

# THE ROYAL ENGINEERS JOURNAL

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- *Subject.* Articles should have some military engineering connection but this can be fairly tenuous, especially if an article is well written and interesting.
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# Editorial

THE ramifications of the Strategic Defence Review (SDR) have made themselves felt more quickly than many anticipated. Whilst it was always clear that it would take some years to recruit and train the extra regular element needed for the the Corps, the rapidity with which the TA regiments are being disbanded this year has come as a surprise. The Kosovo crisis may well question the wisdom of these early reductions and even the validity of the SDR assumptions, particularly for the Sappers who once again see the inter-tour interval for units being reduced rather than increased.

It is perhaps early days for a clear view of the impact of the SDR. Whilst the Corps has shifted its emphasis in the past few years from combat to construction engineering, it is timely to recall that much of the SDR was predicated on maintaining a high intensity operational capability. "Engineer Reconnaissance in Support of the Manoeuvre Division" is a reminder of the need to develop sound recce doctrine and to maintain our recce capability for such operations, despite the reducing opportunities to do so. This article should be read by every serving Royal Engineers officer. It addresses a problem which has been largely neglected in the past.

There is little doubt that the requirement for professionally qualified engineers has increased and, if present trends are anything to go by, not for a long time has it attracted so much interest. Record numbers are being selected to attend the Professional Engineer Training courses at Chatham, spurred on by a good marketing campaign within the Corps. "Is This the Best Job in the British Army?" should be read by every aspiring chartered engineer.

It is always a pleasure to be able to publish articles submitted by engineers from other nations. "My First Commanding Officer and Me" may refer to times long gone by but nevertheless the lessons in leadership and management it illustrates are as apt today as they were then. The training and development of young officers is one of the most, if not the most, important responsibility of OCs and COs.

It is not too surprising, but nevertheless very interesting, that a Sapper was apparently instrumental in steering the ship of destiny in the Middle East. "The King and I" is a fascinating short story of how events of such magnitude are often influenced, in the overall scheme of things, by chance and circumstance.

The RE TA is to be reduced by four regiments and one independent squadron. "Basket Hanging in Germany" is about, as it turns out, the final engineering project of one of them. The contribution of the RE TA to cost-saving projects has been magnificent and this effort will clearly be much less in the future. However, the expansion of the regular component of the Military Works Force STsRE will make some amends. "Fuelling Firepower" not only describes one of the vital tasks undertaken by the Corps in support of the RAF but also shows how cost-effective the Sappers can be in helping to maintain the Defence estate.

Adventurous training has for some time been considered an essential part of military training. The author of "Pu-Mori", who commands the British Alpine Centre (Bavaria), is more knowledgeable than most on the benefits to be gained from such training. Many will agree that tackling the high Himalayas is close to the ultimate adventurous challenge, particularly if you are not an experienced mountaincer.

Members of the Institution may recall that a proposal to admit warrant officers as full members of the Institution was agreed by the AGM in 1998. It has since been endorsed by the Lords of the Privy Council, the guardians of our Royal Charter. We look forward to them joining our membership (some of course are already associate members) and playing a full part in the affairs of the Institution.

Finally, we say farewell in early May 1999 to our Chief Royal Engineer, General Sir John Stibbon KCB OBE, and welcome his successor, Lieutenant General Sir Scott Grant KCB.

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	EDITORIAL

# **Chief Royal Engineer**

## (From May 1999)

#### LIEUTENANT GENERAL SIR SCOTT GRANT KCB



LIEUTENANT General Sir Scott Grant is 54 and was educated at the Kings School Pontefract, RMA Sandhurst and Clare College Cambridge.

He was commissioned into the Royal Engineers in 1965. Prior to attending the Staff College in 1976, he served in the UK, Germany and the Middle East. In the period between Staff College and attending the Royal College of Defence Studies (RCDS) as a student in 1990, he commanded 39 Field Squadron, 26 Engineer Regiment and 33 Armoured Brigade and served on the staff of the MOD, the Staff College and SHAPE.

On completing the RCDS Course, Lieutenant General Grant spent six months as the Army Member of the PROSPECT Team, a small group tasked with reorganizing the MOD. before becoming the Director General of Army Training. On completion of this appointment, he spent a year as the leader of a study team set up to recommend a future command structure for the Army. In 1994 he became the GOC United Kingdom Support Command (Germany), an appointment which he held until becoming the Commandant of the RCDS in January 1996. He assumed the appointment of Quartermaster General (QMG) in July 1998.

Lieutenant General Grant was the Colonel of the Queen's Lancashire Regiment from 1993 to 1999. He became a Companion of the Honourable Order of the Bath in 1995, Colonel Commandant of the Royal Engineers and Colonel Commandant of the King's Division in 1997 and a Knight Commander of the Honourable Order of the Bath in January 1999.

He is to become Chief Royal Engineer in May 1999.

He is married to Sue and they have two children: Antonia aged 19 and Charlie aged 17.

Although Lieutenant General Grant was a keen sportsman in his youth – particularly at Cambridge where he gained a blue in athletics and played for the LX Club, and occasionally for the university, at rugby –, his main interest is now 20th Century art and literature and – on a very modest scale – he collects modern British pictures.

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Lieut General Sir Scott Grant KCB Chief Royal Engineer

# Engineer Reconnaissance in Support of the Manoeuvre Division

MAJOR J A H WELCH BA

"Those who do not know the conditions of mountains and forests, hazardous defiles, marshes and swamps, cannot conduct the march of an army".

Sun Tzu, 400-320 BC, "The Art of War".

## INTRODUCTION

THERE is currently considerable debate within the Corps about the level of engineer reconnaissance (recce) support that is provided to manoeuvre divisions. It is a debate that has come about for two related reasons: a lack of engineer recee doctrine, a fact recognized by the Royal Engineers Doctrine Committee<sup>1</sup>, and by a lack of universal understanding of engineer recce. The latter, I suspect, is a consequence of a generation and more of officers who have little experience outside of peace support operations. The recent publication of TD Note  $42^2$  illustrates the difficulty that the Corps faces with "getting the message across": in engineer terms it is less than ideal; though better than the draft that was initially circulated. It is surprising when you consider that there is more than sufficient training analysis to be found: take but a few examples of TESEX, Exercise Bright Star, and the Medicine Man and Ulan Eagle series. There are lessons all around us just waiting to be collated, examined, analysed, doused with a good measure of military judgement and turned into an appropriate and relevant doctrine.3

## Aim

The aim of this paper is to examine engineer recce support to manoeuvre divisions in order to make recommendations towards developing an appropriate engineer recce doctrine.

# Scope

ENGINEER recce will be discussed in the two combined arms recognized categories of formation recce and close recce. The paper will consider the level, organization and *modus operandi* of the combined arms groupings found in these areas and then discuss the engineer support provided. The emphasis is on the tactical application of engineer recce in the division and will therefore specifically not cover potential Corps (ARRC or other), specialist commando or parachute recce, or technical recce such as STRE or EOD.

## MAIN ISSUES

It would be useful to identify the major issues as they are currently being discussed so that a logical flow to the various arguments can be followed. There is a number of main issues regarding engineer support provided to the formation recce battle group (FRBG). What support is provided? Is it, for example, only recce elements or does it involve a more ad hoc grouping? What is the modus operandi for these groupings? Do recce cars simply work in pairs under operational control (OPCON) of each sabre squadron, or do they need to come together as a formed sub-unit to complete various tasks? Does the FRBG require a battle group engineer (BGE) or does the troop commander move into the battle group HO (BGHO), in a similar fashion to the way that the recce troop commander of 59 Independent Commando Squadron operates with his brigade HQ? And, finally, what is the command status of engineers within the FRBG? These are all issues which affect the divisional deep battle and should have instant, recognizable and acknowledged answers found in relevant publications. There is a similar number of issues regarding engineer recce support to the close battle, which

D/EinC(A)/124/9(Engr 2), Paragraph 3i of the Minutes of the 4th Royal Engineers Doctrine Committee Meeting, dated 14 Jul 98.
"Army Tactical Doctrine" Note No 42: The Principles and Operation of Formation Reconnaissance. Published

<sup>&</sup>lt;sup>2</sup> Army Tactical Doctrine" Note No 42: The Principles and Operation of Formation Reconnaissance. Published in July 1998.

<sup>&</sup>lt;sup>3</sup> Doctrine is "... a formal expression of military knowledge and thought that the army accepts as being relevant at any given time, which covers the nature of current and future conflicts, the preparation of the army for such conflicts and the methods of engaging in them to achieve success". SOHB pages 8-27.



Figure 1. Intelligence fusion at formation level.

although mentioned in TD Note 33 requires clarification. There remains some doubt about who provides the engineer recce elements for the manoeuvre battle groups: do they come from the close support (CS) engineer regiment's recce troop or are they provided by the squadron which supports the BG? This issue is further complicated by the fact that while armoured engineer troops retained their recce sergeants under the Options for Change reorganization, many mechanized field troops did not. What is the command status of these assets? Are they, like the BGE placed OPCON to the BG? How do they train? Are they fully integrated into the BG recce troop or do they remain with the squadron and only go forward on certain occasions? This latter point will come as a surprise to those who have followed this debate over the last decade as it continues to be clearly stated in annual lessons from training, especially in the British Army Training Unit Suffield (BATUS) section, that those recce troops which are comprehensively integrated out-perform those which are not. Yet there are still engineer squadrons which deploy to BATUS which do not integrate their recce sergeants into the BG recce troop. It is for precisely these reasons that doctrine must be clearly stated and fully understood - to avoid ambiguity and ensure that best practice is used. Finally an issue which affects both the deep and close battle and is probably the most important of all, how do engineer recce elements ensure that they fully contribute to the "recce-pull"<sup>4</sup> requirement for exploiting tactical opportunities? Before being able to understand these issues there are two fundamental facts which ought to be accepted. The first is that recce is merely a function of information and intelligence, and as a consequence there will never be enough specifically designated recce assets available – "everyone is a recce asset" is a cliché which springs to mind! The second is that the acquisition of information and its usefulness as intelligence needs to be defined and therefore a thorough understanding of the intelligence cycle is required.

## THE INTELLIGENCE CYCLE

THE intelligence cycle of: direction, collection, process and dissemination, will be used in an engineer context to try to develop a process for engineers in the division. Regardless of the level at which information is being assessed the cycle needs to be followed in order to optimize the value of that information. The acquisition of information needs to be focused and requirements directed to the source which will be tasked to acquire it, be that human intelligence or signal sources, covert recce elements, air, aviation or unmanned aerial vehicles. For this reason very clear commander's guidance is required based on the IPB (intelligence preparation of the battlefield) process and culminating in the production of the priority information requirements (PIR) list. The collection of raw information then takes place, but it is only when the results are analysed that it may be used as intelligence; it is the processing of information which makes it useable. Finally of course, there is little point in having "intelligence" unless it is disseminated and used. The engineer input to this cycle may be seen from the Table 1 opposite. Given the vast number of intelligence sources, there must be a point at which they are fused. This process ensures that the gaining of information in isolated packages is then fused into an intelligence whole, frequently referred to as intelligence fusion and in engineer terms is conducted at formation level in the manner portrayed in Figure 1 above left. However the key for recce is that what is reported must be clear, unambiguous, factual information. In modern parlance, it is the "spin" which is put on that information which turns it into intelligence: and that process is best undertaken in a headquarters environment. Field Marshal Wavell recognized this fact and in his

<sup>&</sup>lt;sup>4</sup> Recce-pull is defined in *TD Note 42* as "... the means by which the enemy's weaknesses and vulnerabilities are identified and exploited rapidly in order to maximize the effect of our own combat power. Recce-pull serves to focus and direct combat power by pulling it towards the enemy's weaknesses rather than simply pushing it forward according to a preconceived plan".

Level/Activity	Direction	Collection	Processing	Dissemination
Division	CRE	Formation Engr Recce Tp	All sources cell Engr Int/Ops	G3 Engr Ops
Brigade	CO Engr Regt	Engr Recce Tp CS Recce	Bde HQ CS Engr Regt	G3 CS Engr Regt
Battle Group	Engr Sqn Comd BG Recce Tp	CS Recce Other recce Comd	BGHQ CS Engr Regt elements All	BGHQ CS Engr Sqn

Table I. Engineer input to the intelligence cycle.

