Kennedy and Cliff Webb

L to R John Bullen giving the terrain appreciation for the TEWT to Roger Hancock and Charlie Watson. I think Charlie is hiding the DS solution under his hand.

L to R Mark Heinrich, Dennis Puniard, Andrew McLeod and John Mobbs
Topographers’ gallantry under enemy fire – 100 years ago

By Peter Jensen

5395 Corporal Wallace Clements STAFFORD, age 25, university graduate possibly an Engineer, from Sydney NSW, enlisted in the AIF 4 September 1915 in 7 Field Company Engineers. He was posted to the 1st Anzac Corps Topographic Section in France 10 March 1917, and as Sergeant awarded the Distinguished Conduct Medal on 5 December 1918 for his work on 4 August 1918 east of Villiers-Bretteux in the preparation for the offensive Battle of Amiens which commenced three days later and which led to the end of the war a few months later. His citation read:

“Awarded the DCM for conspicuous gallantry and devotion to duty as a topographer attached to Brigade (4th Brigade Field Artillery). He had to resect with plane-table 18 fixed battle positions for field artillery. The only fixed points which could be used were in enemy territory and were not visible from battery positions themselves consequently he had to set up his plane-table upon high ground between the battery positions and the enemy. This meant he was in full view of the enemy, who during the whole time (about 8 hours) he was fixing these 18 batteries, were shelling him with 5.9” howitzers. He successfully accomplished his work, thus enabling the field batteries to fire with accuracy on zero day. In the subsequent attack he kept in close touch with the batteries and had all the new positions accurately resected the same evening. He performed most valuable service.”

In the Middle East, Warrant Officer Class One Alan Stewart Murray, having enlisted in the Survey Section RAE (Permanent) in 1912 then transferred to the Australian Survey Corps in July 1915 and then transferred to the AIF in December 1916, had been serving with the Survey of Egypt and appointed as a draughtsman with the Headquarters Egyptian Expeditionary Force in Cairo. In 1918 he was assigned to the Royal Engineer Survey Company Advanced General Headquarters Topographic Section working in Sinai and Palestine. Here he was awarded the Distinguished Conduct Medal (London Gazette 15 November 1918). His citation read:

L to R looking at the camera, Noel Ticehurst, Charlie Watson and John Bullen
“For conspicuous gallantry and dedication to duty. For a prolonged period this warrant officer was engaged on surveying the area between the lines repeatedly working under machine gun fire and sniping. In order not to attract attention he usually worked alone with his plane table and instruments. Owing to his energy and coolness he has mapped a piece of country accurately and his work has been most valuable”.

The Distinguished Conduct Medal (DCM) is secondly only to the Victoria Cross for gallantry under enemy fire.

The Change of Command Parade – Geospatial Engineering Wing to Geospatial Intelligence Wing

By Peter Jensen

The change of command parade for the Geospatial Engineering Wing from School of Military Engineering to the retitled Geospatial Intelligence Wing of Defence Force School of Intelligence and marking the Corps transfer of Geospatial Officers, Geospatial Technicians and Multimedia Technicians from the Corps of Royal Australian Engineers to Australian Intelligence Corps (AIC) was held at the Defence Force School of Intelligence at Canungra on 28th June.

Bill Boyd and wife Ann, Peter Clark, Steve White and others mostly from the Queensland Association were able to accept the invitation to attend that ceremony. Peter, Bill and Steve were most impressed with the organisation and parade on the day, them being treated as special guests and that in the ceremony AIC appropriately recognised and acknowledged with emphasis the early history of Australian military survey and the significant contributions that the Royal Australian Survey Corps made throughout its existence. Bill donated to the AIC Museum two Second World War mint condition textile small scale maps of the type possibly produced for prisoner of war or aircrew escape purposes in Malaya, Sumatra and Thailand. There was no production agency note on either of them albeit that they are very well produced. Along with the photographs below, Bill has applied his great talent for poetry (below) to map the past to the present from the badge of the Geospatial Intelligence Wing with focus on the colour patch of the Topographic Section.

The triangle patch is purple with a vertical white stripe cast.

This Spectre overseeing a long and distinguished past:-

Battle maps and azimuths - Snowy River’s feasibility,

Mapping ours and other sovereign states - proud tradition of ability.

That’s the inheritance from our days of yore.

The mantle is passed to Intelligence Corps.

By William R.(Bill) Boyd OAM WO1 RASvy Corps (Ret)
I understand that Army has not yet made a decision about the future of the Royal Australian Survey Corps Historical Collection, now a part of the Army Engineer Museum at Holsworthy. I believe that the collective Survey Corps Associations have a part to play in the future of that collection and that we should start to think about that.

