



Australian  
**sapper**

2017







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Most of our objects of importance are stored and displayed in The Australian Army Museum of Military Engineering or at The School of Military Engineering.

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## Editorial board

Editor-in-Chief: Brigadier David Wainwright DSC

Editor: Major Clive Riddle

Graphic Design: Mr George Petrovski

Contact the editor: [RAE.HOC@defence.gov.au](mailto:RAE.HOC@defence.gov.au)

*Cover: Australian Army soldier Corporal Cameron Stevenson from 2nd Combat Engineer Regiment conducting Watermanship and Bridging (WAB) on the Subject 4 Corporal Course at Camp Sapper, School of Military Engineering on 26 July 2017. This phase of the course teaches participants how to launch and recover the Improved Ribbon Bridge (IRB), refresh operating techniques on the Bridge Erection Propulsion Boat Mark II (BEPB Mk II), and places each course member into the position of the OIC module launch and recovery*

# Message from the Head of Corps Royal Australian Engineers

BRIG David Wainwright DSC

Fellow Sappers past and present,

I am delighted to introduce the 2017 edition of “Sapper Magazine” as your new Head of Corps (HOC). As expressed in my introductory letter in August, I see this HOC appointment as a tremendous honour and indeed an immense privilege. My key focus in this role is simply and wherever possible to provide support to our people. I firmly believe that our Sappers have and always will underpin the capability we bring to both Army and the Joint Team. As your HOC, I look forward to assisting you in this important endeavour.

Again what it is clearly evident in this year’s edition is the skill, dedication and unique can-do ‘Sappernuity’ of our people. The achievements reflected on each page while in every case exemplary are collectively achievements that one can often struggle to justly capture. This years edition, yet again adds to the richness of our Corps and our strong heritage. This is something that we all should be truly proud of and I commend the efforts by all in putting this edition together – Well done.

I would like to formally express my appreciation to the outgoing HOC; Brigadier Wayne Budd who handed over the reins in July this year after over a decade of dedicated service as our HOC. I join you in wishing both Wayne and his family all the very best for his future endeavours. I equally seek to express my thanks to the wider Sapper Regimental family that extends from associations, regional committees, through to every unit and support group. I remain extremely impressed by your efforts and the commitment you continue to make to our Sappers home and abroad – Thank You.

At this year’s Corps Conference, our leadership team of COs and RSM’s collectively developed a revised RAE Vision Statement. I thank you for this important body of work and believe this statement humbly captures what we are, what



we do and why we as Sappers remain a critical capability for both Army and our Nation. I commend these to you all as a basis to engage and suggest that this statement underpins how we as a Corps collectively embrace our future.

I feel it is important to highlight that our Corps continues to enjoy extremely generous support from a rather distinguished group of Sappers leaders. To MAJGEN Steve Day and the team of RAE Colonel Commandants, thank you for your service to the Corps, congratulations on your appointments and our sincere thanks to each one of you for your support.

## RAE Vision

**Sappers conduct the dangerous, dirty, and demanding tasks that enable the Joint Force to live, move and fight.**

**Our people form uniquely skilled, adaptive and prepared teams drawn from the Total Force.**

**Investment in our people, equipment and emerging technology will enhance the Joint Force in a congested and contested future operating environment.**





*BRIG Budd hands over the reins of RAE HOC to BRIG Wainwright.*

As 2017 draws to a close, I wish to formally acknowledge and thank our departing CO's and RSMs for your service; 2 CER CO ~ LTCOL James Dugdell; 3 CER RSM ~ WO1 Glen Donaldson; 6 ESR RSM ~ WO1 Andrew Stoker; SOER RSM ~ WO1 Jeremy Faint; SME CO ~ LTCOL Markus Ludwig, RSM ~ WO1 Scott Middlemis; 19 CE Wks RSM ~ WO1 Ian Hancock; 5 ER CO ~ LTCOL Andrew Johnson; 8 ER CO ~ LTCOL Adrian Harding, RSM ~ WO1 Sean McAlinden; 22 ER CO ~ LTCOL Michelle McCormack, RSM ~ WO1 Tony Luchterhand; 3 Fd Sqn OC ~ MAJ Carl Miller, SSM ~ WO2 Rob Turner; 13 Fd Sqn OC ~ MAJ James Kurz.

You and your extended families have invested significant levels of personal commitment to our Regimental Family. Congratulations on the achievements your units have collectively accomplished under your leadership. Please extend our congratulations and best wishes to your respective successors as you complete your respective handovers.

It would be remiss if I did not highlight the historical amalgamation that occurred this year of 5 Engr Regt and 8 Engr Regt. My thanks to COs Andrew and Adrian, both RSMs, through

#### Current RAE Colonel Commandants

Representative Colonel Commandant - Major General S. Day, DSC

Colonel Commandant Western Region (WA) Colonel G. Simpson, RFD

Colonel Commandant Eastern Region (NSW and ACT) Colonel A. Mostafa

Colonel Commandant Southern Region (VIC and TAS) Colonel B. Murray, AM

Colonel Commandant Central Region (SA) Lieutenant Colonel G. Manuel

Colonel Commandant Northern Region (QLD and NT) Major General S. Day, DSC

to unit members past and present for the professional manner and ceremonial spirit that marked this auspicious event.

In closing, my congratulations to our award recipients this year through to the continued distinguished promotions of Sappers at every level. I hope you are all able to positively reflect on the achievements of 2017 captured in this year's Sapper Magazine. You have much to be proud of. Please accept my sincere best to you and your families for Christmas; and I look forward to supporting you in 2018.

# Message from the Corps Regimental Sergeant Major Royal Australian Engineers

WO1 Steven Ditullio OAM



Sappers, I hope you have all had a rewarding year and either your efforts, or that of your unit, has been written about in this year's magazine and reading about it brings back happy memories and a few laughs.

My first year in the appointment as the RAE Corps RSM has been an absolute eye opener in regard to the work that is done by the Employment Category Managers and Training Developers here at CATC in the Tuscany of the South - Puckapunyal. I have been constantly amazed at the variety of subjects we get called upon to research and influence. A majority of the staff have been here a while now and are moving on in 2018 and I would like to thank them for their efforts during their tenure and they can leave knowing the foundation work they have completed over the past few years will be built upon in 2018 to continually improve the Corps.

To all our Sappers that have been recognised during the year in the 2017 Australia Day and the Queen's Birthday Honour list, I congratulate you for your outstanding efforts, service and in cases bravery.

To the Sappers who have been recognised with this year's Soldier's Medallion for Exemplary Service and Service Commendations to you as well, congratulations upon being recognised for your excellent devotion to duty and exemplary service.

One of my additional duties is to prepare the End of Service Certificates for Service to the Corps (drawing on all my multi-media tech skills). To all those sappers, both officer and soldier who have moved on from the regular Army, either via discharge or transfer to the Reserve, I thank you for your service and hope that your certificate is hanging in the pool room so in years to come and you can look at it in moments of reflection and have fond memories of your service.

Thank you to the sappers posted to the Kapooka region for a respectfully conducted memorial service remembering the 26 Engineers killed in May 1945. I look forward to attending again in 2018 with the Head of Corps.

2018 will see more changes to the way we train to become a sapper. For some trades within the Corps this will see a rationalisation of training to allow you to concentrate more on your primary trade, whilst for the Combat Engineer it will be business as usual.

Lastly, I would like to recognise the continuing service of Brigadier Budd but in particular thank him as the outgoing RAE Head of Corps over the past 10 years. Sir, your service and guidance to the Corps has been long and exemplary, thank you from all of the sappers of the Corps.

All please have a great Christmas and a happy New Year, have a good rest and see you in 2018.

# The Royal Australian Engineers Foundation 'For Sappers, By Sappers'

COL Tara Bucknall



The Royal Australian Engineers Foundation continues its work to support the Australian Sapper community and to help preserve our military engineering heritage. The Foundation serves to supplement (not replace) the support offered to all Sappers by the Corps Fund. As a registered charity, the Foundation has flexibility to support activities and make financial contributions that Corps Funds and other agencies, such as Veteran's Affairs, cannot. Consequently, the Foundation can service an important niche in the wider suite of support options available to our military engineering community.

In short, the Foundation is here to 'put back' into the Corps where it can. Board members have all served in the RAE, and seek to identify opportunities for the Foundation to fulfil its main roles of philanthropic support, professional development support and heritage preservation for the RAE.

In 2017 a number of key board members have retired and the RAE Foundation Board is currently reviewing its constitution while seeking suitable current and former serving members to join us. This has unfortunately resulted in a slow down of the level of support we have been able to provide to the community. The range of potential support offered by the Foundation is significant. Current and former Sappers are

encouraged to contact the Foundation with ideas for activities or people who need support. To that end the RAE Foundation is seeking volunteers who would be willing to consider provision of support in the following areas:

- Financial administration
- Web management
- Communication support
- Fundraising activities
- Liaison with community / RAE Members

The Foundation is a non-profit organisation that depends on fundraising to maintain its services to the Corps. Donations to the Foundation are tax-deductable and all monies raised go towards supporting those who serve in the RAE. For information on what the Foundation does and how you can make a contribution or become involved, visit the Foundation's website at: [www.raefoundation.org.au](http://www.raefoundation.org.au)

# Force Engineer Branch

CAPT Andrew Hansell



*A MAN HX77, procured under LAND 121 3B – Medium and Heavy Vehicles and Trailers. The BBI will be used on modified HX77 vehicles.*

This has been another busy year for the Force Engineer Branch (FEB) which continues to provide support to Army's engineering capabilities. This year also saw FEB transition command and control from HQ 6 Bde to HQ FORCOMD.

Some of FEBs key activities in 2017 have included:

## **Army Aboriginal Community Assistance Program (AACAP)**

FEB has continued to provide the strategic lead for AACAP planning throughout 2017. As the co-chair of the AACAP Steering Committee, the Force Engineer (FE) represents Army's interests in the joint venture with the Department of the Prime Minister and Cabinet (PM&C). FEB provides advice and guidance to PM&C on Army's needs and capabilities whilst also supporting 19 CE Wks and 6 ESR in the selection, development and delivery of the project within the selected community. The branch achieves this through engaging with internal and external stakeholders in the delivery of the Programme across the lifecycle of each individual project, and across the six lines of operation:

- construction
- community engagement
- training
- health
- public affairs
- logistic support

2017 marked the 21st year of the Programme and involved a challenging build in the northern NSW town of Toomelah, located on the border with QLD near Goondiwindi. The contingent delivered a significant structure in the multi-purpose facility, built a new road, and refurbished the community church and oval. Concurrently the training team delivered a number of Certificate level courses and other minor workshops aimed at empowering members of the community and aiding them in seeking employment opportunities. The health team provided medical support to the contingent whilst augmenting local medical services for the community. This year saw the National Rugby League (NRL) return for the AACAP National Aboriginal and Islanders Day Observance Committee (NAIDOC) Week activities with the support of Mr



Brad Tighe as NRL Ambassador, and the provision of training courses. AACAP continues to be an important training exercise for Army's deployable engineering capability whilst making important contributions to the quality of life in remote Indigenous communities.

## Operations

CAPT Luxford-Sanderson was released to deploy from Jan-Jul 17 as an embed in HQ Resolute Support (HQ RS), being the NATO enduring mission to support the Government of Islamic Republic of Afghanistan (GIROA). During the deployment he performed two main roles. Primarily, CAPT Luxford-Sanderson was the Explosive Remnants of War/Engineer Plans Officer. In this role he was the principal engineer planner for HQ RS, project managed the High Explosive Training Range clearance program, and participated in the Civilian Avoidance and Mitigation Board. This board, on behalf of HQ RS, actively worked towards reducing the occurrence of civilian casualties in theatre whilst also investigating claims of civilian casualties.

His second role was that of Chief Exploitation Officer in the Counter Improvised Explosive Device Directorate, Combined Security Transition Command - Afghanistan. This role entailed identifying the process that the GIROA security elements were using for the submission, collation and dissemination of exploited evidence to ensure information sharing to prepare the force, attack the network and support the rule of law. This required the review of current processes and policy and the alignment of the security forces efforts, comprised of the Afghan National Police, Afghan National Army and National Directorate of Security – Counter IED.

In Aug 17 FEB also saw MAJ Sipple post back to 19 CE Wks on promotion and deploy into the Senior Project Engineer role in HQ Joint Task Force 633 where he will remain for six months. In this position MAJ Sipple will be the OC of the Engineer Support Element and will supervise project teams and tradesman in Iraq, Afghanistan and the United Arab Emirates (UAE).

## Core 24

'Core 24' continues to provide Defence with a framework to access C and selected D vehicle hire, and to address sustainability issues with the aging vehicle fleet. This is done through a Standing Offer established by Capability Acquisition and Sustainment Group (CASG). FEB continues to act on behalf of the Lead Capability Manager, to conduct detailed coordination with the respective units to facilitate

the collation of the financial year forecasts and the submission of applicable User Requirements.

In the first instance, equipment requirements should be met through use of the in-service fleet. When this is not possible, the Standing Offer may be used to hire applicable equipment. Specific details regarding the Standing Offer are provided in DCA Directive 31/14.

The effectiveness of the Standing Offer was showcased recently during Exercise Talisman Sabre 17, when C and D vehicles hired through 'Core 24' were used extensively to support the activity and overcome capability deficiencies with the existing fleet, at a cost of around \$450,000.

## Support to Projects

### L121 3B Update

This year has seen the IIS of several variants of the Land 121 vehicles and associated equipment. For the RAE this includes the Combat Engineer Stores Module which is designed to be used in conjunction with the Unimog replacement. This Module has been designed and configured to stow the tools and equipment required by a Combat Engineer section in the field. It can also be reconfigured to store trade equipment or for use as a construction site office. FEBs involvement included attending and providing alterations at preliminary design reviews and obtaining wavier approval when requested through AHQ to the contractor.

The Mack Launch and Recovery Vehicles continue to undergo refurbishment to extend their life until 2020 whilst their replacement capability is being developed. The replacement capability is the Floating Support Bridge & Bridge Erection and Propulsion Boat Interface (BBI) Module. The BBI will be used on modified L121 HX77 variants. With the BBI fitted, the HX77 will have the ability to load, unload, launch, recover, and transport the Floating Support Bridge (FSB), Improved Ribbon Bridge (IRB) and Bridge Erection and Propulsion Boat (BEPB). Initial trials were conducted in early 2017, which identified some areas for improvement that will continue to be rectified, ahead of the IIS date in 2020.

Another L121 capability is the new Medium Dump Truck, replacing the current Unimog Dump Truck. This vehicle has improved safety features include the Vishay PM1155 Payload Indication System (PIS). This

system provides the operator with current weight, load distribution and vehicle stability information from sensors throughout the vehicle. This system alerts the driver to a potentially unsafe condition like an uneven load in the tipper body, via an audible alarm and visual indicator. There are four internal tie-down points within the tipper body for securing plant equipment or small loads. Trials have commenced on this vehicle.

### L998 Update

FEB supported the CASG request to raise a training team by providing the team leader to implement the IIS training. Land 998 is the project instigated to deliver an aviation fire vehicle capability to replace the in-service 'Titan' vehicle, which has reached its end of life. Land 998 has provided a deployable aviation fire and rescue vehicle (the Oshkosh Striker) capable of expeditionary operations. Army has received 10 Strikers, which are located within the CERs, 6 Avn Regt and the RAAF Security and Fire School.

During the period Jul 16-Mar 17, phased training was conducted to implement Introduction Into Service (IIS) for the Striker. IIS was successfully completed in Mar 17 and Initial Operational Capability (IOC) was declared. The vehicle is on-track for Full Operational Capability (FOC) declaration in Mar 18.

### Army Hollowness Remediation and RAE's contribution

In early 2017, FEB coordinated the RAE's response to Army's Hollowness Remediation Review, where RAE was directed to identify 69 positions for disestablishment. While this was a small proportion of Army's overall reduction target (2,275 positions), the cuts were always going to be difficult. With significant debate and support from the Corps leadership, a number of options were developed to meet this directed target.

A key consideration was trade sustainability. Many of the positions identified were long-term vacancies that have been unfilled for many years, highlighting issues within those trades. Noting that some recommendations for target positions were not accepted, the end result for the corps still incurs some risk: construction trade sustainability remains an issue for more analysis and the Corps is accepting more risk to its technical supervision capability. On a positive note, in an environment focussed on reducing establishment, RAE grew by 10 positions, via the raising of the 3rd EOD Troop at 20 EOD Squadron.

Besides the long-term vacancies targeted for removal, the establishment changes (commencing over CMC 2018-2019) are as follows:

- **CERs** will see a Tp HQ per CER reduced, which will trigger the combination of CONST and SPEC Tp HQ into a new C2 node. They will lose most of their vertical construction capability, which will now concentrate within 6 ESR. CERs will keep a trade section (six pers) each. Six SGT positions from the CERs will be removed, as will one SPR position in each CER.
- The **AER** trade will shed five positions (MERO and WO1 level) to reduce the upper-rank imbalances make the trade more sustainable.
- **Works** and **Vertical Construction** capabilities will reduce by a Works team at 6 ESR and nine ENGR SVCS SGT positions. Within these trades, long term vacancies and non-supportable positions outside 1, 3, 6 and 7 BDE will also reduce.

So what? Now that the CER's will lose most of their ability to execute construction tasks, 6 ESR must shoulder the responsibility for force and formation level vertical construction support. This poses risks to established BDE activities, and reduces technical capability across the Corps. Notwithstanding, Army's senior leadership has been briefed on the risks and the associated reduction in capability, and have accepted them in the context of the broader Hollowness reduction objectives.

The end result was not RAE's preferred option, but we now need to manage the implementation and implications as best as possible. That the Corps was able to identify the positions it wanted to offer up was a win in itself, and the analysis highlighted some structural issues for monitoring. Overall, the cuts are part of Army's plan to achieve an affordable workforce. Consequently, as new capabilities come online Army will have the ability to grow the workforce accordingly, while remaining within the bounds of funded workforce structure.

### Defence Seaworthiness Update

FEB has been involved in the development of the new Seaworthiness management framework, which has direct implications for how RAE operates and maintains watercraft and dive systems. The Defence Seaworthiness Management System (DSwMS) is an enterprise-level capability risk management



framework that provides assurances to CDF that defence maritime systems are being appropriately operated and supported through its life cycle. Previously, assurance was provided through annual seaworthiness boards for Army Small Watercraft and Army Work Diving mission systems.

Throughout 2017, Army has been working with the newly created DSwMS Office to develop a set of responses to broad questions about how Army manages, operates and supports maritime systems. This work has involved operators, maintainers, engineers and commanders from SOCOMD, 2 Div, 17 CSS Bde and FEB. The Force Engineer is responsible to COMD FORCOMD for AUW, Mk III F-470, BEPB/FSB/IRB, IHSV, and AWD. SO2 FORGEN, MAJ Young, has been intimately involved with the process representing RAE mission systems with the assistance of MAJ Mendon (FEB), CAPT Fisher (FEB) and WO2 Rowe (SME).

The intent of this work is to assure the CDF that Army is capable of managing its maritime systems through its normal command and support structures. Implications for RAE units are two-fold: there will be some changes to operating documents such as SOVO Vol 4 to reflect Army's new responsibilities within the DSwMS framework; and units will be required to conduct mission system assurance activities through their normal reporting chain of command. This new reporting structure reflects

normal Army business-as-usual and nests within routine compliance activities within units.

### **Force Engineer Capability Working Group (FECWG)**

The FECWG, conducted twice during 2017, provided an excellent opportunity for key members of the Corps to gather together and develop and discuss current pertinent issues. In 2017, the FECWG covered a significant amount of ground including: the ongoing development of the RAE Capstone Plan 2026, review of the RAE CMETL, development of the RAE Hollowness Reduction Plan, development of the RAE HADR CONEMP, OP ATLAS and associated equipment planning, and future modernisation priorities.

### **Unit Visits**

The FE conducted a tour of fulltime Engineer Regiments and SME between May and August 2017. The purpose of the visit was to engage with COs and staff to get a feel of the key issues within units. A key part of the discussions were based around seaworthiness assurance activities, but also provided an opportunity for units to discuss issues they felt were important to the corps and their unit. FEB was able to address concerns about equipment, support, training, and facilities as they relate to watercraft and dive systems. The FE also visited Engineer Regiments in the field during this year's Exercise Talisman Sabre, in support of evaluation requirements.



## Armour the Engineers

MAJ Ryan Orders



*The US Assault Breacher Vehicle is designed to breach minefields through explosive, electronic and mechanical means. It is being considered by Land 8160-1 for service in the Australian Army.*

Army is on the path to upgrading or replacing its entire armoured vehicle fleet, and with it, the introduction of an Armoured Engineering capability. For the Joint Land Force, this capability means the ability to fight when and where it chooses. For the Corps, it means protecting our sappers. The capability will see the introduction of Infantry Fighting Vehicles including a Manoeuvre Support Vehicle and M1 Abrams based breaching, bridging and engineering vehicles; to each of the Combat Engineer Regiments.

The Corps will enable the Joint Land Force to move through obstacles whilst in contact with the enemy, by significantly reducing the time, resources (people and equipment), and danger associated with breaching operations. The various vehicles and equipment that are part of the Armoured Engineering capability are designed to complement each other and work within combined arms Battle Groups. Identifying obstacles, opening lanes through minefields, crossing gaps, or pushing and pulling rubble in the urban terrain, are but a few of the tasks the Corps will be able to conduct whilst under armour.

Armoured vehicles for Engineers will be introduced to service from around 2023. The vehicles, inclusive of all aspects of Fundamental Inputs to Capability, are delivered through two main projects; Land 400-3 Mounted Close Combat, and Land 8160-1 Under Armour Breaching and Bridging. Army recognises that to slow or stop land movement can be a simple and inexpensive task for an adversary to conduct, hence, for the Joint Land Force and the Corps; armouring the Engineers is critical to fighting in the modern and future battlespace.



# RAE modernisation

LTCOL Scott Jamieson

The next ten years will see the introduction of a significant amount of upgraded equipment for the RAE; by 2027 sappers will be using new plant equipment, new combat bridging, new emergency response vehicles, new Counter Improvised Explosive Device (CIED) and route clearance equipment, and will be operating from new B vehicles, infantry fighting vehicles, armoured recon vehicles, and armoured engineer/breaching vehicles.

## Current Capability

The Portable Explosive Lane Clearance Charge (PELCC) and Bangalore are certified for use by all units and will be used in training in October 2017. The Engineer Systems cell is working with FORCOMD, SOCOMD and Air Force to formally introduce Military Working Dog (MWD) (Explosive Detection Dog (EDD), Military Police Dog (MPD) and Combat Assault Dog (CAD)) equipment into service with Capability Acquisition and Sustainment Group (CASG) in 2018/2019, enabling the fleet of MWD equipment to be managed by CASG instead of by individual units.

Projects delivering now are:

**LAND 988** – Replacement Aviation Fire Trucks (RAFT). All Army Striker XC have been delivered to Army, with remediation works expected to be complete by the end of October. Final Operational Capability (FOC) will be reached in June 2018.

**LAND 155** – Enhanced Gap Crossing Capability. L155 will deliver 4 bridge types for Army use: In addition to the replacement MGB, the new floating bridge (the Improved Ribbon Bridge or IRB) replaces the FSB with an improved MLC of up to 80. The footbridge enables dismounted gap crossing, and the Dry Support Bridge (or DSB) offers an expedient 45m gap crossing capability for the ADF vehicle fleet.

**L155** continues to gather momentum as IIS training occurs and bridges are delivered to units, with footbridge training complete and Improved Ribbon Bridge training complete at 1 and 3 CER. The Dry Support Bridge will be delivered to Australia in January 2018. Final Operational Capability (including all training) will be reached in December 2018.

Out to 2027, RAE projects include:

**LAND 8120** – Engineer Support Platforms. L8120 will replace the ADF's engineer plant fleet, its cranes and off road telehandlers/MHE. L8120 represents a unique opportunity for the Corps to acquire a modern, whole fleet capability in one project to replace its ageing plant equipment; it will be the main effort for the Engineer cell in the next 12 months and will see increasing engagement with units in 2018. The project is working toward a Final Operating Capability in 2026.

**LAND 8160** – Armoured Engineering. MAJ Ryan Orders has outlined the future of Army's armoured engineering capability in the next article; the RAE leadership must understand and clearly communicate the importance of armoured engineering capability in protecting soldiers and enabling the future land combat system.

**Land 2110-1B** – Chemical, Biological, Radiological and Nuclear Defence. The project will provide a significant increase in CBRND capability for the ADF including an electronic Warning and Reporting system, new protective ensembles and new decontamination systems. L2110-1B will start to deliver from mid-2019 with the readying Brigade and training institutions being the priority. The CBRND training continuum will be refreshed and additional training requirements included for the ADF; it is expected the RAE will assume some responsibility for Army CBRND training. Final Operational Capability will be reached in 2023.

**LAND 154-2** – Joint Counter Improvised Explosive Device Capability. The first component of L154-2, the Weapons Technical Intelligence Level Two laboratory, will be located with 1 Int Bn and provide Defence with the ability to conduct higher level exploitation activities forward in the areas of operation. The second component, Force Protection Electronic Countermeasures, will institutionalise FPECM across Defence, and provide the Bdes with opportunities to train as they fight in an IED threat environment. Final Operational Capability will be reached in 2022.

**LAND 154-3B** – Joint Counter Improvised Explosive Device Capability. L154-3B is in its concept development phase and will upgrade FPECM, deliver





*This image: The Dry Support Bridge is being delivered by project L155. The bridge is constructed by a section and supports the crossing of heavy vehicles, including tanks, over gaps up to 45m wide.*

*Below: The newly delivered STRIKER-XC aviation fire truck enhances emergency responder capability.*

an enhanced route clearance capability, and replace the aging EOD robot fleet. Final Operational Capability will be reached in 2027.

**LAND 8140** – Deployed Force Infrastructure. L8140 will provide a scalable operational infrastructure system to address the ADF's need for physical infrastructure in any forward deployed environment. The capability will consist of three parts: firstly, an intellectual modernisation element to support integration of equipment solutions with the built environment; secondly, improved contracting mechanisms for timely access to equipment and workforce; and thirdly, equipment solutions to meet expeditionary Force needs. The system will be scalable by force size and composition, and by threat level.

Beyond 2027, the RAE will look to harness emerging technology to improve capability. In particular, developmental robotics and autonomous systems will remove sappers from risk and allow the RAE to generate more capability per sapper than ever before, potentially leading to significant change to how the RAE organises itself and fights. Introducing these changes,

and balancing them against increasing training liabilities for sappers will be a challenge requiring innovation and leadership from all levels of the corps.

There are exciting new capabilities and equipment being introduced in the near term and it is great to be a part of that process; thank you for your support this year. Open communication is particularly important to success, and I welcome further discussion that can help shape the future of our corps in the right direction.





# Directorate of Officer Career Management - Army

MAJ Rod Davis

It has been my pleasure to meet and work with the great proportion of the Officers of the Royal Australian Engineers during 2017, and I am pleased to offer the following observations from my first year as the Corps' Career Advisor.

Firstly, having travelled to all parts of the Corps, I can attest to the strong technical proficiency and the remarkable dedication to duty of the Corps' personnel across a very wide range of appointments. In almost all locations, our units are meeting operational needs despite being undermanned and working on very short timelines, and are delivering results with considerable praise from a variety of supported organisations and agencies.

The role of Career Management Army is to meet service need obligations, provide professional development opportunities and address personal preferences. Our Corps has a robust Corps model which encourages variety and fosters appropriate skills, knowledge and experiences in those seeking to compete for sub-unit command and other competitive opportunities. My observation is that the talent of the Officers in our Corps has been demonstrated considerably well in 2017, whether in our units, training establishments or headquarters, and the future of the Corps' leadership looks bright.

Secondly, looking at opportunities for advancement, there are a few key points for 2018 and beyond. Retention and the rank of Major is holding steady, meaning we have a healthy asset sufficiently capable of filling almost all RAE positions and achieving good representation in the all-Corps environment. Officers at the rank of Major have a wide range of opportunities available including deployment, competing for long-term schooling serials to initiate progression along the Personnel or Capability & Project Management Pathways, or employment in niche areas of the Army or Non-Service Group. Additionally, there are a number of opportunities to return to the Regimental environment to guide the next generation of junior leaders.