*Note on Command*<sup>5</sup>, stated "Intelligence staff must have as good accommodation as possible and peace and quiet ... they must be able to sift information, refer it to previous reports, spread their maps etc". It is for them to analyse the information provided by various sources.

The critical aspect of both the intelligence cycle and intelligence fusion is to appreciate that although there are various sources of information, that at a defined point it must all be processed into intelligence. As reconnaissance gains information, then all military personnel wherever located are potential sources.

The specialist elements of reconnaissance are now considered.

# FORMATION RECCE

"The qualities required of an armoured car (recce) soldier are many but above all he must be a man of independent judgement, quick reflexes, courage, cunning and accuracy of observation and statement".

> Maj Gen S M O'H Abraham CB MC (CO 9/12L 1958-1960).

TD Note 42. TD Note 42 currently describes the roles, handling, operating procedures and command

status of formation recce. The engineer sub-paragraph is sparse and for a better understanding is reproduced in footnote 6 below. Apart from being fundamentally wrong in stating that the recce troop comes from the CS regiment, as a default setting it comes from the general support engineer regiment<sup>7</sup>, it also fails to identify the main roles of the troop or its modus operandi, However, on the positive side the note does allude to the two engineer components: firstly the recce elements and secondly the "real" engineer support required to allow any non-amphibious grouping to move, live and fight on a battlefield (which may well have been shaped by the enemy). Given that a division's area of intelligence responsibility is up to 50km ahead of the forward brigades, the FRBG becomes extremely vulnerable. In any terrain suitable for armoured or mechanized warfare, except the desert, to operate that far forward without being fixed or channelled by the enemy, requires freedom to manoeuvre. That freedom can be achieved by being equipped with a vehicle that can "swim" or by having engineer assets capable of getting light armoured recce cars over wet gaps. As the current recce vehicles, and indeed their planned replacements, are not amphibious it is fair to deduce that additional engineer assets will have to

<sup>&</sup>lt;sup>5</sup> Field Marshall Wavell, Note on Command, issued in July 1942.

<sup>&</sup>lt;sup>6</sup> Sub-paragraph 25b reads: "Engineers. FR can expect to be allocated a recce troop from the Engineer Close Support Regiment and it is usual for an engineer section (2 SPARTAN) to be attached to each FR squadron. Engineers will provide the FRBG commander with specialist mobility and counter mobility advice in addition to passing back engineering information gained from the FR scouting tasks directly to the mobility cell at the formation HQ. The troop commander should be included in the FR commander's 'Recce' Group. His reports will provide key input into the formation HQ's DSO. In addition to reconnaissance, other engineer elements could also be attached to FR for a specific operation where additional mobility support is required such as a gap crossing or minefield breaching".

<sup>&</sup>lt;sup>7</sup>28 Engineer Regiment in the case of 1 (UK) Armoured Division and, post SDR, 36 Engineer Regiment in 3 (UK) Division.

be provided to the FRBG to enable it to have its own freedom of manoeuvre. That is not to say that these assets will have to be engineer tanks, they may not. The concepts of moving underslung bridges or constructing light alloy, low militaryload class panel bridges are all viable. Indeed using Exercise Bright Star<sup>8</sup> as an example, the novel means of moving logistics forward in a desert environment could quite easily be applied for getting engineer support forward in temperate conditions. This includes the deep insertion of logistic supplies using support helicopters.

Engineer Formation Recce Modus Operandi. Engineer recce elements for the FRBG are currently provided by the recce troop of the general support engineer regiment. The establishment for this support is four CVR(T) Spartans in peace and eight in war. The manner in which the troop operates differs between divisions, but in simple terms it may be either as a complete troop or as separate vehicles placed under OPCON of FR sabre squadrons. Likewise the troop commander may either be employed to undertake the more normal role as a commander on the ground or may operate from within the BGHQ and fulfil more of a processing role. If it is the former then a BGE is required who is able to carry out the processing of information, consultation with higher HQ (HQRE) and the coordination of any additional assets which are regrouped into the FRBG. The arguments for both are fairly compelling but there needs to be a commonly prescribed practice across the divisions which is readily understood by all combined arms groupings. Table I demonstrates the application of engineer support to formation recce in the intelligence cycle by function and would support the idea of isolating the functions of collection (by the commander) and processing (by an adviser in BGHQ). The "realities of war" would also suggest that the troop commander needs to be in a position of influence on the ground to ensure that the engineer critical and priority information requirements are being fully met in collection terms. A study of the most recent example may provide further evidence of best practice.

Exercise Medicine Man 5/98. Exercise *Medicine Man 5/98* was a formation recce exercise organized by the offensive support group of

HQ 3 (UK) Division. The BG was based on the Household Cavalry Regiment, working as the divisional FRBG and consequently focused on the divisional deep battle space. The initial intention was to provide the same engineer recce support as for Exercise *Bright Star*, however, after wargaming various scenarios it was decided to try the ORBAT shown in Figure 2 below:



Figure 2. The ORBAT for Exercise Medicine Man 5/98.

The rationale used for this organization was that a recce section of two CVR(T) could be provided to each of the sabre squadrons, while a squadron operations officer filled the role of a formal BGE. Bearing in mind that this was the first time that so many ISTAR assets had been integrated on a field exercise, the following lessons were drawn:

**Command and Control.** Integrating a BGE into the BGHQ allowed the troop commander to concentrate on commanding the troop on the ground, while the functions of control and advice to the BG commander were undertaken by the BGE. There was a considerable number of occasions when sections of the troop had to come together to seek specific information on details of river lines, bridges, minefields or routes and so on. A record was kept (see *Table 2 opposite*) of the times the troop had to come together and act in unity, rather than simply operating as isolated vehicles or sections supporting sabre squadrons.

It may be deduced from Table 2 that there was a recurring requirement for the engineer recee troop commander to be away from the BGHQ and consequently a BGE was required to undertake his function. In a similar fashion the troop also needed greater flexibility, an established chain of command and a

<sup>&</sup>lt;sup>8</sup> Exercise Bright Star 97 was a multinational exercise in Egypt between October and November 1997. The HCR BG was the main UK element.

Operation/Activity	Explanation	Engineer Recce Activity	Remarks	
Advance to screen.	Advance across two river lines.	Identify routes to screen including bridges, then recce 12 bridges along a second river line: eight recces for preliminary demolition.	Tp came together to carry out task as HCR was grouped one sqn forward and two rear.	
Establish ISTAR matrix.	Identify and engage enemy once border crossed.	Undertake counter mobility recce tasks in accordance with the combined arms obstacle integration trace.	Conducted recce under cover of the screen prior to first hostile act and then behind screen.	
Disrupt enemy.	From matrix HCR cueing integrated OSG assets (artillery, aviation).	AFW 4012 and 4017s passed to engr unit undertaking tasks.	Some route denial tasks carried out by engr recce.	
Contribute to fixing enemy.	Split enemy 1st and 2nd tactical echelons using the rivers lines.	Combine arms obstacle integration.	Counter mobility tasks.	
Raids.	Identify routes through free battle space to FLET (forward line of enemy troops) and then conduct raids by cueing artillery and aviation.	Advance with squadrons then confirm likely crossing sites. Gain information on enemy minefields and mines.	Initially with squadrons then came together to identify crossing sites while raids conducted.	
Withdraw to concentration area.	A number of enemy obstacles placed in the way including scatterable minefields.	Identify routes, mark obstacles and where necessary clear obstacles.	Initially working in sections and then coming together for specific tasks.	
Anti heliborne operations.	React to descant operation.	Identify obstacles and find routes through/around. Recce counter mobility tasks. As troop.		

Table 2. Exercise Medicine Man 5/98 table of evidence.

focus for its own (very real) G4 issues, in particular equipment support, rations and replenishment. A troop staff sergeant would have met all these criteria.

Organization of the Formation Engineer Recce Troop. The default setting of two CVR(T) per sabre squadron appears to be the most appropriate. However, as the troop commander needs to be on the ground, sorting out problems experienced through the frictions of war, then it is suggested that the troop should have two vehicles per squadron plus the troop commander. The post SDR ORBAT is therefore recommended as eight CVR(T); two per squadron<sup>9</sup>, a troop commander and a troop staff sergeant.

Rank Structure. The organization is currently very flat with a captain and a number of SNCOs. The lesson learned from BATUS is that it is probably not necessary for every engineer recce vehicle to be commanded by a SNCO and an appropriate structure may be for one vchicle in each section to be commanded by a senior corporal. Similarly the troop commander must be an experienced young officer and the BGE should have some experience of operating at BG level. With the addition of a troop staff sergeant, the structure of a FR recee troop becomes optimized.

Training. The operations conducted by a FRBG are intricate and specialized. Disparate engineer recce grouping would have difficulty in integrating into such an organization. It is certainly not a new lesson, but engineer recce troops should not be caderised, they must train with their respective BGs and they must be regularly evaluated using the special-to-arm engineer training standards. Likewise in a divisional context the offensive support group must train regularly in a fully integrated, combined arms grouping

<sup>&</sup>lt;sup>9</sup> The post SDR structure of armoured formation reconnaissance regiments is understood to be three sabre squadrons and not four as at present.

and in a challenging training environment such as BATUS. It is only with the benefit of opportunities like this that integration and interoperability can be achieved.

Engineer Support. The final lesson is one already mentioned as being outside of the scope of this paper, and that is the very real requirement for engineer support to the FRBG in order to allow it to move and survive in the deep battle. Some of this support could have been provided by its own integral support troops, had they deployed with them, however the need for mobility, counter mobility and survivability support suggested that some form of close engineer grouping would be necessary to undertake this function.

## **CLOSE RECONNAISSANCE**

# "You can never do too much reconnaissance". General George S. Patton, 1947.

Role. The role of the close recce troop or platoon is to provide accurate and timely information for the BG by day and by night, in all weather conditions and in all phases of war. Likewise the role of close engineer recce is to integrate into the BG recce troop in order to undertake all those activities associated with close recce, to provide specialist engineer advice and to be tasked as a source to confirm engineer priority intelligence requirements. It is a demanding task requiring great initiative, inquisitiveness and confidence.

**Purpose.** The underlying, and often forgotten, purpose of engineer elements attached to close recce is to be able to read the ground and identify opportunities to exploit the tactical situation. This becomes critical in the advance when any loss of tempo may result in the BG losing momentum and initiative. The lessons from BATUS demonstrate quite clearly that those recce troops able to "pull" the BG are far more successful than those who are pushed or directed by it. Furthermore BG recce troops that are fully integrated perform far more successfully than those which are not. It appears to be a lesson which is relearned year after year<sup>10</sup>.

Main Issues. The main issues for the provision of engineer recce vehicles for a manoeuvre BG are: where do they come from, how many are required and how do they operate. A conflict of interest arises in engineer units as recce sergeants are found both in the CS squadrons and in the regiment's recee troop. When deployed in support of a manocuvre brigade the regiment needs its engineer troop to collect information about its critical engineer intelligence requirements. Yet the BG also needs vital engineer assets to ensure that momentum is not lost.

Where do engineer recce elements come from? Engineer recce elements which may be grouped with a BG recce troop are currently found from the following two sources:

- Firstly from within the close support engineer regiment's recee troop; which has four CVR(T) Spartans in peace and eight in war.
- Secondly from within the troop of the CS squadron. Assuming that it is formed with one armoured and one mechanized troop, it should have two recce sergeants (one per troop).

How many are required? Again this question needs to be considered in component parts:

For the engineer regimental recce troop? The two functions of this troop are to provide collection of the engineer PIRs and also to provide reinforcement to BGs. Some may have difficulty in identifying with the former task, yet when one analyses brigade level FTXs it is frequently necessary to use the engineer recce troop to concentrate on the commander's critical engineer requirements for future planning, which may or may not be inside BG boundaries. The requirements for these will vary, but it is unlikely to exceed four at any given time. Indeed when it is less, it releases more assets for the BGs.

For the BG recce troop? This is undoubtedly critical as history demonstrates that without adequate and properly integrated engineer recce vehicles a BG is simply unable to exploit tactical opportunities. This is shown time and time again in BATUS, and on TESEX, and reinforces the requirement to ensure that when recce assets are lost they are replaced as soon as is practically possible. As a default setting two recce sergeants are an absolute minimum and must have the ability to reinforce where necessary. Currently the requirement can be met by a CS squadron if it receives one recce sergeant from the regimental recce troop. So the default setting has, on occasions, been:

 One recce sergeant each from the squadron placed OPCON BG recce troop.

