THE AIMING POST

The Royal Australian Artillery Historical Society Of Western Australia Newsletter

Issue 1/2000 **February 2000**

NOTICE OF ANNUAL GENERAL MEETING

The Annual General Meeting of the Royal Australian Artillery Historical Society of Western Australia (Inc) will take place at

Hobbs Artillery Park
Irwin Barracks, Karrakatta
Wednesday 15 March 1999
19:00 for 19:30 hrs

Please see the accompanying form for Membership Renewal Notice, Nomination Form and Agenda.

NOTICE TO READERS OF THE AIMING POST

Subsequent issues of Aiming Post will include selected advertising by a small group of commercial operators keen to utilise our publication to extend their potential market. The first company to become involved is **"Directions - your travel managers" of 7 Rokeby Road Subiaco.**

For this issue, we have included a newsletter distributed by Directions to their clients for Christmas 1999. Please feel free to contact the Manager, Lynelle Groom, or her staff for all your travel requirements. Don't forget to tell them that you read their article in Aiming Post!

GUNNER'S DAY 1999

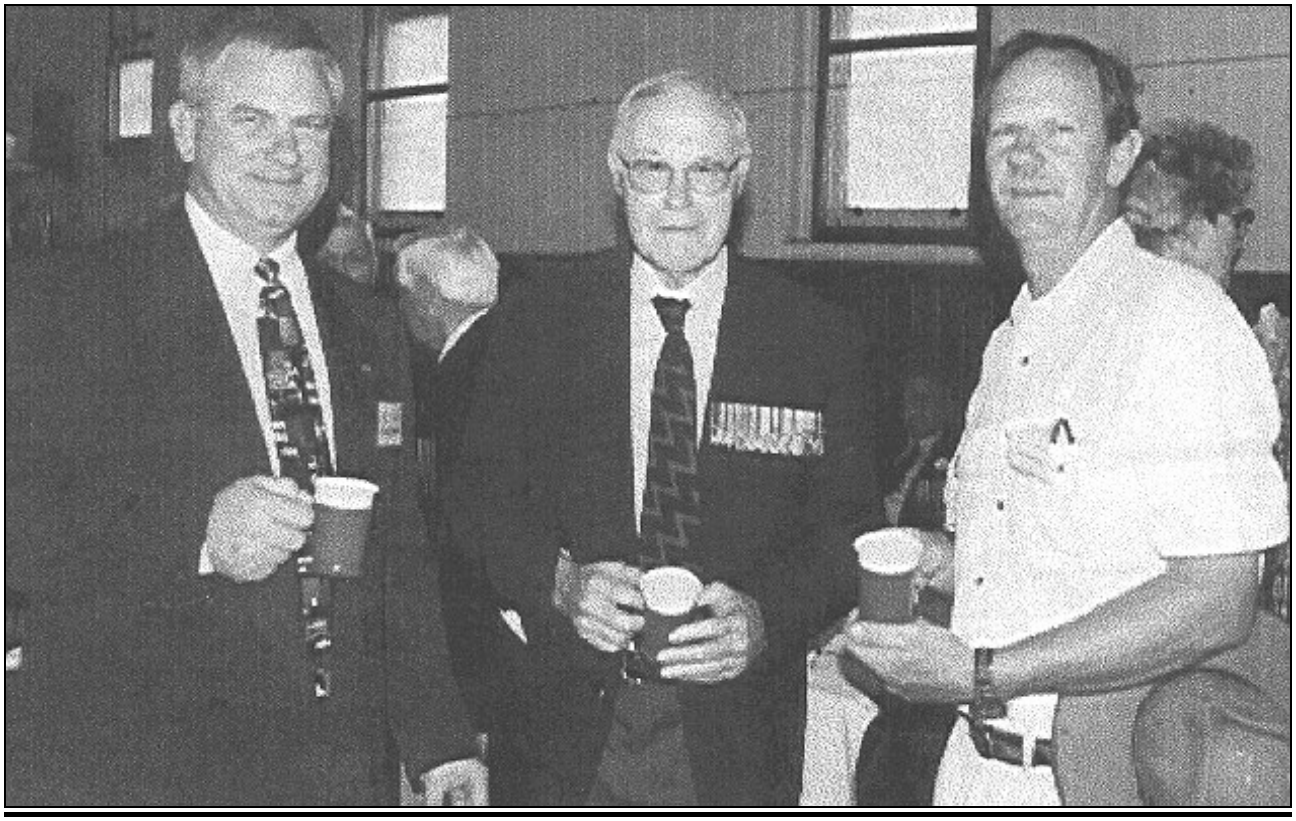
Thanks are again due to Tully Hobbs, President, and the Royal Australian Artillery Association (Western Australia) for organising the Gunner's Day Service at Stirling Park Guildford on Sunday 7th November 1999. This year, twenty-six members of 3 Field Regiment Association joined the RAA Association, 7 Field Battery and Cadets to commemorate the Gunners Day.