The rank of Captain is undersubscribed, meaning that the Corps must carry vacancies to ensure essential representation in the all-Corps environment is met. This is a pressing matter for our

Corps, but is not isolated to our Corps. Army-wide initiatives such as the Junior Officer Sustainability Plan seek to create competition for promotion to Major and prolonging Average Time in Rank at Captain by one year, which will – in part – provide more time for junior Officers to broaden themselves, whilst addressing critical shortfalls in manning. There are considerable opportunities for Captains, including collective and individual deployments, language training, overseas training serials and exercises, along with representational appointments as an Aide-de-Camp, on UNTSO or in Defence Force Recruiting.

The RAE has a healthy asset at the rank of Lieutenant, allowing sufficient manning after filling Regimental and Training appointments for Officers to compete for representational appointments as Liaison Officers. Under JOSP for the RAE, the large majority of Lieutenants can expect to be promoted after three years (or three and a half years for mid-year RMC graduates). Lieutenants are reminded that it is their responsibility to push for completion of the All-Corps Captains Course prior to promotion, as provisional promotion will not be guaranteed for those not completing essential courses.

In terms of training, the RAE has been very good at attending All-Corps Officer Training Continuum courses in the target attendance windows. One area for improvement remains attendance on the Engineer Officer Operations Course, which has a target attendance window of third-year Lieutenant to second-year Captain. I encourage all junior Officers seeking to perform highly to actively seek attendance on this course as early as possible.

Of the 313 Officers presently in the RAE Foundation Group Portfolio, 199 hold tertiary qualifications, of which 44 hold post-graduate level qualifications. 138 are presently studying some form of tertiary qualification. These statistics highlight the intellectual nature of the Corps, and indicate the active interest in self-development. Education (Qualifications) forms one part of an Officers' Merit Profile, alongside Performance, Experience, Potential and Values, and remains one avenue for personally contributing to your future competitiveness. Well done to all Officers who

are balancing demanding full-time appointments with part-time tertiary study.

Finally, I manage eleven standing individual deployments, meaning that on top of the vacancies the Corps is presently risk managing, additional liability emerges through deployment requirements. In addition to this, we are commonly called upon to provide Officers for all-Corps deployment positions. Our Officers are representing the Corps and the Army extraordinarily well on Operations OKRA, ASLAN,

HIGHROAD and ACCORDION, and we are gaining exceptional experience in these roles. I encourage any interested Captains and Majors who are interested in competing for individual deployments in the next 18 months to make that point clear during the Career Advisor Tour in February-March 2018.

In closing, I wish all Officers and Soldiers of the Corps and their families well for their postings in Career Management Cycle 18, and look forward to providing continuity in this role until January 2019.

## Directorate of Soldier Career Management - Army

### RAE Cell-DSCM-A

Firstly, the RAE team at DSCM-A would like to thank all Units for accommodating their needs and requirements that enabled us to conduct career interviews with unit personnel. It was a very successful period for the team with over 740 interviews being completed across the four portfolios. We understand the complexity of unit training programs and short-notice deployments and we are more than happy to fit in to busy schedules to support and conduct career interviews. At this stage for CMC 2019 Career Guidance Tour, RAE Career Advisors are required to conduct interviews for those personnel who are due to post (CPL to WO2) or for any RAE member that wishes to discuss their career (SPR to WO2).

The Corps is still feeling the pinch in critical trade areas with continued low personnel numbers across the following trades and ranks; ECN 270 – Plant LCPL to SGT, ECN 423 – Geospatial SGTs, ECN 096 – CE SGTs and ECN 374 – Builder SGTs. These reduced numbers are still having a significant effect on most units. The Corps is growing capability at a slow rate, mostly in the SNCO ranks. The numbers reflected in the tables represent those members taken to PAC this year, for potential promotion WEF Jan 2019.

DSCM-A is required to present soldiers to the Personnel Advisory Committee (PAC), for promotion or selection for key positions. Merit is the key factor influencing promotion in a very competitive environment. This year, Army Values were added to the list of attributes that are considered by the PAC Board when determining a member's suitability to promote. Army encourages soldiers to actively

seek the opportunity for professional development. Professional development is varied and can include additional study or extra appointments within their community at sporting clubs or local schools.

Sapper numbers are constant, with the Corps experiencing an overabundance at SPR rank. Units are doing their best to keep the LCPL and CPL numbers at the required establishment levels for all Trades and our WO2 and WO1 numbers are at the required levels. Across the board we are struggling to fill most SGT positions and retain SGTs within the Corps.

One of our primary concerns is providing the required numbers to fill those vacancies that are the priority fills from the Chief of Army Staffing Priorities (CASP) i.e; 1 RTB, RMC-D and SME. We managed to fill our commitment to 1 RTB and SME with CPLs and SGTs, but personnel remain reluctant to post to RMC-D.

ECREM and RAE steering groups are working to find solutions to RAE shortages in certain trades and at certain units. ECREM is also discussing the future role of EOD and whether EOD is better postured in the Regiments as a Troop entity. There are also detailed discussions and plans for the potential amalgamation of ECN 432 into ECN 096. Much work is still yet to be undertaken for these issues with DSCM-A providing valuable input as the processes develop further.

The writing of PARs is still an area of concern to DSCM-A. It is an area that requires development and education, particularly for those Assessing Officers (AO) and Senior Assessing Officers (SAO)

who have had limited experience writing them. The standard of assessment is slowly improving, however DSCM-A strongly encourages those AOs and SAOs to review PAR templates and guides on how to adequately and fairly write a PAR on their members. All SNCO's, Warrant Officers and Officers are highly encouraged to visit a PAC voting session to experience the process first hand; to gain an appreciation of the potential impact an Assessing Officers comments can have on soldier's career.

In February 2019 DSCM-A will commence the annual Career Guidance Interview tour and interview those members that require one. To assist us in helping all Sappers, it is important that members complete their posting preferences via SharePoint, prior to the Career Advisors visiting the Units. It is encouraged that all members consult the latest Chief of Army's directives, of note, the ASI (P), Part 4 Chapter 1 Career Management.

At the end of this busy year we will be saying farewell to CAPT Nigel Hinde who is leaving DSCM-A to move to an instructional position at ADFA. WO1 Tony Wicks is posted to 6 ESR after three years at DSCM-A and WO1 Mick Bates is posting to another cell within AHQ. Three new members will be joining the team in 2018. CAPT Ben Turner will take over control of the WO2 portfolio, WO1 Scott Middlemis, previously RSM SME, will manage the Combat Engineer and EOR/EOD portfolios and WO1 Darren Parsons is posting in to manage the Plant and Trade ECNs. WO1 Lee Palfrey is remaining at DSCM-A and will continue to manage the Geospatial Technicians, Emergency Responders and Multimedia Technicians.

As always the RAE Career Cell greatly appreciates the sacrifice members and their families have to make to fill those positions that are not the member's first preference.

On a final note - the tables below highlight the numbers of RAE soldiers presented at PAC for promotion in 2019. DSCM-A will usually take two persons to PAC for every vacant position. Although there are a vast number of vacancies at some ranks, soldiers must still be deemed suitable to promote to the next rank.

\* Due to there being no expected vacancies in 2019, there is no PAC.

### Target rank SGT

Trade	Taken to PAC
CPL Cbt Engineer	18
CPL Emergency Responder	0*
CPL Plant OP	4
CPL Carpenters	3
CPL Electricians & plumbers	2
CPL Geospatial technicians	9
CPL EOD tech	7
CPL Multimedia technicians	0*

### Target rank WO2

Trade	Taken to PAC
CPL Cbt Engineer	10
CPL Emergency Responder	0*
CPL Plant OP	3
CPL Carpenters Spvr Build	2
CPL Electricians & plumbers	3
CPL Multimedia technicians	0*
CPL Geospatial technicians	4
CPL EOD tech	7

### Target rank WO2

Trade	Taken to PAC
CPL Cbt Engineer	10
CPL Emergency Responder	0*
CPL Plant OP	3
CPL Carpenters Spvr Build	2
CPL Electricians & plumbers	3
CPL Multimedia technicians	0*
CPL Geospatial technicians	4
CPL EOD tech	7





## School of Military Engineering

LTCOL Markus Ludwig

SME has had a busy and very challenging year. We continue with our primary role of the delivery of an array of military engineering courses for 11 months of the year, from mid-January through to mid-December. Equally important is our responsibility to rehabilitate injured Ab Initio trainees through the Trainee Rehabilitation Wing and the continued provision of subject matter advice on engineer trade and training issues.

SME continued to host a number of international and VIP visits throughout the year. These included foreign delegations from Germany, New Zealand and Thailand and our own CA, COMD FORCOMD and DG TRADOC. These visits continue to provide an opportunity to gain valuable insights into how other foreign forces undertake their military training whilst also allowing the SME and RAE with an opportunity to highlight issues.

Our affiliation with various associations has continued throughout the year and included a visit from the Vietnam Tunnel Rats on 22 November. It is important to ensure that we continue these types of relationships and encourage veterans from our more recent conflicts to impart their experiences with our Ab Initio trainees.

SME's support to various new capability projects and supporting CATC and Army in the development of trade and training continues. The Corps was scheduled to undertake an Employment Category Review and Endorsement Meeting (ECREM) in mid-October however

the Corps made a deliberate decision to postpone this based on robust analyse and discussion at the Corps Conference (10-12 October) around the proposed combat and construction engineering trade models.

The Corps is on the cusp of significant change with a pending ECREM, which will change our trade and training models, and the introduction into service of new equipment and systems. This will ensure that we remain agile in our ability to support future Army and the ADF across all echelons. Geospatial and Multi Media Technicians will transfer across to AUSTINT and the Geospatial Engineering Wing will undergo a name change to the Geospatial Intelligence Wing and transfer across to the Defence Force School of Intelligence by 1st July 2018.

I said this last year and will say so again. As a Corps, we need to ensure our future through appropriate investment in the development and delivery of training. To do this we must ensure that we strongly encourage and allow our best and brightest Sapper Soldiers and Officers to undertake a posting to the SME during some stage of their career. In addition, we should invest heavily within the RAE Trade and Training Cell at HQ CATC. This is an area, which has been understaffed for too long. We owe the Corps this and more importantly, we owe our future Ab Initio Sapper Soldiers and Officers the best possible start to their careers.

I would like to take this opportunity to sincerely thank all RAE Units that provided support to the SME throughout

this busy year. Without your continued support, a number of courses would either not have been conducted or have been as successful as they were.

I would like to reflect on the passing of three members of the SME in 2017. Mr Darryl Crichton (WO2 Retd) on 14th February, CPL Alex Roberts (RAInf) on 6th March and SPR Luke Ellis on 8th October. Their sudden passing impacted heavily on the SME team. I was very proud of the resilience demonstrated by the staff and trainees to rally together and support each other during these trying times whilst continuing with the delivery of training.

The SME will farewell a number of key staff during this posting cycle including OC Training Support Wing, MAJ Myles Conquest, RSM SME, WO1 Scott Middlemis and the SME Padre, CHAP Ricky Su. Their dedicated contribution to the SME has ensured the continuance of training during a very challenging period for the school.

Finally, I would like to thank all the SME staff and instructors for your dedicated and tireless commitment and support throughout a very busy and challenging year. For those moving on to other Units or elsewhere, I wish you the very best in your future endeavours. For those remaining or marching into the SME in 2018, you are responsible for developing the future Sappers of the Corps at the Home of the Sapper, a responsibility you should be honoured with, and not take lightly.

## Specialist Engineer Wing

Specialist Engineering Wing (SEW) have had a strong focus in 2017 on providing the Corps with updated and innovative training in a number of key Corps capabilities. The Wing has assisted a number of Land Projects as they work through the testing and evaluation stages of RAE capability implementation. A number of LMP's as well as some key Doctrine have undergone review with the implementation and integration of new Corp capability.

### The Explosive Detection Dog Cell

The EDD Trainers Course successfully trained 12 EDD's to reinforce the EDD Trade; which was noted as a personal best for the SME EDD Cell.

This year has seen the addition of a RAAF Dog Handler position within the EDD Cell as well as the integration of three RAAF members on the EDD Handlers Course. This concept will be continued and developed into 2018 and will ensure that the EDD capability is calibrated between the two services.

The EDD Training Dog Foster Program, which was conceived last year, has now been fully implemented and continues to be successful. The program has provided essential environmental stimulation to selected dogs that are waiting to commence their EDD training.

The EDD Cell have worked with the Army Knowledge Group (AKG) on making considerable changes and updates to the LWP-CA (ENGR) 2-5-1 Explosive Detection Dogs, which should see the new Doctrine released by early 2018.

### Demolitions Cell

The Demolitions Cell has continued to work with ALPC for the launch of the new CAMPUS course 'Demolition Supervisor Recertification'. The course has had to overcome a number of challenges to progress to its current state and is looking positive for launch prior to the end of the year. This will allow Demolition Supervisors to re-certify prior to expiry and continue to maintain their qualification.

The LWP-G 3-6-6 has undergone a review during the second half of 2017 with the identification of a few minor changes. These amendments have now been made and will be incorporated into a future edition which will be released in March 2018.

The issues that have focused around the new in-service Bangalore Torpedo have finally been resolved and units should now be able to incorporate it into demolition practices and training.

There is ongoing research occurring into a new suite of explosive natures to bring the RAE demolition capability into the future. Concepts are being discussed and examined to provide the ADF with the best options to take forward.

### Chemical, Biological, Radiological, Nuclear Defence Cell

During 2017, the CBRND cell has been busy consolidating and delivering the current CBRND training continuum to the RAE ROBC and Subject 4 promotion courses, as well as the tri-service standalone courses for the wider ADF. The most significant change to the courses have been the removal of the 4 week Advisor course, and the implementation of Electronic Warning and Reporting into the new 2 week Advisor course, with manual plotting being moved to the CBRND Training and Operations Supervisor. Policy direction has emphasised the CBRND alignment with current NATO practices, which also resulted in a visit from the commanders of the German Army CBRN Defence Command in order to initiate dialogue outside of the ADF

realm. In addition to the RAE staff and RAAF OIC within the cell, we have now rounded off the ADF representation with the raising of a RAN CBRND Advisor position.

### **Counter-Mines Cell**

Counter-Mine (CM) Cell is responsible for the instruction of the Australian Protected Route Clearance Capability (APRCC). It consists of the Husky suite of modular platform protected vehicles, the Self-Protection Adaptive Roller Kit II (SPARK's II) and the High Mobility Engineer Excavator (HMEE) Tractor. The Cell is able to instruct the 214014 Husky Operators Course, and the 124581 APRCC Commanders course here at the School. We can assist in exported training of the SPARKS II course, and it is our intent to run this course alongside the Husky Operators course in 2018.

CM Cell operates the Virtual Battle Space 3 (VBS3) suite for the APRCC Commanders Course. It provides virtual models and terrain to allow operators to use the full APRCC capability, including dismounts, in a simulated live threat environment. This includes weather, atmospheric such as traffic and pattern of life, live programmable OPFOR and explosive hazards. Whilst limited in its capability to carry out operator and physical skills training, it is exceptionally good at simulating command and control tasks, mission planning, and exploring / developing SOP's/TTP's.

### **Mine Warfare Cell**

In 2017, Mine Warfare Cell has continued to develop the training packages and materials relating to the use of landmines in the modern Battlespace. As the technologies of war rapidly evolve, so does the need for relevant tactical training and the procurement of equipment to enhance Army's counter-mobility capability. In line with this is the recent introduction of the VMR-3G to the regular Army's suite of Mine detectors. The VMR-3G is the replacement for the outgoing Handheld Standoff Mine Detection System (HSTAMIDS). The VMR-3G will now provide the handheld Ground Penetrating Radar capability for RAE. To support the transition to the new detector a hard packed GPR Lane has been installed at the School by the Mine Warfare Cell. This lane will be used to test the equipment's capabilities and to train personnel; it is designed to demonstrate the capability of the equipment in terrain where visual cues may be lacking.

### **Search Cell**

The Search Cell has placed emphasis this year on the development of the Subject 4 CPL Course during both their Search Team Leader and Explosive Hazard Reduction Team Leader Phase. Specifically the cell has developed

the understanding of booby traps by providing RAE CPL's with the basic tools to reduce simple booby traps. As a result, the SUBJ 4 CPL qualified members are capable of dealing with a myriad of "open" victim operated, Specialist Explosive Devices and Improvised Explosive Devices.

The Search Cell has provided instructor support to both DEOTS and the School of Infantry (SOI), which has seen both instructor and trainee benefit. These tasks have seen the Search Cell develop training packages specific to the needs of the supported organisation.

### **Watermanship and Bridging Cell**

Watermanship and Bridging Cell have seen the introduction into service of the new BEPB Mk2 and Improved Ribbon Bridge (IRB). With this new equipment comes new training models and procedures IOT project RAE capability.

2018 is set to see further works developments at the WAB yard and Camp Sapper with the construction of the BEPB, IRB and Dry Support Bridge (DSB) infrastructure. Training on the DSB commences mid next year with the Land 155 Cell.

Conclusively, SEW continues to maintain and assist in the development of capability through the provision of high quality and improved training to the Corps and the wider ADF. The SEW staff have continued to work tirelessly to provide Specialist Engineering knowledge and training to the Corps.

## **Combat Engineer Wing**

Combat Engineer Wing (CEW) completed another busy year in 2017 which included conducting over 25 courses, training over 500 members (ranging from Sapper to CAPT including six International) of which 17 were female. During the year there were changes to a number of courses; the Australian Regular Army (ARA) Initial Entry Training (IET) course, the Australian Reserve (ARes) IET course, ARA Engineer Royal Officer Basic Course (ROBC) and the Engineer Officer Operations Course (EOOC).

The Intermediate Tree Felling Course was removed from the ARA IET course by CATC in the second half of the calendar year because it is not sustainable in the long term. ARA IET members are still trained on basic tree felling techniques. Another modification to the ARA IET course is in Urban Operations in Support of Infantry (UOSI). The CEW staff is working with the School of Infantry (SOINF) to update the UOSI course to ensure it is in line with the SOINF updated shooting continuum.



The second phase of the ARes IET course remains 15 days but includes 17 days' worth of instruction and assessment. The two additional days resulted from a LMP review noting two sub-LMPs to the ARes IET course contained updated content making them longer. One ARes IET course has completed the more compact course and, despite the long days, found it educational overall.

The changes to the ROBC and EEOC courses are in the Tactics Modules; specifically focused on ensuring assessments are focused on rank-appropriate products. In close consultation with Combat Command Wing (CCW), a continuum has been established ensuring engineer trainees leave courses prepared for their next job and with a solid engineer foundation for the next course.

CEW is committed to providing units with members who are trained in current techniques and procedures but understand the foundational tactics and skills required of Engineers. Key to this is feedback from units on what is relevant and needed outside the school and having the correct visiting instructors with the right skills and experience to exponentially enhance a course.

## Construction Wing

2017 has proven to be a challenging and successful year within Construction Wing (CW), with the delivery of multiple promotion and first appointment courses by CW staff members and support staff. CW has also maintained its focus on the development and delivery of its courses, in particular, Subject 4 WO2 Construction (ADF Construction Management), Subject 4 WO1 Construction (ADF Programme Management), Weapon Effects and Force Protection Course (WEFPEC) Pilot, and Civil Construction Plant Course (CCPC).

Within CW, each individual cell has also had an eventful and positive year. Trade Training Troop (TTTP) continues to perform well. This has seen the management of Defence Construction Trade Trainees improve with a continued stream of new tradies completing their apprenticeships before being posted to their respective Army and Royal Australian Airforce (RAAF) units.

The decision to adopt a Joint training model with combined RAAF and Army personnel at CW has proven successful, ensuring consistency in training across the services. This has shown excellent potential within the Joint operating sphere and will continue to improve.



*Session 0065 of CCPC. From left to right. SPR Beddie, SPR Cummins (power stance), SPR Pajank, CPL Haidar, SPR Smith (SOM), SPR Mammen*

In addition to delivery of training, CW has been able to provide support to 21 Construction Squadron, 6 Engineer Support Regiment (6ESR), in its delivery of the Army Aboriginal Community Assistance Program, 3rd Combat Engineer Regiment (3CER) whilst participating on Exercise PUK PUK 17, as well as other C and D Vehicle training being held external to the School of Military Engineering (SME).

In 2018, it is expected that the Wing will continue to improve the delivery of training and maintain its focus on ensuring courses delivered meet the capability requirements of both services. The successful pilot of the SNCO Subject Courses has also created a benchmark training model that we will look to maintain into the future.

The adoption of the WEFPEC has seen SME try to close the knowledge gap within the services regarding Force Protection (FP) and its application. This is particularly important to the wider Australian Defence Force, since there is only a finite amount of training currently available that specialises in weapon effects and FP. This course provides supplementation to the more specialised course, allowing more technically qualified members to receive training which will provide benefit to their commanders into the future.

Overall, 2017 has been a rewarding year for CW with some excellent training delivered, but more importantly, the continued development of training to ensure it meets the requirements of the wider Army and RAAF. It is envisaged that this will continue into the future, which provides excellent scope for the Corps, especially within the Construction Trade.

## Construction Management Troop

Construction Management Troop (CMTp) has had a successful year in the development and delivery of a number of promotional and career courses within a joint-service environment.

CMTp have made developments to the Subject 4 WO2 Course and successfully delivered a new trial, the ADF Construction Management Course. This is a joint venture between SME (CW) and Engineering Education Australia, IOT enhance and better align the course with civilian instruction. This will afford trainees the opportunity to learn the fundamentals of Project and Construction Management and Government Procurement requirements. The advantage resulting from the updated training model ensures that ADF Works Supervisors are trained comprehensively IOT effectively fulfil their role.

Similarly, the development of the trial Subject 4 WO1 Course is occurring with the expected delivery being Dec 17. Based on the success of the Subject 4 WO2 Course (ADF Construction Management), CW is confident that this will be a successful venture and align more with the standards required of Works Managers from the wider Army and RAAF.

The ROBC Module 2, Construction, was delivered to a course of 44 students. The course underwent significant development IOT refocus the content at a Troop Commander LT/FLG OFF standard, which requires an understanding of construction management at the CPL and SGT level. All students were brought together to be tested on site management plans, practical concrete pour, route recon and repair, camp recon and design, and finally how to protect their newly designed camp using Force Protection Engineering principles. They also back briefed their commander to give a degree of realism to the training in preparation for troop command.

Also, 2017 has seen three CPL Construction Core and two SGT Construction Core Courses completed as part of the training required for Royal Australian Engineer (RAE) Corps SPR's and CPL's and RAAF Air Field Engineers to be promoted to the next rank. In all sessions there was also a relatively equal mix of both civil and vertical trades.

A number of courses panelled members from foreign militaries. The ROBC Module 2 had students from New Zealand, Tonga and Fiji, and the CPL Construction Core Course had two members from Fiji. This provided a unique experience for all trainees to share and learn about other cultures and their military capability.



IOT aid the training on a number of CMTp career courses, site visits of ongoing road works were facilitated by Roads and Maritime Services (RMS) in southwest Sydney. RMS has been undertaking civil works upgrading infrastructure for the Badgery's Creek Airport. These sites proved to enhance training, and students reacted positively to observing the real-life relevance of their training as well as contextualising the similarity between ADF and industry practice/standards. In addition to this, it also demonstrated WHS procedures on a construction site and how these are mirrored in the ADF.

## Trade Training Troop

In 2017, Trade Training Troop (TTTp) has continued to provide the RAE and RAAF with quality tradies. This year we have graduated 11, which have subsequently posted to 6ESR and 3CER, with one member immediately deploying on Operation OKRA.



*Clockwies (from top left):  
SPR Glancy and SPR Micallef  
conducting final finishes to a Shed  
Slab; ROBC students on a RMS  
site visit. This provided students  
the opportunity to see a road works  
project in delivery.; a member of the  
ROBC conducting a survey task.*

### Civil Training Troop

Civil Training Troop (CTTp) has had a busy year in developing Training Management Packages and Learning Management Packages, improving the quality of training delivered and generally evolving the capability requirements of horizontal construction for implementation across all Army and RAAF units.

CTTp has seen the delivery of two CCPCs, three Crane Courses, one Soils Technician Course, two Airfield Engineer (AFENG) Skid Steer Loader Courses, one AFENG C3 Drivers Course, one Geospatial Technician Course, one Survey Technician Course, and one Subject 4 CPL Civil Course with the result being the qualification of 134 trainees. It is important to note that CTTp have qualified the annual minimum number of trainees, and it is expected in 2018 that these numbers will increase dramatically due to numerous opportunities to schedule full panels. A 2018 course calendar will be released within the near future which will enable units to forecast professional development opportunities and deconflict with other commitments.

CTTp, specifically the SM WO2 Aaron Moore and Equipment Section SGT Thomas Vallas, have reviewed and provided guidance to external parties on projects and developments including LAND 8120 P1 – Engineer Support Platforms, LAND 121 – PH3B Medium Weight Tipper, and SOVOs Vol 3 C and D Vehicles.

The CCPC has featured in 2017 receiving the majority of reviews and developments. Furthermore, WO2 Aaron Moore has finalised a number of proposed amendments (pending approval) aimed at updating the course delivery and ensuring the instruction meets the required standard. This will further align the course with current practices and facilitate instructors delivering the course. It is predicted that the new iteration of the course will be trialled in 2018.

The Civil Circle' newsletter was released by CTTp for the first time this year IOT communicate all trade related issues and information enhancing the daily operation and governance of the trade. The second edition is scheduled to be released before the 2017 Christmas stand down period.

From a trade perspective, TTTp has been focused on providing diverse and realistic training. TTTp staff have tirelessly sort new contractors IOT align training opportunities with current industry standards and trends, provided gap training with the support of the Army Logistics Training Centre, and have supported AACAP on multiple occasions.

From a military training perspective, the current training continuum has been successfully implemented which included monthly training blocks and foundation skills packages. TTTp staff are currently executing our culminating activity for 2017, Exercise TRADIE ASSAULT. The exercise scope of works items are a pre-fabricated shed, Asian style hut, Forward Operating Base Holdfast electrical hardening and FP construction. The culminating activity will provide an opportunity for members of TTTp (staff and trainees) to work under conditions similar to that of AACAP in preparation for their future roles.







## Geospatial Engineering Wing

### Introduction

The Geospatial Engineering Wing (GEW) has had another busy year delivering high quality training to the newest cohorts of Geospatial Technicians, NCOs and Officers. The continued use and development of the wing's internal Geospatial Information Training Network (GEONET) has enabled ongoing delivery of high quality, up to date and relevant training to produce capable technicians to grow the geospatial and multimedia capabilities and trades. With the proposed Corps change from RAE to AustINT, GEW's training is evolving and shifting away from basic map production into advanced analysis products that are able to be fused with other sources to become useable and tailored intelligence and decision support products.

### Joint Training

This year has seen a significant increase in joint training opportunities for GEW, with the Geospatial Officer's Course (GOC) increasing in size to include the attendance of two international trainees from the Canadian Air Force and New Zealand Army. The attendance of these members is to evaluate the feasibility of ongoing exchanges between coalition training establishments into the future. In addition to this, significant liaison and course development has been conducted to enable the attendance of the Royal Australian Navy (RAN) hydrographic survey personnel on upcoming GOC, the Geospatial Technician Basic Course and the Geospatial Managers Course (Sub 4 WO). Instructor support was also provided to the RAN Hydrographic School at HMAS Penguin to assist with geospatial training delivery. These integration activities are

working towards facilitating better integration of Army and RAN analysts, bridging the gap between land and sea within the amphibious analysis environment, as well as strengthening links within the ADF's Geospatial Community and its coalition partners.