The following summary of what the Australian Intelligence Corps is today is from the public internet webpage https://www.army.gov.au/our-people/corps/australian-intelligence-corps

The Australian Intelligence Corps provides dedicated intelligence assessment and support to Army and Joint commanders; executes command of specialist intelligence and all-source teams to produce intelligence and counter intelligence; delivers psychological operations effects; and provides intelligence skills training to Army, Joint, Interagency partners and foreign nations to enable decision superiority, narrative development and capacity building.

Intelligence is the product of knowledge and understanding of the terrain, weather, activities, capabilities and intentions of an actual or potential threat or any other forces with which the Army is concerned. Intelligence is fundamental to the planning and conduct of operations through all dimensions of conflict as it allows the commander to gain control of the threat and mastery of the environment, consequently reducing risk. Intelligence also aims to protect our sensitive information and capabilities through the provision of Counterintelligence activity.

Australian Intelligence Corps personnel include Intelligence Officers; Analyst Intelligence Operations (AIO); Geospatial Technicians (GT); and Multi-Media Technicians (MMT), that serve in a range of positions and roles within the Australian Army inclusive of combat units; Special Operations Command; Brigade Headquarters; the Amphibious Task Group Headquarters; training units; Army Knowledge Group (AKG); the Deployable Joint Force Headquarters; and Army Headquarters. The Australian Intelligence Corps has a large number of personnel serving in the 1st Intelligence Battalion, 7th Signals Regiment and the Defence Force School of Intelligence. Australian Intelligence Corps personnel also serve within Headquarters Joint Operations Command and within key organisations within the Australian Intelligence Community (AIC), such as the Australian Signals Directorate (ASD), the Defence Intelligence Organisation (DIO), and the Australian Geospatial Intelligence Organisation (AGO).
Australian Intelligence Corps has very strong links to the intelligence branches of the Royal Australian Navy and Royal Australian Air Force.

Australian Intelligence Corps personnel are employed in a range of specialist roles including:

**Combat intelligence** - concerning the production of intelligence to support combat commanders and staff on operations

**Counterintelligence** - primarily concerned with the protection of Army’s personnel, information and equipment from foreign interference, from espionage, sabotage and subversion

**Geospatial Intelligence** - intelligence derived from the exploitation and analysis of imagery and geospatial information about features and events, with reference to space and time. Geospatial Intelligence functions include geospatial data management; Geospatial Information Services (GIS); Imagery Intelligence collection and analysis specifically relating to Australian Army helicopters and Unmanned Aerial Systems (UAS).

**Multi-Media design and production** - providing specialist multi-media and creative support to Army’s doctrine and training organisations; psychological operations; and enabling the graphical fusion of intelligence products across Army for commanders.

**All Source Analysis** - involving the fusion of all available sources of information regarding a problem or operational area into coherent assessments for commanders

**Signals Intelligence** - intelligence derived from electronic signals and systems such as communications systems, radars, and weapons systems

**Cyber Threat Intelligence** - understanding and assessing the threats to Army networks and deployed information systems

**Human Intelligence** - collecting information from human sources in the operating environment, including captured personnel

**Psychological Operations** - planned operations to convey selected information and indicators to audiences to influence their behaviour towards deployed military forces

**Exploitation Operations** - concerning the legal exploitation of captured personnel, documents, weapons, media devices and materiel in the battlespace

The Australian Intelligence Corps was formed on 6 December 1907 and is one of the oldest Commonwealth Intelligence Corps. Australian Intelligence Corps has strong links to the [Intelligence Corps](#) (United Kingdom), the [New Zealand Intelligence Corps](#), Canadian Army Intelligence, the Military Intelligence Branch of the United States Army, and the [Intelligence Department](#) of the U.S. Marine Corps.

Australian Intelligence Corps personnel have a proud heritage, serving in all ADF operations around the globe to the present in support of commanders providing vital insights on adversaries, the battlespace and protecting Australian service personnel.

The corps moto is “Forewarned Forearmed”
Warrant Officer Sydney Charles Saunders – 3rd Aust Field Survey Company
By Gary Hunter

I can give you a bit more detail about Sgt S.C. Saunders who was mentioned in the Canberra Survey Corps Association Newsletter 1/2018 regarding survey activities on the Shaggy Ridge battlefield in New Guinea in WW2.