The Reviewing Officer was Brigadier R.A. Lawler, Commander 13 Brigade and a Gunner himself. After reviewing the traditional march past, Brigadier Lawler officiated at the service led by Rev. Paul Mitchell at the Artillery Memorial and in St Mathew's Church. After lodging the Association Banner in St Mathew's, a wreath was placed on the memorial in commemoration of departed comrades.

The usual camaraderie was enjoyed in the Church Hall at afternoon tea following the Memorial Service. Brigadier Lawler thanked the Executive of the RAA Association for organising the parade and memorial service. He also commended the formation of 3 Field Regiment RAA Association and stressed the importance for all Gunners to continue maintenance of the Gunner traditions in Western Australia.

Previous Photo: March Past to St Mathew's Church. Major Dick Albury, Captain Les Herbert, Sergeant Danny Johnson, Bombadier Frank Langford and Sergeant Bruce Nind among those in the photo.

Following Photo: L/R Graeme Rumble, George Earnshaw and Ken Hepworth catching up at afternoon tea in St Mathew's Hall



The Royal Australian Artillery Historical Society welcomes the 3rd Field Regiment Association to the gunner family in Western Australia. It joins the 3rd Field Brigade Association, the 2/7th Field Regiment Association, the 2/3 Field Regiment Association and the 116th LAA Association as unit associations cooperating with the Royal Australian Artillery Association.

3rd Field Regiment has a continuous record of service since 1947 and formation of the new Association shows the willingness of the next generation of gunners to carry on the artillery traditions founded in Western Australia over 150 years ago.

Rottnest Fortress - Part 4 - Kingstown Barracks

(The final installment in a series of Articles on artillery Heritage of Rottnest by Society Librarian, Bob Glyde)

Some call them Kingston and some Kingstown. Dr Battye records that the area on which the barracks were established was gazetted in 1831 as one of the first three town sites in the Colony of Western Australia and it was known as Kingston. At the same time a map of the proposed townsite drawn in 1833 and held in the State Government Archives clearly shows the area as Kingstown. For the sake of this article it will be known as Kingstown.

Only three of the 177 one third of an acre lots were taken up in 1831 and possibly four or five in 1832. Why so much surveyors' time was taken up at Rottnest when so much needed to be undertaken on the mainland is not known. In 1838, ten native prisoners were sent to the island and because of problems between them and the white settlers, Governor Hutt revoked all land grants in 1839.

It was not until the need to accommodate the pre war peacetime permanent army men of 6th Heavy Battery RAA and the 5th Fortress Company RAE that any settlement occurred in the area. The facility comprised a small village with a main barracks block, two administrative buildings, one for the engineers, and the other for the artillery contingent. These were constructed in brick. There was a small hospital, single officers' quarters, a mess building plus ten houses for married personnel including the artillery commanding officer and engineering company commander. All these buildings were constructed of asbestos and timber.

In the married quarters the senior NCOs' enjoyed a larger building than those provided for other ranks. The cottages although constructed of fibro cement, were extremely well designed for the period in which they were built. Construction was to a very high quality throughout including extensive well constructed built in jarrah furniture. Each had its rainwater tank and a hot water tank was connected to a solid fuel range. A separate dry goods, grocery store and canteen for married personnel were constructed, financed from the Regimental Trust Funds.

To conserve fresh water, always a problem on Rottnest Island all rainwater runoff from the main barracks block and administrative buildings was directed into three forty thousand gallon (approximately 170,000 litres) capacity underground concrete tanks. Water was pumped from these tanks up into a reticulation tank in the barracks clock tower as required. To combat the salt laden air, copper guttering and down pipes were fitted to all buildings.

The main barracks block consisted of two twenty-man rooms and 6 six-man rooms in whish each soldier had his own cubicle complete with fold down writing desk, individual wardrobe, with personal military equipment lockers. Private accommodation was provided in the block for the Battery Sergeant Major, there was a Sergeants Mess, other ranks canteen, library, recreation and billiards rooms.