In early 2017, two members of GEW travelled abroad to attend Geospatial working groups in both the United States and Canada to further develop GEW training and management practices, as well as mapping standards across all organisations. The visit to Canada was focussed on training in the areas of web-based mapping and distributed geospatial databases in order to distribute products and information more efficiently to a greater number of people. The working group conducted in the United States concentrated on building shared Geospatial standards for the American, British, Canadian, Australian and New Zealand (ABCANZ) alliance; a collaborated effort between member nations to enforce the standardisation, integration and interoperability of Geospatial support at an international level. The outcome of this working group was a set of newly agreed standards for web services, web features, map title services and web coverage services.

All current trainees coming through GEW are now being trained in the most recent standards released by the US National Geospatial Agency (NGA). GEW's Future Training Materials (FTM) cell has worked diligently to be the first to develop pre-made symbology styles within these standards, for dissemination to ADF's Geospatial community as well as the Australian Geospatial-Intelligence Organisation (AGO) for promulgation to the other ABCANZ nations.

The Multimedia Technician (MMT) training continuum has undergone significant updates during 2017, with increased engagement with ADF units to integrate the most recent and current training and practices into the MMT Basic Course, specifically in the areas of photography and videography. In addition to this, there has been significant engagement conducted by the GEW MMT instructors with MMTs across Army to align the standards of training and current practices to ensure all MMTs are providing the most relevant and accurate support possible.

### **The future**

The future of GEW, the geospatial and multimedia trades is currently uncertain with the proposed Corps transfer of geospatial and multimedia trades from RAE to AustINT. It is likely that this move will see GEW become part of the Defence Force School of Intelligence (DFSI) where it will be involved with the delivery of combined intelligence training to the suite of AustINT courses, in addition to the core geospatial and multimedia training currently delivered. This move will present some excellent opportunities to integrate the training delivered at GEW with current intelligence training, leading to the delivery of high quality, fused, and relevant intelligence support products to Army and the ADF.

## **Training Support Wing**

2017 has proved to be one of the more challenging chapters in the TSW chronicles since the creation of the wing in 2015. The untimely passing of Mr Crichton, SME WHS Unit Safety Coordinator, weighed heavily on the members of SME and TSW, subsequently resulting in the already limited manning of TSW to stretch further, thereby continuing Mr Crichton's legacy and dedication towards safety within the SME.

Between 01 Dec 2016 and 08 Aug 2017, TSW has reviewed and actioned 443 support requests from the training wings of the SME and several external units local to the Holsworthy region. The bulk of support has fallen to the Transport section, which for the first time in the history of SME has an RACT SGT in the Supervisor position. The initial roll out of the L121-3B saw the SME Transport section receiving eight HX77s right in time to support Ex Kokoda and the logistic burden therein.

The SME PTIs have again strived to further increase the strength and conditioning of the Ab initio trainees and junior officers preparing for their service in the Corps. Continuing with their efforts from 2016, the PTIs have

sought to understand the fitness levels of the trainees better as they arrive within the SME and structure the most efficient training program to support their success on their courses before posting to the units. This task has been faced with new challenges created by Kapooka and is a program that will need to be continuously monitored and adjusted to the changing trends in the future.

The Holdfast Troop have played an integral part of overseeing the reception and initial preparation of Ab initio soldiers before their attendance on an Initial Employment Training courses. The three individuals, an RAE CPL, RACMP LCPL and an RAINF PTE, have managed a fluctuating level of trainee manning, ranging from as few as 9 to the maximum threshold of 107, a daunting feat for most experienced commanders. The team also developed a rotating six week training program focused on fitness, administration and basic soldier skills for the trainees to prepare them mentally and physically for the challenges ahead.

As the year starts to wind down, TSW continues to shoulder the epic task of supporting all of the training wings and their final requests leading into the New Year. The trials faced throughout the year have highlighted the fortitude of the staff members within TSW. Through banding together from various Corps, RAE, RACT, RAOOC, RAAMC, as well as the RACMP and RAINF members managing the Holdfast Troop, the wing has been able to successfully support the SME in the principal task of sustaining and advancing the RAE into the future.

## **Littoral and Riverine Survey Squadron**

It was a relatively quiet start to the year for LRSS due to a constrained budget in the first half of 2017. From the middle of the year tasking and training ramped up with simultaneous activities being conducted. These included:

- Evaluation of shallow water multi beam echo sounders.
- Conducted a tides camp.
- Evaluation of a hydrographic ZBoat.
- Conducted a W2 course.

### **Shallow water multi beam echo sounders**

LRSS had the opportunity to conduct an evaluation on two shallow water Multi Beam Echo Sounders at HMAS Penguin and HMAS Creswell. Both the NORBIT and RESON systems were evaluated. The information gathered during these survey activities will be evaluated





*Above: (front row) LCPL Applebey, CPL Childs, SPR Hayward, LCPL Dibbs, CPL Eilersen (back row) WO Mauger, SPR Hackshall, CPL Green, SPR Brown, SPR Gillan, SPR Skipper, SGT Dempster, LEUT Doyle.*

*Below. Launching Inshore Hydrographic Vessel at Pittwater.*

and the results compared to determine which system best meets LRSS requirements. The evaluation results will be forwarded to the SEA1770 project team to inform them which system is most suited to LRSS when collecting information in the Littoral environment.

### Tides Camp

During July 2017 LRSS conducted a 9 day training period focusing on better understanding of tides, and how tides behave in riverine and estuarine environments.

### Hydrographic ZBoat

As part of Army Innovation Day 2106, various new technologies are acquired to assess their suitability for use in the ADF. LRSS was tasked with assessing a remotely-operated autonomous hydrographic survey boat known as a ZBoat. This assessment was undertaken at a variety of locations and in varying conditions to determine if Army should further consider the development and/or implementation of this capability.

A ZBoat collecting hydrographic information at HMAS Creswell.

### W2 Course

Whilst the ZBoats were being assessed so were the next generation of coxswains for LRSS. The W2 Course is to qualify members in the operation of the Inshore Hydrographic Survey Vessel (IHSV). The course trains

operators in the handling and navigation of vessels over 7.5m in open and closed waterways.

LRSS had a busy end to the year with a 9 day hydrographic survey activity that was conducted in the Pittwater area in November. This training prepared the Unit for tasking for Defence Science and Technology Group that will be conducted at HMAS Creswell in March 2018 and at Tin Can Bay in May 2018.





# Construction Troop, Armament and Construction Wing, Army School of Electrical and Mechanical Engineering

LT Benjamin Stanyer

Armament and Construction Wing (ACW) at the Army School of Electrical and Mechanical Engineering (ASEME) develops the skills knowledge and attitude for future Military Technicians. Located in Albury/Wodonga Latchford Barracks, Construction Troop ACW provides the Initial Trade Training (ITT) for ADF Carpenters and Plumbers for both RAE and RAAF apprentices; Electrician ITT is currently provided by the Electrical and Electronic Services Wing (EESW) North Bandiana. The Subject IV Building and Engineering Services (BES) Corporal and Sergeant Course for all trades are conducted at Construction Troop. Each year 2 Corporal BES and 1 Sergeant BES is conducted by the Troop.

The current manning for Construction troop is a Troop Commander and Sergeant, Standards WO1, 2 Trade Sergeants and 2 Trade NCOs, one for each trade. The majority of trade instruction is conducted by ASEME's current training provider, Scientific Management Australia.

Our trainee throughput in 2017 has been 10 Carpenters and 10 Plumbers before they move on to the On-the-Job (OJT) component of their course at the School of Military Engineering (SME) in Holsworthy Barracks. The current number of apprentices held in Construction Troop is 6 Carpenters and 12 Plumbers and the courses planned to be held in 2018 are looking to have an increase in numbers. Over half of the current trainees are transfers from both in and out of Corps trades which add another level of experience to the current wave of Military Technicians.

During the year, ASEME holds the Champion Wing competition and as always, Construction Troop put in a high calibre performance, helping ACW victory in the Swimming Carnival and Military Float. Other events that occurred during the year included the Obstacle Course, Cross Country and Military Skills competitions. ASEME also holds military training blocks throughout the year which heavily features Construction Troop as leaders in the training.

Construction Troop has also successfully completed gap training for trade transfers who

already held civilian qualifications. The Standards WO worked on developing a tailored training plan to ensure minimal disruption of the ITT courses, as well as getting them on to OJT faster. Overall it was a good result and set the benchmark for similar applications in the future.

The instructors of Construction Troop are of high regard within ASEME, with specific mention going to CPL Dean Woodhouse (RAAF) for being awarded ASEME Instructor of the Year 2016 for his outstanding ability and mentoring of trainees throughout the year.

The development of current and relevant training is the primary focus of the Construction troop staff throughout the year. As such, the review and maintenance of the Training Packages is to be in line with the National Training Standards, ongoing maintenance of delivery, assessment material and maintaining consistent assessment strategies to meet training needs has been the priorities. In the future e-learning and assessment is being investigated and developed. All training review is completed over a 20 month cycle which ensures all the training they deliver is relevant and current.

Construction Troop has worked diligently at shaping the best Military technicians who possess the Skills, Knowledge and Attitude to maintain the high quality construction capability for the ADF both home and abroad.

[RAE Operations]

## Operation Queensland Assist 2017

### 3 CER



### “Thanks 3 CER – Bloody Legends!”

– Conway Beach

Cyclone Debbie began forming as a tropical low on 23 March 2017 and by 26 March, had intensified to a severe tropical cyclone. 3 CER commenced contingency planning upon initial reports that the cyclone would likely make landfall in north Queensland. 25 Support Squadron is responsible for the readiness of the Engineer Support Group (ESG) during the high risk weather season each year, with the task of providing short notice Humanitarian Assistance and Disaster Relief (HADR) in the event of a disaster. The ESG, which comprised Squadron HQ, a Composite Support Troop and a CE Troop postured ready to deploy having fortuitously completed a readiness call out parade the week preceding the storm.

Reports indicated that the Cyclone was due to turn west and cross the Queensland coast somewhere between Townsville and the Whitsunday region and was expected to have severe impacts for coastal communities.

The Regiment formed Joint Task Force 661.2 and commenced planning for multiple contingencies and with Aviation support, OC and RECONO 25 SQN conducted aerial reconnaissance missions to prepare for the Squadron's lodgement into the likely AO. In the meantime, 3 CER task organised to ensure it was able to provide rapid, specialist engineer support upon the request of the Queensland Government.

Severe Tropical Cyclone Debbie made landfall on 28 March, classified a Category 4 system and bringing with her devastating winds and rainfall. Debbie affected the northern coast of Queensland from Bowen through to the Whitsundays and as far inland as Collinsvale and Proserpine. The storm was downgraded to a Category 1 in the early hours of 29 March which allowed OC 25 Squadron, MAJ Matt Dobney to conduct an aerial damage assessment and reconnaissance of Bowen, Collinsville and the Whitsundays, focussing on identifying staging areas for the ESG as well as route accessibility. The effects of Cyclone Debbie were devastating seeing severe flooding and debris across the affected areas.



The Regiment led JTF 667.2 assumed control of the AO on 30 March 17. The AO encompassed over 2000 Km2 Stretching from Ayr to Mackay and West to Collinsville., The ESG deployed, Led by OC 25 SQN, to Bowen on Sunday 30 March and comprised of 25 Support Squadron HQ, Plant, Construction, Emergency Response, Combat Engineers, Transport, Logistics, a Forward Recovery Team and a detachment from James Cook University's Cyclone research station. Attached to the Regt led JTF were Medical, Signals, Defence Public Relations personnel and a Battery of Gunners from 4 REGT which formed the Response Force (RESFOR) which provided additional manpower to the response. JTF 667.2 fell in upon a LO network that had been established pre-event by 4 REGT. The ESG established its Headquarters in a disused shop front in main street Bowen, beneath Mayor Andrew Wilcox's office which was the disaster response Headquarters whilst confirmatory reconnaissance was conducted by Troop Commanders.

At sunrise on 31 March, the Squadron commenced the job of high risk debris clearance and emergency water resupply with priority support given to essential public infrastructure and vulnerable members of the community. The Bowen Nursing Home was assisted after the ESG delivered much needed bottled water before installing a generator and water tanks, which allowed the residents to remain at home rather than be evacuated. The FRT under CPL Dale Cupit provided mechanic support to the local service station to allow fuel to be distributed to residents, whilst the Log Troop under LT Joe Sorenson established a water distribution point due to the Bowen town water being compromised by flood water.

In the mean-time, RESFOR, under MAJ Chris Lingard had responded to the inland township of Collinsville, clearing debris and assisting in the extensive clean up. After two days, CO 3 CER called the ESG forward to Proserpine to focus on the heavily affected areas of Airlie Beach and Proserpine. LT Kirby Finger's Combat Engineer Troop stepped up first and were the first responders to the coastal communities of Wilson's Beach and Conway Beach, clearing the single route into both communities where residents had been stranded. Supported by Plant elements, they then conducted the clearance of debris and fallen trees, whilst the remainder of the ESG stepped up into their new staging base at Proserpine High School.

Over the coming days, logistic support was once again provided at Airlie Beach where multiple water distribution points were established to distribute potable water to the local population whilst the mains water supply was restored.

Support Troop, under LT Brendan Walker, completed a significant amount of plant works around the coastal areas of the Whitsundays. Task specific elements were continually re-organised to provide debris clearance and removal as well as supporting Ergon teams to access downed Power lines. The Emergency Response element worked integrally with elements of the SES to handle high risk chainsaw work which was outside of the capacity of the overworked volunteer crews. A Plant element was also called to establish a causeway bypass of a failed NEB which had left a heavily damaged property cut off from assistance.

The efforts of JTF 667.2 were formally recognised by Queensland Premier Annastacia Palaszczuk and Whitsundays Mayor Andrew Wilcox on Saturday, 06 April which marked the conclusion of the JTF 667.2 commitment to Operation Queensland Assist 17. The drawdown of personnel commenced on Sunday, 07 April 17.

Cyclone Debbie saw the Whitsunday region and the neighbouring rural area devastated. 3 CER, through fast and effective reconnaissance was able to mobilise a task organised Emergency Support Force capable of providing key specialist engineer support across the affected areas. Over an eleven-day deployment, the JTF 667.2 completed in excess of 100 tasks ranging from route clearance, large scale debris clearance, civil works, water distribution and high risk chainsaw work. The members of the Regiment as part of the TF conducted themselves to the highest of standards and received praise from the local community and Australian Government for their rapid response, professionalism and incredible work ethic during the early stages of the whole of government response to Cyclone Debbie. The response to Tropical Cyclone Debbie is a testament to the planning and preparedness of the Regiment and the quality of soldiers held within the Engineer Corps.

On 10 November 17, upon invitation from Mayor Andrew Wilcox, the Regiment conducted a Freedom of Entry Parade into Bowen to celebrate the ongoing relationship the Regiment enjoys with the Whitsundays community.



## 3 CER Freedom of Entry to Whitsundays Council Region in Bowen

LT Justin Cross

At 1240 h on 28 March 2017, Tropical Cyclone (TC) Debbie made landfall just North of Airlie Beach, QLD. The 3rd Combat Engineer Regiment (3 CER) deployed its high risk weather season contingency force element, with other elements of FORCOMD to Bowen on Sunday 30 March 2017 and established Joint Task Force 661.2 as part of Operation Queensland 2017. The mission of JTF 661.2 was to provide immediate response to North Queensland, assisting them to get back on their feet after the most dangerous Tropical Cyclone since Tropical Cyclone Yasi in 2011. Over the coming week, JTF 661.2 would respond in an area of operations that stretched from Bowen to Mackay and as far West as Collinsville. In the coming days, the response would push South West into Isaac Council to provide assistance to the town of Moranbah

Such was the appreciation of the community, the Mayor of the Whitsunday Regional Council, Mayor Andrew Wilcox, extended the honour of Freedom of Entry into the Whitsunday Region to 3 CER. Recognising the invaluable work of the 3 CER team post TC Debbie but also the enduring relationship established through that response. As such, on the 10 November 2017 with swords drawn, bayonets fixed, drums beating, band playing and the Corp Banner flying, 3 CER was granted and exercised its Freedom of Entry through the streets of Bowen where the relationship with the Whitsunday's Region began. On a challenging day for even the most seasoned ceremonial aficionado, the Regiment paraded for the Mayor and Counsellors of the Whitsundays Regional Council, the Colonel Commandant and Host Officer, Major General Stephen Day, AM, DSC, and official guest, Commander 3rd Brigade. Residents of the Region lined the streets as the Regiment was ceremoniously challenged by the Senior Police Officer, Inspector Steve O'Connell, before being allowed to pass.

Mayor Andrew Willcox said the ceremony was a fitting tribute to the Regiment, noting "It is important to show our respect and gratitude to the Regiment for helping the entire Whitsunday region get back on its feet after



*This image: CO 3 CER and the RAE Corps Banner on parade at Bowen.*

*Bottom Left: CO 3 CER receives the Freedom of Entry scroll from Whitsunday Region Council CEO Mr Barry Omundson, centre, and Mayor Andrew Wilcox on behalf of the unit.*

*Bottom Right (left to right): RSM 3 Bde WO1 Brent Doyle and RAE Corps RSM WO1 Steve Di Tullio.*

TC Debbie...By granting a Freedom of Entry, we are demonstrating our trust and commitment to building a strong relationship"

The Regiment's Commanding Officer, Lieutenant Colonel Jennifer Harris, CSC, said in accepting the honour bestowed upon the Regiment that "The 3rd Brigade, but particularly the 3rd Combat Engineer Regiment has a long and proud association with the North Queensland Community. We are proud to be part of this region and stand ready to support in times of need".







### [ RAE Exercises ]

## Army Aboriginal Community Assistance Program (AACAP)

MAJ John Venz

AACAP 2017 marks the 21st year of the Programme with this year's project being undertaken in Toomelah, NSW. Toomelah is located approximately 350km from 6 ESR's home at RAAF Amberley. In 2017, AACAP has been centred on 21 Construction Squadron with considerable support from 6 ESR and the wider Army. AACAP would not be possible without the support of the wider Army including 2 GHB, 9 FSB, 10 FSB, 2 CER, SME, and 2 Div units. The project has been executed across three lines of effort: construction, training and health. This year we were provided fantastic support by engineers from Papua New Guinea and Tonga. The lead elements of the Squadron deployed to Toomelah in April 2017 with the final elements expected to redeploy to RAAF Amberley in December 2017.

The construction line of effort was led by the 21st Construction Squadron with the scope of work including the construction of a Town Hall, Road, Church refurbishment, and football oval change room with lighting refurbishment. The construction of the Town Hall is arguably the most significant vertical construction task undertaken in the history of AACAP. The building is a 1300 square metre structure with a floor height of 3m that rises to 12m above ground level at its highest point. The Town Hall will serve as the Local Aboriginal Land

Council's (LALC) office space, gathering place for community cultural events, a support centre for service providers in the community. In addition, the roads around Toomelah were upgraded. These road upgrades centred on the construction of Rooster Road, a new thoroughfare that makes the Town Hall the focal point of the community. AACAP 2017 has provided substantial challenge for the Squadron. It has delivered an exceptional amount of experience to all members of the Squadron through planning, deployment, construction, community engagement, and redeployment. Squadron members have gained firsthand experience in constructing a large steel portal frame building and the construction of roads to high levels of tolerance. These skills are directly transferable to an operational environment and have provided invaluable experience for 21 Construction Squadron.

While the primary role of the AACAP health line of effort is to provide care and emergency treatment to the Squadron and attached personnel, the team members have also been improving access to health services for the residents of Toomelah and Boggabilla. The dental and treatment teams provided daily treatment in the townships to improve oral hygiene and assist in locally established health clinics. The Physiotherapist and PTI were also very involved in the





*This image: 2017 AACAP contingent - 21 CONST SQN*

*Bottom left: Indigenous trainee during her training in Hospitality.*

*Bottom right: Indigenous trainee during their carpentry phase of Certificate II in Construction.*

community, improving the comfort of many community members, even providing sports injury treatment to the local rugby league team. Vets also assisted the effort for a period, treating and coordinating the desexing of local pets.

AACAP also aims to improve the wellbeing and quality of life for members of the community. An integral part of achieving this effect is the implementation of training programs including nationally recognised qualifications such as Certificate II in Construction Pathways, Certificate II in Hospitality, Certificate II in Business and Certificate I in Engineering as well as

NSW White card (General Construction Induction) Courses, First Aid Courses and an International Games Coaching Course.

21 Construction Squadron has had a very successful year. The construction of the Toomelah Town Hall and roads package combined with the integration of the health and training lines of effort have improved the wellbeing of the members of Toomelah and increased the technical knowledge of the members of the Squadron. The performance and leadership of the junior NCOs over an extended deployment window has been central to the Squadron's success.



## 2 CER Army Work Dive Concentration

By CAPT Maddison Cullen, SPR Rowan Jamieson and SPR Grant Crowther



*Army Work Divers preparing for a Surface Supplied Breathing Apparatus dive at Karawathah Dam.*

Army Work Dive (AWD) Concentration was conducted from 13 - 21 September 2017 across the South-East Queensland region. The aim of dive concentration was to provide AWD teams from across the country with opportunities to train, develop and test fundamental and complex skills in adverse environments which are not otherwise presented to divers on a regular basis. The tasks were designed to test Dive Supervising Officers in their ability to develop a feasible plan and critically apply the capabilities of their teams to achieve success within the parameters of working underwater.

During the conduct of the exercise, 35 divers from 2 CER, 1 CER, 3 CER, 6 ESR, 11 ER, WONCO SQ and SME were split into three teams to complete corresponding tasks. The concentration was conducted over three phases. During the phases the following key events occurred: qualification on the new surface supplied breathing (SSBA) apparatus, medical theory and practical training, AWD doctrine review and re-write with AKG and a culmination activity comprising of a nine day rotation across three locations in the region.

During the three – three-day rotation, dive teams were exposed to a wide variety of AWD mission sets. The first location based at the Gold Coast, primarily focused on the tactical activities to support a Combat Brigade, these tasks included coastal and inland water surveys as well as hull and pier inspections. In addition the divers were restricted to equipment which could be only carried in on zodiacs to replicate insertions from ship-to-shore or extended penetration of inland waterways.

The second area of operation was staged from Gallipoli Barracks where teams conducted inert demolitions on the main bridge to Bribie Island, conducted initial trials of an underwater mine detector in Gallipoli Barracks Dam. This rotation also focused on the integration and support to civilian authorities through the recovery of stolen cars. This required AWD teams to work closely with the Queensland Police Service (QPS) Water Police, Divers and Investigators to conduct complex vehicle recoveries in support of on-going investigations. The divers and supervising officers were able to locate and recover vehicles in conditions of low and nil visibility through employment of various technical methods.

The final location was Karawatha Quarry which provided an excellent area to conduct further technical tasks. Teams were able to conduct deep diving drills mainly focused on the actions on for divers becoming decompressed, night underwater tools (including BROCO and welding) and the removal of dangerous obstacles comprising of dumped cars, bikes and scrap metal. During the 3 CER rotation, the team was rapidly able to change site configuration in order to assist the QPS and SES in searching the dam for a missing person over a two day period.

Throughout the entirety of concentration, each team reinforced that the training outcomes of the dives were directly related to possible operational tasks, primarily in search and the reduction of obstacles to support sea point of disembarkation access in a Humanitarian Assistance and Disaster Response environment.



## [ RAE Exercises ]

## Ex PUK PUK – Phantom Squadron



*Ex PUK PUK 17 ADF contingent.*

Each year, 25 SPT SQN supports Ex Olgetta Warrior 17 by leading Ex PUK PUK consisting infrastructure development and engineer force generation and foundation skills change management. Ex PUK PUK 17 (PP17) saw 25 SPT SQN form PUK PUK Sqn and partner with host unit 1 RPIR, working along three Lines of Effort (LOE): leadership, discipline and foundation skills management; enduring infrastructure rehabilitation; and engineer capability force generation.

Led by OC 25 SPT SQN, MAJ Matt Dobney, PP17 consisted of a total of 34 ADF personnel as well as 40 PNGDF soldiers deployed at various times within the country. The lead planner was RECONO 25 SQN, CAPT Callum Johnston who was also the SQN 2IC and Project Engineer for the deployment. LT Justin Cross and CPL Shaun Walsh headed up the construction element and guided by the Project Management Team of CAPT Juliana Karantonis (on her third consecutive Ex PUK PUK) and WO2 Kelvin Baulch, executed the planned scope of works.

On 05 Sep, the Ex PUK PUK advance party deployed to Port Moresby to set the conditions for the main body to arrival. The main projects for PP17 were the construction of a 100-man camp, a containerised Urban Operations Training Facility (UOTF), a new Regimental Aid Post (RAP) and six Training Sheds. All

of the infrastructure underpinned partnered training opportunities for PNG and the ADF.

PUK PUK Squadron deployed to Taurama Barracks, Port Moresby on 18 Sep and immediately commenced construction and training including Basic Search, a four-week Engineer ROBC and a medical training package alongside members of both our host unit 1 RPIR and Engr Bn soldiers who had travelled from Igam Bks, Lae. The four elements presented mentoring opportunities and set the conditions for achieving the PUK PUK mission of creating positive and enduring change in the PNGDF.

Camp Phantom, a 100 man block scale camp was constructed to enable allied units to lodge within Taurama Barracks, POM to conduct training with 1 RPIR as well as provide a base of operations to conduct further training within PNG. The camp consists of accommodation slabs, laundry and toilet facilities, a deployable kitchen with cold storage area, an RAP and headquarters buildings. Lockable storage containers were installed on site to allow units to deploy on short notice, reducing the need to travel with a large amount of stores and equipment, whilst providing a secure environment from which to launch



bilateral training exercises. The camp was constructed under the site supervision of LCPL Daniel Fletcher.

The UOTF consists of a containerised urban village and a market place. The UOTF was designed as a complex multi-user, multi-purpose facility not only to be used for kinetic operations but to facilitate engineer search and partnered RPNGC stability operations. Members of PP17 conducted significant steel fabrication and enhancement works to introduce complexity, quality and realism into the facility. Stairs, ladders, and hand rails were installed to enable rooftop access and produce a three dimensional setting. The village also includes signage, extensive painting, walls, compounds and street furniture to add complexity and realism. The detail in design and quality of construction resulted in the UOTF offering a huge training benefit and opportunities to the PNGDF. The UOTF was completed under the site supervision CPL Jason Myers.

During scoping and framing, CO 1 RPIR expressed his intent to grow the unit's Medical Platoon in strength and capability. As a result, PP17 delivered a new RAP in time for the Medical Training Team to deliver a three-week basic combat first aider training

program whilst developing SOPs for the new facility. The delivery of the RAP and upskilling of the Medical Platoon provides 1 RPIR the ability to run daily medical parades for the soldiers of the battalion as well as building a deployable medic capability which will support Battalion border security tasks and for future Operations such as the next year's APEC security tasks, which 1RPIR will lead.

PP17 concluded on 27 Oct with the opening of the facilities and a live demonstration of the UOTF by soldiers of 1 RPIR. The soldiers of Puk Puk Sqn and their fellow PNGDF once again worked tirelessly, side by side throughout the deployment to achieve the highest of standards and received praise from the commander of 1 RPIR as well as Australian Defence Staff from the High Commission. Their attitudes and professionalism they consistently displayed were once again a testament to the characters and quality and of soldiers of the Regiment.

*Containerised Urban Operations Training Facility constructed during Ex PUK PUK 17.*



[ Sapper SITREP ]

# 1st Combat Engineer Regiment

LTCOL Barry Mulligan



1 CER Unit photo 2017

Ladies, Gentlemen, supporters and friends of the Regiment, I am honoured to command the 1st Combat Engineer Regiment. This article will demonstrate why by doing four things. First, this article will demonstrate that the Regiment does the dangerous, dirty and demanding tasks that enable our supporting colleagues to live, move and fight. Second, this article will highlight our people form, prepare or support uniquely skilled, adaptive teams from across the total force including the Army Reserve. Third, this article will highlight what we continue to invest in our people, equipment and technology so that we are best prepared for the challenges associated with future conflict. Fourth, and finally, this article will highlight the Regiment is strong because we believe in our purpose, our personnel are highly trained, our equipment is capable and our morale is high. However, we are humble and recognise none of these things would have been possible without the support provided by the families and friends of the Regiment.