Syd Saunders, as we knew him, was an extremely capable and well-liked senior member of the post-war surveying profession in Victoria. I first met Syd when he was Chief Surveyor of the State Rivers & Water Supply Commission of Victoria (SR&WSC) in the late 1970s. Syd became a licensed surveyor in Victoria soon after WW2 and worked on the major Victorian irrigation, dam and water supply projects for the next 40 years. When Syd was Chief Surveyor of the SR&WSC in the late 70s and early 80s, there were 47 licensed surveyors on the staff plus another eight graduate surveyors undergoing their licensing training - in addition to many survey technicians and field assistants and a very large drafting and mapping section - which made it into a survey branch of more than 150 staff. Syd was extremely well liked and he knew absolutely everyone from his wartime Survey Corps days. People such as the famous Len Beadell would always drop in to the Water Commission headquarters whenever they were in Melbourne to see Syd. So I'm proud to say that I knew Syd and worked under him for several years both during and after my Bachelor degree in Surveying. Syd has passed on now, but he will always be remembered well by those who worked under him.

Major Bert Eggeling’s Last Parade – what it meant to have served in the Royal Australian Survey Corps
By Bill Boyd OAM

(Editor: Major Herbert Frederick (Bert) Eggeling, enlisted as a Warrant Officer Class Two licensed surveyor in the Australian Survey Corps (Permanent) in 1936 posted to 3 Section in Sydney. Soon after the outbreak of the Second World War that section was absorbed into 2nd Aust Field Survey Company RAE commanded by then Captain HPG Clews. Bert was commissioned Lieutenant and posted to 1st Aust Field Survey Company (retitled 5th Aust Field Survey Company) and soon promoted Captain then Major as Officer Commanding the company throughout the Second World War. He was the first Officer Commanding and Chief Instructor School of Military Survey at Balcombe in 1948, retiring in 1950 to practise surveying including the major Moomba to Sydney gas pipeline. He passed away aged 80 years on 14 October 1989. I believe that Bill’s (this) article was published by the Queensland Association some time ago, but I think it is worthy of another read as it clearly and beautifully describes the passion and value that one member had for his service in the Corps. Note: I have updated Bert’s details in the Corps Nominal Roll from the DVA WW2 Nominal Roll - he had five regimental numbers.)

My first contact with Bert Eggeling occurred after the then OC of 2Fd Svy Sqn, Major George Gehrman announced at the Monday morning weekly conference that a group from 2 Sqn, yet to be decided upon, would call on Major Eggeling at his Berkley Vale nursing home on the
Central Coast (of NSW). He had a World War II Japanese levelling instrument that he wanted to donate to the RA Svy Corps Museum. It was no surprise to me that I was chosen as one of the group to visit Bert because I lived on the Central Coast and it meant that one less person had to be taken from the job in Randwick. At the time I was doing some full time Army Reserve work at 2 Sqn.

The following week I was picked up from my home and we proceeded to the Berkley Vale Nursing Home where a morning tea had been arranged. For our part we had brought the unit photographer to mark the event. Bert’s son who is also a surveyor, together with Bert’s two daughters, were with him on the day. The lady who was introduced as his wife, it seems was not the mother of Bert’s offspring.

Major Gehrman introduced himself and continued by introducing the rest of the party. Bert was reserved during the introductions and quite soberly shook each hand on offer. When I was introduced to him, he looked me over and said, “Are you the Sergeant Major?” I replied that I was a WO1, taking into account that he would probably not be familiar with my badges of rank because in his day, the Royal Coat of Arms was the insignia for a WO1. He grew a little impatient and said “Yes I know that, but are you the Sergeant Major?” Without lying, I said, “Yes sir. I am.” As it happened I was acting SSM in the absence of Al Hancox. He smiled, and moved his wheel chair alongside me as if he were back in harness with his Sergeant Major at his side and ready for anything. I do not know if it were noticed by others in the party, but it certainly struck me that he still had “green and purple blood in his veins”.

The presentation of the instrument was carried out with due ceremony, photographs taken and in a short while we were on our way back to Randwick. I never saw the level after that day. I expect that it duly arrived at the museum. A month or so later, George Gehrman called me into his office and said that he had received word that Bert Eggeling had suffered a stroke and was not expected to survive much longer. Would I mind visiting him on the weekend whilst I was at home on the Central Coast? No one else was in a position to make the visit. I said that I would, not really looking forward to the “task,” hospitals or nursing homes not being amongst my favourite places.

I did not give it much thought on my drive from Randwick to Gosford. It was a week since I had last been at home. The next morning, Saturday, I was enjoying being at home but knew that my duty was to be at Berkley Vale. I agonised as to whether I should just put on a fresh set of polys, peaked cap and shoes, or go in full parade dress, it was after all on my own time. My conscience got the better of me, so I proceeded to polish my Sam Browne, brass and boots. I must admit that I felt somewhat out of place walking up to the entrance of the nursing home dressed in full parade attire and it wasn’t even Anzac Day. I was shown to his door where I was met by his wife. We spoke briefly outside Bert’s room. Yes, he was in poor condition and it was just a matter of time. She was more than happy for me to go in and speak to him. Bert lay propped up on pillows with his eyes closed.