Approximately twenty additional personnel could be accommodated in partitioned verandah space with separate locker and dressing rooms.

To accommodate extra personnel during World War 2, most of the built in furniture in the main barracks block was removed and placed in storage. For a number of administrative reasons it was never replaced

Domestic equipment included an oil fired range and dishwashing machines. The laundry, bathroom and shower facilities were finished in stainless steel and tiling to a high standard. Originally the barracks complex and married quarters were provided with their own individual electric power generating equipment. An ice-making machine was provided to produce ice for the married quarters.

When the coast artillery personnel were withdrawn from the island post war, the barracks were extensively used by the Army to conduct special schools and courses for both regular and reserve forces until late in 1984. In December 1984, the facility was handed over to the State Government and is now controlled and managed by the Rottnest Island Authority.

7 FIELD BATTERY, 3RD FIELD REGIMENT RAA - UPDATE

This summary of the unit's activities was presented by Major Peter Mahoney, RFD, Battery Commander, 7 Field Battery at the annual Feast of St Barbara Gunner Officer's Dinner on 3 December 1999.

"We had not been on a firing exercise for nearly 12 months as the guns had been grounded until July of this year at which time replacements had occurred. We set out to make up for lost time and conducted 4 Live Fire Exercises (LFX) in four months.

Initially skills were low due to the long break since previous live firing. However each LFX has built upon the previous exercise and gunnery skills are being regained. Our local defence has improved and the BK has never been busier. Unfortunately Battery strength is down and we currently can only man 2 guns. A sad state of affairs, but this is the situation faced by all Brigade units.

The decline in numbers is due to natural attrition and transfers to the regular force. The system's inability to supply replacements has significantly diminished. Also the requirement now for new recruits to undertake a six-week recruit-training course has greatly affected recruitment. The thrust towards Work Place Agreements in employment has reduced the ability for many to attend camps and courses, as defence force leave generally is not provided for in the new agreements. The Brigade Commander has directed that our priority is recruitment and to that end we have commenced an innovative and hopefully successful campaign to recruit up to 30 additional new soldiers.

We are much fitter now; our Individual Readiness over the last 12 months went from lowest in the Brigade to one of the best 18%-68%. We have had 23 members of the Battery attend and pass courses this year. We have instituted a career management program involving all soldiers. We will receive 2 Graduate Officers in 2000. During the year we took delivery of state of the art Forward Observer training aid that is computer driven and uses a multi media projector. It is a tremendous training tool and has generated a lot of interest within the Brigade.

The Battery looks forward to challenges in 2000 and I am confident that I will be able to report further growth."

WHERE WAS THE LOGIC

During the darkest days of WW2, Australia was unable to obtain optical equipment in sufficient quantities from the UK to meet the requirements of dial sights, telescopes, rangefinders, etc.

There appeared to be the manufacturing capability to build the bodies for these instruments however we did not have access to a formula for optical glass. An approach was made to the English company, which supplied optical glass to the various instrument makers, requesting them to provide a formula. The organisation concerned declined to release one as it was covered by patents.

Remember, this was in the middle of a war involving our very existence!

The Australian glass industry then set about experimenting with various sands and in a short time produced a high quality optical glass, which met all requirements.

Information Source

One of a number of such frustrating incidents related by L J Hartnett (Director of Ordnance Production) in his biography.

The Society is currently in the process of upgrading its display of optics and sights at the Leighton Battery Heritage Site. The collections of the Society include a number of optical sights originally forming part of the armament of Fort Forrest as well as range finders, telescopes, and sights from a variety of weapon types.

Application has been made through the grant program administered by Museums Australia on behalf of the Lotteries Commission. In keeping with the Display Policy of the Society, the requested display case will meet design and environmental standards set by the Society in consultation with a number of museum practitioners and professional associations. The outcome of the grant application will be known in a few weeks.

THE AUSTRALIAN BUILT QF 6-PR TANK ATTACK GUN

The QF 6-pr Tank Attack gun had been designed in the UK when it was realised that the 2-pr gun was no longer able to defeat the new German panzer vehicle appearing in the field. Its introduction into service was delayed because the tooling up and production would have interfered with the continued output of the 2-pr guns and it was critical to replace the losses in France without delay.

The gun was a 57-mm calibre piece firing a projectile capable of penetrating 74 mm of armour plate at 900 metres at an approach angle of 30 degrees. Various improvements in the composition of the projectile increased the penetration capability to a point where in June 1944, it was capable of defeating 146 mm of armour at 900 metres.