The Regiment has completed a wide range of dangerous, dirty and demanding tasks throughout 2017. We focussed on our individual and small team

skills through the early stages of 2017. The Regiment completed a series of introductory briefings, revision lessons, small arms ranges, courses, as well as small team Engineer training during this period. We supported our teammates during the execution of a wide range of demolitions, field firing, hazard mitigation, emergency response, construction and support activities through the middle of 2017. This period culminated in July with the Regiment deploying to Shoalwater Bay, Queensland for Army's capstone exercise Hamel. During Exercise Hamel we replicated an enemy force in a defensive posture and excavated ~ 100 vehicle fighting positions, ~150 personnel fighting pits, laid ~ 2000m of wire obstacles, provided emergency response capabilities to the Brigade and maintained our significant vehicle fleet. Subsequently, we have focused on development of specialist skills and remediation of training shortfalls during the concluding stages of the year. Throughout the entire year, our humble Sappers, tradesmen and support staff have dug, dived, blasted, scrubbed, degreased, repaired things and sweated. We are extremely proud of their efforts.



Our people form, prepare or support uniquely skilled, adaptive teams from across the total Defence force. This year we have provided capability demonstrations for veterans, school groups, military cadets, work-experience participants and university students. We have integrated tri-service or service transfers, international migrants and female Combat Engineers into our team. We have had people complete or support tertiary studies, career courses, external academic studies and audits. We have trained with our brothers in arms from the Reserve force, supported Army and Defence Force representative sporting teams and contributed to engagement missions in the Middle East, Timor, Indonesia, Papua New Guinea and Malaysia. We have also contributed to joint, domestic and international interagency and engagement operations.

We continue to invest in our people, equipment and technology so we are best prepared for the challenges associated with future conflict. Members of the Regiment have attended leadership courses, long-term schools, been taught languages, examined their own spiritual beliefs and completed sponsored external studies. We have reinvigorated professional military education and studied history, Australia's defence policy and the character of warfare. We have conducted numerous welfare and medical boards to identify ways through which we can best support our wounded, injured or ill. We have supported the integration of new equipment including a new fleet of medium and heavy transport vehicles, fire-fighting trucks, bridging vehicles, desk-top computers, weapons, clothing and field equipment. We have also sought a technological edge through support to equipment trials and design of acquisition projects.

The Regiment has performed well this year. However, this strength would be unobtainable without the support provided by the families and friends of the Regiment. Consequently, we have sought to promote our relationship with the supporters of the Regiment by revitalising the unit's welfare systems, supporting community engagement events and maintaining the unit social media sites this year. On behalf of the unit, I offer my congratulations to those families who grew this year, my condolences to those that lost or remembered loved ones anniversaries and my prayers for those that are ill or recovering from injury. We remain indebted to the families and friends of the Regiment and look forward to strengthening this relationship in 2018.

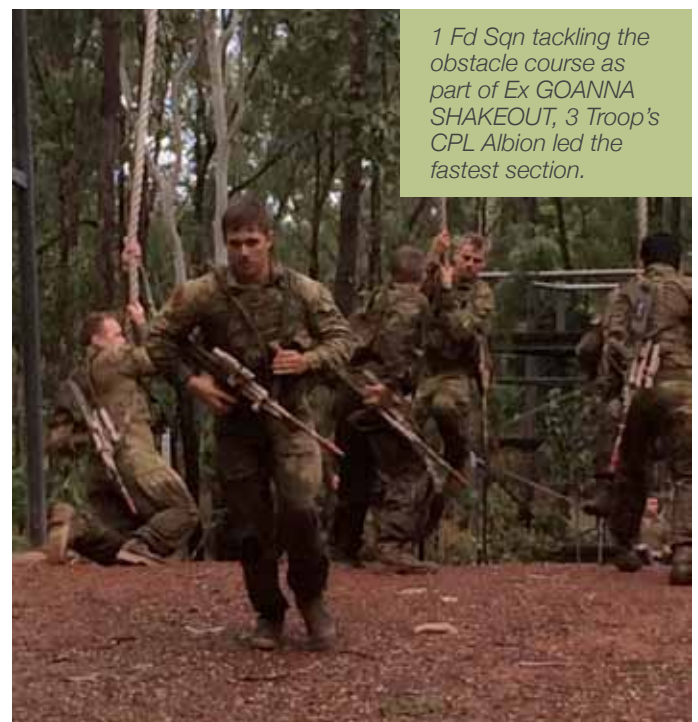
We are thankful for the opportunities presented so far, for the hard work of our team and for the support of our friends and families. We are certain 2018 will present new and daunting challenges; however, together we will ensure we work hard, look after our personnel and invest in technology to promote future success. Follow the Sapper!

### 1st Field Squadron

MAJ John Leathley

2017 saw the Squadron maintain responsibility for multiple Contingency Force Elements, whilst balancing the need for training to maintain competency across the wide range of engineering capabilities. We have welcomed home several members to the Squadron from operations continued to support operations in the Middle East with individual deployments. Despite an incredibly busy 2016, the Squadron managed to keep the bar set high, finishing strong in the Ready year of the ForceGen cycle.

We kept our bags packed and our eyes on the news over the Christmas break, as we maintained our commitments to the Ready Battle Group. 3 Troop kicked off the year on high readiness as part of the Ready Combat Team, taking just enough leave in the local area to empty stockings and throw down Christmas dinner. They handed the responsibility over to 1 Troop in January, and 2 Troop picked up the vacant positions due to members committing to promotional courses.



*1 Fd Sqn tackling the obstacle course as part of Ex GOANNA SHAKEOUT, 3 Troop's CPL Albion led the fastest section.*





*Personnel Decontamination Station established at night as part of Ex GOANNA SHAKEOUT.*

Force Preservation Training behind us, the majority of 1 Troop and a section from 2 Troop departed for High Range, Townsville, where they participated in the CTC WARFIGHTER Exercise. There wasn't much opportunity to showcase our engineering skill set however, we were keen to develop our resilience as any infantry company, leading 5 RAR through the rocky terrain of High Range at night and gaining exposure to airmobile operations.

Upon the return from the WARFIGHTER the Squadron moved straight into Exercise GOANNA SHAKEOUT. This gave everyone a chance to brush up on their Infantry Minor Tactics and Corps skill. We moved onto a series of engineer reconnaissance tasks and a single story bridge build for each section. We tied in resilience training to test ourselves working under fatigue by conducting a reserve demolition by night and a personnel decontamination Station in MOPP 4.

The Squadron, reinforced by trade and plant assets from 23 Support Squadron, deployed on exercise Tigers Run with a Squad of Combat Engineers from the USMC, in support of 5 RAR. After holding the Battle Group at scale A IOT ensure the Mount Bundey MSR was capable sustaining movement into the range, we commenced a two day demolitions practice, attacking Bailey panels, doors, reinforced concrete and exposed junior members to the use of improvised methods. We were then given the opportunity to participate in a series of live fire activities, and provided splinter teams with explosive breaching capability to both Bravo and Delta Companies.

The Squadron returned to Mount Bundey after a short pause for exercise SOUTHERN JACKEROO. The exercise focused heavily on international engagement. We were attached to the US Army, USMC, Japanese Ground Self Defence Force and 5 RAR to participate in a variety of activities including urban training with Air-soft weapons at the Urban Operations Training Facility as well as BNS serials in support of the BG defensive live fire.

We proved our adaptability during Exercise TALISMAN SABRE with the role of the OPFOR against the reinforced 3rd Brigade amphibious landing in Stannage Bay. Whilst providing early warning for the Brigade we also confirmed our skills in reconnaissance, development of defensive positions, establishing detailed routines within a complex operating environment and active patrolling schedules, which the Clearance Diving and beach survey teams were not expecting. We then transitioned into the role of local civilians, providing complexity and realism to the EXCON scenario. An excellent Exercise which exposed all members to the joint capabilities of the US and ADF.

When the Brigade moved into reset, the squadron took the opportunity to tackle areas of the engineer skill set that we were unable to find space for in the previous years. We continued to build our relationship with the US Marines by participating in an 18 Bay MGB build, whilst also conducting skill refresher training in demolitions and EHR. Shortly after, the squadron dispersed again to provide support to our All Corps and Corps training establishments.

*1 Fd Sqn and US Marines standing atop an 18 Bay Double Story Bridge built on base.*



Overall the squadron has performed superbly in 2017 and is looking forward to spending time with family and friends who we would like to thank for supporting us through the year.

## 9 Field Squadron

MAJ Nick Trotter

Another brilliant and rewarding year for 9 Fd Sqn. The Sqn returned from leave early in 2017 and assumed responsibility as the Emergency Support Force for the Northern Territory and North West Australian Region. Fortunately, no formal call-out was required, despite some close calls with extreme weather events in the region.

In addition to holding the Bde Emergency Support Force commitment the Sqn begun combat engineer training in earnest. Within weeks of returning to work the team was beginning it's progression of training with range practices and basic demolitions training on the range. Ex GOANNA SHAKEOUT saw the Sqn conduct section and troop level training focussed on basic combat engineering skills including reconnaissance, reserve demolitions, search and CBRND activities.

Before we knew it March had arrived and we were deploying 3000km back to Adelaide and the Sqn's primary training area Cultana. The first major Ex of

the year was BOARs WALK with 7 RAR, 8/12 Regt and A Sqn, 1 Armd Regt. The exercise involved live field firing activities up to troop level, demolitions ranges, combined arms breaching rehearsals and a culminating live fire defence of a gun line.

The Sqn came home to Darwin for April and briefly enjoyed the beginning of the Dry season, prior to re-deploying to Cultana for Ex BOARs SPRINT in May. The Ex began with continued progression of collective live fire and demolitions training and the conduct of a CBRND activity for the Battle Group. By the end of the Ex the Sqn was fully integrated as part of the 7 RAR Mechanised Battle Group and conducted a defensive field training activity in preparation for our role as RED FORCE on EX TALISMAN SABRE. The defensive activity involved the rapid construction of obstacles to provide counter mobility support to multiple delay positions and the establishment of a fully developed combat team defensive position. The Sqn was well supported by a section from 22 ER who integrated with 4 Troop.

Back home in June, under the leadership of 4 Troop, the Sqn ran Ex Underwater Goanna in the nearby quarry. Although only a one week activity it proved to be well worth the effort to ensure our divers received an opportunity to train prior



*9 Fd Sqn grab a quick team photo while an ANFO charge detonates in the background.*





*9 Fd Sqn Sappers explosively breach a lane through a wire obstacle in on Ex in Cultana.*

to the dive concentration hosted by 2 CER in September. They even managed to find and recover a stolen vehicle in support of the NT Police.

The main event for 2017 was Ex TALISMAN SABRE, where again the Sqn became part of the mighty 7 RAR Battle Group. In the initial phase of the Ex, 5 Tp was detached from the Sqn to support 23 Spt Sqn's development of the Bde main defensive position. As a Tp they constructed an enormous defensive position, which was later occupied by a US Army Battalion. The remainder of the Sqn was deployed to the forward edge of the battle area where 4 Tp ably constructed multiple route denial obstacles and Combat Team Delay positions. As the battle commenced 4 Tp became the dedicated battle group reserve and executed numerous short notice tasks achieving an impressive 'kill count'.

As the Ex continued 5 Tp re-joined the Sqn and was tasked with establishing and closing lanes through the Brigade engagement area prior to being tasked as the reserve. Meanwhile 4 TP became responsible from denying a likely bypass route through the reserve

demolition of a bridge, successive delay positions and establishment of an OP in support of the main defensive battle. It was a rewarding exercise and a fitting conclusion to the Sqn's time in the ready phase of the force generation cycle.

The back half of 2017 has seen a return to basic skills as well as numerous individual and collective courses, including receipt of and training on the new lightweight and rapidly assembled Infantry Footbridge, the upgraded BEPBs (now with jet propulsion) and the Improved Ribbon Bridge replacing the Floating Support Bridge. We've also done some demolitions and will conclude the year refreshing our watermanship, dive and search skills.

The Sqn also had five members deployed with 1 Armd Regt to Iraq on Op TAJI IV early in the year. The team found the trip challenging and, although sometimes a little repetitive, overall rewarding; having assisted in training hundreds of Iraqi Police and Military personnel in both Combat Engineering and All Corps Combat skills.

It is now confirmed that 9 Fd Sqn will re-mechanise and the Sqn has signed for and assumed control of its



M113 AS4. It will be a long road before the Sqn has regrown the mechanised qualifications and skills it once had, but the future is bright. Receiving the vehicles is a small but significant step towards the Corps growth of a genuine Armoured Engineering capability.

It's great team at 9 Fd Sqn and we are grateful for the support provided by our families, friends and colleagues throughout 2017. The legacy continues.

## 23 Support Squadron

MAJ Chris Condello

After a well-earned rest, early 2017 saw 23 Support Squadron (23 Spt Sqn) returning to complete the final six months of the Ready phase in the Force Generation cycle. The year commenced with EX GOANNA READY, enabling the Squadron to reconsolidate for readiness commitments. Following that, training commenced in March-April with EX GOANNA SHAKEOUT conducted in the Darwin area. The Exercise allowed the Squadron to focus on core skills and training deficiencies at Troop level and enabled each Troop to practice its specialist capabilities and roles. Construction/Resources Tp established a water point and constructed a portable

field shower in a tri-con, Plant Tp commenced site preparation and access road remediation for future construction tasks in the Close Training Area, the Emergency Responders (ER) established a field fire station and rehearsed response drills, while the Explosives Detection Dog (EDD) Section conducted numerous training serials at civilian complexes around the surrounding Darwin area.

As part of EX GOANNA SHAKEOUT, the EDD Section conducted interagency training with the AFP. The training was conducted at venues including Casuarina Senior College, Casuarina Shopping Centre, the Careflight Hangar at Darwin airport, Charles Darwin University and NT Parliament House. The training in these locations allowed the teams to conduct realistic training and exposed the dogs to many real world distractions.

Concurrently, planning and preparation was well underway for Exercise Hari'i Hamutuk 2017 (EX HH 17), an annual Engineering exercise held in Timor-Leste planned in conjunction with Defence Cooperation Program Timor-Leste and executed by 1 CER. A technical recon of Metinaro Military Base and Hera Naval Base was conducted in February, and the MPC was attended in March.



*4 Tp move across their reserve demolished bridge to prepare route denial and delay positions on Ex TALISMAN SABRE.*

*Emergency Responders extract a casualty from a vehicle during scenario based training.*



A separate recon was then conducted in June to assess proposed works at Baucau Military Base. Back at the unit, members of Construction Troop were busy raising BOMs and conducting procurement to ensure all construction materials were purchased and shipped prior to the exercise.

Throughout 2017, Specialist (Spec) Tp had an ongoing task of providing support to 1st Aviation Regiment (1 Avn). They were a key enabler for 1 Avn's training flights and exercises, in barracks and the field. The support consisted of a two person ER flyaway team, in support of the Crash Response Helicopter that remained on standby during any flying operations IOT rapidly respond to a crashed helicopter and rescue a downed crew. Spec Tp also provided an ER fire truck and crew to support 1 Avn's Forward Arming and Refuelling Point (FARP) operations, thus enabling a safe and fast turnaround between sorties for the ARH.

A major part of 2017 was the Unit's involvement in EX TS 17 as OPFOR. 23 Spt Sqn's main focus was support to the development of the Bde MDP which included two battle group defensive positions. Shortly after completion of defensive works, the tradesmen, plant operators, combat engineers and logistics staff were re-rolled into an Infantry Platoon to support BG BOAR in the main defensive battle. Following this, the Sqn lead the Bde DAMCON effort before departing back to the NT.

The Squadron concluded an already busy year by executing EX HH 17, deploying to Timor Leste in early October for five weeks. The Exercises consisted of approximately 239 personnel from the ADF, East Timorese military forces (FFDTL), members from the USMC and US Navy and a contingent from the Japanese Ground Self Defence Force. The exercise included basic construction and maintenance works at Baucau, Metinara and Hera Military bases, and SME exchanges in physical training, first aid, equipment maintenance and plant operation. The key focus of the activity was skills transfer between the nations, rather than large scale construction tasks.

On return from Ex HH 17 the Squadron will commence preparing for the receipt of L121-3/5 vehicles, training in preparation for the Dry Support Bridge (scheduled for arrival in Jul 2018) and the reduction of Combat Engineer and Trades person position as part of the Combat Brigade Restructure.

### **Operational Support Squadron**

**CAPT Robert Pemberton**

2017 has been an interesting and varied year for the Operational Support Squadron (OSS). January saw the arrival of the new Officer Commanding, Major Carrie Thomas and the new Quartermaster for the Regiment, Major John Blake, with generally a reasonable turnover of key staff in the Squadron –



though there were enough existing personnel to make the transition relatively straightforward. The first few months flew by as we adapted to new staff, a new command direction from the incoming CO.

The Regiment remained “ready” and we quickly reconfirmed our Engineer Taskgroup requirements as a prepared humanitarian assistance force. This proved fortuitous as the Regiment spun up several times in response to potential deployments, as various angry weather systems wandered through the Pacific. There were definitely a few slightly nervous staff officers in the Regiment, watching Cyclone Debbie pinwheel through the South Pacific, expecting to deploy at any moment. Thoughts turned inexorably to the dreaded process of preparing all of our equipment for transit by sea, but thankfully after the repeated cyclonic ballet during the first months of the year was done we could rest easy, at least a bit: supporting Regiment activities continued unabated.

Exercise TALISMAN SABRE 17 was the one and only major exercise for the year, held as ever in Shoalwater Bay in Queensland. For the Brigade the pressure was off to a degree, and OSS was able to concentrate on getting the job done: logistically supporting the Regiment. What we did not anticipate was how this would manifest itself. OSS quickly became the anti-tank and anti-aircraft weapons production facility for the Brigade, designing and turning out wood and PVC creations to equip the warfighters. Numerous tasks were sent into Rockhampton to acquire stores, much to the bemusement of contract management personnel and Bunnings employees alike! I think

the best demonstration of this is the mental picture conjured from the idea of a uniformed Army Sergeant calmly buying out both Big W and Toys'r'Us of Playdoh – you've got to pretend to blow up a bridge out of something. In true Engineers style, we also spent an inordinate amount of time chasing down “left hand widgets” to ensure that the plant kept running and Engineer operations continued. The other key and highly operational task that fell to OSS was the running of the Regiment coffee shop, which managed to make a tidy profit over just the few key periods it was open - thank you US National Guard.

Transitioning to the “reset” phase of the Ready Cycle post TALISMAN SABRE 17 saw a change in focus and a shift to development. OSS continued to posture itself to support the introduction of the LAND 121 medium heavy capability vehicles from November onwards, and continued to support courses and activities across the Regiment. Overall it has been a busy year with a number of competing priorities always pulling staff in multiple directions. We have been very lucky to have a committed core group of seniors and a host of enthusiastic soldiers, making it happen throughout the year and providing effective support to the entirety of the 1st Combat Engineer Regiment.

*Technical Support Troop get together for a group picture during Ex TALISMAN SABRE.*





[ Sapper SITREP ]

## 2nd Combat Engineer Regiment

LTCOL James Dugdell



*2 CE Sqn & 7 CE Sqn soldiers practice section level IMT.*

After a busy start to 2017, the 2 CER has continued to provide support to the 7th Combat Brigade (7 Cbt Bde) and Forces Command, often across conflicting lines of operations. During the middle of this year, the Regiment transitioned from the Reset to Ready Phase of the Force Generation Cycle. During this period the Regiment participated in and provided support to a number of key exercises both internally and externally to the Brigade.

The 2 CER will have an extremely busy start to the year in 2018 with the preparation for and support to the Commonwealth Games in April. The remainder of the Ready Phase will be a challenging period with the requirement for the Regiment to achieve the force generation training levels prior to the commencement of the Ready Phase in July 2018.

### 2nd Combat Engineer Squadron

MAJ A Edgar

In 2017, 2 CE Sqn has focused all actions on the generation and preparedness of directed Contingency Force Elements (CONFE) in order to provide engineer enabling effects to the 7 Cbt Bde Ready Deployment Group (RDG). This focus has required the Sqn to undergo a paradigm shift to the achievement of collective results in simulated operational conditions consistent with the contemporary operating environment. 2 CE Sqn has relied upon collective training that is real and directionally correct to truly realise its Road to War aspirations.

Training has focused on serials, tasks and scenarios that promote military problem solving using equipment present within the Army and resources at hand. Practically this equates to limited simulation, imitation or artificiality during 2 CE Sqn collective training activities. This approach has increased training relevancy and participant enjoyment.

The subsequent fusing of these approaches with the sequential training design methodology has ensured the generation of CONFE gradually through Section, Troop and then Squadron level training in the combined arms and single arm context. 2 CE Sqn collective training milestones will be achieved deployed in the field through the EXERCISE PHANTOM Series with EX PHANTOM CRAWL building to Section level operations, EX PHANTOM WALK training to Troop level operations and EX PHANTOM RUN employing the entire Squadron prior to integration with the Infantry and Armored Regiments.

Concurrent to providing dedicated support to the 8/9 RAR Ready Battle Group (RBG) Designate and the 2 CER Engineer Task Group (ETG), 2 CE Sqn has been called upon to generate a Combat Engineer Squadron for OPERATION ATLAS, being the Whole of Government response to the 2018 Commonwealth Games on the Gold Coast. The 2 CE Sqn Road to War will continue post OPERATION ATLAS with 2 CE Sqn preparing to support the Amphibious Ready Elements through the EXERCISE SEAS SERIES prior to being certified on EXERCISE HAMEL 18.

2 CE Squadron has supported the Queensland Police Service on a number of search tasks that have provided excellent training for the Combat Engineers in a real time tasks. The tasks were focused on identifying weapons and drug making equipment and chemicals that were hidden across large properties where the search tasks were beyond the capacity of the Police. These tasks have provided excellent training as well as improving the relationship between the Regiment and the Queensland Police Service.

## 7 Combat Engineer Squadron

**CAPT Gerard Koen**

2017 saw 7th Combat Engineer Squadron (7 CE Sqn) in a high tempo reset period conducting support to training institutions as well as conducting training across a limited range of specialist tasks at the individual and Section level.

In March, 14 Troop relocated to Holsworthy Barracks, Sydney where they conducted training at troop level in the APRCC simulation centre. The centre offered great training and resources in how to operate in the field with both Husky and SPARKS mine rollers.



*13 Tp, 7 CE Sqn and AER Tp, 24 Spt Sqn practice evacuation of an Army Work Diver from a contaminated environment.*

7 CE Sqn maintained their association with the people of Gayndah by attending ANZAC Day in Gayndah, where they participated in multiple ANZAC day services as well as engagements with the local community and schools.

12 Troop completed the infantry footbridge course at Enoggera Barracks and utilised the bridge during recent training activities. The infantry footbridge provides an expedient method get infantry across either a river/creek or over a deep gully without having to deploy larger bridging assets

Members of 7 CE Sqn recently deployed to Vanuatu in May as part of a Mobile Training Team with 8/9 RAR for Exercise Vanuatu Assist 17. The team conduct Humanitarian Assistance and disaster relief (HADR) training with the Vanuatu mobile force. The team conducted medical, Military police operations, Hazard awareness, Watermanship, Basic Chainsaw and tree felling. The overall purpose of this Exercise was to allow the Vanuatu Mobile force be able to deploy to a Village which has been affected by a Nature disaster and conduct HADR operations to assist civilians.

7 CE Sqn deployed on Exercise Diamond walk at Shoalwater Bay Training Area, where they conducted many engineering tasks, including obstacle breaches, battle noise simulation, demolitions training and section level training. Members of 14 Troop provide engineering support to the RMC final field phase, this involved urban breaching, Vehicle Check Points, watermanship and Explosive ordinance reduction.





13 Troop recent tasks have included providing support to a range of local, state and government organisations. The Queensland Police called upon 13 Troop dive team to assist them to search for a weapon used in a 30 year cold case. The Brisbane City Council also called upon assistance from 13 Troop to survey a flooded quarry to locate stolen vehicles. Enoggera base services required the replacement of a large rusted intake grate situated in the Enoggera base dam which also provided an excellent opportunity for the Divers.

Throughout 2017 the divers and Combat Engineers of 13 Troop have provided support to a range of local private and Governmental organisations which has proven to be a significant undertaking for the Regiment for a number of reasons. These include support to Queensland Police upon their request for the 2 CER dive team to assist in search related tasks, one of which involved the unearthing of evidence for a 30 year old cold murder case. The dive team pioneered in other search related tasks satisfying

*A section from 2 CER conduct the casualty evacuation stand.*

requests from Brisbane City Council to survey a flooded quarry in search for stolen vehicles. This proved to be a success, and was later incorporated into the 2017 AWD Concentration. Furthermore, the team has provided local base services support at Gallipoli Barracks through surveying, replacing and conducting maintenance work on the main irrigation systems for the base. Such maintenance tasks are inherent to all AWD teams and are able to be completed in limited to no visibility by day or night, involving use of hand tools, Stanley hydro pack and attachments, welding, Broco and other means. When combined, this training has had a notable contribution to promotion of the specialist yet niche skill set that is Army Work Diving, and train for operational tasks in support of HADR and conventional land tactics.





*Regt Parade is interrupted by an EDD.*

## 24 Support Squadron

MAJ Briana Sterling

With the finalisation of the Reset Phase and the looming prospects of Readying Phase approaching a lot of time and effort has been invested in preparing the Squadron for the year to come. 2017 has encompassed three field exercises and a number of excellent engagement opportunities that have left us confidently poised for the challenges ahead.

February saw us in the field for three days practising our basic first aid, section skills, navigation and search training on EXERCISE GREEN CROCODILE. This activity is forecasted yearly and provides an excellent opportunity for our Squadron to deploy with a Combat Engineer focus, shaking out into our Troops under Squadron coordination to tick off the fundamental skillsets required to advance into the year. While it was a slow start for some of the Planties and Tradies to remember the establishment of concealed weapon pits and navigation principles we managed to get through it successfully.

With the experience of this exercise under our belts we then progressed into preparation for EXERCISE SEMPER PARATUS in March. For this, 24 Spt Sqn had a number of goals that fed into concurrent tasking's

in Shoalwater Bay. We used this time to practice our specialist skills. Specialist Troop deployed with their Resources Troop establishing a water point at Tilpal Waterpoint which, despite the presence of a family of brown snakes that invaded the tents, was a great success. The Emergency Responders deployed with their new firetrucks and dominated the range space in a fury of red and blue lights and fire foam. They successfully tested their new heat sensing cameras in the Urban Operations Training Facility and conducted some rescue operations from simulated burning vehicles using the Q-Staff as rent-a-casualties. The Explosive Detection Dog Section worked across the Bay practising their trade in urban, open and close terrain. Plant Troop occupied themselves with the establishment of positions for the upcoming EXERCISE DIAMOND WALK digging pits and ditching for 6 RAR and 2/14 LHR. Construction Troop supported the Range Control Staff by building two Sentry posts and demolishing a bunker facility in the North. It is also rumoured that they successfully trialled the Truck Tanker Water as a mobile swimming pool and shower set, however no post activity report was submitted to support the trial.

Once home from Shoalwater Bay it was a short period of time before we were required to return there to support EXERCISE DIAMOND WALK which saw the

Squadron deploy with Resources Section, Plant Troop and Squadron HQ to support the Brigade in a white role. We produced 180 000L of water and filled in a lot of holes with our pride and joy being the Squadron Harbour and the multi-layered, rolled cricket pitch that was maintained under the diligent curation of LCPL Jaymes Hasler.

We deployed to EXERCISE TALISMAN SABRE 17 to provide Plant Troop Damage Control Support under the direction of the 6th Engineer Support Regiment and our senior ranks as Observer Trainers to other elements of the Army. The year has been conducted at a high tempo and despite being in Reset Phase, our Squadron has seen itself deployed a number of times while still fighting to sustain the training continuum and maintenance in the background. Overall, it has been both challenging and very rewarding for our soldiers. We are looking forward to the challenges to come and satisfied with the Esprit de Corps we have built and the skills we have built in preparation for the readying cycle.