A few seconds after I entered the room, his left eye flicked open and fixed on me with unmistakable intelligence. I came smartly to attention, saluted and delivered an unrehearsed greeting from all members of RA Svy Corps, from the Director down. I moved forward to his bedside and bending, held out my hand in further greeting. Bert’s left hand shot out and grasped my offered right hand around my thumb with the back of my hand in the palm of his own. He was obviously paralysed down the right side of his body. For a man on his deathbed, his left handed grip was almost painful on the receiving end. That powerful grip, in unison
with the piercing gaze of his left eye, communicated with clarity and passion. Without doubt he said, “I know what you are and I know whom you represent. I am part of you and you of me”. I responded in like fashion with eye contact and hand pressure. I assured him he was remembered and his contribution appreciated. I have not experienced a wordless conversation like that, before or since. It is impossible to know if he recognised me as the Sergeant Major he almost insisted that I be at our first meeting, but that is of no consequence. He relaxed his grip, simultaneously closed his eye and sank deeper into the pillows. I rose and spent about ten minutes with Judy on the verandah. On re-entering the room I again sat on the side of his bed and spoke briefly to him, again of RA Svy. I took his hand again, this time the contact was more gentle, almost familiar and then stepped back, saluted and took my leave. I spoke briefly again outside with Judy, who expressed her appreciation to the Corps for my visit.

I sat in my car for some time while I relived the experience. There I was, before the event, wondering if I should “go to the bother” to appear in full parade dress to visit Bert. As it turned out, it was probably the most important parade of my life. It was a parade of one for one reviewing officer. I can only hope that I passed inspection.

The meridian origin for the first general trigonometric survey of Australia and a connection with our Canberra region

By Peter Jensen

On a recent visit to Parramatta Park near Sydney, I happened across the remains of Australia’s second European astronomical observatory - the first temporary observatory was set up on the shore of Sydney Cove by Marine Lieutenant William Dawes in 1788 - a few hundred metres up the hill from what had been Government House of the Colony of New
South Wales built 1799 to 1816. That observatory was established in 1822 by the then Governor of New South Wales Lieutenant-General Sir Thomas M’Dougall Brisbane, K.C.B., who took it upon himself, and at his own expense, to build the observatory to promote astronomical science in the southern hemisphere. He was a distinguished soldier, having fought in the Peninsular Wars and the Battle of Waterloo, but also a scientist and graduate of the University of Edinburgh. During his many sea voyages he developed an interest in navigation and meteorology. Prior to leaving England Sir Thomas Brisbane made a collection of astronomical books and instruments, and engaged Mr. Charles Rumker and Mr. James Dunlop to act as astronomers at the intended observatory. The instruments consisted of a 5½ft long transit instrument and 2ft Mural circle by Troughton, a 16in repeating circle by Reichenbach, and a 46in equatorial, and two pendulum clocks by Hardy (solar time) and another by Breguet (sidereal time). Rumker and Dunlop, and also initially Governor Brisbane, set about the nightly task for the next 20 years of observing the planets, stars and nebula to create a rare catalogue of more than 7300 southern skies objects. New discoveries were made.

In 1847, the observatory was closed, and the building quickly became dilapidated mainly from white ants. It was demolished in 1876. The instruments were purchased by the Government from Sir Thomas Brisbane when he was succeeded by Governor Darling in 1825 and eventually used at the Sydney Observatory established on Observatory Hill in 1858 by engineer and Governor Sir William Denison, for the purpose of providing a time service for ships in the harbour to set their clocks for navigation, as a sound basis for land surveys and to establish a scientific educational connection to the new university nearby and the great institutions of Europe and America.

But it was the earlier Parramatta Observatory and especially observations from the transit telescope, which was set up with its optical axis aligned to the meridian to observe the transit time and altitude of stars as they culminated on their apparent journey from east to west, which went to continually refine astronomic latitude and longitude of the new colony.
What now remains insitu of the transit instrument (Figure 1a) is the sandstone pillars (Figure 1) upon which the transit’s horizontal axis was mounted in the prime-vertical. About nine metres away an obelisk, which was unveiled in 1880, commemorates the Parramatta Observatory and its importance in the new colony. In 1887, when Surveyor Edward Ebsworth was engaged in a permanent survey of Parramatta Park he noted that so closely associated with the survey of this colony were those pillars that he went to great trouble to fix their positions accurately, and placed a copper plug in the basal stone so that their exact location would be known even if the piers were destroyed. He also cut the broad arrow into the basal stone, signifying that the mark was that of a crown survey.