In July 1941, the Australian Army placed a local order for these guns. GMH was to be the main coordinating contractor. By July 1942 the first guns had been submitted for testing and by July 1943, 615 guns and spares had been built. The total production finished at 900 barrels and 755 carriages and spares.

Unlike the 2-pr where there was a sample gun to work from; the 6 pr was built from a few drawings. A mock up gun was built to the exact specifications in wood. With the wooden mock up of the various components and the drawings, the contractors were able to accelerate the manufacture with very few problems once the process commenced. Components were manufactured to exacting specifications despite some had never before been attempted in Australia.

The original production model of the ordnance, Mk II, called for a 2.49 m long barrel with a plain muzzle end. Then the specifications were changed requiring a barrel of the same length but screwed to take a counter weight to balance the ordnance for tanks and a muzzle brake for the towed models. Half way through the production run specifications were again changed requiring the future barrel length to be increased by 335 mm. This became known as the Mk IV model. This involved GMH having to modify the machines to handle the extra length.

Various senior officers view initial firings of Australian manufactured 6 pdr (Australian War Memorial Photo)

During the period of manufacturing and proofing the guns, a number of local modifications were made to the original design to improve performance and accuracy. As the prime contractor GMH received the various components manufactured by other contractors around Australia and the final assembly of the gun and carriage was undertaken at the GMH Beverley Plant in South Australia.

The 6-pr guns were also built in the USA. Australia received 140 of these weapons from the US source. They were modified to meet local requirements and were known as Guns, 57 mm MI on Carriage 57 mm M1A1 (Aust).

<u>Information Source</u>

War Record, General Motor - Holden, Australia.
Guns of the Regiment by S N Gower.

The BL Gun Obturator

Webster's Dictionary tells us it is a word from the Latin "obturare" meaning, "to stop up". It is a. artillery. term describing the device for the preventing of the escape of gas through, the breech mechanism of a breech-loading gun. Naturally the loss of propellant gases affects the performance of the gun. Except as Hogg in his publication "The Illustrated Encyclopaedia of Artillery" explains there are certain modern weapons such as recoilless guns, which require a proportion of the propellant gases to escape to the rear. With the breech-loaded gun, the projectile was rammed into a chamber at the rear end of the barrel and a bagged charge of propellant powder was then placed behind the projectile. In the older BL guns a breechblock was then fitted into the open space behind the propellant bag and jammed in tight by wedge or later a breech screw. The gas tightness was reliant on a close fit of the surfaces of the breechblock and the breech face.

The losses of the gases delayed the adoption of breech-loaded guns for several centuries. The inability to machine the matching breechblock to the breech face and so obtain a satisfactory seal was the main reason. The advantages of breech loading were well recognised as far back as the mid 14th Century when such guns were in use but muzzle loading guns, despite their many disadvantages, were favoured over the breech loader.

It was not until the Armstrong guns were introduced during the Crimean War that a reasonably successful BL gun became available. Even then the technical expertise had not been developed far enough and the maintenance of such guns proved very difficult. So after the Crimean War there was a return to the muzzle loading guns. The barrel of these guns however began to be machined with rifling during manufacture or the older ML guns were fitted with a rifled tube, which enabled then to fire shells instead of cannon balls.

In the meantime experimentation was talking place especially in the Scandinavian states with means by which the problems associated with the BL gun cold be solved. Armstrong in England also continued experiment. One solution was to fit a tin cup in the breech following the loading of the bag of propellant. This did overcome the problem to some extent but it was

found that the cups tended to jam whilst being ejected. A "T" shaped slot as made in the cup and the gunners were equipped with a rod with a "T" shape at the end so the cup could be withdrawn when the breech was opened These cups were expected to be utilised a number of times so one can imagine the care which had to be taken to ensure the cup was not damaged during extraction. The most successful British gun was the Rifled Breech Loading 40 pr.

The next method was to attach a thin steel cup to the breech screw but it required accurate fitting, was somewhat fragile and liable to crack. It did lead however to a substantial increase in the possible rate of fire. The first QF guns introduced into British service were the 3 and 6pr Hotchkiss guns in 1881. These guns used a metal cartridge case, larger of course, containing the propellant, but similar in shape to a rifle cartridge, which sealed the rear of the breech chamber.