### **Operational Support Squadron**

MAJ Timothy Byrne

This year the Operational Support Sqn (OSS) has continued its trend of high volume production thanks to strong Junior Non-Commissioned Officer leadership and well bedded trades skills. The middle of the year saw a significant shift in focus within the SQN, thanks to implementation of Combat Service Support Concept of Operation which seeks to gain efficiencies in the delivery of support to the Brigades through centralisation of key enabling support and the concurrent introduction to service of new defence materiel.

The hardest element of the Sub Unit hit by the changes is our Technical Support Troop (TST) who underwent a manning reduction from 42 personnel plus civilian contractors, to 26 ARA of various trades including Vehicle Mechanics, Tech Elecs, Boffins and Fitter Armourers. In spite of downsizing, TST have managed to remodel their work breakdown structure. Work beyond light grade repair has been outsourced to 7 CSSB resulting in a steady reduction of backlog maintenance. This has seen a transition of work ownership to second line support. The success of the changes will be determined by the symbiotic relationship we're able to maintain with 7 CSSB.

2017 saw 2 CER receive its initial allocation of Project L121 Medium and Heavy vehicles to replace the Mack and Unimog Fleets. This has simultaneously been the

biggest relief and challenge. An increasingly aging fleet of vehicles have been replaced by the imposing frame of the 40M and HX77 Mann Vehicles. The operating procedures for this capability is largely emergent doctrine, 2 CER has had the opportunity to contribute to these through employment of the vehicles on exercise throughout the year. The introduction to service of these platforms have also come with a number of large logistic and sustainment issues that have required to Regiment to demonstrate flexibility in their employment. Driver training on the various vehicle platforms

2 CER received its issue of the new Soldier Combat Ensemble which provided new packs and body armour and EF88 weapon systems mid this year. Of particular note was the hard work conducted by the Fitter Armourers with help from the 7 CSSB to ensure tech inspections on all the old F88 systems were current prior to back loading.

While the Combat Engineer Squadrons have prepared for RBG and OP ATLAS in 2018, the Main Q has worked tirelessly to outfit its dependencies with the new body armour and packs. The equipment has proved highly customisable and was well received. As the aging Tactical Body Armour System is withdrawn and soldiers at Squadron level are now benefiting from training in the next generation of combat equipment.

In a sad end to the year, Explosive Detection Dog (EDD) Zeva was put to sleep in October due to a serious and aggressive cancer. EDD Zeva will be missed by the Regiment for her excellent work and the happy approach she always had to her work.

2 CER has well and truly gained momentum after we transitioned into the Ready Phase of the Force Generation Cycle. We have commenced specialist and all corps search training packages in preparation for the Commonwealth Games 2018, at the same time supporting a Battle Group International Engagement Activity with the Singaporean Army and Combat Training Centre Warfighter series over the period Oct - Nov 2017. As challenging as 2017 has been adapting to new systems the road to Ready is unlikely to see the work required of the Squadron reduce. The Regiment takes solace in the knowledge that the risks and opportunities that come with the coming years are neither new experiences nor ones weathered in isolation. We move into 2018 determined and postured to meet the unique demands placed upon us and our ADF comrades.

## [ Sapper SITREP ]

## 3rd Combat Engineer Regiment

LTCOL Jennifer Harris CSC

2017 has seen the Regiment again exemplify what it is to be 'Ready'. The final phase of the Readying cycle demonstrated the professionalism of our Team of Teams. 16 CE Sqn comprehensively enabled all facets of the 1 RAR lead RBG, embracing the opportunity to drive forward dismounted CE capability leveraging enhancements to the Soldier Combat Ensemble. 18 CE Sqn continued to lead the Corps in understanding and testing amphibious competence of engineers. Their parallel support to the 2 RAR lead Amphibious Ready Unit exemplified the adaptability and flexibility our people are known for. Throughout all phases the Operational Support Sqn (OSS) and 25 Spt Sqn provided integral support as well as developing and testing our Brigade level Engineer capabilities under the Combat Team Phantom construct. 25 Spt Sqn continues to lead our engagement with the PNGDF Engr Bn evolving the Ex Puk Puk construct to ensure we continue to build the full spectrum of military engineer capability into the future. As the Regiment turns 25, 2017 has afforded us a brief moment to reflect on our proud history, and celebrate all the sappers and soldiers who have proudly served in the Regiment. It has also provided the opportunity to look towards the future, welcoming our recent capability enhancements, marking the start of a chapter in our history that will be characterised by significant modernisation.

### Supporting our Community in their time of need – Tropical Cyclone Debbie

2017 kicked off early with Op QLD ASSIST 2017, a Defence Aid to the Civil Community (DACC) task

supporting the people of the Whitsunday Region post Tropical Cyclone Debbie. The Regiment, with support from across the Brigade and ADF, established the Emergency Support Force (ESF) as Joint Task Force 661.2, deploying to Bowen, Proserpine, Collinsville and Mackay. The ESF surged in support of local emergency services and the Whitsunday Shire Council, completing multiple tasks including: establishment of the regional Liaison Officers Network, provision of potable water, route opening for Emergency Services, debris clearance, bridge and technical recon, landing zone clearance and provision of critical pastoral support.

TF 667.2 hosted the MINDEF, CDF, COMD FORCOM and other dignitaries in the region during visits. This was a positive experience and provided the visitors an appreciation of the successful on going Joint Interagency Operation. As a direct result of the efforts of the TF, the Mayor of the Whitsunday Shire Council will grant the 3rd Combat Engineer Regiment the Freedom of Entry to the City of Bowen. The Regiment is honoured to be offered this prestigious accolade and a parade to receive this recognition will be conducted on 10 November 2017.

### The 'Road to Ready'

Not distracted by its support to OP QLD ASSIST 17 the Regiment tirelessly pursued its 'road to Ready'. 2017 saw the Regiment enable the parallel lines of efforts in support of 3 BDE. In a high tempo year the Regiment has enabled the certification of all Brigade Ready elements. 16 CE Sqn has leveraged a dynamic and forward leading Ready Battalion Group to drive forward the modernisation of the dismounted CE capability. OSS and 25 Spt Sqn, ably supported by elements from 6 ESR and Sturdee Sqn (11 ER and 13 Fd Sqn) have matured the Combat Team Phantom model, centralising the C2 of Brigade Engineer effects. The Regiment welcomed reinforcement from the 2nd (NZ) Engineer Regiment whose important contribution will no doubt mark the start of a beautiful relationship. In addition to the outstanding efforts in support of Readying the Reinforced Combat Brigade, the Regiment has robustly enabled 2 RAR in the realisation of Army's Amphibious Vision. The Sea Series of activities were ably led by 18 CE Sqn, supported by niche



*Tree felling during TC Debbie.*



*Members of 18 CE Sqn basking in the success of their reserve demolition.*



capabilities from across the Regiment. Whilst Seaworthiness of the primary platforms impacted the scale of Sea Series, the Regiment has led the Corps in maturing our concept of employment of engineers within the Amphibious Construct.

### **Testing the Combined Arms Team**

The Brigade Combined Arms Training Activity under the guise of Ex BROLGA STRIKE 17 (EX BS17), stands out as a key exercise in the Regiment's road to Ready. The Brigade, reinforced by 6, 16 and 17 Brigade assets presented an enabled Ready Brigade capability and progressed through both blank and live fire training scenarios.

Fighting in support of their habitual Battle Groups, 16 CE Sqn dismounted their PMVs and trudged close to the length of the training area with BG CORAL (1 RAR). 16 CE Sqn leveraged a rapidly modernising BG, getting their hands on the next generation of NVGs and trialling new TTPs in support of BG CORAL's focus on reverse cycle operations 'owning the night'. 16 CE Sqn successfully performed night search serials along their advance challenging long held paradigms that have constrained CE operations at night. The enhancement of routes through the construction of a MGB, potentially one of the last to be built prior to the delivery of the new L155 Combat bridging capability, enabled the step up of the Brigade Support Group.

18 CE Sqn was split, supporting BG EAGLE (2 CAV) on the Western flank and BG SAMICHON (2 RAR) in the conduct of an amphibious lodgement. 18 CE Sqn maintained their relationship with BG SAMICHON post lodgement as a mounted force, supporting multiple Battle Group clearances of the UOTF by day and night, enabled by M1A1 from BG EAGLE. 18 CE Sqn completed EX BS 17 with a bang, conducting a live-fire reserve demolition of Nathan's Bridge with COMD FORCOM and BDE COMD in attendance.

The Regiment invested heavily in the OPFOR construct, challenging the combined arms team with both conventional and hybrid counter mobility effects. This in turn challenged the entire combined arms team, enabling realistic CE training outcomes.

25 Spt Sqn occupied a sector of the BMA with the Operational Support Sqn (OSS) and formed Combat Team (CT) PHANTOM, with both Squadrons supporting BLUFOR, REDFOR and WHITEFOR concurrently throughout the entire exercise. The early integration of LOs from 2 ER(NZ) and Sturdee Sqn set the conditions for Ex Talisman Sabre 2017. Investment in a coherent CE OPFOR effect enabled excellent training for survivability assets such as the APRCC, AER and EOD Teams. The clearance of an Airfield by EOD to enable a live airdrop stands out as one of the premier scenarios enabled by the exercise.



*The 3 CER APRCC preparing to support logistic movements during Ex TALISMAN SABRE 17.*

The final Brigade activity consisted of a simultaneous clearance of multiple objectives. 16 CE Sqn SPRs, grouped with US Marines from Lucky Coy MRF-D, lead the way with method of entry and initial building search. 3 RAR provided a very tough enemy, dug in and utilising every weapon system within their arsenal. The Clearance was completed successfully, taking a full period of darkness to consolidate.

### **The 'Ready Evaluation'**

Ex TALISMAN SABRE (HAMEL) 2017 (EX TS(H)17) was the proving ground for the Regiment after an arduous lead up period. Most significantly it proved the Regimental HQ virtual Command Post concept, conceived in 2016 and developed throughout the Bde's 'road to Ready'. This concept facilitated the CO's command of Regimental force elements whilst continuing to enable the Brigade HQ (Reinforced). The CO's TAC (EZ) provided direct support to the Brigade Commanders TAC, whilst 0A and 0B Nodes supported both elements of the Brigade Forward HQ and were integral to Bde HQ planning. The 0C Node coordinated all 3 CER force elements tasking and re-grouping from the Brigade Maintenance Area. The CO was enabled to effectively command the Regiment's force elements not Battle Grouped with Manoeuvre units as part of CT PHANTOM through the 0C Node. The control of all engineer assets within the Reinforced Combat achieved was also enabled by this robust 0C concept. This C2 concept informed 3 CER planning whilst underpinning Regimental command, control and coordination.

The Regiment's partner Army Reserve Units reinforced the Brigade as part of BG CANNON. Enhancing

the lessons of HAMEL 15 BG CANNON were ably supported by an integral Engineer Squadron HQ (STURDEE Sqn from 11 ER and 13 Fd Sqn). STURDEE Sqn provided the full spectrum of mobility support to BG CANNON in support of the Brigade Support Group. Importantly they successfully trialled and tested the generation of an integrated APRCC capability. In addition they enabled decentralised CE support reinforcing 3 CER across five BGs: SAMACHON; CORAL; EAGLE; the US Army BG GIMLET and the NZDF TG BLACK.

3 CER was reinforced from across the Corps and Army to achieve success on EX TS(H)17. Emergency Responder support from 2 CER, Military Police support from 1 MP Battalion, a 6 ESR Explosive Ordnance Disposal Troop (-) and NZ Engineer specialists from 2 ER (NZ) all provided outstanding contributions to the comprehensive integrated engineer support provided across five Battle Groups.

16 and 18 CE Sqns enabled BG reconnaissance, amphibious, mechanised, motorised and dismounted operations, the Regimental Reconnaissance Section supported Formation level reconnaissance and CT PHANTOM provided critical provision of survivability and sustainability throughout EX TS(H)17 proving once again the flexibility and adaptability of the SAPPER.

### **Modernisation**

The 'road to ready' consumes a considerable amount of time, effort and resources but it represents only part of the Regiment's story in 2017. The 'Specialisation' concept established in 2016, has truly gained traction and momentum throughout 2017. As the concept matures the Regiment is now focusing much of our training on specialist skill sets, whilst continuing to maintain the required levels of ubiquitous Combat Engineer skills. Our specialised Troops are establishing centres of excellence within the Regiment, becoming the subject matter experts for the technical skills sets required by modern engineers. Investment in key areas such as Technical and High Risk Search, CBRND, Army Work Dive, APRCC and Bridging has occurred in 2017 despite the high tempo requirements of the Regiment within a demanding Ready cycle.

3 CER achievements this year would not be possible without the effective logistical support afforded by our men and women in OSS. OSS are relied upon to go above and beyond what is expected to deliver critical logistical support to the Regiment in such



a high tempo, mission focused period. 2017 has been characterised by significant change in the CSS space. The institution of the CSS CONOPS has required a dynamic and focused team in order to understand the risks and opportunity this new construct presents. Whilst our integral manpower has reduced the portfolio of OSS has expanded with reach across all echelons.

2017 has heralded the beginning of what promises to be an exciting period for the Corps. At Regiment level the significant capability enhancements, funded under the Integrated Investment Program have begun delivery. Coupled with this is a culture of innovation and capability remediation that is immediately enhancing engineer capability. In conjunction with the other CERs, we are preparing to evolve under PLAN KEOGH. This represents an opportunity to re-examine our generation of Brigade Engineer effects, particularly vertical construction. We are preparing to welcome the integration of a mechanised platform into the Regiment; significantly enhancing the mobility and protection of 18 CE

Sqn. Plan KEOGH provides an opportunity to examine our capability foundation, ensuring it provides a robust platform to launch the significant modernisation of the SAPPER into the future.

3 CER has already integrated the L998 Emergency Response (ER) Platform, the Styker XC into service which has exponentially enhanced our ER capability. We eagerly await the introduction of the new B vehicle fleet under Land 121 – 3B, and have the benefit of drawing on the experiences of 1 and 2 CER. Our new combat bridging fleet has begun to arrive with the footbridge and improved Ribbon Bridge already in the Unit. We remain poised to support the requirements development phase of the many new capabilities to be delivered in the future.

### Building Partner Capacity

The Corps continues to enable known operations with the Regiment enabling TGT V, VI. These small training teams, coupled with individual augmentation across all theatres provide a unique opportunity for our people to enhance capability of partner nations. It also tests the



3 CER combining CBRN and dive training with the new lightweight de-contamination station.



Regiment's resilience and the ability of junior leaders to assume greater responsibility. 2017 has exemplified the adaptability and flexibility of our people.

3 CER continues to invest in our PNGDF engineer partners. Ex PUK PUK 2017 was the primary focus for 25 Spt Sqn post EX TS(H)17. This year's chapter of the Ex PUK PUK journey has focused on building partner capacity, reinforcing training effects to enable the PNGDF across the full suite of Engineer capability. The team deployed to Port Moresby, and partnering with the PNGDF Engineers and Assault Pioneers from 1 RPIR developed TAURAMA Barracks infrastructure. This included the development of an Urban Training Facility, a Scale A expansion camp and RAP. A significant focus this year is the provision of Mentor Training Teams (MTT). These MTTs were deployed to conduct Basic Search training and a Regimental Officers Basic Course. All planned tasks were completed with the focus being foundation skills change management through partnership.

With the major exercises and evaluations for 2017 concluded the Regiment began to shift focus to ceremonial activities and preparation for the next High Risk weather season, suddenly our commitment to excellence and power to react to an ever changing international environment was once again tested with a short notice opportunity in the Philippines. Whilst 16 CE Sqn was busy conducting

exercise Phoenix Rage, the task of preparing a contingent to assist our allies in the Philippines as part of a 1 RAR led training effort arose. This deployment forced rapid planning and preparation in what can only be described exemplifying the exciting time both the Regiment and Corps of Royal Australian Engineers finds itself in.

### Summary

2017 has tested 3 CER across a broad range of exciting training and operational scenarios. The Regiment has performed brilliantly and continues to embrace opportunities for change and evolution. Our as Sub-Units continue to refine their critical functions and ensure our Sappers and Soldiers gain an even better understanding of the dynamic and fundamental role military engineers play within the combined arms team. The professional relationships formed with International Forces, STURDEE Sqn, 3 Bde forged from countless training experiences, has reached new heights. 3 Throughout the journey the Regiment has embraced the challenge to cement our intellectual modernisation, testing our Cbt Bde and CER SOPs. We now pass the baton to 2 CER as they commence their Road to Ready. 3 CER is no stranger to working within a high tempo environment, yet the years higher than normal tempo has proven once again that the Regiment is up for the challenge and thrives on friction doing what we do best.



[ Sapper SITREP ]

## 5th Engineer Regiment – 2017 Year in Review

LT Steven Duda



*CPL Adrian Buttriss supervising and instructing members from 101 Construction Squadron on the installation of the slab to support the picnic tables being manufactured by the indigenous trainees as part of their Cert I in Engineering.*

2017 continues to be a busy and turbulent year with the Regiment continuing to develop in the Readying Phase. It began with the Regiment welcoming our new RSM, WO1 Russell Peel, bringing a wealth of experience and knowledge to the Unit.

101 Construction Squadron completed a series of vertical construction jobs including building a shipping container training complex, a jetty, wharf area, and cave complex as part of Ex VERTICAL SCORPION.

Most of the year has been focused on delivering an extensive training program to develop skills and competence in conducting key elements of 5ER's Core Mission Essential Task List (C-METL) in order to prepare for the engineer squadron to complementing the 5th Brigade reserve Battle Group, known as 'BG Waratah'. The Waratah engineers are a key reinforcing element to support the 7th Brigade and 2 CER during their 17/18 Ready year.

In March, the focus was on combat engineer skills, including area, route and urban search conducted by 4 CE Sqn in Canberra at the AFP Training Village as well as conducting a radio conversion course to qualify personnel in the Harris 152 combat net radios.

Despite challenges posed by the limited training time and resources, the training tempo continued to increase into May with 101st Construction Squadron (101 CS) undertaking Ex SCORPION SWORD in Holsworthy with the construction of Asian-styled huts for SOTEC and route maintenance of an overgrown fire trail. This coincided with a 9-day training block with the combat engineer squadrons conducting an MGB build, a demolitions practice; breaching a variety of different obstacles such as concrete tetrahedrons, and BCE training, including search with the guidance of LT B from SOER.

June continued a series of small arms live fire range practices, to ensure individual proficiency in F88,





*CO 5 ER, LTCOL Andrew Johnson presents the Ex JOHN MUIR Winners Plaque to CPL Wooden and his section.*

F89 and SLP were maintained in order to support BG Waratah. Meanwhile 101 CS continued its long tradition of providing support to the annual AACAP, bringing valuable knowledge and experience from civilian employment in construction, and in some cases, more than 10 years support to the program.

The Range practices continued into July, with Ex BULLSEYE; which was attended by over 100 members of the regiment, the majority of which successfully passed LF6 and conducted for the first time an introduction in close-combat shooting lead by CAPT Hargreaves and LT Duda.

Ex JOHN MUIR, held in August brought together sections from both 5ER and 8ER to compete in a capstone challenge event to determine the section that excelled in a range of Basic Combat Engineering tasks and All Corps skills, including Infantry minor tactics. In an extremely close scoring event, the winning section from 8ER emerged having displayed exceptional teamwork, individual and sections skills.

In September the 5ER and 8ER fielded a combined Engineer Squadron consisting of Combat Engineers

and a Composite Construction Troop during Ex TELOPIA WALK. The SQN achieved tasks to ATL/S 4C conducting route maintenance, search, CMOB, MOB and integrating with BG Waratah HQ in a CPX in preparation for Ex SILICON DIAMOND in 2018.

As 2017 draws to a close, another chapter in RAE Corps history will be written with the closure of 8 ER as part of the 2nd Division transformation and its amalgamation with 5 ER. This will see the closure of the 8 ER Regimental Headquarters and the transfer of 14 CE SQN, 6 CE SQN and 102 Const SQN to 5 ER. The reorganisation of the Regiment will see it being the most widely dispersed and the largest reserve engineer unit in the ADF. The amalgamation parade was conducted on the 18 Nov 17 at Holsworthy Barracks.

The amalgamation also sees the transfer of Command from LTCOL Andrew Johnson to LTCOL Renee Kidson. In his time as CO, LTCOL Johnson has challenged the regiment to conduct tough field training, help to modernise the way we do business and effectively transitioning the unit through significant changes in structure and establishment. We wish him all the best.



## [ Sapper SITREP ]

## 6th Engineer Support Regiment

LTCOL Nicholas Bosio CSC

6 ESR has had a significant change in role over the last year. Once more, 6 ESR has taken up the role as the Combined Joint Task Force (CJTF) Engineer, working with the 1st Division on EX POLYGON WOOD and EX TALISMAN SABRE 17. The Regiment has reinvigorated “Divisional Engineers” and is reviewing and learning the Corps’ old history of JTF Engineer, Engineer Logistics and the Divisional Engineer Park. Our first major steps in this – as a Regiment – were realised on EX TALISMAN SABRE 17, where the 6 ESR undertook its largest exercise deployment in a decade – supporting the Joint Land Series across the tactical and operational echelon. It is a time of development and change for the Regiment.

### Return to the Old – CJTF Engineers

Relearning the old Divisional Engineer capability has been a key part of 6 ESR’s thinking for the year. Ensuring the Regiment’s headquarters, Regimental Works and 20 EOD SQN’s SHQ can provide a capable JTF Engineer and C2 node for theatre engineer assets has been a real challenge – one that the headquarters took with gusto.

Engineer planning at a theatre level; developing engineer lines of communication; establishing the JTF Engineer and JTF Works nodes; liaising with RAAF, US and other partners; manning a Regimental HQ node; coordinating three sub-units in the field; and integrating into the non-lethal and joint targeting working groups have all been great challenges and highlights. On top of these, 6 ESR continues to support as the Exercise Engineer, using the preparation works for exercises to practice the same skills RAE must use to establish a theatre in the medium and long term.

The Regiment has also sustained its connections with other theatre framework units. Work with 1 Intelligence Battalion and 1 Military Police Battalion have helped to develop a set of standard operating procedures for exploitation and engineer intelligence. Working with elements of the Department of Foreign Affairs and Trade and the Australian Federal Police also allowed the Regiment to practice the real time role of JTF Engineer. Such undertakings have then been reinforced by the successes of the four sub-units of the Regiment.



*MAJGEN Steve Day and MAJ Fabian Harrison unveiling the new 17 Construction Squadron plaque at RAAF Amberley.*

### 17 Construction Squadron – A Running Start

2017 started with a move – the Squadron relocation into new facilities at Zabul Lines, RAAF Amberley. This move has been a long time in the making (67 years in total), and is the first time both current Construction Squadrons have been co-located together as a regiment. However, there was no time to spare. The Squadron went online at the 1st March 2017, and immediately deployed eight personnel (7 x Tradesmen, and 1 x Plant Op) to Iraq to replace the Camp Maintenance Team. These personnel spent seven months in country, and were replaced later on in the year by another team sourced primarily from 17 CONST SQN. We also supported, through the deployment of one of the TP COMDs, CAS-G in France as part of the SEA 1000 (submarine) project – allowing us to learn more about joint design teams in far away places – this time Cherbourg, France.

However, that was not the end of our busy year. The SQN was put on cyclone relief watch for TC Debbie in April 2017. Deploying on OP QUEENSLAND ASSIST, via the HMAS Choules, the SQN supported first the Whitsunday’s at Hamilton Island, then clean-up efforts in several communities down the QLD coast, namely in the communities of Wilson Beach, south of Airlie Beach; Shute Harbour; and our largest effort in Rockhampton – and one of the largest amphibious

deployments of engineer assets. For over two weeks, we supported our 3 CER brethren across Northern Queensland.

The SQN's main effort for the year was EX Talisman Sabre in Shoalwater Bay. Some of the tasks the SQN faced was the construction of a vehicle wash point to cater for 200 vehicles; staging and assembly areas to handle over 2000 vehicles within a three-day period; creation of hard stand areas for the FSG & Role 2 medical centre; bunding for BFI's; route maintenance & repair; water supply, resource capture, and DAMCON.

Although we had lived in our new facilities for almost seven months, it wasn't until the 17th August that the new Squadron facilities were officially opened by the Representative of the Colonel Commandant of RAE, MAJGEN Steve Day, DSC. This was a great platform to showcase the facilities to the power brokers within Army, and our RAAF neighbours.

Throughout the year the SQN has certainly contributed to bolstering 6ESR's status across Army as the 'Joint Task Force Engineers'. This has been made possible through some commendable individual efforts on operations and in the field; this success has also been the result of the collective effort from the men and women of 17th Construction Squadron working together for the first time within a complete regiment.

## 21 Construction Squadron – A Strong Year of Deployment

Although 21 Construction Squadron has been deployed for most of the year on Army Aboriginal Community Assistance Programme (AACAP) project (see separate article), it has welcomed its sister squadron from "down south". However, AACAP



is only part of the Squadron's remit. 21 CONST SQN has also conducted an extensive suite of individual training courses based on high risk work and specialist skills in the construction environment, supported the deployment of 17 Construction Squadron on HADR operations, and continued to release soldiers for career development and promotion courses. The Squadron will finish the year having displayed the tremendous ability and leadership of the junior NCOs and soldiers to produce high quality outcomes over an extended period of time.

## 20 Explosive Ordnance Disposal Squadron – Summisse Insisto Fortis (Softly tread the brave)

This year has been a year of introspective assessment and review. It has made us stronger, and revitalised what we do, why we exist, and our vision of the future. Considering possible dispersion and disbandment as a Squadron forced a true inward review and a degree of humility. This has renewed our focus on delivering a professional, world class EOD capability, supporting the Joint Task Force in line with 6 ESR's new direction.







20 EOD 2017 staff photo.

With foresight and an eye to future conflict in a complex world, we now start in earnest in developing the third EOD Troop. In the future, a Squadron of threes will help us be more effective in the future and continue to support the Joint Force. Such support was seen on our EX WALLABY RUN where we practice team, troop and squadron operations within a joint task force concept. We remain poised for operations both in the Middle East such as Taji and embed roles, or closer to home in the PEO such as Operation Render Safe.

### **Operational Support Squadron – Establishing an Engineer Park**

2017 has been busy and productive for the Operational Support Squadron (OSS) 6 ESR. This year the SQN has moved from strength to strength following the relocation and amalgamation of OSS South (Holsworthy) into OSS Main at Amberley. The subsequent integration into purpose built facilities including workshop, warehouse and SQN headquarters has completed the first chapter in OSS's

history since its raising in 2012. Yet the operational demands have not changed. OSS was required to provide dispersed support across three different, and concurrent, Regimental activities: AACAP, Exercise Talisman Sabre 17, and 20 EOD support – all the while ensuring rear details at Amberley is maintained.

As 2017 draws to a close, we reflect on the Regiment's largest exercise deployment, and all of its squadron group activities. The Regiment has watched 17 CONST SQN integrate; seen significant growth in OSS; supported 21 CONST SQN with the largest AACAP; and reinforced 20 EOD's development and vision. Having all the Squadrons of the Regiment finally in South East Queensland is a significant boon. Finally, the real power of the Engineer Support Regiment can be harnessed as it transitions from a Regiment of deployable capabilities and into a deployable Regimental capability. And such a capability could not be possible without the efforts of the Regiment's soldiers, their families and the wider community. For 6 ESR is more than a Regiment, it is a Regimental family.

[ Sapper SITREP ]

## 8th Combat Engineer Regiment

LTCOL Adrian Harding

RAE HOC, retired and serving fellow Sappers,

It is my honour to present to you this final 8ER Sapper Magazine report. As a result of the 2 Div Transformation, 8ER will be amalgamating with 5ER and as at 01 Jan 2018, there will be only one reserve Sapper Unit in NSW as part of 5 Bde. It is important to note that this amalgamation is only one part of the wider changes to 5 and 8 Bde, but without dwelling on detail, I can report that 8ER is proud to be able to entrust all of its highly trained and valued Sappers to 5ER to continue providing the means to live, move and fight in the battlespace of the future in appropriate Sapper form.