![Figure 2 - The copper plug set into the basal stone in 1887 plumbed under the intersection of the 5½ foot transit axes, with the broad arrow of the crown survey chiselled into the stone (arrow pointing south)](image)

On the death of New South Wales Surveyor-General John Oxley in 1828, Major Thomas Livingstone Mitchell (later Lieutenant-Colonel Sir) was appointed to that position. The previous year Mitchell had arrived in Sydney to find that the Survey Department had been run down as Oxley and the surveyors were appointed to exploration and the lack of proper surveys was hindering land sales, land grants and economic development in general. Mitchell found that not one theodolite in the Department was in working order. Mitchell’s preference was also to be out in the regions yet to be explored but he gained approval from Governor Darling to undertake an extensive systematic general survey based on trigonometric survey principles of the extent of the colony that had been explored and settled around Sydney. A general survey would establish an accurate framework for local surveys relating land parcels to each other and to conspicuous and prominent geographic features for land boundary descriptions. Other surveyors had established smaller trigonometric surveys for local purposes. Mitchell’s triangulation incorporated two baselines in the Botany Bay area then progressed south and west and north with a traverse to the Parramatta Observatory for which he would use the longitude determined from the transit instrument and clocks as the longitude origin for the entire survey. For latitude he used astronomic determinations by altitude of circum-meridian stars at six stations. This first extensive survey of the colony is perhaps best described as a reconnaissance trigonometric survey as his survey method was to observe from hill/mountain tops one round of angles by 7 inch theodolite (accurate to about 5 minutes of arc but read to 1 minute) to all other visible prominent hill/mountain tops and on some of these to clear vegetation except for one conspicuous tree as a good target for theodolite sightings. Towards the southern extent he measured a baseline of about one mile long in the northern part of Lake George, more as a check base than a measurement to be integrated into the survey. To measure the bases he used two wooden tent-poles, each made of English deal about 2 inches in diameter, one 10 foot 2 in long and the other 9 ft 11 in. His daily work always included distance travelled measured by Gunter chain and direction by circumferenter (surveyor’s compass). Mitchell was well educated in languages and science (geology and botany), an excellent draftsman gaining his survey and mapping knowledge from his experience as a soldier surveyor/cartographer (in 1811 commissioned 2nd Lieutenant in an
infantry regiment at age 19) where in the Peninsular Wars 1811 -1814 he served with the staff responsible for topographic intelligence. After the war he was commissioned to map those battlefields which he did for four years and for which his work was recognised as a template for military survey.

Mitchell’s trigonometric survey was the geospatial framework for the colony’s first extensive detailed topographic map which he produced six years later of his nineteen counties around Sydney. His predecessors said that such an undertaking couldn’t be done because of the nature of the difficult terrain. Mitchell was much applauded for this 1834 map for which he was knighted. Mitchell set the technical standards and instructions for the work, being assisted by up to eighteen other surveyors and six draughtsman, but by account he himself observed more than 60,000 angles with his theodolite. His six years of work to produce the map from actual surveys, interrupted by his wider explorations and his other responsibilities for roads and bridges and surveys was a tremendous achievement by any measure. In the map’s marginal information Mitchell says ‘Certified from actual measurements with the chain & circumferenter and according to a Trigonometric Survey’. The 1834 map, which covered about 38,000 sq miles, from Tamworth and Port Macquarie in the north, to Moruya in the south and to Orange and Yass in the west was printed in three sections at a nominal scale 8 inches = 1 deg latitude as that was the largest that could be engraved in Sydney on copper and printed in London at the time. The southern inland extent of his map includes what is now the city of Canberra. Figure 3 shows a small portion of the map showing familiar local Canberra names, including the then Canberry Creek now named Sullivans Creek just east of Black Mountain through the Australian National University and Figure 4 showing the Lake George Base. I bought a reprint of the map at the annual Canberra Lifeline Book Fair for a couple of dollars.

![Figure 3 - a portion of Mitchell’s 1834 map of what is now Canberra - note Canberry Creek. All of these names existed before Mitchell’s surveys.](image-url)
Mitchell was promoted Lieutenant-Colonel in 1839 remaining as Surveyor-General until his untimely death at his Sydney home from pneumonia at age 63 years in 1855, resulting from bronchitis which he contracted a few weeks earlier while surveying the road route, which many Canberrans often traverse on their way to and from the coast, from Nelligen over the Clyde Mountain to Braidwood. Mitchell had an expert eye for terrain with many of his road alignments still in use today. His general trigonometric survey satisfied the needs of colonial settlement and development for nearly forty years, being replaced by a more extensive and accurate trigonometric survey commencing 1867, connected to the new Sydney Observatory and a 7 mile long baseline once again at Lake George.