<sup>&</sup>lt;sup>10</sup>Land Command Observations from Training 1997, Annex C to Part 3, TSC(G) Observations, Paragraph 8b. <u>Integration of Engineer Close Recce</u>. "It was noticeable that little or no pre-training, including TEWTS or drills, had been done and consequently recce call signs found integration difficult".

- One recce sergeant from the regimental recce troop placed OPCON BG recce troop.
- One recce sergeant from the CS squadron remains with the mechanized field troop, but is prepared and trained to reinforce the BG recce troop when required.

Although workable, this arrangement should not be cited as best practice and is based on recent deployments from Germany based on what can be supplied rather than what the requirement is. Post SDR the structure would be best served by:

- Two recce sergeants from the regimental recce troop placed OPCON BG recce troop.
- One recce sergeant for both the armoured and mechanized troops.
- All recce sergeants must be interoperable.

Modus operandi. Those engineer recce elements placed OPCON the BG recce troop must become an integral part of that troop. It is the "integration" into the troop which requires most effort and it is very much a two-way process. BG recce troops that are parochial and difficult to integrate into are far less likely to succeed than those that are welcoming, cooperative with attached arms, and willing to learn and understand each other's roles and problems. They are the BGs which achieve the very highest of training standards and are the ones which are significantly more successful on TESEX than others!

Training. Training the engineer recce sergeants during the "Training Year" of the formation readiness cycle should not present a problem. In Germany, for example, where three BGs will train in BATUS before a formation FTX in Poland, two recce sergeants from the CS squadron plus two from the regiment could be sent to BATUS and be rotated through the BG recce troop. This is not as difficult or as clumsy as it might seem as recce assets, of whatever capbadge, have a very short life expectancy in war (amply demonstrated in TES missions). This therefore gives all the recce sergeants the opportunity of training in BATUS during their training year before deploying on a formation FTX. In the UK the situation is similar. Only two BGs will train in BATUS and will be supported by two CS squadrons. The two recce sergeants from these squadrons could deploy again with reinforcement from the recce troop. It is therefore recommended that BATUS provide an additional CRV(T) Spartan for the engineer group, allowing two recce sergeants from the engineer recce

troop to deploy and transition through the BG recce troop. This would spread the experience and ensure that all recce sergeants were interchangeable. Figures 3 and 4, over the page, demonstrate these proposals.

# SUMMARY AND RECOMMENDATIONS

THE intention of this paper was not to be prescriptive about organizations or deployments, but rather to identify the levels of engineer recce support required in a manoeuvre division. Consequently the paper sets out to examine the requirements and make recommendations for incorporation into doctrine. For this reason the bullet points that follow are suggested principles upon which organizations and ORBAT may be developed:

- Engineer recce needs to be clearly expressed in formal doctrine. It is recommended that this is initially achieved by the production of a TD Note; Engineer Recce in the Division published in the Army "Tactical Doctrine Handbook". The levels of engineer recce should be recognized as: formation recce, close recce and engineer regimental recce.
- Formation recce. It is highly recommended that the engineer input to *TD Note 42* is revised as a matter of some urgency. A suggested general introduction for engineers to FR doctrine has been forwarded to Engineer 2 and is copied here, with minor amendments, for completeness:

Engineers. There are two types of engineer support to FR. The first is the specialist engineer recce whose primary role is to gather information in accordance with the formation CRE's Priority Information Requirements (PIR). The second type is the integral engineer support provided to the FRBG, providing mobility, counter mobility and survivability support as required under the tactical circumstances. These two areas are further defined below:

Engineer recce support to FR. Engineer recce assets will be fully integrated into the FRBG and whilst they may assist with the information gathering activities of the FRBG, it is emphasized that their primary responsibility is to provide timely and accurate information in accordance with the CRE's PIRs. The FRBG could expect an engineer recce troop placed either OPCON or TACOM and organized into sections of two CVR(T) Spartan, In addition a BGE party of one Captain and two signallers will be provided as part of the FR BGHO and placed OPCON. The troop and the BGE party will be found from the parent formation's general support engineer regiment. The troop will be commanded by a captain who should have a troop staff sergeant as his second-in-command, the other vehicles will be commanded by recce sergeants. Tasking will be part of the formation commander's orders and consequently will include all engineer PIRs, either in the PIR schedule or

in the engineer annex. In conjunction with the FRBG commander the BGE will then formulate the collation plan. Depending upon the phase of war and the tactical situation, the troop may operate on its own, in half troops or in pairs as part of a FR sabre squadron.

Engineer Support to FR. Engineer support allocated to a FRBG will again be dependent upon the phase of war and the tactical situation. Resources would be allocated as part of the CRE's concept of operations and would operate in accordance with TD Note 33. The resources allocated could be from across the wide spectrum of engineer assets available to the division, be that armoured or airportable bridges, demolition or route denial tasks, vehicle launched scatterable minelayers or resources for the provision of water.

 Close engineer recce. Again a recommended explanation of engineer close recce is as follows:

Engineer recce support to the close battle is provided from two sources: from within the CS engineer regiment's recce troop and from the troops in the CS squadron. These two areas are further described below:

Engineer recet troop. The tole of the recet troop from the CS engineer regiment is to provide first hand information for the CO. The troop may operate independently or within a BG's specific area of interest. It will be tasked directly by the CO in accordance with the engineer PIRs established at brigade level. The troop may be used to enhance or reinforce the BG recet troop should the need arise. The troop comprises four<sup>11</sup> CVR(T) Spartans, in peace and war, and is robustly structured with a troop commander, troop sergeant and two recec corporals. It can operate as a complete troop or in sections of two vehicles.

Engineer reccc in the BG close recce troop. The engineer recce vehicles provided to the BG recce troop may come from either the engineer recce troop or from within the CS squadron. They are experienced SNCOs, or very senior corporals, and their role is to provide technical advice to the BG commander, be it through the recce troop chain of command or the engineer chain of command. They will generally be placed OPCON to the BG and will work as an integral part of the BG recce troop. Although they are expected to be entirely interoperable with the troop and be capable of say, identifying and marking a BG FUP, their modus operandi is to be called forward to provide expert advice on sites rather than to operate simply as another recce section. So for example, in the advance they would move one bound behind the recce group and then be called forward to confirm likely crossing sites identified by the BG recce vehicles.

Organizations. Default settings are suggested in the following three figures:



Figure 3. Recommended ORBAT for engineer recce troop in FRBG.



Figure 4. Recommended CS engineer recce troop.



Figure 5. Recommended recce support to a BG.

<sup>&</sup>lt;sup>11</sup>The post SDR engineer structure in Germany means that the recee troop will require six vehicles.

Establishment Summary. To assist an overall appreciation of these establishments a tabular summary of recce appointments is:

Appoint- ment	Formation Recce Tp (GS regt)	Close Recce Tp in CS Regt (UK)	Close Recce Tp in CS Regt (Germany)	CS Sqn (UK)	CS Sqn (Germany)
Tp could	l	-	1	Ni	NƏ
spssgr		i i i i i i i i i i i i i i i i i i i			Nil Nil
Recce sgt	ک	ļ ļ	1	3	ĮZ
Recce cpl	3	2	4	Nil	Nil
Sig/op	8	4	6	3	2
Dvr	8	4	6	3	2
TOTAI.	1+23	1+11	1 + 17	0+9	0+6

Note:

This establishment table assumes:

- The post SDR CS regiment in Germany is configured with three CS squadrons each of one armoured, one field and one support troop. The CS regiment supports three BGs, one CS squadron per BG.
- The post SDR CS regiment in the UK is one armoured engineer and one field squadron. The CS regiment supports two manueuvre BGs (armoured or armoured infantry) and two Saxon BGs. As a default setting the manœuvre BGs are supported by a CS squadron of one armoured and one field troop. The Saxon BGs are support by one field troop.

## FINAL THOUGHTS

POST SDR ORBATs should be designed to reflect the above levels of engineer recce support and the recommended organizations.

The BGE party for the formation engineer recce troop should be established as part of the HQ squadron ORBAT in the general support engineer regiment. In this way regular contact could be maintained, formalized training conducted and procedures developed. The BGE could act as the HQ squadron operations officer for other tasks.

If the ORBAT recommendations are accepted there is a compelling argument for the creation of a "recce specialist" career stream from full corporal onwards and this concept should be investigated further.

No engineer recce elements should be caderised. There should be no difference between the peacetime and the wartime establishments for engineer recce troops.

# COLONEL W G A LAWRIE MA CENG FICE FIL FRSA

I AM writing this on 8 February 1999, while the funeral of King Hussein is taking place in Amman. It has attracted a splendid array of world leaders, who have spoken of his outstanding courage and diplomatic skills, with which I entirely agree. However I cannot help recalling that, but for my personal intervention on two dramatic occasions, this would not be happening and the history and geography of the Middle East would have developed in completely different directions.

From 1956 to 1959 I was Military Attaché at the British Embassy in Amman, an exciting and welcome change from the training brigade in Aldershot. I was immediately involved in the continual kaleidoscopic switches in Middle Eastern affairs. In 1958 Egypt and Syria, both bitter enemies of Jordan, announced a pact of unity. King Hussein and his fellow Old Harrovian cousin King Feisal II of Iraq retaliated by announcing the unity of Jordan and Iraq. The capital and scat of government were to be for six months in Baghdad and six months in Amman.

To celebrate this development King Hussein invited King Feisal, his Prime Minister, Nuri es Said and many senior officials to Amman, plus a brigade of the Iraqi army which was to carry out joint exercises with the Jordan army. There was a week of parades, banquets and other jollifications, which included a dinner party hosted by the British Ambassador, Sir Charles Johnston. After dinner we were invited to sit at small tables in the garden under the stars. The Ambassador noticed two old men sitting alone and asked me to see if they would like a drink. When I went up to them I saw that they were Nuri es Said, Prime Minister of Iraq and Ibrahim Hashem, Prime Minister of Jordan. They were very old colleagues, being two of the three Arabs that had landed in Agaba with T E Lawrence in 1917. The third became Prime Minister of Syria, but had been assassinated. They invited me to draw up a chair and join them. They were uncomplimentary about my Arabic and suggested we continued in French.

I wish I could have tape-recorded the conversation when they went over the history of the Middle East over the last 40 years. I remember Nuri stubbing a broad double-jointed thumb on the table as if he was squashing a fly, and saying confidently, "I have got the people of Iraq just like that".

The following week a Jordanian delegation left for a return visit to Baghdad. Providentially King Hussein did not accompany them. A few days later my phone rang at Sam. It was Major General Fouaz el Maher from Qiada, the army HQ. "Can you come round at once, Colonel? Something terrible has happened in Baghdad."

The previous night a bloody coup had been instigated in Baghdad by Brigadier Kassem, who planned to become President of a communist bloc consisting of a united Jordan and Iraq. The entire Royal family had been lined up and shot, to be followed soon after by Nuri es Said and Ibrahim Hashem. Fouaz el Maher thought it quite possible that King Hussein would be the next target. He was actually in great danger with an Iraqi brigade under arms camped outside Amman, while the Jordan army was ten miles away at Zerga. Discussions and conferences went on all day. I could only suggest that an appeal should be made to Britain. "How can I do that, when we have just abrogated the Anglo-Jordan treaty?" said the King. I replied that I would go back to the embassy and try to arrange something.

Our Ambassador was actually on leave and the chargé d'affaires was an inexperienced New Zealander. I drafted a telegram to be sent to London and the chargé d'affaires signed it that afternoon. I wish I could remember how I worded it, but it worked. Harold Maemillan called a cabinet meeting and orders went out that night for the Parachute Brigade to fly to Amman.

In the meantime the situation in Amman was electric. Bombs were going off, houses were on fire and the British Library was blown up. My wife kept an appointment with the hairdresser, but was told "Sitti, I think you should go home. The streets are not safe in Amman today." All our servants asked for the day off to see to their families; then the lights failed, leaving my wife alone in the dark with a small baby.

The Iraqi Military Attaché, a fervent loyalist, took me out in his car after dark and parked opposite a large house belonging to Suleiman Nabulsi, a communist ex-prime minister who had been sacked by Hussein. We could see several Iraqi army jeeps, then some Jordanian officers arrived, and they all took part in an animated discussion in an upper room with the curtains drawn back. We were both convinced that we had been watching a coordinating conference for an attack on Hussein. I just hoped the Parachute Brigade would arrive in time.