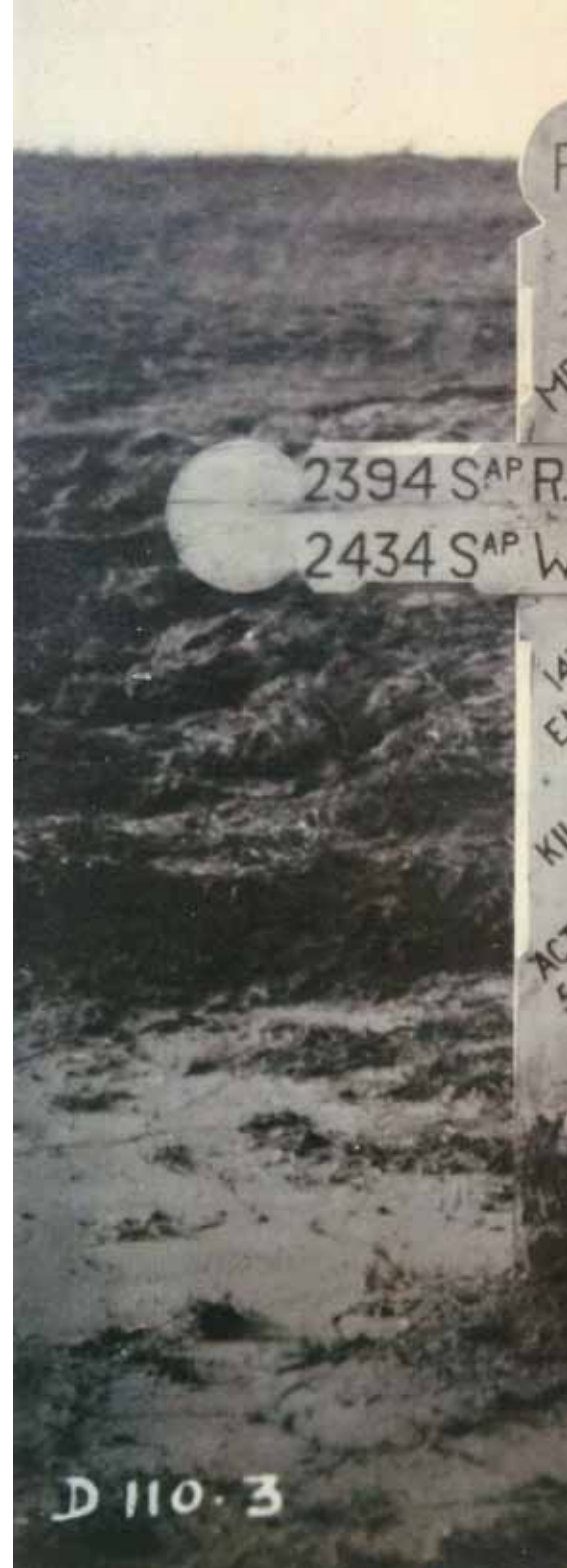
Some detail is appropriate – so please note that 14 CE Sqn will remain in Adamstown. It is augmented with the addition of 6 CE Tp, derived from the reduction of 6 CE Sqn in Dundas. 102 Const Sqn in Singleton also becomes a troop of 101 Const Sqn. We join 5ER with a presence in Holsworthy (RHQ), Orchard Hills and Canberra. The planning for this amalgamation has been ongoing and in fact accelerated throughout 2017. I congratulate and thank all those members who have undertaken the mostly governance tasks that are so vital in such a large activity. I am confident at the same time that the Sapper on the ground is confident that he/she is parading in the same place with the same mates and they 'don't see what all the fuss is about'. 8ER is making the best of the situation and we thank 5ER for their hospitality and effort in welcoming us into their Sapper family.

The history of 8ER is a rich one in NSW. The 8th Combat Engineer Regiment was raised on 01 July 1995, as part of a re-organisation of Army engineer units. It consists of a Regimental Headquarters, the 14th Field Squadron, the 6th Field Squadron and the 26th Support Squadron (officially a troop).

The Regiment traces its lineage to the 6th and 14th Field Companies, 1st Australian Infantry Battalion, and from the 2/6th and 2/14th Field Company, 2nd Australian Infantry Battalion. These two predecessors fought on the Western Front in World War I, and in the Middle East and in PNG during World War II.

The 6th Field Company was raised in Queensland, South Australia, Western Australia and Tasmania in September 1915. The 14th Field Company, 1st Australian Infantry Battalion was raised in Egypt in February 1916 from a nucleus of officers and men of the 1st and 5th Field Companies, who had fought at Gallipoli. Both Companies were sent to France, where they saw heavily action. Battles included Fromelles, the Somme, Bullecourt and Messines. The Companies were disbanded on their return to Australia.

The 2/6th Field Company, 2nd Australian Infantry Battalion was raised in NSW in February 1940 and saw







*SPR R Groves and  
SPR W Stirling of  
14 Field Company KIA  
on the Western front  
05 November 2016.*

service with the 7th Division; undertaking training in Palestine prior to supporting campaigns in North Africa and the Middle East. In January 1942 the Company moved from Syria, to Palestine and back to Australia. It deployed, as the main element of the 7th Division force, to Java. The company also served in Papua, defending the Division's battle headquarters as infantry at Port Moresby, conducted field engineering and construction tasks at Lae and supported the advance to Ramu Valley and the capture of Balikpapan.

The 2/14th Field Company, 2nd Australian Infantry Battalion, was raised at the Sydney Showgrounds towards the end of 1940. The Company trained in

Bombay, prior to conducting operations in Syria. On entry of Japan into the war, the Company returned to Australia for training before embarking for Papua New Guinea. On 19 August 1942, the unit began work on the jeep track from Iloilo to Nauro, part of the Kokoda Track. Later, the 2/14th Field Company constructed roads for the operations at Buna and also supported operations in the Aitape-Wewak area in late 1944.

As with World War I, the Companies were disbanded on their return to Australia.

Upon the raising of the Citizens Military Forces (CMF) in 1948, the 6th Field Squadron was raised in the Second Division under the Second Field Engineer Regiment at Moore Park in Sydney. It moved to Haberfield in the late 1960s and eventually became the Field Engineer Troop of the 21st Construction Regiment, Supplementary Reserve.

In 1948, 14th Field Squadron was formed as a construction squadron as part of the Engineer Corps Troops at Adamstown, Newcastle (its current home). In 1950 it came under command of the 5th Engineer Group; reconstituting itself as a field engineer squadron, based out of Waratah Army Depot, Newcastle, and Singleton. It has remained a Newcastle-based unit since.

The 26th Support Squadron traces its lineage to the formation of the Supplementary Reserve in 1950, when 103rd Construction Squadron and 108th Plant Squadron (Heavy) were raised as part of the CMF. The Squadrons were based at Haberfield, Sydney, as part of 21st Construction Regiment. The Regiment was disbanded in 1987, and the Squadrons amalgamated to form 26 Divisional Engineer Support Squadron.

With the introduction of a Regimental structure for Army Engineer units in 1995, the 14th Field Squadron and the now re-titled 26th Support Squadron were placed under command of the newly raised 8th Combat Engineer Regiment at the Newcastle Training Depot, Adamstown.

At this time, the 26th Support Squadron re-located to Timor Barracks, Dundas. In 2002 the Squadron was renamed 6th Field Squadron. 26 Support Troop was raised in 2004 and split across both depots.

In 2003, the Newcastle Training Depot, Adamstown, was officially renamed Bullecourt Barracks.

In 2008, utilising positions from the regimental headquarters, the 26th Support Squadron was re-raised (although not on the official Army order of battle) in preparation for the introduction of the future Modular Engineer Force (MEF). At that time, Headquarters 8th Combat Engineer Regiment, 14th Field Squadron and the main body of the 26th Support Squadron were located at Adamstown, Newcastle, while 6th Field Squadron and a small element of the 26th Support Squadron were based at Dundas, Sydney.

At the end of 2013, the 21st Construction Regiment in Sydney was disbanded and as a result, 102 Construction Squadron was added to 8th Combat Engineer Regiment and 101 Construction Squadron was added to 5th Combat Engineer Regiment. These changes brought about the re-naming of both Regiments.

As at the start of 2014, the newly renamed 8th Engineer Regiment was now operated with the Regimental Headquarters and 14 Combat Engineer Squadron at Bullecourt Barracks, Adamstown; 6th Combat Engineer Squadron was at Timor Barracks, Dundas; and 102 Construction Squadron (replaced 26 Support Squadron) and Resources Troop were at Singleton.

Whilst we have a rich history, 8ER produced many fine results in 2017. It would be remiss not to highlight the achievement of 40 year's service of no less than 3 members – WO1 Geoff Kidd, WO2 Ian Ratcliffe, and SPR Geoff Howard. Congratulations and thank you for your service to the ADF, Army and RAE.

**Significant individual efforts by members of 8ER that I am pleased to highlight include:**

Task Force Commander Commendation to SPR Laxton for her work on the Transit Security Element deployment

CATC Army Reserve NCO of the year for excellence awarded to CPL Wooden

Soldier's Medallion for Excellence in 2017, awarded to LCPL Abel and SPR Thaiposri

RHQ negotiated a different kind of 'minefield' as it addressed the amalgamation task. I commend the efforts of all cadre staff and their part time cells for the thorough and professional manner

in which these personnel handled their extra workload to achieve the outcomes required on top of the onerous 'business as usual' tasking. It is appropriate to thank not only 5ER but also HQ 5 and 8 Bde for helping us in this journey. Whilst there were several Units undertaking transfer from 8 to 5 Bde, no other unit in 2 Div undertook a transfer and an amalgamation simultaneously.

102 Const Sqn forged an outstanding reputation as the only resident sub unit permanently based at Singleton for all the 5 and 8 Bde exercises held there in 2017. Their support to all activities earned them the gratitude of Army and range control alike who were 'saved' more often than they would like to admit by having a few responsive Sapper drivers and 'planties' in the mess and 'around the corner'.

14 CE Sqn remained as a reliable foundation of the Regiment, providing the lion's share of experienced combat engineers for Battle Group Waratah, Rifle Company Butterworth and Transit Security Element tasking. They will remain in Adamstown as an RAE legacy despite all the restructures of the past, with over 100 years of lineage and continuity. I commend the 14 Engineer Company Association for their ongoing presence and support to the Adamstown Sappers.

6 CE Sqn has enjoyed a reinvigoration this year and their support to the NSW RAE Association on Anzac Day and for the annual dinners was greatly valued. This will of course continue into the future and they will be an excellent resource as they join 14 CE Sqn 2018.

May I thank all the cadre staff for their steadfast support to the part time Army. We farewell our Adjutant – MAJ Bruce McGinley who retires this year and also the OPSO - MAJ Jack Plimmer who transitions to civilian life in 2018. I wish the remainder safe travels and good soldiering/sapping in their ongoing military careers.

Finally – to all the members of 8ER past and present, I offer my sincere thanks for your service for yet another year of demanding tasks in support of many commanders. Your performance has been determined and professional and it has been an honour to serve with you. You will serve in your current parade locations and little will change – you are used to delivering superior results wherever you find yourselves and will continue to do so. Congratulations on your achievements in 2017.



[ Sapper SITREP ]

# 11th Engineer Regiment

LTCOL John Anderson



*CPL Angel, SPR Houghton and CPL Quirk (from left to right) prepare a NEB for demolition.*

January 2017 saw LTCOL John Anderson and WO1 Rob Clarke establish themselves as the new 11 ER Command Team with the clear goals of building 11 ER's reputation, developing capability and preparing to support 3 BDE and 3 CER during Ex TALISMAN SABRE/HAMEL 17 (EX TS/H 17).

In its READY phase of the Force Generation Cycle, the sappers and soldiers of 11 ER have enjoyed a busy 2017 providing individual reinforcements to Op ACCORDION and Op RESOLUTE, Ex PUK PUK, Ex SOUTHERN KATIPO, Army Aboriginal Community Assistance Program (AACAP) and instructor support to the School of Military Engineering.

For 2018, 11 ER has been tasked to Force Generate and mount the 11 BDE All Corps Search Company supporting the Gold Coast Commonwealth Games.

## 11 Combat Engineer Squadron

For 11 CES, the year commenced with Defence Assistance to the Civil Community preparation in

readiness for floods in Brisbane before focusing on individual and collective training.

In May, 11 CES conducted the Ex RAPID REPAIR series, focusing on challenging mobility and counter mobility tasks in conjunction with the local Estate and Infrastructure Group. The clear intent was to break out and use as much plant and equipment as possible and apply sound engineering planning and techniques to solve real problems.

EX TS/H 17 was a highlight with 50% of 11 CES committed to form "Sturdee Squadron" and placed under Command of 3 CER whilst maintaining its habitual support to BG CANNON throughout. Sturdee Squadron, at one point during the exercise, was force assigned to five different battle groups.

11 CES training remains focused on maintaining its Ready skill-sets and preparing for likely support to the Commonwealth Games in 2018.

*Members of 11 ER  
conducting a patrol during  
Ex TALISMAN SABRE 17.*



### 35 Combat Engineer Squadron

As 11 ER's engineers spread across north QLD, 35 CES has enjoyed another busy year and continues to punch above its weight. 35 CES' integration with 11 BDE and 3 BDE is evident by providing Chemical, Biological, Nuclear and Radiological instructor support to 3 BDE units, supporting 31/42 RQR training weekends, providing plant equipment and vehicle support to units within the area, and driver support to relocate vehicles utilised in EX TS/H 17. 35 CES also deployed on two occasions to Shoal Water Bay Training Area to practice survivability and counter mobility skills and the construction of targets for their yearly demolitions practice.

During the EX TS/H 17 lead up training, members of 35 CES volunteered to be interviewed for the Defence Force Recruiting video titled 'WHY I SERVE'. Commitment to the Army Reserve was rewarded with CPL Ben Lentell and LCPL Mark Jorgensen being awarded the Soldier's Medallion.

### 104 Construction Squadron

104 CS, 11 ER's newest sub-unit continues to grow in size, capability and its ability to support other units. A key outcome for 2017 was the training and preparation of a composite Construction Troop to deploy as part of Sturdee Squadron to EX TS/H 17. Attached and integrated into 3 CER's 25 Support Squadron, they completed defensive positions (gun pits and scrapes), developed obstacles, constructed an Interim Captured Personnel facility for the MPs, and participated in low level cordon and search tasks.

104 CS also completed deconstruction, refurbishment and plant tasks in support of the Base Support Manager, RAAF Base Amberley. Employing tradesmen, plant operators and combat engineers, these tasks have provided an opportunity to win and recycle resources for future activities, including the refurbishment of their Ipswich Depot. 104 CS plans to occupy their historic Ipswich Depot by mid-2018. 104 CS continues to focus on recruitment and building capability, which will include the conduct of a unit-run plant operator's course.



## [ Sapper SITREP ]

# 19th Chief Engineer Works

LTCOL Glen Billington

## Plan, design, deliver

19th Chief Engineer Works (19 CE Works) provides infrastructure engineering support to the deployed Joint Task Force. 19 CE Works is a theatre-level asset that realises additional strategic benefits through the delivery of projects for Defence in a raise–train–sustain capacity. Operational commitments have increased slightly on previous years, but remains at a manageable rate. The unit continues to deliver effect across the Middle Eastern Region (MER), as well as in our local region and within Australia.

## Operations

MAJ Dan Dunkley

19 CE Works provides a full-time rotation of personnel to the HQ JTF633 Engineer Support Element (ESE) in the MER, which delivers a range of infrastructure in support of OP ACCORDION, OP OKRA and OP HIGHROAD. In 2017, 19 CE Works deployed Senior Project Engineers (MAJ Angus Johnson and MAJ Dan Dunkley), Works Managers (WO2 Gregor Buckley, WO2 Michael Brescianini and WO2 Kit Turner), Project Engineers (CAPT Donald Robertson, CAPT Chris

Zdjelar and CAPT Phil Hermes) and Draftsman (CPL Jake Marek) positions to the ESE. Deployed Works Manager and drafting positions were raised in 2017 to provide additional capability to the ESE.

19 CE Works' personnel managed new facilities at the Afghan National Officer Academy, replacement generators and a new workshop for Camp Baird in the UAE, and support to the \$500m MER CIS Upgrade project. Non-deployed personnel also provided reach-back design support for elements of the MER CIS Upgrade project and force protection engineering advice.

The unit's commitment to operations provides opportunities for the experience gained on AACAP and other projects to be employed in a deployed setting. It also allows unit personnel to work alongside members of 6 ESR, the RAAF 65 Sqn and the UK Special Team – Royal Engineers (STRE).

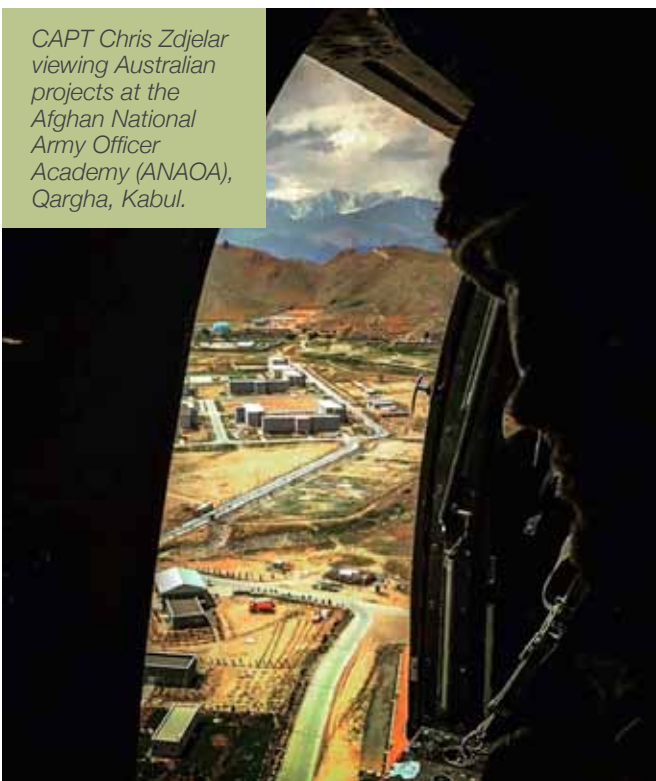
## Force Protection Engineering (FPE)

CAPT Don Roberston

FPE continues to be a key contributor to 19 CE Works mission to provide infrastructure support to deployed forces. Project Engineer, CAPT Don Robertson, deployed on OP HIGHROAD from October 2016 to May 2017 and delivered Force Protection (FP) upgrades to two coalition-occupied bases in Kabul to reduce the threat to Australian personnel. This included upgrades to the entry point, main vehicle check point and the security towers at Forward Operating Base (FOB) Qargha, and the design of a protective wall for non-hardened living accommodation, which required a specialist engineering solution due to site constraints.

In September, 19 CE Works hosted the annual Australian FPE Seminar. The seminar included keynote presentations from Defence and other agencies including DFAT, ASIO and Geoscience Australia, including an engaging presentation on MAJ Tim Napper's award-winning BALLPARK BLAST® software, which has been distributed for use by military, police and other organisations around the world. The suite of presentations is available on the 19 CE Works SharePoint page (DRN).

CAPT Chris Zdjelar viewing Australian projects at the Afghan National Army Officer Academy (ANAOA), Qargha, Kabul.





*Helicopter Insertion and Extraction Training Tower, Lavarack Barracks.*

### Domestic Works Program

Domestic works included completion of the 2nd Cavalry Regiment facilities in Townsville, and the Helicopter Insertion and Extraction Training (HIET) facilities in Townsville, Darwin, Enoggera and Edinburgh. Both projects were well received by users in the Combat Brigades, with particularly high anticipation for the HIET towers opening. Handover requirements on the Defence Estate provided a challenge that our Project Management Team tackled head on, gaining valuable experience for future projects. Lessons learned have assisted project planning on the Tank Integration Interim Facilities (TIIF) Project, which has begun handover of Squadron Headquarters, Armouries and other works supporting the disaggregation of tanks from 1st Armoured Regiment in Darwin to the Armoured Cavalry Regiments in Townsville and Edinburgh.

Although relatively modest in size (under \$25M total), these projects have had immense value to Army and through flexibility and commitment, we have been able to deliver outcomes beyond initial user expectations. The HIET project directly supports maintenance of helicopter insertion and extraction capability as a wide range of units is no longer dependent on support from valuable aviation assets. The towers also facilitate

savings to Defence as large numbers of personnel can conduct training without use of aircraft. The TIIF and 2nd Cavalry Regiment projects have been key enablers of Plan Beersheeba and have drawn high praise from users. 19 CE Works was engaged for these projects rather than Capital Facilities and Infrastructure Branch due to differences in business models, which allowed 19 CE Works to achieve completion within the timeframes required by AHQ. These projects provided the opportunity to work on complex, high profile projects in conjunction with national level constructors such as St Hilliers and Watpac.

### Defence Cooperation Program—Papua New Guinea and South West Pacific

MAJ James Scott

The Halivim Poroman project series continues in Papua New Guinea, with Phase 6 entering construction this year. This phase is delivering a 100-person two-storey accommodation block to Moem Barracks, Wewak. Works include electrical and sewer remediation to Moem Barracks, demolition of existing buildings and the prefabrication of modular accommodation units, to be assembled on site. The PMT, led by CAPT Jarvis Black and WO2 Dan Thorne, have closely managed the design process, ensuring requirements for a robust, sustainable and replicable design are met.

The unit continues to support other projects in the local region. The Air Movements Facility Project aims to upgrade and extend existing facilities at Port Moresby International Air Port for use by RAAF Air Movements Section in support of ADF exercises and operations with the PNGDF. 19 CE Works' technical expertise was called upon in the conduct of a feasibility study through the South West Pacific nations of Palau, the Federated States of Micronesia and Republic of the Marshall Islands. The recon and subsequent report made recommendations on infrastructure requirements for existing Defence Cooperation Program compounds and host-nation-base facilities and supports IP Div planning as the Pacific Patrol Boat program comes to a close.

The unit has gained valuable experience in international engagement and has been supported by 22 ER in the provision of works supervisors. Cooperation between our two units has been positive and allowed a more robust sustainment model over the delivery of works.





*The Multi-purpose Facility, Toomelah NSW (AACAP 2017).*

## Indigenous Community Projects

**CAPT Michael Lynch**

The Army Aboriginal Community Assistance Programme (AACAP) continues. Whereas previously all Works Sections have managed at least one AACAP, this year all AACAPs were consolidated under 11 Works Section, providing simplified coordination across the four open projects (AACAPs 2016–2019). With an increased annual budget of about \$7 million, this represents a combined \$28 million programme being managed on behalf of the Department of the Prime Minister and Cabinet.

AACAP 2017 was delivered in Toomelah, NSW—the first for the state. Along with the challenge of delivering AACAP in unfamiliar territory, the biggest challenge has been the delivery of the 1300m<sup>2</sup> Multi-Purpose Facility (MPF). Led by CAPT Michael Lynch, the PMT (comprising LT Emma Forward, WO2 Stephen Davis, SGT Erin Moore and APS Grad, Mr James Lett) has

spent considerable time working with 21 Construction Squadron, the Design Services Consultant and other stakeholders to deliver the largest building structure of any AACAP to date. The complexity of the build dwarfed that of the other AACAP 2017 scope items such as the community roads remediation, football oval refurbishment, waste facility refurbishment and church restoration, and made some members feel like they'd aged 20 years due to stress. Despite this stress and all the challenges faced, all members of the team can be confident that they have contributed to a remarkable structure (and project) that will be remembered for years to come.

Other AACAP projects continue to provide challenges. The Sewage Treatment Plant (STP) delivered by AACAP 2016 in Laura, QLD, required a series of rectification works, including resolution of high pH and total suspended solids levels, which resulted in licensing breaches. Working with a range of stakeholders, WO1 Peter Gardiner and WO1 Col

Leggett coordinated remediation via the installation of a 'SolarBee' mixing and circulation unit that will improve water quality.

The AACAP 2018 team of CAPT Tim Doust, WO2 Greg Buckley, WO2 Andrew Carpenter and APS Graduate Miss Durga Singaravelu have been developing their project in Yalata, SA, which includes a Child Parent Centre (in partnership with the SA Government) and other community improvements.

Separate to the AACAP program, the Yalata Amenities Building (YAB) project has been an extraordinary achievement for its project leader, WO2 Chris Jones. Delivered at the request of the Chief of Army for former Governor-General His Excellency MAJGEN Michael Jeffery (Retd), Chair of the Australian Trachoma Alliance, the YAB is an approximately \$1million contribution from Army to improve indigenous hygiene. Although endemic in 53 countries, trachoma is responsible for visual impairment in 2.2million people worldwide, of whom 1.2million people are irreversibly blind. Australia is the only developed country in which trachoma is endemic. The YAB project marks the first time Army has worked with the Australian Trachoma Alliance, in this case to provide practical infrastructure that supports hygiene, lowering the need to treat trachoma through surgery or antibiotics. This successful project was officially opened by former Governor-General His Excellency MAJGEN Michael Jeffery (Retd) and COMD 6 BDE on 04 Oct 17.

*Yalata amenities building official opening (left to right) Ms Joanne Badke, MAJGEN Michael Jefferies, Ms Mima Smart, WO2 Chris Jones (19 CE Works), Mr Nick Mullings (Opus), Mr Craig Adams (Adams & Co).*



## Draughting

CPL Alan Rowell

The Draughting Section has introduced new software to the suite already used, providing a greater range and higher quality product. The section continues to use Revit™, which has been the base CAD modelling program used since 2012, and this year procured Lumion™, which produces high quality, realistic renderings. The product gives clients and end users a realistic example of what the project will deliver, which is often difficult to visualise from traditional drawings. Using Camtasia™, another recently procured program, these outputs can be used to produce 4D renderings that visually demonstrate how the facility would be constructed. This is useful for both external stakeholders and to aid communication between project managers, designers and the construction agency.

These new capabilities have been on display this year as our draughtsmen—CPL Jakob Marek, SPR Jared Martin and SPR Andrew Davies—have developed concept designs for several improvements to the Victoria Barracks (Sydney) Officers and Sergeants Messes, including new living-in accommodation and recreational facilities, and expansions and improvements to existing buildings. The products generated by the draughtsmen have showcased the draughting capability to senior leaders and provided substance to their requests for estate improvements.

## Training Program

CAPT Dan Palmer

9 CE Works maintains a wide-ranging individual training program that is comprised of multiple elements. Elements include activities to maintain the unit Contingency Force Element (CONFE), a Continuous Professional Development program (CPD), an Education and Personal Development program (EPD), a unit-developed Comprehensive Leadership Course (CLC), an annual resilience activity and participation in the Oxfam Trailwalker.

The CLC is a unit-led small-team-leadership activity over three days during the 'Green Week' activity. Comprising lessons, syndicate discussions and practical problem-solving activities, members develop an understanding of others supported through the use of the proprietary Strength Deployment Inventory model, provided by 6 CS Bde. Marrangaroo Range Training Area provided austere facilities and challenging weather, ideal for the activity.







*Lumion rendering showing the VBOM Print Room Extension.*

This year, Team HOLDFAST and Team UBIQUE competed in the annual Oxfam Trailwalker event, in which teams of four traverse 100km of challenging terrain from the Hawksbury to Manly. Our teams finished 29th and 52nd, respectively (out of 440), and led the Government and Services category, collectively raising over \$6000 for Oxfam.

### **Social Media**

**MAJ James Scott**

After a long time on the social media sidelines, 19 CE Works has finally entered the game, launching the unit Facebook page and CO's twitter account, @19CEWorks. Our goal is to bring together construction and project management professionals in the ADF, and those working in partnership with the ADF, to promote professional discourse and knowledge sharing.

These platforms help to inform those interested in Defence engineering or project management, domestically and abroad, as well as announcing project milestones to key stakeholders. The opening of the HIET towers was particularly well received owing to a high degree of enthusiasm for the facilities. Social media has also been used to increase engagement with the private sector through recognition of joint effort and achievement, to invite external members to unit training, and share information and ideas.

While 19 CE Works' social media is still in its infancy, we expect that with an ever growing audience and continued relevant content, we can create a highly useable forum for ADF engineers to engage with each other.