Surveyor-General Thomas Livingston Mitchell was a military surveyor celebrated and recognised as being a centrepiece of early colonial surveying and exploration in Australia. This article is in no way intended to scratch the surface of his great survey and exploration achievements. Like many great men of the time Mitchell was a self-promoting, ambitious, forceful and controversial character and perhaps a fuller story of the part that he played in the development of Australia is worthy of a newsletter article in the future.

Soldier Surveyors Vital Work in Western Australia in the Second World War – a newspaper article 1946

By Phil Bray

(Editor: Recently I received a very welcome email from Phil Bray in Perth. Phil has been researching some family history and using the Australian National Library Trove resource found by accident a 1946 article on the front page of The West Australian about Second World War military survey in that State. I will leave Phil to tell the story, and where that led him. I have now updated the Corps Nominal Roll from what Phil found in the DVA WW2 Nominal Roll. Thanks Phil for this story from a civilian turned soldier being a part of the huge effort of Second World War military survey.)
Peter: Knowing that you have an interest in Military History, I was looking at a Newspaper on the NLA Trove recently and on the same page I found an article in The West Australian Sat24Aug1946 titled Soldier Surveyors Vital Work in Western Australia (link to the Trove article). Above the article was a drawing by E. S. Philpot “In an Army Camp in Western Australia”. I searched to see if there were any more articles by “Draughtsman” but could not locate any.

I decided to look at the Corps Nominal Roll for E. S. Philpot and sure enough he was a WO2 in 3 Field Survey Company. I looked at the WW2 Nominal Roll website and located his Service Record. WX32308 WO2 E S Philpot Service Record. I also looked to see if his Brother William Robert Philpot served in WW2. Sure enough William was a LCPL in 4 Field Survey Company 1942-1944. WX32311 LCpl W R Philpot Service Record. William Robert Philpot does not appear in the current (2018) version of the Nominal Roll. William spent most of his life in Norseman WA as a Salesman.

Looking further, Ernest also wrote numerous “Letters to the Editor” about a wide range of topics.

Ernest became a prominent Artist winning Prizes for his works which are hung in buildings all over Western Australia. He also exhibited on the East Coast and Overseas. A webpage is at I am the Artist

I am unable to confirm if it was Ernest or William who used the pseudonym of “Draughtsman” but I believe that it was Ernest.

Another Brother Charles John served as a FO in the RAAF 1941-1945.

Their youngest Brother Arthur Alfred was a well recognised Architect moving to South Australia. One of the Churches that he designed was the John Flynn Memorial Church in Alice Springs.

I found this newspaper article an enjoyable read that brought back many memories of my days as a “young” Surveyor in the Army.

I do hope that you feel the same way after reading it.

Undercover agents

By Bill Boyd OAM

(Editor: This article was published by the Queensland Association some time ago, but I think it is worthy of another read)

It was about mid 1974 when Lt. Col. Clem Sargent and Maj. Bob Skitch CI and SI respectively of the School of Military Survey Bonegilla, became aware of an assault on RASvy turf. John Hook and myself were chosen as undercover agents to be inserted into the very heart of the trespassers’ territory......Battle Ridge, Canungra.

Our mission, we had no choice but to accept, was to gain intelligence on activities intended to cross the undeclared but obvious demarcation line between navigators and navigation enablers. Clem and Bob got wind of this sneak “line crossing” when they intercepted a secretly circulated document, blatantly calling for military and paramilitary participants from Australia, Indonesia, Malaysia and PNG. It must have been a secret document because neither Hookie nor I had seen it before Clem and Bob showed us.
We presented ourselves at Battle Ridge, John cleverly disguised as a Survey Sergeant and me as a Survey WO2. We exchanged knowing glances at march in, confident our identities would not attract any suspicion of our real intent. The Advanced Tropical Navigation Course was allocated tents on its very own little ridge just below Battle Ridge. It was all ranks side by side and two to a tent. By chance I paired up with a Survey Sergeant. We were told by a sergeant instructor, to establish ourselves in our tents and to appear at the lecture hall at 0800hrs the next morning. No other instructors made an appearance that day.