In 1884, a French officer Colonel De Bange, developed an obturating breech mechanism from which the modern obturators were developed. The material he used comprised two circular asbestos pads. Armament manufacturers undertook further developments. The Germans developed an obturating pad, which overlooked the method by which the scaling of the breech was obtained, and having thus failed turned over completely to the quick firing system even for their largest naval guns never to return

The British continued with the development of the obturator and eventually reached a stage just before the Great War where the BL 6in gun had a faster rate of fire than the QF 6in gun thus overturning the very reason why many of the naval and coast defence BL guns were converted to QF in the last years of the 19th Century.

The obturators pads used 1939 - 45 were covered with asbestos cloth containing an interwoven brass wire mesh and impregnated with neoprene, the whole being vulcanised after moulding thus ensuring that the pad retained its shape and size. The obturators in the 9.2 in Mk 10 guns at Rottnest and the Mk 15s at Garden Island were not interchangeable.

Source: The Journal of the Royal Artillery, July 1945.
The Illustrated Encyclopaedia of Artillery - lan V Hogg

AIMING POSTS: AN UPDATE.

We have to thank Danny Topliss, the Assistant Librarian at the RAA Historical Company at North Fort. For further information concerning the use of aiming posts with the 105-mm L5 Pack Howitzer and the 105-mm M2A2 Howitzer.

It would appear that the aiming posts were very similar to those used in the beginning of the century. The dial sights naturally are very different in the two periods. Without getting into the technical story the usage of the posts would not have changed greatly over the intervening years. The modern optical equipment would make the result at the target end more accurate.

We thank Danny for his interest in forwarding copies of the relevant sections of the gun drill manuals. For those who may be interested in following up the subject further details are available at the Society Library at Karrakatta

OLIVER HILL GUN H1 UPGRADE

The title for this article is drawn from Tender No. 9516-99924 issued by the Rottnest Island Authority. The tender is a 60-page document but the material of interest to the RAAHS may be found in the 10 pages of Section 7 detailing the Specification. What follows is a summary of the work specification as contained in Section 7. The Society wishes to thank member, Bill Holder for his technical interest in this project and for obtaining a copy of the Tender Specifications.

The primary objectives of the upgrade are to carry out any repairs and remedial work to the Oliver Hill Gun Battery to restore it to a fresh and attractive condition in keeping with the original installation. In particular:

- **Reinforced Concrete Elements** – Spalls and delaminated concrete are to be made good and all exposed concrete surfaces are to be prepared, cleaned and protectively coated to minimize the rate of future deterioration

- **Steel Elements** – All nominated steelwork such as plates, doors, beams, columns, frames, fixing, handrails etc are to be cleaned, patched and protectively coated.
- **Replacement of Toppings** -The existing bituminous and cementitious toppings at apron level are to be removed and replaced with new toppings. A waterproof membrane is to be applied to the prepared substrate of the apron prior to the replacement of the cementitious topping. The concrete floor inside the gun room shall be prepared, cleaned and furnished with a new cementitious topping and graded to drainage falls in such a way that there are no undrained low spots which could collect standing water.
- **Drainage Repairs** -The existing drainage system is to be investigated and made good as necessary with replacement of the copper guttering draining the gap between the steel turntable and the bituminous topping. The existing drainage outlet system is to restored to function. The existing gap between the turntable and the concrete is to be narrowed from 50 mm to 30mm and sealed with a flexible elastometric sealant. A suitable drainage channel is to be provided to remove water from inside the gun room and the existing outlet and pipe work at the south-eastern end of the hardstand are to be cleared and restored to proper function.

In discussing the steelwork, the Tender document notes the prolonged action of salt air and rainwater over the years, which has resulted in severe corrosion. Previous attempts at painting were undertaken without removing the existing rust. Corrosion had therefore continued and resulted in the present condition where the beams had been perforated and were now sustained by supplementary beams and supports.

Because of the costs of removing and making good all of the structural elements, in the first instance it is proposed that the damaged components be partially repaired so that they appearance of integrity is restored and that all steel elements could be coated and coloured in a similar fashion. Damaged elements would not be load bearing. The additional columns added over the years, being of the same design the overall, the visual effect would not be out of place.

In summary, the initial Tender option calls for retention of the new columns and cosmetic repairs to damaged elements to re-establish a visual sense of unity through standard finishes and no visible damage. This will be achieved by welding thin (3 –5mm) plates along the full length of both sides of the beams to mask the areas of damage. The welds are then to be dressed back to a smooth contour that gives the appearance of an original beam. Original support columns are to be repaired by welding split sleeves around the deteriorated section of the column base.