## [ Sapper SITREP ]

## 22nd Engineer Regiment

LTCOL Michelle McCormack

2017 provided the 22nd Engineer Regiment (22 ER) with the opportunity to continue the high readiness achieved in 2016 before transitioning to the Reset year in July of this year. In addition to our own individual and collective training commitments and support requests, the unit was the Mounting Headquarters for Army's contribution to Training Support Element 86 (TSE86), the ADF commitment to Operation RESOLUTE. Further, we deployed members on Operation ASLAN in South Sudan, TSE84, TSE 86, Exercise Talisman Sabre in both Australia and Hawaii, as well as to Papua New Guinea in support of 19 CE Works, and AACAP in support of 6th Engineer Support Regiment. The end of 2017 saw the unit transition a number of key appointments within the Regiment, including a new Commanding Officer, Regimental Second-in-Command, Regimental Sergeant Major and Adjutant.

In May, 22 ER reaffirmed its demolitions skills in a tactical environment through Exercise Spur Hayrick in Puckapunyal. It built on previous skills and experience from throughout the Ready and Ready years, and consisted of section breaches through a complex obstacle, whilst reinforcing all-Corps soldier

skills and tactics. Also in May, 22 ER conducted a number of successful Professional Military Education (PME) activities for members at the rank of Corporal and above. These were very well received and complemented the Junior Officer PME program being conducted by 4th Brigade Headquarters.

The end of the Ready year was marked by the conduct of Exercise Spur Reticle, an exercise designed to practise room and building clearance, casualty evacuation drills and combat shooting. The training in combat shooting commenced several parade nights prior to the weekend with a train-the-trainer activity for Junior Non Commissioned Officers; followed by several evenings of dry practise to hone instinctive shooting skills. The range weekend progressed through individual and pairs, and culminated in a section level defensive shoot at the Puckapunyal Range complex.

During August (Exercise Spur Parapet) and September (Exercise Spur Winthrop), at the beginning of 22 ER's Reset year, the unit focused on expedient force protection activities and route and area searches, both with a live enemy force. Training in August varied between Section and Troop level, and included cordon and searches of occupied villages and the development of a Platoon house within one of the villages. The September training weekend was fed by the intelligence gathered during the August exercise, focusing on route clearance and area searches of identified caches.

105 Construction Squadron continued to redevelop the Regiment's compound in Puckapunyal; by demolishing and removing an old hut and continuing the build of a two-storey classroom facility within the unit's Lysaght during two nine day block periods in March and October. The Regiment also qualified additional plant operators from a number of RAE units during March as part of the single-coded Plant Course, and provided individuals to support 6 ESR and 19 CE Works on AACAP and in PNG. Members from the Squadron also completed the construction and installation of a memorial RAAF F-111 tail fin at the Defence Force School of Signals.

The unit remained busy with a number of ceremonial tasks, including multiple catafalque parties, a







*This image: 22 ER marches through city of Melbourne ANZAC Day 2017.*

*Left page: 22 ER members prepare formwork at DFSS for an F-111 tail fin monument.*

unit march through Melbourne on ANZAC Day, participation in our local Returned Services League's (RSL) ANZAC Day activities, dedication of Vietnam Veterans memorial in Longwarry to coincide with the Battle of Long Tan anniversary, and Remembrance Day in Ringwood. The Regiment hosted the Southern Region Waterloo Dinner at the Ringwood RSL, and welcomed the new Southern Region Colonel Commandant, Colonel Bruce Murray, AM to his first official function in his new role. In doing so, we recognise and thank the support and legacy that the outgoing Colonel Commandant, Brigadier Peter (Hutch) Hutchinson, DSC has made to the region generally and the Regiment specifically. The other key change in the region has been the departure of the RAE Association (Victoria) President LTCOL Colin Bowater (Retd) and the welcoming of the new President, LTCOL Bill Van Ree (Retd). Colin has been a driving force for the Association and under his stewardship has seen a number of local Corps' Associations amalgamate under the RAE Association

(Victoria) banner as well as a substantial increase in membership. Colin has been a huge supporter of 22 ER and we gratefully appreciate all that he has done. We also warmly welcome Bill to the role and look forward to a long and equally productive relationship between the Regiment and the Association.

To round out the calendar year, the unit held a number of activities at Oakleigh Barracks during its November training weekend. We were fortunate to have two distinguished speakers present on the Friday night at our annual Sir Clive Steele Lecture. MAJ Clare O'Neill, an Engineer Officer, is the creator of the Grounded Curiosity blog and provided a very informative and entertaining presentation in relation to Professional Military Education, whilst we were also fortunate to hear from Brigadier Peter (Hutch)



*Bottom: 22 ER sappers conduct dry practice for a combat shooting range serial in Puckapunyal.*

Hutchinson DSC, the recently retired Colonel Commandant (Southern Region), on his leadership experiences, particularly as a Commander on operations. The very busy weekend also included our unit's DACC preparation for the High Risk Weather Season as well as the Change of Command Parade, Soldier's Dinner and family day. The current Commanding Officer (CO), Lieutenant Colonel Michelle McCormack, was farewelled and we welcomed our incoming CO, Lieutenant Colonel Sharon Coates. In December, the Regiment held an Officer, Warrant Officer and SNCO dinner, where we took the opportunity to farewell a number of our members being posted out. We

farewelled the Regimental Second-in-Command, Major Paul McComb, who is posted to Officer Training Wing Canungra; Officer Commanding 105 Construction Squadron Major Russell Collins, who is posted to Headquarters Second Division; Officer Commanding 8th Combat Engineer Squadron, Major Thomas Courtice who is transferring to SERCAT 2; the Adjutant Captain Campbell Thelander, who is posted to 4th/19th Prince of Wales Light Horse Regiment; Captain Astrid Hagqvist who is posted to 19th Chief Engineer Works; Sergeant Joanne Moore who is posted to DCSTC; WO2 Brendan Kennedy who is posted as Wing SM of Training Support Wing at SME; and the Regimental Sergeant Major (RSM), WO1 Anthony Luchterhand, who is appointed the RSM of Special Operations Engineer Regiment; and welcomed the incoming RSM, WO2 Justin Jones, posted on promotion from the Army Recruit Training Centre.

I would like to use this opportunity to acknowledge the hard work and commitment of every Officer and Soldier of 22 ER. Thank you to the cadre staff who have little respite and remain adaptable to regularly undertake roles and responsibilities outside of their job descriptions and also to the Reservists who train hard to be competent part-time professional soldiers – fitting this in between their civilian employments and family commitments. In particular, I wish to express my appreciation to those Officers and Soldiers who are able to give more to the Regiment than that expressed in the unit's Parade Card. Without their extra work, the unit would not be able to achieve its governance, compliance and training responsibilities. Finally, I would also like to especially thank the partners and families of those who serve – without their support, 22 ER would not be able to provide the capability that we do.





[ Sapper SITREP ]

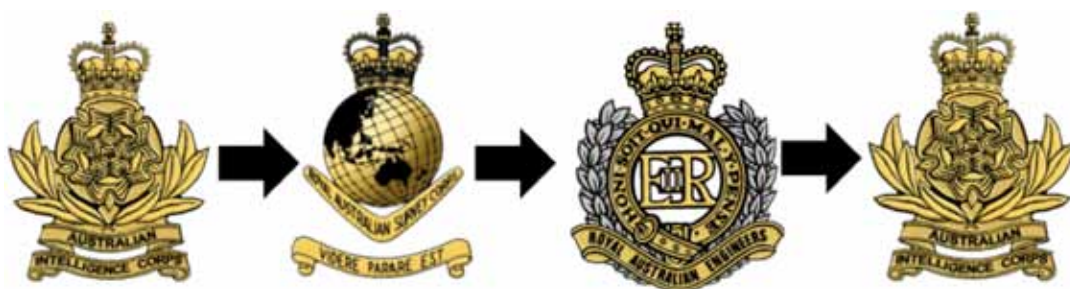
# 1st Intelligence Battalion

Captain Ben Hutton

This entry will most likely be the last to the Sapper Magazine from 1 Topo Svy Sqn, because the unit will likely change its name to 5 Company – GEOINT and in accordance with CA Directive 15/17, the Geospatial capability is transferring to the Australian Intelligence Corps (AUST INT).

Therefore instead of acknowledging how busy the sub-unit has been in 2017, I would like to take the opportunity to briefly acknowledge the proud history of 1 Topo Svy Sqn within RAE and also to provide insight into the future within AUST INT.

When AUST INT was formed in 1908, it collected information about the topography of the Commonwealth and its Dependencies and prepared strategic and tactical maps and plans as two of its five core tasks, thus it could be said that the Geospatial capability was born in AUST INT. The Royal Australian Survey (RASVY) Corps was formed in 1915 and had an incredible innings of mapping the country, the near region and serving in all major conflicts. In 1996 RASVY was disbanded, the purple beret was retired and the capability was transferred to RAE. Now, the Army Geospatial capability (minus engineer surveyors) will 'return' to AUST INT as Geospatial-Intelligence.



1 Topo Svy Sqn has been a critical contributor to Army as a part of RAE and has evolved considerably in terms of its processes, outputs, technology and mission. Over the past twenty (ish) years, the sub-unit has transitioned from conducting surveying and mapping using manual means to employing high-end hardware and software, increased access to classified data and has integrated completely into the Intelligence function.

Since 1996, 1 Topo Svy Sqn has deployed members on almost every operation that the Army has been involved in from ANODE to ASLAN and our people have consistently performed to a very high standard. I also note that our members are not immune to the risks of conflict, as I am writing this the sub-unit is commemorating the death of CPL Ashley Birt on 29 October 2011 in Afghanistan. I have no doubt that our members will continue their proud history of service in AUST INT, including an increasing involvement in operations from reach-back on Australian soil.

## [ Sapper SITREP ]

## 3rd Field Squadron

MAJ Carl Miller

This year has seen the transition within 9 Brigade and 3 Field Squadron from 'READY' to 'RESET' year in terms of training and preparedness. The end of 2016 saw Major Benveniste, the prior Officer Commanding, being posted to Australian Command and Staff College (Reserve); Captain Field being promoted to Major and moving to 9th Brigade Headquarters and CAPT Beaumont moving into B Company as 2IC. Major Miller assumed command of the Squadron for 2017. The Squadron had a restful 2016/17 Christmas period welcomed by all after what had been a busy 2016 supporting both 10/27 RSAR and the engineer squadron element as part of the Battlegroup Jacka (BG JACKA) construct. 3 Field Squadron's contribution to the Battlegroup (which is formed from both 4th and 9th Brigade) is typically a Combat Engineer Troop, Plant Section and individual positions (across all ranks and some are non-corps). It is a good opportunity for the Squadron's sappers to operate in a Battlegroup environment and to be integrated into the 1st Brigade. The engineers from the Battlegroup are under command of 1st Combat Engineer Regiment. The commitment for individual sappers is high noting they have civilian careers to manage.

The focus for 2017 was passage of information within the Squadron, increased realism and operational

relevance on weekend training exercises and to ensure integration within 10/27 Royal South Australia Regiment Battlegroup (10/27 RSAR BG). 10/27 RSAR BG is somewhat unique as it comprises a battalion headquarters, two infantry companies, a light motorised cavalry scout squadron, a mortar battery and an engineer squadron. Being part time with members having varying availabilities, the fact that the unit is extremely hollow in terms of Regular Army Cadre staff and the tight resourcing faced within reserve brigades presents a lot of challenges. There are a wide variety of opportunities that are available for combined arms activities but they need to be planned well ahead of time – which is even more challenging given the reserve construct. So, it was important to reinforce to Squadron members the relevance and importance of the Engineer Squadron within the 10/27 RSAR BG and to plan well in advance in order to provide that integration and relevant tasking. Visibility of what activities we were undertaking as part of the RESET year was also important to ensure we are employed to our full potential next year when we change to the 'READYING' phase.

The start of the year (Jan – Feb 17) saw annual induction briefs, fitness assessments and weapons training occurring at RAAF Edinburgh and in barracks



LCPL Harral briefing section on Ex BIG BANG SEP 17 DEML PRACTICE at Cultana Range.





*A 13 Fd Sqn D5 operating at Port Wakefield.*

along with the usual accompanying administration. The officers within the Squadron took part in a leadership weekend at Keswick Barracks which comprised a number of unit briefs, quick decision exercises and leadership presentations run by key appointment holders. This sought to set the scene for 2017.

A pilot CPX was held in early March 17 at RAAF Edinburgh utilising the Monash Centre and Battle Simulation Centre. The CPX was aligned to a 2 level CPX (not dissimilar to those undertaken as part of preparation for operations) together with a future planning task. The precursor activity for the CPX was a TEWT undertaken the October prior which was created by 9th Brigade Training Cell, with outputs from this used to create scenario products and a 'live task' using the simulation centre. The CPX was solely resourced with participants and directing staff from 9th Brigade and communications support from 144 Signals Squadron and is a model that can be further enhanced in years to come.

Our first activity was the February Range Weekend at Murray Bridge Training Area where sappers completed AUSTEYR, 9mm SLP and F89 practices.

Our concurrent training activity was route search. During the activity, myself and the Training WO (WO2 Anderson) accompanied the training staff from A Company, 3/9 SAMR and 6/13 Mortar Battery on a reconnaissance for the next training weekend activity in May 17, Ex SHRIKE GALLOP, a Combat Team assault. The outcome of this was integration of the subunits prior to the activity and planning guidance for the Squadron.

In March, LT Fuller took 1 Troop and elements on 2 Troop to Cultana Range to undertake heavy weapons practices. A number of members refired the 40mm GLA, 66mm LRAAW and MAG58 and a number of others gained qualifications on the 84mm MRAAW. Mobility Support Troop, led by LT Millar, completed a shakeout task to Port Wakefield Proof and Experimental Range. This is where the Squadron has located our heavier plant assets due to the ongoing harstanding, quarry and road maintenance tasks available. LT Millar used his civil site experience to revamp the troop's plant administration and safety documentation and had the sappers undertake a number of toolbox activities on site. SGT Pace (fresh off a WO2's course) took

the opportunity to have the troop send reports and returns back to Squadron Headquarters in Adelaide who were undertaking a series of future planning tasks. 2 Troop, our IET Training Troop led by LT Bracs, revised hand and power tools in preparation for several members going on course. I was impressed by their chainsawing skills.

Sappers Day was completed in Apr 17, which is our annual activity to commemorate those who have passed away, fallen and who have served in the Squadron. SGT McGuire (Ops/Admin Sgt) and WO2 Turner (SSM) organised what was an excellent occasion complete with a jumping castle for the children, unit briefing and lunch. We acknowledged 3 sappers who have passed away, and their families placed plaques onto the Memorial Wall. The families are extremely proud of their loved ones. It was great to meet the families and the 'olds and bolds'. I was quite moved by visible grief still displayed by the sister of one of our sappers long past (1968) who I am told attends the memorial each year.

ANZAC Day saw a great turn out from the Squadron and we marched through the streets of Adelaide returning to the Keswick Barracks Sergeants Mess afterwards for celebrations. We carried out our annual Catafalque Party and wreath presentation at Marion RSL. 3 Field Squadron is always the majority contributor of troop numbers within 10/27 RSAR with the best attendances at all exercises and ANZAC Day was no different.

Ex SHRIKE GALLOP occurred in May 17. Our prior planning carried out months before proved to be beneficial. We provided a Combat Engineer Troop to A Company 3/9 SAMR in the dismounted role to support a wire obstacle breach during an assault and close support to the infantry. 1 Troop was led by

CAPT Johnston the 2IC, and he led them extremely well. LT Millar combined 2 Troop trainees and several plant operators to construct a section sized position with a 300m Cat 1 wire obstacle and acted as enemy. After some quick revision in defensive position siting, he completed the task in half a day and several rehearsals of the defensive battle and counter penetration drills. His preparations and construction of the obstacle proved to be most effective and his team decimated the combat team force who were completely channelled in the killing ground after stalling during the attack. The next day saw a quick and complete refurbishment highlighting the effectiveness of having engineers handy on exercise.

In June we held the Waterloo Dinner for the SA region at the Marion RSL Club. It proved to be a great evening. We had a number of special guests including the RAE Central Region Committee, RAE Engineers Association SA branch and also included our CPLs at the event. It was a great night and the venue was excellent with large amounts of war memorabilia in place. The dinner was set up brilliantly by CAPT Johnston and WO2 Anderson with RAE training aids and materials and the music from the 10/27 RSAR band really added a lot to the evening.

This year 3 Field Squadron has sought to involve the local JLU(S) Explosive Services team into our training as they hold EOD and CBRND equipment and EOR/BiP/ATO qualifications. The team who supported us were FSGT Twible (RAAF) and SGT Rawlinson. After meeting with them we invited them to conduct some equipment and EOD HOTO training. In exchange, they received the benefit of working with search teams which is something they do not always do. Our Aug exercise was carried out in the Close Training Area at RAAF Edinburgh. We established an extremely dignified Sqn CP in the WONCO Wing cafeteria thanks to the efforts of SGT McGuire in honour of 'domestic search operations'. Training concentrated on area, route and unoccupied building search, EOD HOTO and 10 liner reporting and a VCP on Day 1 after a brief on HRES and EODCC procedures and EOD Management from myself. Day 2 involved the sappers conducting an area search with a localised chemical threat, casevac and stretcher carry in MOPP4R. This culminated in the conduct of a Personnel Decontamination Station. MS Tp carried out further plant activities at Port Wakefield. We focussed a great deal on mentoring the sappers







*MS TP conducting plant works at Port Wakefield.*

during search – especially from ex ARA members who have undertaken these tasks on operations and current ARA engineers posted into SA (SGT Pascoe) who volunteered their time to do the same.

WO2 Anderson highlighted at the end of 2016 there was a deficiency in Demolitions Supervisors in the unit so we sought to rectify this by the conduct of requalification courses in 2017. We increased the number of qualified personnel from two to eight and utilised the Sep 17 demolition weekend at Cultana to complete the assessments. Having not conducted demolitions per se for many years, I found the course to be very time intensive to complete but very worthwhile. I highly recommend that ARES junior officers obtain this qualification early as not only is it an RAE skill, it provides excellent hands on experience to run and control an activity involving engineers and to understand overarching control measures. Our activity involved conventional demolitions (steel, timber, concrete cutting and concussion charges) and was ably assisted by CPL Jackson from 1 TROOP skilfully welding bailey panels together to form an NEB segment. We completed the activity by conducting urban breaching charges on doors, some kindly donated by my wife (!) and gave the task setting the charges to the new sappers in the Squadron. The plant operators on the activity refurbished the impact zone excellently and graded the access road on departure. Many thanks to SGT Barrand (WONCO

Academy SA) and SGT Pascoe (JOSS-SA) for supporting the activity.

The remainder of 2017 will see a mixture of in-barracks training revolving around combat engineering skills and activities within our close training area including enhancements such as a mine proofing lane and demolition targets to practice fixing charges. We plan to complete our DACC / end of year preparations and maintenance regime and close training area refurbishments on the November training weekend.

Next year sees us move in the Readyng Phase mid-year. After our induction activities early in the year, we plan to conduct an IMT and battlefield clearance activity in April 18 operating out of the Murray Bridge Training Area Forward Operating Base with satellite plant and civil works activities. May 18 will see our involvement in a 10/27 RSAR BG Concentration period. The focus of June 18 will be counter mobility.

I would like to acknowledge the efforts of all ranks in the Squadron this year. The quality of our sappers, JNCOs, NCOs, officers and warrants and strong attendances are commented on enviously within the Brigade and 10/27 RSAR BG. I will close by thanking the families of the sappers who have provided enormous support to their loved ones this year. The part time commitment of reserves cannot be underestimated and puts a demand on our soldiers, their families and employers.

## [ Sapper SITREP ]

## 13th Field Squadron

MAJ James Kurz

13th Field Squadron has now been under full command 16th Battalion, The Royal Western Australian Regiment (RWAR) for three years, training through a complete Reset-Readying-Ready cycle in Battle Group (BG) STIRLING. The direct command relationship to the Battalion provides a ready-made unit for engineer support tasks and realistic combined arms training.

The Squadron consists of two Combat Engineer (CE) Troops and a Mobility Support Troop (3 TP), with positions in 3 TP for Plant and Trades as well as CEs through dual coded positions. This organisational structure is almost identical to the library of capabilities that 11 ER and 13 Fd Sqn combined provide to 3 Bde through Sturdee Sqn and the Reinforcing Battlegroup (BG CANNON) for Ex HAMEL/TALISMAN SABRE 17. Our commitment to Sturdee Sqn is a CE Troop, at least a section of plant operators/trades for the construction element and SHQ elements where possible.

The concept for employment of engineers in the Ready Brigade is now established with CO 3 CER exercising centralised control with decentralised execution of all engineer effort including the ARes RAE library of capabilities. The actual tasks of the CE Troop on Ex HAMEL 17 were a textbook example for the soldiers of decentralised execution. With a section assigned to the 3 CER Australian Protected Route Clearance Capability for route clearance and the remaining section supporting BG CANNON CT-C there were occasions where LT Paul Sanders and his TP SGTs felt distinctly lonely, before re-forming his troop for new tasks.

Training highlights for the first part of the year included 13 Fd Sqn plant operators undertaking plant training at Bindoon with night vision equipment, which added a distinct challenge to their operations but would have been handy on exercise. In November the Squadron will be running a plant course to increase the number of codes held by operators, particularly roller, FEL and Skid Steer. This will give more certainty so that tasks are not limited by a lack of qualified operators, and will allow some CEs to trade transfer as they acquire more codes.

In addition to the main effort of supporting EX HAMEL 17 the Squadron has been able to provide support to Army capability through individuals, with several



operators supporting 6ESR on Pre-HAMEL preparation and SPR Stewart again providing support to AACAP. The ability of the ARes to house RAE members with diverse skills has seen 13 Fd Sqn acquire a number of qualified working divers and SGT Hall was able to support the ADF Dive Wing training again this year. Driver and IET training courses all come with an instructor liability and in most cases the SQN was able to provide the required instructors to support training.

Although now under command 16th Battalion RWAR the Squadron maintains its RAE heritage through a vibrant soldiers' mess and a strong connection to the RAE Association WA. We continue to hold the Waterloo Dinner as an all ranks dining in (a wise decision considering an OFFR/SNCO dinner could almost be held in a phone booth) and this year were pleased to host the CO and RSM of 16th Battalion.

No matter what stage of the readiness cycle we are in, like all engineer units 13 Fd Sqn is busy even in





*Above: LCPL Harington from 3 Tp clearing vegetation to improve visibility at Garden Island WA.*

*Right: Members of 13 Field Squadron on Ex TALISMAN SABRE 17.*

Ready year. Two members of the Squadron are deploying on Transit Security Element (TSE) 87 and two more have already been identified for TSE 89 in 2018. Post HAMEL the Sqn has run white role LRS training, watermanship, and will conduct both a plant and Lucas PSM course while providing students for 13 Bde AFA and BCCC training to fill training gaps. With the fire season approaching, 13 Bde will conduct preparations for support to the community if required. Plant and plant operators in particular will be standing by if required as they have been in the past.

The Squadron has proven this year that we can provide the capability inputs required for the Ready



Brigade and we will maintain that ready Troop plus enablers. The challenge as always will be to maintain the Corps skills, develop the new leaders, and grasp the opportunities that present themselves.

## [ Sapper SITREP ]

## Special Operations Engineer Regiment

### From the Commanding Officer

The Special Operations Engineer Regiment (SOER) has continued to demonstrate its versatility and technical proficiency throughout 2017 providing mobility, survivability and specialist technical Counter-Chemical, Biological, Radiological Nuclear and Explosive (C-CBRNE) support to Special Operations Command.

At Regimental level, the Unit staff have had two key focus areas, with the requirement to maintain a range of ongoing domestic and international operational commitments, whilst also looking to the future, conducting a series of internal reviews and planning to ensure the Unit remains best prepared, qualified and organised to meet the dynamic and diverse range of emerging requirements of SOCOMD and the Australian Government into the future.

Operationally, SOER continues to provide support to a range of theatres, including; Op OKRA through the Advise, Assist, Enable of Iraqi Special Forces, support to Op AUGURY and exploitation operations within the Middle East Region (MER) as well as Domestic Counter Terrorism support to Tactical Assault Group – East (TAG-E), national and state law enforcement agencies and emergency services. Concurrently SOER continues to conduct a range of International Engagements with coalition SOF and partner building work with regional SOF partners throughout the SE Asia/SW Pacific region in order to develop indigenous capability in the fight against global terrorism.

In late 2017, SOER commenced steps to re-shape the Unit in order to best prepare for the future operating environment. The measures included Unit internal restructuring to better meet the range of additional tasks and capabilities held by the Regiment, as well as assigning extra roles and responsibilities that will come with the introduction of project LAND 3025 – the deployable Special Operations Engineer capability which will roll out in 2018 and provide SOER with a significant range of additional equipment, facilities and capabilities.

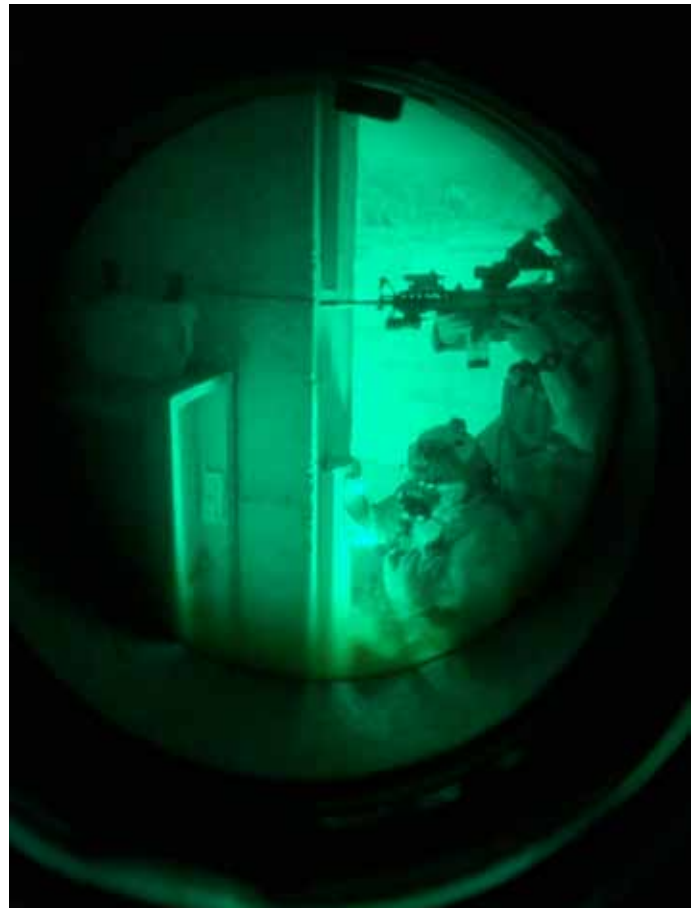
The SOER Stakeholder day conducted in early October, provided the Unit with a valuable opportunity to engage key organisations from across Defence, as well as a range of supporting domestic law enforcement agencies and emergency services. The

day was successful in providing a comprehensive overview of SOER capabilities, equipment and support requirements to enhance the audiences understanding of SOER and improve interoperability into the future.

Based on a review of the required application of specialist skill sets, SOER has worked with the wider RAE Corps as well as training institutions such as the Defence Explosive Ordnance Training School (DEOTS) and SME to re-shape the training continuum for the EOD trade, modularising the EOD course and supporting pilot IED-Defeat (IED-D) and Impedance To Assault Reduction (ITAR) courses to provide greater mobility support skill sets to CPLs and SPRs.

### Alpha Squadron

As the Regiment's global contingency force, Alpha Squadron remained operationally focused throughout 2017 with a demanding schedule of training, International Engagement and support to operational deployments being the norm. This year saw Special Operations Engineers deploy around the globe on numerous strategic important





international engagements; participate in challenging overseas training serials; and contribute to ADF activities domestically. The integration of Special Operations Engineers within both the Special Air Service Regiment and the 2nd Commando Regiment remained a central focus. The Squadron continued its efforts to enhance offshore C-CBRNE capabilities against emerging threats. The Airborne Engineer Capability (AEC) achieved annual validation enhancing relationships with 65 SQN RAAF (Airfield Damage Repair). The Squadron also welcomed the arrival of an experienced United States EOD Technician posted to the Regiment on long-term exchange.