Garbed in greens and bush hats and distinguished only by badges of rank, we were welcomed as might be expected, with particular emphasis on the international students. The very first Advanced Tropical Navigation Course then got down to business. An Artillery WO2 fired the first salvo. “Just to make sure everyone knows the basics, I am going to revise you on magnetic declination. I know you will all know this, but it can be confusing if you do not grasp the principles from the very beginning.” “You should have a copy of the map of Canungra in front of you. Hands up if not.” There were no hands up. “Good!” “Now everyone find the magnetic declination on the map”. “Anyone not found the magnetic declination?” One hand was raised. “It’s at the bottom, down with the legend. Look down there. Found it?” I answered, “No”. “They all have magnetic declination. It has lines at angles to each other with a star and an arrow head. Found it now?” “No”. I knew there were several versions of “the map of Canungra.” It just so happened that I had worked on two of them. I also knew only too well that the format of the diagram had changed and it was most likely a trick question. The other students’ maps may have had magnetic declination on them. Certainly mine didn’t. “You’re Survey Corps aren’t you?” I smelt a rat. How did he know I was RASvy? We were in greens and he sure as hell wasn’t anywhere to be seen on march in. They had outsmarted us. The game was up. They had done their homework. “As a matter of fact I am.” “Well you should know this!” “As a matter of fact I do.” Standing right beside me he pointed an accusing finger at the grid magnetic angle shown on my map. “There it is!” “Where?” Again the finger, ”There!” “That’s the grid magnetic angle.” Still the finger, “Same thing!” “No it’s not!” “Yes it is!!” “No it’s not.” “Yes it is”.

Two hours later, they were two lessons behind time before smoko on day one of the course. No, magnetic declination and the grid magnetic angle weren’t the same. Neither was the chance of us doing the course incognito, the same. After a field sketching exercise finished off in the tents, there were instructional staff mumblings about there being too much skill in the one group. Hookie was moved to another tent and an Inspector from the 3rd Battalion of the Malaysian Polis Hutan, moved in. John and I really did try to be inconspicuous. The Rapidographs acquired from the RA Svy Draughtsman at Canungra and the sliding parallels I happened to have with me, compliments of Desie Guy, had probably to some extent, been our downfall. Steve, the Polis Hutan Inspector, thought the situation was a great joke and proved to be excellent company for the rest of our stay. For those of you who have ever felt inadequate on an army core subject, all corps course, just because you had not experienced the subject at hand as had your gun toting fellow students, take heart and be aware that it cuts both ways.

The following are instructors’ memorable quotes that come to mind, but there were many more:- “There are three types of aerial photo mosaics:- Type 1, Type 2 and Type 3”. Suffice to say that had any RA Svy unit been tasked with the preparation of e.g. a Type1 photo mosaic, we would have had to inquire of the originator what it was they were asking us to do. “Photo mosaics are used in the field to see stereo”.

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“With hydrographic charts, we can give references to inches, but with army maps we can only get down to metres.” This was an obvious reference to the latitude and longitude seconds symbols attached to numbers labeling lines that to the instructor looked like grid lines. These are of course the same as the symbol for inches.

“We have one thing on the navy though, they are still using the old degrees system but we now use mils”. As best we could reason it was thought by the instructor that the mils angular measurement was somehow an innovation related to metric conversion - mils / mills as in millimetres.

The lesson on plane tabling was predictably a non-event. There was no plane tabling equipment nor an instructor who had a clue as to what it was all about.

We took turns in diplomatically questioning “bum drum” statements as they were made so that neither one of us would be totally responsible for “causing trouble”. The alternative was to allow the “bum drum” to be passed on as the “good guts”.

It turned out that the instructors felt pressured knowing that there were two students who did not need training pams for most of the lessons that they had to prepare and deliver. Naturally, the instructors were still smarting over day one, lesson one. On request, “to save time,” we undertook to approach the instructor after the lesson to point out any problems, unless of course there were monumental “bum drum” incidents when intervention would be tolerated. We did offer to help prepare each lesson, but the offer went begging.

Estuarine navigation saw us in flat bottomed tinnies at Jacobs Well on the Coomera River. The scenario was painted and we set off on a two day and one night exercise intended to flush out ET and the Martian invaders or some equally ferocious foe. Together with the instruction on hydrographic charts, we had been warned of the folly of ignoring tidal influences. The mangrove at our first island landing, reminded me I was back in my home state, but so far south, I was secure in the knowledge that the twisted vegetation harboured nothing any more sinister than mud crabs. Finding no signs of our quarry on a tactical six hour traverse of the island it was back into the tinnies to hole up on another island where we had been assured we would encounter the insurgents throughout the night. We stopped in the middle of the Coomera River. Out of fuel? No! Out of water!!! “Let this be a prime lesson to you! Even our trained coxswains have made a basic error and have not read the tidal charts correctly. Unfortunately we cannot make it to our scheduled overnight island”. Oh what a bugger! If we couldn’t make it to the island where the enemy was, they couldn’t make it to our island either. We enjoyed the sunset with our ration pack dinner and turned in early.