The tender goes on the request a further costing for making good the structural components with the associated additional costs. This would involve removal of all existing temporary support works and columns and the replacement of severely corroded original beams. The old beams would be cut out of the concrete and replaced. These new beams are to be provided with suitable buttons to resemble rivet heads to preserve an authentic appearance. In addition, the existing steel frames around the two propellant storage areas (Cordite Storage Bunkers) are to be removed and replaced with new frames manufactured to the same design.

Painting specified in the tender documentation includes preparation and painting of the exterior portions of the gun armour plating and barrel as well as the steel doors at the Gun Room entrance.

The decision of which option to contract will await the result of the tendering process. The “cosmetic” option will retain in place virtually all of the original steelwork, but the thin steel plates welded along their length will obscure the sides of the beams and their British makers marks. The additional support beams would remain. The make good option restores the general original appearance of the gun floor by removing the additional supports but at the cost of loosing most of the original steel beams. The appearance of rivet heads would be maintained but here would be no maker’s marks.

If any original structural steel is removed, it should be retained for exhibit purposes. Sound portions of the original beams with their rivet heads, maker’s marks and imperial dimensions could be retained as exhibits in their own right or as framing or supports for other exhibits. The steel certainly should not be disposed of as scrap. Unfortunately the tender documents seem to be silent in this regard except in the general provision

that the contractor is obliged, without limitation, to remove debris where so obliged at law.

As a Society interested in WA's artillery heritage, we should seek to ensure that no original material from the site is removed and disposed of as debris until competently examined for its heritage values and potential for reuse in exhibits. Even a slab of spalled concrete and aggregate could make an interesting exhibit revealing the composition and structure of gun emplacement which would not normally be seem behind the smoothed and painted surface.

BOOK REVIEW

Conquest and Settlement, by Geoff Blackburn (Hesperian Press $65)

This history covers the tour of duty of the 21st Regiment in the Swan River Colony 1833 – 1840. After tracing the various travels of the 21st North British Fusiliers before arrival in WA, the author provides extensive coverage of the Regiment's conflicts with the Aborigines.

During their tour of duty 20 of the Regiment died including three who were speared. It was one of these spearings, that of Hugh Nesbitt, which led directly to the clash known as the Battle of Pinjarra. Eleven members of the Regiment were present at the battle but no senior officers. Blackburn has relied on extensive transcriptions of contemporary accounts rather than speculation to lay out the facts of the incident.

In the second portion of the book, is a work of reference presenting biographies of individual officers and soldiers of the Regiment. Extensive use of court records and newspapers provides the detail of many an interesting story of soldiering in the Colony. When the Regiment departed in 1840, 24 soldiers along with 9 women (only officers had "wives" or "ladies" in those less politically correct times) and 35 children chose to remain as settlers.

"Conquest and Settlement" is a very solid piece of research, which will be of value for both the military historian and the family genealogist.

NOTICE BOARD

BUSY BEES

The next busy bees at Buckland Hill are scheduled for:

29 MAY 26 JUNE 31 JULY 28 AUGUST

LEIGHTON BATTERY OPEN DAYS

The Leighton Battery Heritage Site is open on a regular basis on the first Sunday of every month from 10 AM to 3:30 PM with tours of the tunnels every half hour.

ARTILLERY PORT

Limited supplies of Artillery Port are available at the special price of $8 per bottle. Place your order at the Society's Annex at Hobbs Artillery Park and Wednesday.

HISTORY OF LOCATING ARTILLERY IN AUSTRALIA

Research is currently being undertaken for a book on "History of Locating Artillery in Australia". If you have any information that may be relevant please contact John Posener on (02) 9982 4471 or Keith Ayliffe on (07) 5443 7102 or write c/- North Fort Museum, PO Box 1042, Manly NSW 1655.

The Editor gratefully acknowledges the support of RK Glyde, the Society's Librarian and research Officer who has authored the historical articles appearing in this issue. Comments on the articles or additional material relating to the topics covered are always welcome. This issue of Aiming Post was limited in size to permit the mailing of renewal notices and AGM materials.

The Aiming Post is published by the Royal Australian Artillery Historical Society of WA (Inc) as a service to its members. It has an additional role of making information and material relating to Australia's artillery and defence heritage available to individuals and groups who share the Society's objectives. Articles, editorial comment or book reviews for publication should be submitted to the Editor, Robert Mitchell at: Royal Australian Artillery Historical Society of WA, PO Box 335, Leederville WA 6903 Phone: 93809388 Fax: 9380 9399 or E-Mail the Editor at rbmitch@iinet.net.au