### Advanced Force Operations (AFO) Troop

AFO Troop had an extremely busy 2017, both providing specialist mobility and survivability support to 2nd Commando Regiment, as well as supporting International Engagement. The first half of the year involved a number of challenging exercises working alongside the Contingency Commando Company Group, in order to enhance interoperability and fully integrate the MSTs within the Platoons. The second half of the year involved the Troop re-focusing itself on C-CBRNE mission profiles. This involved the Troop conducting specialist technical training alongside Defence Science and Technology Group (DSTG) before deploying complete to Canada to conduct a partnered exercise with the Canadian Joint Incident Response Unit (CJIRU), Canadian Special Operations Command. This engagement saw the troop complete a number of technically and tactically demanding training serials ranging from individual component training to a Squadron sized full mission profile conducted over a 72 hour period.

### Granite Troop

The SOER team posted to Campbell Barracks continued to provide specialist mobility and survivability support to SASR throughout 2017. The Team's focus centred on providing technical enabling effects to small SAS teams conducting discrete Special Operations in complex environments, against backdrops of strategic sensitivity. The operational footing of the team was advanced throughout the year through new opportunities in International Engagement and technical training with counterparts from around the world. With a culture of readiness and SO Engineer excellence, this team continued to provide cutting edge Special Operations Engineer capabilities for precise application in the global C-CBRNE fight.

With 2018 fast approaching, the Squadron still has much to achieve; however, recognition of outstanding service deserves mention. As part of the 2017 Queen's Birthday Awards, WO2 P. was awarded the Conspicuous Service Medal and CPL H. was awarded a SOCAUST Gold Commendation.

### Bravo Squadron

2017 has seen Bravo Squadron continue to enhance capability and versatility whilst completing a number of challenging exercises and engagements with numerous ADF and international military units, as well as a number of state and federal agencies.

The Squadron started the year off with Exercise Typhon Apollo, which was held in various areas in NSW in late February – early March. During the exercise the Squadron conducted a variety



*Left page: A SOER member provides impedance to assault support to an SASR night time urban assault.*

*Below: A SOER EOD pair work together to render safe a VBIED.*



*SOER Stakeholder Day scenario - SOER medics retrieve a CBRN contaminated casualty from the incident site. A SOER member stands by to conduct initial survey at the forward contamination line to determine extent of contamination prior to processing member for further medical treatment.*

of component training serials, including shooting, roping, demolitions and disablement training. This training culminated through the conduct of a series of Squadron-level Full Mission Profiles, which exercised the technical capabilities of both Troops as well as Squadron Headquarters (SHQ). The Squadron has continued to maintain a high tempo of training for the rest of the year as clarified by the Troop updates below.

#### **Domestic Counter Terrorism (DCT) Troop**

DCT Troop built on the hard work conducted at the end of last year by successfully integrating with a number of ADF units and interagency partners. They have conducted high tempo Counter-CBRNE training in various locations around Australia and have worked closely with 2nd Commando Regiment to maintain very high skill and readiness levels in support of Domestic Response Options. They have also conducted training with a number of international military partners, notably with our Japanese comrades. The Troop has worked extremely hard this year to continue to develop and improve their capabilities whilst maintaining their operational responsibilities and high readiness.

#### **Counter Weapons of Mass Effect (CWME) Troop**

CWME Troop has continued to expand through the incorporation of the specialist exploitation and reconnaissance capabilities, and has worked hard to surpass its achievements from last year. The Troop has conducted a number of advanced training serials both in Australia and overseas, as well as conducting scientific training with the Defence Science and Technology Group. They led the training for the highly successful Exercise Chronos 17, which is an annual Australia and New Zealand Counter Terrorism Committee (ANZCTC) Bomb Response exercise, focussed on CBRN threats. The exercise was conducted by SOER and a variety of State and Federal emergency response personnel, including elements from NSW, VIC and QLD Policing Services. The Troop also contributed some personnel to Ex Talisman Sabre in Shoalwater Bay mid-year to support SOCOMD integration into the FORCOMD Ready Bde certification exercise.

Overall, the Squadron has had another whirlwind training year which has seen a number of notable successes and outstanding performances, both collectively and individually.



# Engineer tactics update

LTCOL Bill Love (USACE) and MAJ Dan Hebditch

The instruction of engineer tactics<sup>1</sup> in RAE is the focus of the Combat Engineer Wing's Engineer Tactics Cell (ETC) at SME with support from the Combat Command Wing (CCW) of the School of Armour. ETC has the responsibility of coordinating the Subject 2 and 4 Warrant Officer and Subject 4 CPL and SGT CE suite of courses, as well as the ROBC and Engineer Officer Operations Course (EOOC) while CCW runs the RAE component of the Combat Officer's Advanced Course (COAC).

While 'engineer tactics' is somewhat hazily defined, its instruction focuses on the C3I of Engineer Effort<sup>2</sup>; engineer planning, engineer command and control, engineer reconnaissance, engineer intelligence, engineer advice and the sustainment of engineer operations. The instruction of engineer tactics relies heavily on the base technical knowledge imparted from the other wings of SME and through experience in the regiments.

The 2015 redevelopment of the EOOC TMP has resulted in a perceptible improvement in the entry standard of RAE officer attending COAC<sup>3</sup>. Those attending COAC now have a consistent baseline of engineer tactics knowledge to work from, allowing COAC to concentrate on the combined arms integration of engineer effects. The RAE component of COAC itself has continued to evolve with closer integration on combined arms TEWTs and the introduction of Breach Force TDE and simulation. The officer suite of courses is now also increasingly aligned with ROBC, EOOC and COAC utilising a common marking methodology and planning deliverables. This alignment has been a long running process driven by the commitment of numerous members over the years which will need to be sustained into the future to ensure this synergy is not lost.

It is important to acknowledge the commitment of the Corps to both the EOOC and COAC courses in the form of Visiting Instructors at the MAJ and LTCOL level. The improvement of EOOC, in particular, is strongly related to the input and quality of the Visiting Instructors, while the later

stages of COAC are heavily reliant on the guidance and experience of the COs of the Corps.

ETC continues to work to evolve the NCO courses. The intent is that Subject 2 and 4 Warrant Officer courses use the same TEWT and instructional package as the EOOC while Subject 4 SGT uses material akin to the ROBC with modification in the desired outputs of the assessment. Similarities in these courses will ensure a baseline of knowledge in Engineer tactics and Reconnaissance across the Corps, noting there is a review underway on the instruction of engineer reconnaissance across the training continuum.

An area identified as needing further review is the ARes ROBC tactics module. It is not possible to use the same ARA ROBC tactics module due to course length constraints for ARes members. A LMP review of the ARes ROBC will be undertaken in an attempt to provide as much similarity between the ARA and ARes ROBC tactics modules as possible. In the interim, ETC will attempt to use assessments from the ARA ROBC, where feasible, while ensuring only material covered in the ARes course is assessed.

There remain some gaps in the fundamental RAE doctrine for engineer tactics. The LWD 3-6-1 Employment of Engineers is aimed at non-engineers while much of our higher level doctrine for River Crossing, Obstacle Integration and Breaching is based on US Division and Corps level procedures which are sometimes hard to apply in the context of the Australian Combat Brigade. This results in some of our engineer tactics instruction being based on Coalition doctrine or the experience and concepts of the instructors. AKG are currently working on a re-write of the LWP-CA (ENGR) 1-2-1 Engineer Planning, Orders and Reports PAM into an Engineer Operations PAM to bridge the gap between the higher level doctrine and CER SOPs. This document will require significant input from across RAE to ensure the draft is developed into the foundation engineer tactics document it needs to become.

There has long been a debate within the Corps about the value and application of decisive events (DEs) in engineer tactical planning, noting that engineer DEs are largely based on engineer essential tasks and are

1 Noting there is no definition of engineer tactics within the Australian Defence Glossary or engineer doctrine

2 Defined in the ABCA Coalition Engineer Handbook (QAP-292), May 2003, pg.11

3 And hopefully in their day to day jobs within the regiments.



usually 'blue force' focused. CAPT Mitchell at ETC has developed a paper describing the use of 'Essential Engineer Effects' (EEE) to articulate key engineer activities based on the synthesis of engineer essential tasks and the supported manoeuvre commander's DEs. This paper has been circulated through RAE for comment and EEEs have been trailed on ROBC, EOOC, COAC and at RMC-D with initial success in 2017.

Lastly engineer modernisation, as well as Plan KEOGH, is likely to have a growing impact on the instruction of engineer tactics. COAC has introduced the new L155 bridging into its TEWTs which include the planning of two river crossing operations, of which one is executed in simulation. The potential outcomes of L8160 and L400-3 in terms of armoured

and mechanised engineering platforms are far from finalised but will likely have a significant impact on the conduct of MS BOS operations and RAE organisation. Engineer tactical instruction has always maintained a level of planning knowledge for these kind of assets but will need to evolve beyond this into a far deeper understanding of its tactical employment.

Engineer tactics training will continue to impact on all members of the Corps as they progress through their careers. The content and relevance of engineer tactics training will need to continue to evolve and improve to ensure it is agile enough to keep up with Army's foundation warfighting requirements. This will require continued investment and buy-in from across the Corps to achieve.





## SME Participation in ADF Sport

LTCOL Bill Love (USACE)

In OCT 2017, the ADF Ice Hockey Association (ADFIHA) held their annual Tri-Service Carnival in Newcastle. The Carnival consisted of sessions aimed at developing ice hockey skills, determining which service had the best ice hockey team, and the ADFIHA banquet.

The School of Military Engineering had four members present at the Carnival, the most of any other organization in Army, whom play at all three levels of the sport. SPR Toby Kubara plays on the ADF Tri-service representational team, directs the developmental activities of and coaches the ADF Tri-service developmental team. CPL Aaron Hession plays on the ADF Tri-service Storm team and assists in coaching the ADF Tri-service developmental team. WO2 John Cannon plays on the ADF Tri-service Storm team and assists in coordinating ADFIHA activities in the Sydney area. LTCOL Bill Love plays on the ADF

*SME Members – (R to L) WO2 John Cannon, CPL Aaron Hession, and SPR Toby Kubara, who represented Army's fourth win at the 2017 Tri service carnival.*

Tri-service developmental team and assists in coordinating ADFIHA activities in the Sydney area.

During the ADFIHA banquet the following awards were presented to members of SME:

- SPR Toby Kubara was honoured with the ADFIHA's Patron's Award for being the most active member in all the ADFIHA
- WO2 John Cannon was awarded the Army General Managers Award

Army's Ice Hockey team won the Tri-service Carnival for the 4th straight year and remains undefeated since ice hockey was approved by the ADF sports council in 2014. The championship trophy will be on display at the School of Military Engineering in recognition of the units support to the ADFIHA. Anyone interested in joining ADFIHA can go to <https://www.adficehockey.org.au/> for more information.

## Personnel matters

### Awards

#### **MEMBER (AM) in the Military Division of the Order of Australia**

Brigadier Rupert Hoskin

#### **Distinguished Service Cross (DSC)**

Colonel Matthew Galton

#### **Conspicuous Service Cross (CSC)**

Lieutenant Colonel Nicholas Bosio

#### **Conspicuous Service Medal (CSM)**

Lieutenant Colonel Damien Drain

#### **RAE Prize Winners - RMC**

December 2016 - LT R Taylor

July 2017 – LT D Kierath

#### **RAE Excellence in Military Engineering Award**

*The ARA excellence award (SPR)*

SPR Scott Illingworth (3 CER)

*The ARA excellence award (NCO)*

CPL Jeremy Drummond (2 CER)

*The ARes excellence award (SPR)*

SPR Bradley Whitehorn (3 Fd Sqn)

*The ARes excellence award (NCO)*

CPL Jeremy Wooden (8 ER)

### Promotions

#### **To Major General:**

M. Ryan

#### **To Brigadier:**

J. Carey, M. Galton, M. Pearse

#### **To Colonel:**

M. Coyle, T. Francis, M. Richardson, L. Rouwhorst, M. Say

#### **To Lieutenant Colonel:**

M. Boxall, N. Brown, C. Bury, S. Everett, P. Mostafa, C. O'Neill, H. Stimson, J. Venz

#### **To Major:**

B. Gray, K. Hamilton, B. Hutton, O. Kirkham, C. Kukas, A. McGinnes, R. Mitchell, D. Palmer, T. Purton, M. Smith, J. Witt

#### **To Captain:**

M. Bailey, I. Brooks, J. Colley, J. Cross, M. Jones, G. Johnson, S. Laws, D. Menzies, I. McCarthy, N. McKenzie, B. McMurdo, A. Petersen, T. Potter, J. Reading, X. Ricketts, D. Storrie, B. Taylor, J. Walsh, S. Welch, B. Xenos

#### **To Lieutenant:**

M. Bailey, E. Baker, T. Blackwood, B. Cathie, M. Connell, A. Cottrell, J. Ellems, V. Farragher, E. Forward, J. Foster, C. Griffiths, D. Kierath, J. Locke, D. Longmire, L. McDonald, M. Molcanovs, O. Murphy, M. O'Callaghan, O. Palmer, H. Pastega, T. Stevens, J. Thomson, J. Wright, E. Young, J. Zarlenga

#### **To Warrant Officer Class One**

R. Clarke, G. Findlay, W. Fry, F. Ince, C. Leggett, R. Peel, P. Simpson

#### **To Warrant Officer Class Two**

C. Bourke, A. Burbury, J. Cannon, J. Davey, S. Davis, C. Elliott, J. Falla, P. Franklin, D. George, A. Hebden, L. Hockings, T. Jesser, B. Miller, R. Mulqueen, O. Page, A. Pitstock, D. Squires

#### **To Sergeant**

R. Bellis, T. Dwyer, C. Fallon, B. Gill, R. Greene, K. Hartcher, R. Johnstone, M. Kneebone, J. Lawson, B. Middlecoat, J. Millar, S. Morris, R. O'Donnell, A. Phoebe, T. Shuey, D. Strauss, D. Trevena, C. Tzanabetis, J. Whyte, J. Williams, N. Woodrow, M. Yvette



**To Corporal**

C. Amri, D. Appelhof, J. Armstrong, C. Atkinson, B. Baran, R. Blamires, B. Blundell, S. Bowtell, D. Bromley, R. Camilleri, L. Conners, B. Cooke, J. Coutts, G. Donnelly, J. Drummond, S. Eaton, K. French, M. Gardener, M. Gardner, C. George, A. Gosling, L. Gray, C. Green, A. Green, B. Greener, C. Henderson, S. Henry, J. Hollenkamp, A. Holt, M. Johannessen, J. Jones, M. Karzons, P. Keynes, M. Keynes, I. Kloda, M. Kosch, D. Leeming, W. Ludick, C. Macdonald, J. Marek, S. Marshall, Z. Martin-Taylor, L. Maugueret, A. McDowall, T. McKenzie, L. McMahon, S. Mlinaric, J. Montel, J. Morrison, J. Murfet, T. Murphy, B. Neill, J. Pettifer, M. Pfingst, W. Rickard, J. Robinson, L. Rogers, M. Rushforth, B. Ruttle, J. Sinclair, J. Teunissen, M. Thompson, A. Tierney, C. Totton, C. Vardy, M. Vassallo, P. Vogl, C. Wager, B. Watson, S. Watson, L. Whittington, J. Wooden, S. Young

**To Lance Corporal**

P. Bagnall, D. Bailey, P. Bailey, M. Bamforth, R. Barrera, J. Bickham, T. Blackburn, J. Blewitt, M. Bradford, S. Brown, M. Butler, J. Cappelletto, A. Cassidy, W. Costello, B. Cowie, L. Cruz Sierra, H. Cumming, C. Cusack, O. De Havilland, B. Ebeyer, J. Fitzsimmons, B. Foster, A. Friedmann, M. Garozzo, A. Girvan, P. Govers, R. Grabasch, P. Gross, M. Haggerty, A. Hartikainen, J. Hasler, S. Hately, L. Hodson, B. Jackson, L. Jeffs, D. Jones, S. Jones, M. Jorgensen, D. Killey, J. Korosigasigare, D. Lopes, L. Madruga, D. McGuinness, C. McIntyre, M. McKenzie, B. McKie, S. Morrissey, B. Nanninga, S. Nash, J. O'Brien, J. Paech, T. Palmer, W. Pickering, M. Picton, A. Pitkethly, G. Pocock, P. Rees, C. Reid, M. Ross, D. Russell, N. Skinner, M. Sorokovsky, G. Stewart, M. Sullivan, J. Terrett, N. Thaiposri, A. Thompson, M. Vanka, M. Van Rees Hoets, M. Ward, K. Westdorp.

**Leaving the Regular Army:****DOCM - A****Brigadier:**

D. Naumann, S. Welsh

**Colonel:**

R. Maddalena

**Lieutenant Colonel:**

D. Drain, A. Hollink, C. Jolly

**Major:**

C. Clunas, A. Darnley Stuart, J. Graham, P. Green, R. Mouthan, S. Pemberton, J. Porter, K. Rezek, C. Sampson, F. Whytes

**Captain:**

M. Jones, G. Patterson, I. Selth, S. Shakhovsky

**DSCM - A**

No details provided.

## Sapper Obituaries

### ‘Lest we forget’

#### Serving in the RAE at the time

##### Barry Wade, OAM

Passed away on the 22 January 2017. Barry was an icon of the Corps who served in defence of his country for 37 years with total commitment, dedication and loyalty – a master of his trade with unquestionable knowledge, qualities and skills.

##### Luke Anthony Ellis

Passed away on 09 October 2017. Luke joined the Australian Army as an Infantry soldier and served with 2 RAR prior to transferring to the Corps in 2015 when he started training as an electrician.

#### Previously served in the RAE

##### Philip Edward Dungey

Passed away on 29 October 2016. Phil served with 1 Fd Sqn in Vietnam.

##### Francis Lloyd Nicholls, BEM

Passed away on the 13 December 2016. Llyod was a plant operator and served in 22 Const Sqn amongst other units and served in Malaya and Papua New Guinea from 1964 to 1965.

##### Kenneth Gentle

Passed away on the 18 December 2016. Ken was a transport sergeant in 1 Fd Sqn, Vietnam.

##### BRIG Ian David Stock (Rtd)

Passed away on 01 January 2017. Ian was OC 22 Const Sqn from 1957 to 1959. After discharge, he joined the CMF and was OC 13 Fd Sqn from 1963 to 1965. Ian was promoted to Brigadier when posted as Commander 2 Task Force.

##### John Edward O’Sullivan

Passed away on 03 January 2017. Jack joined the 2/2 Forestry Company in 1940 and sailed from Freemantle on 31 May 1940 bound for France to assist in the supply of timber but was diverted to Scotland to supply timber for the British Army through the fall of France to Germany. In late 1943 Jack’s company returned to Australia because of the imminent Japanese invasion. Jack was aged 100 years and 9 months and was the last surviving member of the “Woodpeckers”, the nickname given to the Sappers of the Forestry Companies.

##### Gary Bruce Parker, MID

Passed away 20 January 2017. Gus enlisted in January 1960 in the 15th Intake Army Apprentices School and later went onto OCS Portsea where after graduation he was allocated to the RAE. He served in SVN with 17 Construction Sqn from 1969 to 1970 where a highlight of his service was running land clearing operations. His other postings included ADJT SME, OC Apprentices Wing SME, CE Branch 2 MD & 3 MD and with the PNGDF. He was awarded the MID decoration while serving with 17 Construction Sqn and discharged in 1983.

##### Stanley Robert Shepherd

Passed away on the 26 January 2017. Stan served as a SSGT with 1 Fd Sqn Vietnam, 1966 to 1967. Stan achieved the rank of WO1.

##### John Robert Sutton

Passed away on the 30 January 2017. John was one of the last team of Sappers in Vietnam who prepared all of the Engineer stores to be transported back to Australia at the end of Australia’s commitment to the Vietnam war.

##### Edward Samuel Brannigan

Passed away on the 5 February 2017. Ed was OC of 21 Engr Spt Tp in Vietnam and later OC of 20 Div Engr Spt Sqn.

##### Seamus Doherty

Passed away 11 February 2017. Seamus joined as an ARes member of 13 Fd Sqn in 1986 and then joined the ARA in 1988. He served with 20 Div Engr



Spr Sqn, SME, 3 CER, Defence Centre Perth and 2 CER. He deployed as part of the Somalia Peace Keeping Force and discharged in 1994 to join the WA Police service. In 1995 he rejoined the ARes and paraded with the Pilbara Regt.

#### **Darrell Crichton**

Passed away on 14 February 2017. Darrell joined the Army in 1981 and initially served with 18 Fd Sqn. His postings included 7 Fd Sqn, SME, 1 Fd Sqn and CATC. He discharged from Army in 2010 and took up a position at SME as the APS WHS Supervisor.

#### **Philip John Ryan**

Passed away on 23 February 2017. Phil served with 1 Fd Sqn and 17 Const Sqn in Vietnam and also served with 18 Fd Sqn, 7 Fd Sqn and 23 Const Sqn.

#### **Warren Alexander Murray**

Passed away on the 23 February 2017. Warren served in 3 Fd Tp and 1 Fd Sqn in Vietnam during 1965 to 1966.

#### **Malcolm Stewart Howitt**

Passed away on the 06 March 2017. Malcolm served with 17 Const Sqn in Vietnam from 1970 to 1971.

#### **William Aubrey Sweet**

Passed away on 22 March 2017. Bill was a National Serviceman serving 2 years in the British Army. He emigrated and joined the RAE in 1951. He served in Papua New Guinea, Borneo and served with 17 Const Sqn in Vietnam, 1968 to 1969. In his 30 years' service Bill has served with 1 Fd Sqn, 17 Const Sqn, 22 Const Sqn, 1 CE Wks, 5 CE Wks and 11 CE Wks.

#### **Steven Boyd**

Passed away on 24 March 2017. Steve joined the Army in 1969 and spent most of his career serving in units on the Eastern seaboard of Australia. His last posting was to 13 Fd Sqn as the Trg WO prior to discharging in 1989.

#### **John Printz, OAM**

Passed away on 25 May 2017. John served for a total of 27 years in the Australian Regular Army and Army Reserve in the Infantry, Signals and Engineer Corps serving in Malaya and Vietnam in 1965/6. On his return from Vietnam, John joined the Army Reserve and became RSM 22 Construction Regiment.

#### **Dieter Eugen Koch**

Passed away on 14 June 2017. Peter served with CE Office 4 MD, HQ AFV, 17 Const Sqn and Aust Log Sp Coy. He also deployed to Papua New Guinea and South Vietnam 1966 to 1972.

#### **BRIG Trevor Gibson (Rtd)**

Passed away on 29 June 2017. Trevor commissioned out of Duntroon in 1944, before seeing action in Papua New Guinea. He served in Wewak and Rabaul during WW2 as well as in Singapore and Vietnam during the Vietnam War. Post WW2 he served in a variety of posts which included Deputy Commander Australian Army Staff Far East Forces, and Deputy Commander 3rd Task Force in Townsville, as well as being Honorary Aide de Camp to Her Majesty the Queen. Brigadier Gibson was the RAE's last WW2 star ranked officer.

#### **COL Rayner Maher Frisch, MBE (Rtd)**

Passed away 29 July 2017. Rayner was former OC 21 Const Sqn at Puckapunyal in the early 80's and was responsible for the construction of the Red Rooster Inn and the Lavarack Barracks chapel. He was later CO 2/3 CER and held a couple of senior roles in Army Headquarters before he retired as a Colonel.

#### **MAJ Jason McCarthy (Rtd)**

Passed away 29 July 2017. Jason graduated from RMC in 1995 and completed his ROBC in 1996. On completion of his Geospatial Officers Course he served in the following units, 2 CER, 1 TOPO Svy Sqn, CATC, 6 ESR, AHQ and HQ 1 Div.

#### **David John Martin**

Passed away in early August 2017. David served in South Vietnam 1966 to 1972 as a Tunnel Rat with 1 Fd Sqn supporting 5 RAR, 6 RAR and Cavalry units.

#### **Andrew Charles "Plonky" Wine**

Passed away in early August 2017. Plonky served in South Vietnam with 1 Fd Sqn, 2 Tp 1966 to 1967.

## The RAE Collection and Museum

Mr Sebastian Spencer

I have received a lot of interest and enquiries relating to the 'Anzac Jack Moore' collection which was donated to the museum late in 2016. BRIG Wayne Budd travelled to New Zealand in May this year to collect the final pieces and with the assistance of his counterparts in the RNZE, all of the donated objects are now housed within the museum.

The passion and tenacity of BRIG Budd in securing these objects and records for the collection has been extraordinary and we are now in a position to conserve, preserve, study and display them.

The items donated include maps, battlefield relics, photographs and some truly unique and rare items; namely a collection of handwritten notebooks and letters, a camera and a souvenir of the 1st Field Company Engineers on their departure from Australia.

The first detachment of the Australian and New Zealand Imperial Expeditionary Forces departed King George's Sound, Western Australia on 1 November 1914. Many members of the 1st Field Company Engineers, including 'Anzac Jack' found themselves aboard the HMATS AFRIC for the journey to Egypt.

The souvenir picture of the Afric is attributed to the C.R. Fyer Studios, Sydney and was a common item collected by the soldiers to send home or keep. Fortunately for the collection, this one was retained and bears the signatures of some of the 1st Field Company Engineers who accompanied 'Anzac Jack' on the voyage. At present, this is the only one we know of in a museum collection.



The HMATS A19 Afric weighed 11,999 tons with an average cruise speed of 13 knots or 24.07 Km/h. Used to transport troops and cargo, the Afric was torpedoed and sunk in the English Channel on 12 February 1917.



A notebook diary covering the voyage from Sydney and training in Egypt, prior to leaving for the Gallipoli campaign.



“Anzac Jack’s” notebooks, diaries and the letters he sent home afford us a fascinating, insightful and comprehensive account of his time in WWI. His observations from the initial voyage to his reflections at the end of the war poignantly capture the joie de vivre of the first days and the despondency and heartbreak experienced by so many on their return home.

The notebook was sent to his mother prior to his departure from Mena camp in Egypt for The Dardanelles and then onto the landings at Gallipoli. The detail recorded in the letters and notebooks is remarkable and they provide an incredible resource for research in so many aspects of the lives of the engineers during the various campaigns of WWI.

He concludes the notebook with an entry dated 20/01/1915: “I’m afraid I will have to cut short this tale, as we have to get rid of our gear. This looks like “It” and it may be some time before I can continue. I hope to finish it another day. At any rate, there will not be much of this trip that one is likely to forget for a long time.”

The Ensignette camera was a breakthrough in photography, providing for the first time a practical, truly compact camera at an affordable price. It was immensely popular, in part due to its size which meant it could easily fit into a jacket pocket.

This practicality of size allowed “Anzac Jack” to covertly take it with him when he landed at Anzac Cove on the morning of the 25th April 1915. Very few cameras were permitted at Gallipoli due to the strict censorship rules enacted at the time. The images he took whilst at Gallipoli, and as he later travelled to the Western Front, are incredible not just for the content but also for the fact that the film itself survived.

Equally extraordinary is that he was shot in the shoulder whilst at Gallipoli and his camera and belongings were left behind when he was evacuated to Malta. He was reunited with his kit several weeks later with camera and film intact. The camera was engraved as he continued his deployment across the Western Front.

Jack also managed to retrieve pieces from the wreckage of Baron von Richtofen’s - “The Red Baron” - aircraft after he had been shot down and these are also housed within the museum.

Jack returned to his home in New Zealand in 1919 but sadly, as a result of PTSD, he took his own life in 1929.

We are fortunate to have so many other pieces of history within the collection,

each with its own story. If you

wish to see and learn more, please come and visit us at Holsworthy aamme. [mailbox@defence.gov.au](mailto:mailbox@defence.gov.au) and if you wish to donate an object, record, photograph or story please contact me directly [sebastian.spencer@defence.gov.au](mailto:sebastian.spencer@defence.gov.au)



*Ensignette No. 2 camera, made by Houghtons Limited, England. c1912.*



**Army**