As soon as I heard they were coming I had to arrange for transport and barracks to accommodate them. I told the local bakers to produce 1000 extra loaves the next day. I rang my wife and suggested she took a torch and searched the house for a hidden bomb that one of our servants might have left. If she found anything suspicious to throw it out of the window down the hillside.

After dashing about all night I got home, relieved to find all in order and turned on the radio. A BBC announcer was just saying "It is officially denied that British troops are flying to Jordan", when I looked out of the window to see a line of aeroplanes coming in to land. I rushed to the airport to explain to the brigadier, rather to his disappointment, that he had no one to fight. All the confusion in Amman fizzled out and the Iraqi brigade was told to push off.

This was just one of numerous attempts to assassinate King Hussein. Most of the others were initiated by disloyal Jordan army sappers originally from Palestine. They were the only servicemen who could understand fuses and detonators, as most of the army were illiterate Bedouins. The King decided to enlist Bedouin boys and train them to be sappers. He asked if I could recommend a RE officer who would come out to Jordan on contract and take on this task.

When I took over Gibraltar Barracks in Aldershot in 1953 I also inherited the Boys' Squadron RE. They were only about 50 strong, were scruffy, lazy and ill-disciplined, throwing boots at the padre when he came to talk to them. I saw no chance of them becoming future RE warrant officers. Luckily Major Tony Gardiner was posted in. He had been a RE Boy himself, was commissioned for gallantry in the field and won the MC. I managed to take over Malta Barracks and sent the boys over there under Major Gardiner. He worked very hard to transform the squadron and by 1955 the strength was up to 250 boys, with 10 officers and 98 permanent staff. I had no hesitation in recommending him to King Hussein and was sure he would be a success.

Major Gardiner had been planning to take over a pub when he left the army, but the job in Jordan appealed to him. He was only worried about his daughter, aged 19, who had just started a job as a telephonist. Should he take her out to Jordan? I said, "Of course. I'm sure she will find something to do."

At this time King Hussein had divorced his Egyptian wife for complete incompatibility and was looking for some light relief from his onerous life. When he met Miss Gardiner at a RAF dance, they clicked at once. She was just his type and they enjoyed the same things.

When it became known in London that he planned to marry her, Macmillan was furious, saying it would look to the Arab world like a British plot. He asked why she was in Jordan, and when my name was mentioned, I was told to go round to see her at the Park Lane Hotel, where she had come to buy her trousseau, and beg her to call the whole thing off. Luckily I was spared a difficult interview, for she had left already and soon became a Muslim and married the king, who gave her the name Muna.

Some Jordanians disapproved of the marriage, but 30 years ago they were already worried about the succession. King Hussein reluctantly agreed to a friendly divorce so that he could marry an Arab. He made two more marriages and became father to five sons, but Muna's son Abdullah was always the senior among them. Now that he has succeeded as Abdullah II I wish him well and trust that he has inherited not only the courage and instinctive diplomatic skills of his father, but also a share of the gallantry of his sapper grandfather.

# My First Commanding Officer and Me

#### MAJOR GENERAL M K PAUL, VSM, INDIAN ARMY



Major General Paul was commissioned into the Corps of Engineers (Madras Sappers), Indian Army in 1955. During 36 years of service, he held important command, staff and instructional appointments and served in all the major operational areas in the country. General Paul had a short stint in the UK and Germany in 1982. He had also the unique opportunity of involvement at various levels in constructing major infrastructural projects for the three services of the Defence Forces of India. He retired in 1991 as Chief Engineer of an Army Command. Since then, he has been holding the assignment of Controller. National Institute of Advanced Studies, Bangalore, India.

I AM writing about a staunch soldier who groomed me and succeeded in instilling in his subordinates a unique quality of accepting challenges without an iota of hesitation. He was my first Officer Commanding. Though I served under his command for a period of three years, over four decades ago, the day-to-day decisions I take even today are invariably coloured by his influence.

The post-Second World War era threw up a few excellent Indian officers in the Sappers who, seasoned by the bitter experience of war on different fronts, were totally devoted to their units and fanatically dedicated to their men. Blessed were those young officers who basked under the total guidance and keen eyes of these officers while being trained on jobs in their units. My first OC, with battlefield decorations like IOM (Indian Order of Merit), IDSM (Indian Distinguished Service Medal) and Mentioned in Despatches, was the tallest amongst this breed of giants in the Madras Sappers. He was honoured with many post-independence awards also.

It is difficult to convey how difficult it was to serve under his command. He was the hardest taskmaster that one could come across, for, each day, he kept the unit filled with new challenges and at the end of it. I felt that yet another day's battle was over. However, there was no mental extortion, but a sort of motivational indoctrination which helped me to adapt to the unit mentally and physically. All difficult instructions which I received from my OC, further bolstered my confidence.

On completion of my YOs Course, I reported to the unit in Poonch in Kashmir, on a wintry afternoon about 42 years ago. The unit appeared to be totally deserted, barring a few sentrics. In the meantime, the OC, who had come back after his inspection tour, had a look at me and said, "YOu look like a *Baccha* (lad):" I wonder if he put me on the defensive? He seemed to convey that life in the unit was tough-going and to toil would be a paramount feature. The operational location of the unit was in the proximity. He did not lose time in familiarizing me with the operational task and immediately took me around in his jeep. On the way back, he casually mentioned that I would be No 3 Field Platoon Commander.

By the time we reached our camp, it was dark and he gave me about half an hour to present myself in the mess. The other officers being away, only two of us met, and he asked me what I would like to drink. Being thinly built at that point of time, on a friend's advice (strictly to put on some weight) I opted for a glass of beer. As I lifted my frothy glass, he gave me a stern look and asked me if I had met my platoon. I had, timidly, to make a hasty retreat and start searching for the platoon in pitch darkness. To my horror the Sappers replied

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Major General M K Paul VSM Indian Army My First Commanding Officer and Me only in Tamil, the regimental language which at the time was to me no less than Latin! With quite a bit of effort, after breaking the language, temperature and darkness barriers, I managed to locate my platoon which was in dug-in bunkers. On my return, the OC hurled volleys of questions at me, such as who was the platoon junior commissioned officer (JCO) platoon *havildar* and so on; and what did I think of the platoon, as if I had been the Platoon Commander for months. I recollect the initiation which put me on trial and I often sit to ponder as to why no guide was given to me. It taught me to get to grips with unit matters and protocol.

Each day's service under him was an experience. Daytime activities were absolutely jampacked with programmes for all to carry out with clockwork precision, utter dedication and without reservation.

The evenings, over a drink, were of utmost interest to me as he would talk at this time about his first-hand experiences of the last world war. Such were the points he made that I used to be awestruck and would wait eagerly for the evenings. These were excellent lessons learnt about men, sections, platoons, or, for that matter, field companies. Interesting points brought out by personal experience of the Second World War on different fronts, were of the nature of how to tackle a situation when a newly inducted raw Sapper panicked in the face of the enemy, thereby almost giving away his unit's position. Or how to rescue a fresh lieutenant who was in the process of getting stuck in the middle of a minefield during a battle, or how to toughen troops mentally in the desert when they had to live for days together on a few drops of water. There was just no end to such interesting daily episodes which made his officers extra conscious of their responsibilities.

He believed that good officers must sacrifice. And how does one sacrifice in peacetime, even in a place like Poonch which took three days to reach from Pathankot (entry point to Kashmir) in monsoons? Well, you could surrender your leave. He planted this thought in my mind in such a way that I felt guilty for asking for any leave even after serving for one and a half years in the unit.

When my father, a tea planter, wrote from Assam that the family had not met me for almost two years, one evening I drew enough courage to ask the OC, with utmost hesitation, for only a few days leave.

He said, "Pakkalam" (Let me see.)

After a few days, I received a letter from my father saying that he was very happy to receive a note from my OC who said that I was doing well and that staying in the unit was more important for a young officer than whiling away time on leave. My father appeared to be very happy having received this letter, more so probably because he felt proud that his son was wanted in the unit. That is how I had, or rather did not have, leave. Since then, I also felt that leave is not to be availed of by officers until and unless there is a real need.

The question still remained as to how to have a break. By the time I could think of a way out, yet another six months had passed. As I said before, there was just no time to think of anything else. Captain Balwant Singh, of a neighbouring Goorkha battalion, returned after attending a Driving and Maintenance (B vehicle) course at Faizabad. So, I made another attempt, one evening, requesting the OC's permission to attend this course. I brought out that armed with expertise by attending such a course I would be, on return, contributing a lot by raising the not so satisfactory state of our MT and Plant. His one-line reply was "What do they teach in Faizabad these days?"

Next morning, I ran up the hill to contact Balwant and obtained the syllabus. I handed over the same with all humility and prayed that some positive results would be achieved. He simply asked me to see him in his office later. At the appointed time I found the unit senior JCO Subedar Bairam, MC, standing at attention and next to him the shivering Jemadar Adiyodi, the MT JCO, in dungarees. As soon as I saluted, he almost threw the syllabus to Adiyodi saab and said in Hindi (which he did only when he felt annoyed). "Ajse Lieutenant saab har roz adhai baje se sare char baje tak dungaree pahankar MT line me ayenge. Is syllabus ke mutabik training di jayegi. Us ke baad Test hoga. Carry on!". In brief, he said that Lieutenant Paul would attend this course in the unit itself and he (the MT JCO) had better make sure that I achieved an adequate standard.

Well, Adiyodi saab, scared to the bone, ensured that I did have the best D&M training ever conducted. And this was the result of my abortive attempt to have a short break from the unit. In retrospect, I felt the whole experience was a good thing. Maybe there is no D&M (B) written at the end of my name in the corps list, but *Jemadar* Adiyodi was a very dedicated instructor and by the end of his instruction I knew the ins and outs of each and every vehicle and piece of plant in the unit, and in those days in a field company there were far too many of them. Above all, I was available to my unit during those three months, as Field Platoon Commander, Sports Officer, Canteen Officer, Mess Secretary and what not. The OC grilled into me that it was better to have "on the job" training in the unit than attend umpteen number of courses provided by the Army.

How true were his views, when one sees officers wasting so much of their time on courses today. It appears to me that there is a course for every conceivable action one could face. The other day I did a calculation and came to the conclusion that if an officer takes his full entitlement of leave, and attends all possible courses, it would amount to more than thirty per cent of his total service.

In spite of the course, however, I could not ensure one hundred per cent success in operation and maintenance of the MT. One rainy day our OC had gone to Surankot. In those days, the standard of the roads in that region was such that during rains, the roads would be so slushy that light vehicles like jeeps, would slide sideways as one drove. As luck would have it, the OC's jeep failed near Surankot and would not move at all. The message received through Subedar Saab was that Lieutenant Paul, along with the MT Platoon, would march in FSMO (field service marching order) to Surankot (a distance of 14kms) and take the jeep back without starting the engine. Well, after that there was no MT failure in the unit for the rest of my tenure! Such was the striking originality of my OC which made him most remarkable and memorable.

By the time I completed three years under his command, my posting order to the Centre\* was received. My perception at that point of time, with regard to qualitative requirements for young officers to be posted to the Centre, was that one should have won the Sword of Honour or be a Gold Medalist while passing out from the Indian Military Academy, I approached my OC requesting him to either keep me in his unit or have me posted to another field company in any field area. On hearing this, he was really furious and gave me a good dressing down which I had never had from him. I had by now established myself so well with him that, according to him, I could fit into any job, corresponding to my rank and service and by approaching him with such a request, I had shown lack of confidence.

\*Madras Sappers Centre,

The unit had come down to Yol camp and the day came for my departure to Bangalore. The compartment in which I was supposed to travel by narrow gauge from Palampur for the stretch up to Pathankot, was fully decorated by the men.

I was given a very touching farewell at the railway station by a large number of Sappers of our company including my OC who appeared to be rather delighted and reassuring. A couple of minutes before the train left the platform, someone handed me an envelope addressed to me with the words, very boldly written, "TO BE OPENED AND READ AFTER THE TRAIN LEAVES THE PLATFORM".