So loomed the final practical test. A warrior like me, tanned by constant exposure to the rays of the light table’s fluorescent tubes, might well be apprehensive about a three day navex on the Lamington Plateau. It was alright for Johnny Hook, he was a field surveyor who feared nothing and could leap over mountains. A cyclone, hatched just off the coast of Cairns some few days beforehand, had the audacity to venture further south than a cyclone had done since almost anyone could remember. Certainly it wasn’t “Tracey” proportions, but enough to disrupt the “deep south”. Oh what a bugger! If we couldn’t make it to the island where the enemy was, they couldn’t make it to our island either. We enjoyed the sunset with our ration pack dinner and turned in early.

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The coup de grace was a question in the final written test. “What are the two map projections used by SEATO land forces?” Yes, I knew because I was a Cartographic WO. Other than John Hook, I doubted that any other student knew what a map projection was. Post examination, I said to the course senior instructor, “I know the answer to the projections question, do you?” I was duly informed that the answer was again in the legend area of the map provided to each student for the examination: 1, The Universal Transverse Mercator Australian National Spheroid, and 2, The Transverse Mercator, Clarke 1858 Spheroid. The map had external yards grid ticks as part of the soft conversion to AMG. SEATO of course encompassed several South East Asian Nations including Australia. Interestingly we never did have a post mortem on the written examination. I would have been intrigued to see the reactions of the foreign students, to what could have been construed as Australia’s territorial ambitions.

As bush navigators, the instructors were top notch. Likewise were students such as the Inf. Sergeant mortar spotter, who with half a bottle of scotch aboard, easily completed the orienteering exercise without a compass. They could show us how, but could not tell us why. John and I left Canungra unscathed physically, but we were somewhat mauled, backhandedly complimented, in our course reports. Clem and Bob were predictably concerned at the course reports we both “earned” and queried us extensively on the reasons. We answered in detail, similar to the above account.

A report with recommendations by Clem and Bob was sent to the appropriate authority regarding the course John and I had attended. Interestingly and unexplained, the very first Advanced Tropical Navigation Course was also the very last.

**Australian Senate recognition of those who died whilst serving**

*By Peter Jensen*

On 20th June I forwarded to all members an email from Fred Brown which included a speech made by Senator Dean Smith (Liberal Senator for Western Australia) in the Australian Senate, recognising those nine Western Australian connected members of the Royal Australian Survey Corps who died whilst serving. That speech is now available on video https://youtu.be/pyYtZ9byGUM

**Survey Corps History Resources**

*By Peter Jensen*

**Corps History research materials.** Previously I reported that the research materials that Christopher Coulthard-Clark used for writing the Corps history (the book “Australia’s Military Map-Makers”) were lodged with the Australian Defence Force Academy Library. I have visited the library and confirm that the records are in the library Special Collection, that they may be accessed by the public and read in the Special Collection Reading Room in normal library opening hours. Access to Clark’s papers summarised at https://www.unsw.adfa.edu.au/library/finding-aids/guide-papers-christopher-clark is by arrangement online at https://www.unsw.adfa.edu.au/library/special-collections# link ‘MAKE AN ENQUIRY’

**National Archives of Australia.** A casual online search of the National Archives website, searching by ‘army AND survey’, shows that a lot of the Second World War Aust Survey Corps
unit Routine Orders Part 2 (RO2) (Series B6390) of personnel transactions of all types are now deposited with Archives in Melbourne with status ‘not yet examined’ for public release. Document examination is normally only done when someone asks to access the record. Series B5132 for RO2 for the period 1947 to 1961 are also deposited with Archives. I know that there are more RO2 as I sighted them in 2009 at Central Army Records Office when they were being prepared for lodgement at Archives. There are many other Survey Corps records of various types and titles. Series K888 Unit orders and instructions - 5 Field Survey Squadron c1955-c1989 are in Perth ‘not yet examined’ - that should be a great resource for unit historians.

Our Association Calendar 2018/2019 – the fridge magnet

October/November 2018   Golf Day (SNAGA)
Sun 11th November 2018   Remembrance Day dinner
Thu 6th December 2018    Christmas Happy-Hour - The Duxton Bar and Restaurant, O’Connor shops at 5pm
Thurs 25th April 2019   ANZAC Day march, commemorative service and lunch
Mon 1st July 2019       Corps 104th birthday lunch