I became impatient but, with a great deal of mental strength, I checked the temptation of opening it 'til the train departed. As soon as the train left, I opened it and found a letter written by the OC in his own hand counselling me with some 20 odd points to be followed while serving in the Centre. Shedding tears on any issue has always been considered by me as an act of weakness, but on reading this letter, I do not know how many times before reaching Pathankot, there were tears in my cyes. Mind you, on reporting to the Centre, I started following these points religiously and in no time I found that in spite of myself I was no less worthy than others.

I wonder how many officers commanding of the rank of major would write such letters to subalterns who move out of their units. I just cannot stop the temptation of narrating one more incident. After serving a couple of years in the Centre, I wrote to him to say that I was engaged to be married and that my fiancée was also the daughter of a Madras Sapper officer. This was a total surprise to him because I had, on many occasions, vociferously advocated that a good officer should never get married lest responsibility of his married life came in the way of his professional efficiency.

He replied indicating his happiness and informed me that he would be visiting Bangalore shortly. One evening, my soon-to-be in-laws sent for me and mentioned that my OC had visited them and had also informed them of some of my weak points. Such a situation, you would agree, was annoying. I met him later and we had a couple of drinks together. I was mentally determined to have a fight over what he had done; anyway, that was the frame of my mind before meeting him. I asked him why he had done such a thing, to which he replied very innocently that he had meant well and he had wanted my soon-to-be in-laws and my wife to take care of these weak points so that I would become a better officer. Isn't it classic from a great man, my OC, administrating me and my affairs?

I could go on narrating my early days with my OC, but fear that the editor might reject this paper on the grounds of it being too voluminous. I shall proceed no further with my obsession.

I interestingly conclude by listing several facets of the life of my OC. It is remarkable to account that during a period of his command of three years or so, officers who served under him reached great heights in their careers. His second in command rose to become the Quartermaster General of the Indian Army. His Number One Platoon Commander, and later Second in Command, though cleared for the rank of Major General retired only because of the mandatory period required to be served prior to the date of retirement. His Number Two Platoon Commander became a Major General. Yours truly, his Number Three Platoon Commander, also reached a comparable level of competence, and there was yet another officer, who later joined us as one of the platoon commanders, who was promoted to the rank of Major General. Thus a tiny Engineer unit, under the command of a seasoned field company commander, produced five General officers for Madras Sappers. This record could probably find a place even in the "Guinness Book of Records". What better occasion to pay, after four decades, our respect to a purist, a confident soldier and a splendid War Veteran.

(The OC was Major P Sampangiraj, IOM, IDSM, Vishisht Seva Medal. The unit was 65 Field Company, whose battle honour is "Mandalay". It was commanded by Colonel Robert C Gabriel, RE in the mid-forties. Until four years back he visited India regularly, and the unit in particular, almost once in every three years. Over the years we became quite close and visited Jhansi together to attend our unit day on several occasions. I had the good fortune of Commanding 65 in the early sixties. 65 is now an Assault Field Squadron.)

# Is This The Best Job in the British Army?

, LIEUTENANT COLONEL G TAYLOR MA CENG MICE



Lieutenant Colonel Glyn Taylor completed the Chartered Engineer's Course in 1986 and subsequently attended the Army Staff Course at Camberley. A staff job in Berlin was followed by command of a mechanized field squadron in Germany. A further staff job as first management planner for the Engineer in Chief (Army) preceded a return to chartered engineering. Officer Commanding Military Engineering Services (Works) Gibraltar, Staff Officer 1 Air Support at Waterbeach and his current post as Commanding Officer 62 Commander Royal Engineers (Works) have covered the last five years of his career.

He is shown in the photograph, left, conducting structural appraisals of radio masts for British Gurkhas Nepal in the foothills of the Annapurna Range.

ATTENTION all troop commanders with an engineering degree! One or two of you may already be dreaming of your future as a commanding officer but what would be the perfect command, the best job in the British Army?

Perhaps it would be a unit which spends 40 per cent of its time on operations and operational contingency planning; which deploys personnel to 16 different countries in a year; where mission command is the only effective form of leadership; which has a negligible discipline problem; where 97 per cent of its personnel pass ATDs; which earns the highest score in the division in the BFT Tickell test; which reaches the higher levels of Army cups in several sports, and manages to organize both winter and summer adventurous training every year.

The pre-requisite to command such a unit is to earn chartered engineering status. The statistics above relate to either of the commands at Military Works Force but the story that follows is a year in the life of 62 CRE (Works).

The Balkans still forms a large part of the operational commitments and 1998 has seen 523 STRE (Works) and 521 STRE (Water Development) involved in Bosnia followed by 527 STRE (Works) in the Former Yugoslav Republic of Macedonia (FYROM). MWF's increasing importance for force projection operations is readily recognized by Permanent Joint HQ (PJHQ). 521 STRE (WD) has also practised the contingency plan for water shortages in Cyprus and I have deployed to review the evacuation plans for Montserrat. With individuals involved in Brunei, and other less well-known operations, it is easy to see how such a large proportion of operational output is assembled. This does not even take account of the number of times that personnel are placed on standby. With such a range of operational tasks this would provide job satisfaction alone for most units.

The second large commitment is to support the Royal Engineers' overseas training exercise (OTX) programme. 62 CRE (Works) is responsible for Belize, Cyprus and Gibraltar. With such a heavy programme for the Chilwell-based personnel, HQRE 1 (UK) Armd Div are increasingly requested to release 522 STRE (Works) making best use of the recent technical link that has been established with 62 CRE (Works). The OTX programme reinforces the links so closely forged with regiments in Bosnia. They also often provide additional tasks for the CRE. If a squadron cannot manage a large project, or requires enabling works for the main task, the CRE deploys personnel to project manage local contractors. This has already been achieved in Belize and Kenya and reflects the

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Lieut Colonel G Taylor Is this the best job in the British Army future for Bosnia and other operations if RE manpower is scarce.

A further area of expansion also involves support to training, this time in the form of assistance to training areas. The recent UK training area project programme has now settled to a more manageable level with one for each CRE every two or three years. Other tasks, such as training area development plans for Sengelager and Drawsko Pomorskie in Poland, are becoming equally important. Ripon training area is due to receive the next round of assistance, a further example of working closely with a regiment.

The reader may already have spotted most of the 16 deployments but this impressive tally tells only part of the tale. Many of the countries receive more than one visit, often by different individuals. STRE units are organized to split into two equal halves but individual tasks or tasks for two or three men are much more the norm. Mission command is the only effective way to control such variety. Such freedom can often surprise the garrison engineer or clerk of works but in general they readily accept the responsibility. A safeguard is provided by MWF's ISO 9000 procedures, a recently acquired status. This provides the framework for checking work at key stages without the straitjacket of over-command.

It is somewhat disingenuous to mention the negligible discipline problem. MWF soldiers are older and more senior in rank. This also helps in the Tickell test, those extra minutes for the old and bold always yield a high bonus score. The sporting success is also at minor unit level as part of MWF, but to be the reigning divisional champions in swimming, hockey, football and cricket is an impressive record. The latter three teams also reached the semi-finals at Corps and Army level. This has been achieved with an average pool of 70 men due to overseas commitments. The old and bold prove equally useful at sport with many creaking joints dragged out of early retirement to reinforce the younger legs. I have always been a great believer in the value of sporting success towards unit morale. It is a vital component for MWF.

The sergeant major's post at MWF is an interesting experience. He does not need to bark that often and concentrates on organizing PT, ATDs and adventurous training. He is assisted by the MWF policy that all technical soldiers should be more than technocrats. If a clerk of works does



521 STRE (WD) strike water in Cyprus.

not bring a sporting attribute, an adventurous training qualification, or is not an ATD instructor, he is dispatched on the first available course. Due to commitments five ATD packages are required each year to achieve the high pass rate. A similar approach is taken to adventurous training but despite a triple package in 1998 less than half the unit was able to attend.

That is the background but what does the commanding officer do? Apart from the general command function he has three tasks; to set up future jobs for STRE units (the initial recce), to check on jobs in progress (both in the office and on the ground) and uniquely, compared to other regimental commands, to carry out jobs in his own right. This latter task makes use of his wide engineering experience. My own examples in 1998 included the training area studies at Sennelager and in Poland, and leading infrastructure inspection teams to Belize and Nepal. My overseas trip tally for 1998 was 12, visiting nine different countries. MWF is sometimes accused of "swanning" around the world. This is not true. One

# Is this the best job in the British Army (1)



Fast track project management of contractors in Belize. HLS designed and built in five months.

third of my trips was on operations and contingency planning, one third was in support of the OTX programme, and the final third on the tasks mentioned above. The only downside is travel exhaustion, with 105 nights out of my own bed, in 30 different beds and various time zones. There is, of course, absolutely no sympathy for such a predicament.

The command of a CRE (Works) is now firmly part of the regimental command selection system yet only those who have attended the chartered engineer course are eligible. There is still a dire shortage of officers applying for the course and an increase in numbers from 8 to 11 per year is required to meet the enhancements under the Strategic Defence Review. After expansion to three CRE (Works), MWF will then offer three of the best jobs in the British Army. Every Sapper officer aspires to command a regular front-line regiment but there are far too few of the combat engineer variety to satisfy all but a select group. A CRE (Works) is also in the front line of force projection operations (in the recent FYROM operation the initial PJHQ recce was immediately followed by an infrastructure engineering recce by a three-man team from 62 CRE (Works)). This unique role has received wide recognition. Six MWF personnel have been appointed MBE in the last two years, a remarkable achievement for a unit of only 175 soldiers.

The step that our young engineering graduate officers have to take is to register for the chartered engineer course. It is not true that it affects your mainstream career chances, look at my career profile above. Messrs McAlpine, Hodder and Caws also completed the course in their youth but went on to recent regimental command. But given the year that I have just experienced, I would argue that the commanding officer of a CRE (Works), like blondes, has more fun?

Is this the best job in the British Army (2)

# Pu-Mori

#### LIEUTENANT COLONEL J M WYATT OBE



Troop commander tours with 59 Independent Commando Squadron in Singapore and Malta followed by two years as ADC Director International Military Staff in Brussels and a tour as operations officer Jebel Regiment Saudi Air Force, Jormed the basis for the author's subsequent and more conventional postings in the UK and BAOR. He commanded the Junior Leaders Regiment in Dover before spending three years as SOI Inspector Physical and Adventurous Training. Currently Commandant British Alpine Centre (Bavaria) he was previously the Defence Attaché in Mozambique and SOI Head of Attaché and Adviser Administration and Laison in the Ministry of Defence. An enthusiastic sportsman and competitive veteran oursman.

PU-MORI (in Nepalese: daughter of Everest), at 7200m, is not one of the highest peaks in the Himalayas, but the experts rate it hard with a high level of objective danger and some very demanding ice climbs above 6000m. Certainly, it is not for the faint hearted or Sunday trekker. It was, therefore, with considerable trepidation that I allowed myself to be talked into joining the instructors from the British Alpine Centre (Bavaria) for the very first Services attempt on the mountain.

Although I have the good fortune to be commandant of this superb adventurous training centre in the Bavarian Alps, my actual mountaincering experience is limited to Snowdon with the family, some gentle walking in Scotland and some less gentle wanders in the Brecon Beacons. Not the best preparation for a demanding Himalayan Peak, particularly when one is the wrong side of 50! So how come this ageing officer, who should have known better, was persuaded to take on such a challenge? I put it down to red wine, peer pressure and the silken tongue of my chief instructor, WO2 (QMSI) Ewen Martin APTC and his equally persuasive sidekick SSgt Dave Bunting APTC. My wife muttered something about the male menopause.

Whatever the reason, in October I found myself with seven others, all half my age, in the

departure lounge of Munich Airport. Our flight was uneventful and we arrived in Kathmandu, via Doha, refreshed and eager to go. For those used to the civilized efficiency of western airports, Kathmandu is an experience not to be missed. No doubt there is some order, but it is well disguised behind the general air of chaos. Fortunately, we had a couple of old hands in the party who managed to get us through immigration and customs remarkably smoothly. Too smoothly as it turned out because we then discovered that our freight, containing all our vital mountaineering equipment, was still in Doha and would not be arriving for another 48 hours. by which time we would have started our trek into Pu-Mori and the rest of the country would be on holiday with the airport being closed for several days!

There appeared to be one solution which involved parting with a considerable sum of money to an enterprising member of the airport staff. As we neither had the money, nor wished to be involved in the business of bribery, this was a non-starter. Fortunately, we were using an excellent local agent to provide administrative support, and were able to leave the problem in their capable hands. We were then able to spend a day and a half in Kathmandu making final preparations. All of us were amazed at the prices

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# Lieutenant Colonel J M Wyatt OBE

in this fascinating city, particularly for mountaineering equipment, which was about 50 per cent of UK prices. Most of us took advantage of the favourable rates and bought such essential items as down jackets for £80 against £250 in the UK. But above all else in these first days, we were smitten by the extraordinary friendliness and charm of the Nepalese people, a feeling that remained with us throughout the expedition.

After two days in Kathmandu we were ready to move out, boarding an internal 45-minute flight from Kathmandu to Lukla, from where the trek began. This flight must rate as one of the most exciting in the world. The landing strip, at 2800m, is literally tucked into the mountains with an approach up a deep-sided valley to a short gravel strip which comes to an abrupt end into the face of a mountain. Little room for error; fortunately our pilot got it right.

On leaving the aircraft we were immediately aware of the altitude, experiencing a feeling of breathlessness with everything we had to do. Meeting up with our sirdar, Poona, and our porter, we learnt that our freight from Doha had arrived in Kathmandu but would not be released by the authorities. There was no option but to start the trek and hope that by some miracle the stuff would somehow turn up at Pu-Mori; Poona assured us that it would but we did not share his confidence.

The ten-day trek to Pu-Mori base camp follows the same route as that for Everest base camp, along the dramatic and starkly beautiful Khumbu valley. From the surprisingly green and lush lower approaches up to the harsh and remote glacial valleys of the Everest region an incomparable landscape with breathtaking views can be seen.

The trek, staying in simple village tea houses overnight, took eight days as we followed a strict regime of only climbing a maximum of 300m a day to allow for proper acclimatization. This fairly relaxed approach paid dividends as none of us suffered more than the ever-present headaches and shortage of breath. It was amazing how many other commercial groups, trying to meet financial deadlines, were suffering badly. Our doctor was kept extremely busy and without doubt saved two, possibly three, lives of people who were severely affected by high altitude sickness brought on by trying to climb too quickly.

Pu-Mori base camp, at 5200m, is an idyllic location on the edge of a glacial lake at the foot of the mountain, with magnificent views of Everest on the far side of the Khumbu Glacier. Much to our amazement, within two hours of arriving at base camp our long-lost freight appeared on the backs of a dozen yaks under the supervision of the confident Poona. It was a miracle of quartermastering skill. Fifteen barrels had been got from Doha to Pu-Mori base camp by air and yak, over the most inhospitable ground by a team of two people with virtually no communications. A few lessons to be learnt there!

The important business now began. A further day of acclimatization (a word I really came to understand) and sorting out of kit, before we established an advanced base camp at 5800m. Fortunately the weather was in our favour, clear warm days (and freezing nights, down to -25°) which enabled us to set up the camp with comparative case.

Camp 1, at 6200m, was the next target. The route needed to have ropes fixed along it, so our two strongest climbers, SSgt Dave Bunting and Sgt John Doyle, were given this responsibility. They carried it out with remarkable speed, bearing in mind the altitude, but with everything going so smoothly disaster was bound to strike. It almost did that first evening at Camp 1.

Shortly after Dave and John arrived at their chosen site, they heard a deafening explosion from directly above and, looking up, were faced by the mother of all avalanches. There was nowhere to go, the camp being on a narrow ridge, and both decided that they were breathing their last. They watched in frozen amazement as the avalanche careered directly towards them. To their immense relief, no more than 50m from them, the avalanche suddenly dropped down to the right of the ridge, covering them in snow and debris but otherwise leaving them unharmed. At base camp, where the remainder of us were watching through binoculars, we were convinced that Dave and John had been swept away. The relief when they radioed through was tangible.

As it was now approaching dusk, Dave and John had to stay at Camp 1, despite the risk of further avalanches, and shortly after the first there had been a second, which fortunately followed the same route; this at least indicated that the chosen site for Camp 1 was safe and well selected. However, they had a sleepless night, interrupted with several more major ice-falls in the immediate area.

The following morning at first light, John and Dave returned to base camp to "review the situation". The next leg from Camp 1 to Camp 2 was



The team. Circled, from left to right: Lt Col Wyatt, SSgt Bunting, WO2 Martin.

always going to be the most dangerous, being exposed and technically difficult, and we had not counted on the exceptional weather and high avalanche risk. As we discussed the situation, a further enormous avalanche swept across the proposed route. Under the circumstances there were really only three options: wait until conditions improved, set up another route, or abandon the attempt. We did not have time for the first two, which could take up to 14 days, so sadly it was decided to leave the mountain. A very difficult decision, particularly when the summit was so close, but at the end of the day, lives are more important than summits.

All members of the team were greatly disappointed but fully accepted that the right decision had been taken. This was reinforced during the trek back when we met a couple of experienced civilian teams whose members had also abandoned their attempts due to the exceptional conditions.

Returning to Kathmandu was uneventful and, atthough disappointed, we had all learnt something new about ourselves and felt a deep sense of achievement in getting as far as we did. Trekking in and out, experiencing a totally different culture, living at high altitude for two weeks, building up a team spirit and sharing the emotional highs and lows of an expedition, were sufficient in themselves and are what makes adventurous training such an important part of military life.

As for myself, I am eternally grateful to the persuasive powers of WO2 Ewen Martin and SSgt Dave Bunting for "encouraging" me to join them. Age had not been a problem and I wouldn't have missed it for the world.

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# **PU MORI**

# **Basket Hanging In Germany**

#### CAPTAIN M J PAVEY



Captain Fred Pavey was commissioned into the TA in 1997. He served a full career in the Corps culminating in a final tour as senior military instructor of the (former) Plant Roads and Airfields Wing. This followed tours with commando and field force units and as military plant foreman in Sennelager, Berlin and HQ Scotland, On retirement he was determined to break completely with the military plant uwirld and volunteered for a Type A commission with 78 Engineer Regiment (Volunteers). He naturally ended up as a support troop commander (127 Field Squadron) at Tunbridge Wells in command of military plant, After Junior Officer Training and Education and a second chance at Mr Vice, his past caught up with him and he was appointed project officer for the exercise described below.

CONSIDER the following project problem:

You have no plant available and no recognized tradesmen: no guarantee of the size of the work force until the day before a high profile overseas project starts, and no matter what else happens, your unit will return to the UK on a set date.

The following may not be the DS (directing staff) solution but it worked.

78 (Fortress) Engineer Regiment (Volunteers) held its annual training concentration in Sennelager, Germany, in late autumn 1998, out of the ordinary in that it was a full deployment overseas during which seven high profile construction tasks were to be carried out (the regiment has no recognized military tradesmen on its establishment). The regiment's aim was to provide engineer support to a team completing work on the Sennelager Engineer Training Area (SETA) (at the time, 32 Engineer Regiment) on Mandalay Range, and to assist in the rebuild of the (relocated) Combat Engineer Training Centre (Germany) (CETC(G)) practical facilities, in Woodlands Camp, Normandy Barracks, Sennelager Training Centre (STC).

Since the loss of Soltau and Lüneburg training areas there has been no suitable level-two engineer training facility in Germany. This has impacted on training standards and therefore a purpose-built series of obstacles was planned which would improve the situation and concentrate training in one place (Sennelager).

A project planning team was formed and, following a reconnaissance in April, began work on the plan. As is the current norm, all project works are carried out under Construction Design Management (CDM) regulations. These clearly define the responsibilities of the design authority (in this case 522 Specialist Team RE (Works)), the client (CETC(G)), and the Military Construction Force (MCF).

SETA began life in 1996, and consists of a series of nine natural and man-made obstacles linked by stone track, covering an area of 3km<sup>2</sup> on area Mandalay of Sennelager ranges. It lies in a naturschutzgebiet (a nature conservation area), and all obstacles have to be above ground and "removable" at some stage in the future. The obstacles include bridging gaps of varying widths and a practice demolition bridge, plus plant-training and mine-ploughing areas.

The regiment was involved in completing the stone (*schotter*) track system on a section which had been divided by a redundant "bullet catcher" bund. This short section of track was built to the same specification as the existing system, able to support AVLB traffic.

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# Captain M J Pavey Basket Hanging In Germany

Woodlands Camp for many years served as the site for tented accommodation for visiting units to STC. The CO and training major were, as subalterns, "happy campers" on this site (the specific decade cannot be mentioned here). Before that it was a World War Two POW camp containing Russians captured on the Eastern Front. The area is sandy-soiled, flat and lightly wooded. A number of existing buildings were suitable for renovation into classrooms, stores and offices.

The project team (a TA officer, a regular QMSI and SQMS (for health and safety matters, although all were RESSS (RE site safety

supervisor trained)) at first considered planning the way a regular unit would mount and execute a similar project. This approach was quickly discarded because of the following constraints:

- Won't finish? Don't Start! Work force flies in and two weeks later <u>nothing</u> will stop it flying out again. (All problems can be overcome by individuals who <u>mang</u> be at their "real world" desks on Monday moming: even by paying for their own flights home.)
- All plant to be on loan or hired locally: the regiment having no lift capability.
- No tradesmen on establishment: a trawl of regular units was instituted for volunteers to form an artisan "cadre".
- Each construction troop to have nine working days on site, two of which must be on the SETA project, and also participate in a military skills competition at some stage during the project.
- A movement ban, on German Unification Day (3 October), meant that the road party (with all project equipment) must depart on the morning of the final construction day (2 October) to be across the border before midnight.

Finally, to instill a sense of achievement and job satisfaction, the work was planned to ensure that each construction troop started and finished the same task. Despite the constraints described above this was more or less attained.

Part of the team spent time refreshing their project planning skills at Chatham, as well as attending RESSS courses. Whilst the former is highly



The project team.

recommended for critical path analysis the latter is not only a compalsory requirement but is invaluable in ensuring accident prevention. Prior to deployment the project officer conducted a final confirmatory reconnaissance adjusting and simplifying project activities. The final cascade diagram showed nearly 200 separate construction activities and an urgent requirement, subsequently, was to find a site office with a wall large enough to accommodate it!

During the summer a great deal of preparatory work was undertaken by range control personnel. Their six-man plant section (of German and British locally employed civilians) is all that remains of a detachment from (the now disbanded) 255 Mobile Civilian Plant Group, once based in Krefeld. (The story goes that they turned up 40 years ago to carry out a task and somehow never left!) As well as partially completing the blockwork MEXE shelter and 81mm mortar pit, the section had excavated and stabilized the bridge gap (3m deep, 30m wide and 150m long), various hardstandings, and the three bridge approaches.

As deployment approached, two regular artisan volunteers surfaced (a bricklayer and concreter and a carpenter and joiner) who were invaluable during the early stages when the troops' learning curve was particularly steep. Concerns about lack of personnel with a construction background were allayed on discovery of a hard core

# Basket Hanging In Germany (2)



Spot the doctor, consultant, personal assistant to a minister and the physicist.

(sic) of ground workers scattered around the regiment. As is typical in any TA unit a wide range of professions was present; a nuclear physicist, personnel directors, a doctor (as a plant operator!) and even a personal assistant to a government minister.

Very little pre-project training was possible apart from the odd concreting module. The flow of information to personnel included a full briefing to officers and SNCOs two months prior to deployment, which included the issue to each troop of a "project pack" containing cascade drawings, stores and material lists, risk assessments and other drawings. This deliberate micro-management caused some grumbling but was entirely necessary. The project was the regiment's main effort and the tyranny of the critical path gave no leeway for plans, cunning, troop commanders for the use of. The final words from the project officer at this briefing were "we have included lighting towers in the plant bid." By the end of the briefing no one was in any doubt that what they were about to undertake was achievable, but would not be a doddle.

A system of generic safety and project briefings was set up to protect the work force and anticipated VIPs and other visitors. No impromptu "cabbies" in plant would take place. Memories of a paymaster general going through the windscreen of a heavy crawler tractor at Willich were still fresh in the mind of at least one of the project team. Control of access to site was simplified because Woodlands was a "camp within a camp", and a briefing and reception office was permanently manned at the front gate. Control was aided by the issue of separately coloured safety helmets (the project team wore blue and was rapidly christened by the troops as "blue hatted Bs"). Pye radios were issued to key personnel including to a qualified medic amongst the work force. An ambulance (the new "Wolf" version) was permanently on site. Lunch was delivered, and "portaloo" allocations (ten for male, two for female)

reflected the gender percentage breakdown in the regiment. Stores were issued on a daily basis which caused some delays at first parade but ensured tight accounting, and kept losses to almost zero.

When the advance party arrived, its main aim was to allow the regiment to hit the ground if not running, then at least walking briskly. The makeup of this party was lean and mean and included sufficient TA personnel who could take three weeks away from their "real" jobs. Amongst these were the plant operators required to prepare many of the tasks. Concentrating the minds of all was the 20 cubic meters of concrete due to be poured on D+3.

At D-1 the regiment gathered from all parts of southern England. The road party (48 vehicles) threw themselves at the mercy of the movers and, equipped with various flags and multicoloured lens covers, drove and sailed eastwards. As the air party landed at Hanover, the project team finally found out who had turned up; the original plan was adjusted to six troops (one less) with an average of 19 personnel (seven less) in each. All the plant operators had deployed and these formed a centrally-controlled troop. The works programme was adjusted (software project and midnight oil hand in hand) and after consulting the client and

# Basket Hanging In Germany (3)

Military Design Authority (MDA), three of the less critical tasks were put on hold: the explosive digging area, the fencing area and elements of the roads and airfields display area. It was generally agreed that these tasks would be kept up our sleeves for completion if possible or for completion by combat engineer courses under instruction at CETC(G) at a future date.

Now came the easy bit – execution. Troops were on the ground and constructing by mid-afternoon on day one. Whilst not necessarily walking briskly, they had hit the ground with a jaunty

rolling gait. Preparation works on the main items took shape; bankseats, abutments, and foundations. Those involved in gabion basket filling soon realized that they had to get it right first time. Being told by a sympathetic but nevertheless adamant "blue hat" to empty something which had taken three painstaking hours to fill caused a few tears (and a dash for the designated swearing area). Getting it right first time became paramount, and work slowed to a less enthusiastic but more methodical pace.

Daily in-house progress meetings with troop commanders were vigorous. There was inevitably some conflict between what the MDA had designed and what the client wanted, with the MCF in the middle becoming somewhat swiveleyed. Interestingly, all the designs were issued under CDM regulations whilst most of the designed items and their method of construction were straight out of a field pamphlet. This created some lively exchanges between combat engineer and technician, but eventually differences were ironed out. A major instance of poor communication came to light when it was realized, 24 hours before a large concrete pour, that the MCF was responsible for the formwork design.

VIP visits ran their course. The project had caused a great deal of interest locally resulting in media attention. The project team kept a low profile throughout these having ticked the box marked "no publicity". By day six the troops were ready for some R&R, which consisted of a



Composite bridge comstruction.

long lie-in, local cultural and social visits (Sennelager!) and a six-mile CO's run (the rolling jaunty gait definitely in evidence here). The CO won by the way.

Whilst the project was on schedule, after eight days on sile it was recognized that there was no slack in the system for unforescen circumstances. Wood preservative for the troop shelters and timber stores ran out and this seemingly minor problem began to eat into the critical path. Some attractive hire items such as cabling for the electric concrete mixers "walked". An unmarked sewage pipe (not live, fortunately) crossing the battle trench excavations caused some excitement, as well as comments that it should be checked for failed escapees from a previous age. All these problems were typical of any project and were, of course, overcome in the usual Sapper way.

On the composite bridge site there was much head scratching during the re-assembly of certain parts delivered from Ravelin, but the bridge slowly took shape. Blockwork walls on the battle trenches rose steadily, the troop shelters and timber store frameworks began to be clad courtesy of the troop which boasted on its site sign "low quality, high prices". The tracks neared completion and, despite heavy rain, the concrete bankseats for the Bailey bridge were poured and cured. The project officer betrayed his plant background by including a D6 Medium Crawler Tractor amongst tie bars, bottle jacks and Acrow

# Basket Hanging In Germany (4)

props, supporting formwork. These worked, but heavy rainfall overnight left pooled water, lying on the reacting concrete, almost boiling.

As the second week passed, a sense of achievement was unavoidable when looking around the site; sub soil structures were now backfilled and the surrounding area left for late autumn seeding. The composite bridge was almost ready for traffic, and troop shelters could shelter troops. It was agreed with the client that some blockwork required on the Bailey bankseats would be completed by Range Control after the regiment had departed.

The exercise had proved many things, not least of which was the fact that TA Sappers can still be tasked on complex, intensive construction projects and produce positive results. In an aside at a mid-exercise guest night, the OC of a unit based in Hameln admitted that no regular regiment would have taken on a similar task with such a short time on site.

Back in the UK, the Strategic Defence Review announcement on the future of the TA dampened the post-exercise feeling of a job well done. Bad news was expected but the speed at which the regiment's demise was to take place took everyone by surprise. Sadly, 78 (Fortress) Engineer Regiment (Volunteers) will haul down its flag on 30 June 1999. Southampton TA Centre (78 Regiment RHQ and 560 Squadron (Volunteers)) will house a ganner (air defence) battery and a medical squadron; Brighton TA Centre (127 (Sussex Yeomanry) Field Squadron (Volunteers)) will house an infantry company, which will not take up the Sussex Yeomanry title; and Church Crookham TA Centre (227 Amphibious Engineer Squadron (Volunteers)) will close down completely.

Whilst many members of the regiment are optimistic about finding another local unit to continue their service in the TA, many of them will be Sappers no more.

# **Fuelling Firepower**

#### MAJOR A G CAMPBELL BSc(Eng) CEng MCIBSE



Alec has served as OC 516 Specialist Team RE (Bulk Petroleum) since December 1997; he was previously 21C of 523 Specialist Team RE (Works). After professional enginger training he served as 21C of 45 Field Support Squadron. His previous tours at regimental duty have been with 33 Engineer Regiment (Explosive Ordnance Disposal) and 26 Engineer Regiment. His tours have included Operations Descunt, Pinsecker, and Grapple Surge.

516 STRE (BP) (Specialist Team RE (Bulk Petroleum)) is a strange beast because its capabilities are better understood by the other services than our own Corps, This is not surprising, as we are effectively a tri-Service unit and rarely work for Sappers. The SDR (Strategic Defence Review) announced an increase from one to three STsRE (BP) and this will increase fuels engineering posts from 30 to 90. This rise is not a surprise to the organizations for which 516 STRE (BP) works.

The most recent defence planning assumptions have radically altered the way in which the Services provide fuel through the logistic chain. During the Cold War the battlefield was to be in Northwest Europe where NATO could rely on the central European pipeline system and the fuel bowser fleet to ensure adequate distribution of fuel. Clearly, this situation no longer applies. Similarly, the RAF ethos has changed and it must be prepared to operate worldwide from deployed operating bases (DOB). This is in direct contrast with the 1980s principles of using only main operating bases. The implications for all the Services are immense; to support two lines of communication over extended distances post-SDR will call for substantially more resources than we have now.

The key "so whats" are:

That host nation support in any future operation will provide a significant proportion of the facilities for the storage and distribution of fuel; and fuels engineers must be able to integrate this equipment with tactical fuel handling equipment (TFHE). (A host nation facility includes: petroleum depots, railheads, rail-cars, pipelines, river barges, tanker moorings and port offloading facilities.)

The Corps must increase its ability to advise and supervise the construction of fuel installations along the full length of the logistic chain.

The operational justification for the new teams will not be covered here but the expanding roles, and team commitments are described in brief. Not all of these are SDR initiatives; some, like the introduction of specialist qualifications, are pre-SDR and are independent of implementation timetables.

516 STRE (BP) is established for 28 military personnel and two civilian drivers. The team has two sections, one each for HQ LAND and HQ Strike Command operations. The OC is a Permanent Joint HQ primary augmentee, and for Joint Rapid Reaction Force (JRRF) operations would deploy to the Joint Force HQ as SO2 fuels engineer. The 21C deploys with 12 Engineer Brigade (Air Support) on operations. The team has a recee party and a follow-on section at readiness categories 1 and 2 respectively. The recee party is commanded by the OC and includes a garrison engineer or petroleum fitter, depending on the task.

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Major A G Campbell BSc CEng Fuelling Firepower



Role. The role of 516 STRE (BP) is: "to supply to the RAF, Army and Royal Marines (RM) the expertise needed by those services in the construction and repair of permanent and expeditionary petroleum infrastructure to enable them to complete the military tasks detailed in current Defence Planning Assumptions". This mission statement has two implicit tasks;

- · To deploy TFHE in support of operations, and
- to assess, repair and commission existing fuels infrastructure where it exists.

The roles for fitters (utility and petroleum) and clerks of works are obvious, but the critical components common to both tasks are the fitter, welder and draughtsman.

# FUELS ENGINEERING OPERATIONS AND TRAINING

Military Design Authority (MDA). 516 STRE (BP) is the MDA for the design of TFHE for the three Services. Therefore, if TFHE is to be deployed in a mode not covered by standard configurations, then the MDA must be consulted. Due to its "meccano" design the mis-employment of this equipment is a real hazard. TFHE is a portable hydraulic system that has all the inherent dangers of non-compressible fluids being moved under pressure.

TFHE. TFHE consists of a ship to shore pipeline system (SSPS), towed flexible barge discharge system (TFBDS), cross-country pipelines and storage and dispense facilities for fixed wing aircraft, helicopters and truck tanker fuel. It is used by all three Services and we are responsible for its safe use and deployment. The illustration above shows some of the components required for the distribution of fuel from a sea point of disembarkation to first line units by the integration of TFHE and host nation facilities. With the exception of the MRA, the Royal Engineers, RE (Air Support) and RLC are responsible for the recce, design and construction of these fuels facilities. TFHE operations are time-consuming, weather-dependent and manpower-intensive. The use of existing facilities is a combat service support force multiplier. Fuels Infrastructure. The training of fuels engineers on the assessment of existing fuels infrastructure at a proposed site is arguably the most



MPRE low pressure pump being prepared for transit. The trailer's hydraulic system allows the load to be positioned or retrieved without MHE.

important task for a STRE (BP). The ability of the team to give accurate assessments on the condition and throughput of the fuels infrastructure is vital in allowing operations to start and ensure that TFHE appears in the correct position on the DOAST (day of arrival staff table). Using civilian infrastructure has several advantages over TFHE; it requires less manpower to operate and maintain and the existing workforce can be contracted to operate it. It also releases limited TFHE resources for deployment elsewhere.

Support to HQ Strike Command. 516 STRE (BP) is a vital component of RAF deployments to austere and bare DOBs, as fuel requirements are airfield and operation specific. Support to the RAF is a fundamental role because RAF operations can happen faster than Army deployments. Airfields require integrated solutions where TFHE is built alongside existing infrastructure to increase dispersal, storage, fuelling facilities and provide hot refuelling<sup>1</sup>.

The fuels plan will cater for the differing needs of Tormado, Harrier and support helicopter forces. RAF operations involve the use of large quantities of fuel, and maintaining 24-hour operations will involve consumption of millions of litres daily. To put aircraft fuel consumption into perspective, a Tormado will consume more fuel in one sortie than a domestic car will use in its lifetime. More significantly, around 80 per cent of the fuel required for a JRRF large-scale warfighting force will be for the RAF and this fuel will come from Army third line sources. It is worth noting at this point that under the single fuel concept, Avtur (aviation turbine) F-34 will be the only battlefield fuel to be moved in bulk. In future, the exercise commitment in air support work will increase to around five annual exercises for Tornado, Harrier, Jaguar and the tanker fleet. Each will involve a BP section for up to a month. Also, the air support section from

516 STRE (BP) will take part in collective training with 39 Engineer Regiment. These exercises are crucial for training sections to operate alongside the RAF, as well as their sister team, 529 STRE (Air Support). Further exercise support is given to the support helicopter (SH ) force and to the tactical supply wing, including training assistance.

Support to Amphibious Operations. Like RAF operations, RM amphibious deployments require specific solutions to meet force requirements. In addition amphibious operations use "ship to shore" equipment not normally deployed in support of the other services. In conducting these operations, 516 STRE (BP) needs significant external assistance, including Royal Logistic Corps (RLC) work boats and mexeflotes", and Sapper support for plant and diving tasks and provision of works parties.

Support to Land Command. STRE (BP) support to Land Command exercises to date has been limited because of priorities in supporting the RAF and RM. In future STRE (BP) will be more closely involved in Combat Service Support Group (UK) (CSSG (UK)) and CSSG (Germany) exercises. Currently the level of fuels expertise in CSSGs is limited. These groups have a RLC SO3 (fuel and lubricants) post, but no equivalent fuels engineer. The additional sections will provide engineering advice to headquarters and logistics branches.

Refuelling with engines still running.

<sup>2</sup>Outboard motor-driven platform for offloading ships.

Fuelling Firepower (1)

thereby improving the standard of fuels engineering in the field army. The introduction of the attack helicopter into service will bring a large logistic support bill that is yet to be fully realized, and Sapper input to engineer alternative supply solutions will become even more important.

Pipelines. With the new operational guidelines, we have to be able to support two extended lines of communication simultaneously, and pipelines will

be essential components. From previous campaigns it has been learnt that operations lasting more than six weeks, and requiring

more than 800 tons of fuel per day, needed a pipeline: volume not distance being the overriding factor.

From fuel consumption figures it is apparent that medium to large scale operations will quickly dictate the need to provide a pipeline at third line, that is behind formation level boundaries. Main pipeline repair equipment (MPRE) is NATO-supplied equipment designed to repair existing civilian pipelines: as such it is a key resource. The equipment is at least a generation above our own, working at higher pressures than our in-service equipment - 100 bar compared to 28 bar. MPRE provides an improved capability to interface with existing pipelines for either water or fuel. It is RAF-owned and no one has been trained to operate it; ways of acquiring the equipment and training on it are being explored.

Fuels Infrastructure Training. Practical training on civilian fuels infrastructure engineering is essential to ensure that our fuels engineers have the necessary experience. This is achieved by:

Inspections. 516 STRE (BP) provides the annual safety certification for the fuels infrastructure for the garrisons in Cyprus. The OC is also responsible for the safety certification of the fuels equipment in Belize and Nepal. These inspections are being carried out under Department of the Environment (Works) arrangements therefore the OC and garrison engineer must be professionally qualified.



Pumping fael ashore at Eemshaven, Holland, using TFBDS during a Royal Marine logistics exercise in 1998.

Fuels Infrastructure Works. The employment of 516 STRE (BP) as a recognized Defence Estates Organisation fuels consultancy has increased the team's corporate knowledge. The team now has detailed knowledge in a field where specialist contractors are notoriously expensive, and can offer its services to military units. This not only provides the team with valuable training but saves property managers the cost of hiring expensive civilian contractors.

Equipment development and training. As the MDA for TFHE, the team has considerable input to the design, specification and trialling of new fuels equipment. Recently, effort has been focussed on the SSPS and TFBDS, which are replacements for obsolete equipment. Other tasks include input to joint service publications, improvements to existing equipment, including producing new military requirements, and procurement of urgent operational requirement equipment. From 1999, the specialist qualifications for SSPS and TFBDS will be taught by 516 STRE (BP).

#### AND FINALLY ..

ONCE the new teams are in place they will not be allocated specific roles for air support, amphibious or land command. This would be too simple a solution and would over specialize an already small pool of tradesmen. Operations are becoming increasingly joint, and flexibility is a key principle of logistic planning. It is essential that

# Fuelling Firepower (2)
each BP team is capable of carrying out all fuel operations since an armoured division, a deployed operating base or an amphibious brigade, may all be resupplied by ocean tanker, cross-country pipeline or civilian infrastructure.

Military fuels engineering is a growth industry and requires well trained and competent chartered engineers and technicians who can apply engineering judgement. Able volunteers who can meet the challenge are needed!

I have avoided mentioning actual deployments, however, I am producing a 516 STRE (BP) yearbook for 1998 which will be sent to the organizations we work for. Copies can be obtained from Military Works Force, but here are a few statistics achieved by our 18-man team in 1998:

Operations	TFHE Exercises	Fuels Infrastructure Work	Inspections
Bosnia x 3 Cyprus x 1	RAF (incl SH, Tornado and Barrier) x 4 Royal Marines x 2 CSSG (UK) x 1 RLC (Port and Maritime) x 1 Air Support x 1	Brunci Belizc Bosnia Cyprus UK	Belize Nepal Cyprus

# The Second Great War 1939 to 1945

# "Surrender"

LIEUTENANT COLONEL T MITCHELL MBE

The following is a memoir of the work of No 16 Airfield Construction Group in the heartland of Germany from March 1945 up to VE day. It is based on extracts from No 16 Airfield Construction Group HQ War Diaries (used with the permission of the War Office).

My group HO was bivouacked among small trees near B104 airfield [Baal area in Germany] which was being constructed by half of the group plus 26 prisoners: the other half was working on roads for 8 Corps' advance. The weather broke. Nevertheless three quarters of the length of the runway had been finished, and was ready for laying tracking, when we struck a soft spot extending the width of the runway. We started excavating it and searching for dry material to refill the hole but failed to find any. The rain continued. The partially excavated end of the runway became a pond. We were in trouble. As the site was overlooked by higher ground, draining it would be a major operation. I reported the situation. Without warning an aircraft made a successful landing on the runway and I walked over expecting to find a pilot who wanted to be the first to land on German soil. Instead, out stepped an American who had been sent by General Montgomery to find out whether we could finish the airfield and when. The Americans had given Monty a present of a Flying Fortress bomber complete with pilot. This was the pilot. He took two large Havana cigars out of a case, and in the gloomy damp atmosphere we smoked them as we walked along the runway to the soft spot and back again. He took off as skilfully as he had landed. There was swift reaction from his visit. We were ordered to abandon B104 and prepare to reconnoitre and repair Rheine, a large airfield with three concrete runways some way from B104, and still behind the German front line.

In pouring rain, men and equipment from B104 were dispersed in a series of orchards. I authorized a rum ration and shortly afterwards was called to the bivouac area. There, at the head of a queue of men in the open under the dripping trees, an officer had opened the wooden box which should have contained the company's rum ration. Instead, it held an empty shell case. The rum had probably been stolen at a dockside in the UK.

While all this was happening my recce officer carried out a recce of Rheine airfield while it was still occupied by Germans. The RAF bombing had been devastating. Not only the three runways but also the adjoining grass areas had been made unusable by uniformly closely-spaced bomb craters, each, I thought, capable of holding a London double-decker bus.

We were directed onto Rheine the moment the Germans had been driven off. With the nearest airfields being in Holland and Belgium, 83 Group aircraft were as far from the battlefield as they had been on D-Day. At a conference with OC 12 Army Group RE and RAF officers, it was decided to repair only one runway, use the other two as taxi tracks, and to park fighter aircraft between the bomb craters on the grass, thus accommodating the maximum number of aircraft.

I committed myself to completion date and time. The craters on the runway were the critical factor. In France, I had devised a method of crater repair which had proved satisfactory for our Spitfires. It was slow, involving hand packing bricks or pieces of concrete in a dome formation which avoided subsidence. Hard fill merely buildozed into the craters and rolled always subsided. The Germans got away with that because of the design of the Focke Wulf undercarriage, but it was not good enough for Spitfires. An RAF advance party from Petit Brogel in Belgium was already on Rheine. Its officer was fearful that we might not finish on time, and wanted to delay the fly-in for 24 hours because, the moment the aircraft were airborne, the ground personnel would leave that airfield for Rheine and could not be sent back. I refused. That would have been had for the morale of my men.

After the craters had been sealed there had to be a final meticulous cleaning of the runway to ensure that nothing was left that could puncture an aircraft tyre. I briefed my officers that I would fly a green flag above my staff car, stationed half way down the runway, and that when I hoisted a red flag they were to move men and equipment off the runway. The RAF officer stayed beside me all afternoon, in touch with Petit Brogel by wireless. When he announced that the last aircraft was airborne, I hoisted the red flag. He almost became a nervous wreck when the men stayed on the runway until the first aircraft came in sight. The first Spitfire Ianded at exactly 1600hrs.

Aircraft poured into Rheine, including a flight of Dakotas of Transport Command. The airfield was full to capacity. Suddenly dramatic news arrived. Paratroops, who had taken part in the assault across the Rhine, had reached and captured Wunstorf. It sounded incredible. Wunstorf is about 15 miles northwest of Hannover. It had a grass airfield adjoining a boating lake. It is about 130 miles from Rheine as the crow flies, across territory then well beyond 8 Corps' front line. I went to Bob McGregor OC 126 Wing to ask for a pilot and he decided to pilot me himself in an Auster. We set off immediately. It was an experience seeing the devastation caused by bombing at places which had so often been in the news. We passed over a vast railway marshalling yard. And further on, on our right, a broken dam. After a time we diverted north and refuelled at an airfield in Allied hands. On we went. At times we passed places where German decoy methods had been successful, and bomber fleets had dropped their loads only to pock mark an innocent field. We came to a destroyed viaduct which had carried a canal over a road. The canal, which had drained onto the road, was full of grounded ships which had been travelling west, bow to stern.

We got to the airfield, landed safely and inspected it, including the hangers and other buildings. It seemed to be undamaged. We were about to leave – McGregor was anxious to get back to directing his sorties, and I had to organize getting men and equipment from Rheine to Wunstorf – when a Spitfire appeared, circled, landed and out came Sir Harry Broadhurst, Air Officer Commanding 83 Group, who asked to be shown around. Eventually we got off. When we came to the point where we had diverted to refuel I could see the tank was again only half full. I pointed towards the ground. McGregor tapped the fuel gauge with his finger, gave a thumbs up sign and carried on. When we reached Rheine the sky was full of Spitfires queuing to land. We couldn't use the Auster strip I had made on the grass because it was occupied by parked Dakotas. On our first approach to land on the runway, we were given a red (a red Verey light shot towards us in the air, a signal forbidding landing). The Spitfires' fuel tanks were also probably nearly empty and they would all be allowed to land before the Auster. We circled three times, getting a red each time. The third time, as we passed the northeast end of the runway, the engine stopped. We had no more fuel. Then followed a remarkable display of airmanship. I thought we were about to demolish the flying control caravan. Next to it, on the adjoining grass, Spitfires were parked in threes between the bomb craters. I think we touched the flying control aerial. We seemed doomed to crash into one or more Spitfires. Instead, miraculously, we crash landed in the very short space between two groups of Spitfires without falling into a crater and without hitting anything. Instinctively, mindful of how Douglas Bader had lost both legs at a prewar air display at Hendon, we both tucked our knees up to our chins. With a crunching sound, the bottom of the Auster became a shattered wreck protruding into the cockpit where our feet had been. We both walked out without saying a word. McGregor strode off to his office, I to mine. We both had so much to do that 24 hours elapsed before we found time to see one another again.

When I reconnoitered Wunstorf on 11 April with McGregor, British ground troops had not yet advanced far enough to join forces with the paratroops defending the airfield. Next day I had detachments of 689 and 231 Companies flown in Dakota aircraft from Rheine to Wunstorf, and asked for a supply of SMT (square mesh track) to be flown in similarly. A runway would have to be surfaced to stand up to the expected intensity of aircraft traffic.

A paratroop officer told me how they had achieved their remarkable coup. They had simply seized civilian cars and had driven straight through the enemy lines to their objective. Surprise had been complete when they arrived, late one afternoon, to find a group of German officers sitting in the sun at a table laid out for dinner outside a restaurant overlooking the lake. The paratroopers enjoyed the dinner. We continued to fly troops and tracking between Rheine and Wunstorf, but by 14 April were able to bring 689 and 231 Company vehicles and equipment by road, followed by the remaining half of 16 Group and its RAF regiment detachments. SMT continued to arrive by air, but we had to use what material we could find locally to construct motor transport roads and some of the taxiways.

There was now a feeling that German resistance was collapsing, and the RAF needed to be up in front to hasten the end. Langenhagen, just northeast of Hannover and Hustedt, were existing allgrass airfields.

Langenhagen and Hustedt were undamaged and immediately usable. Being so far forward, they were used intensively, but it was impossible to get tracking to them. In its rapid advance, the Army had outrun its supply system. At Wunstorf even fuel was having to be brought in by air. The weather was sunny and the ground dry. At Hustedt, the furthest forward airfield, aircraft were taking off and landing continuously from dawn to dusk. Three parallel runways were marked out to enable maintenance to be carried out on two while the third was being used. Each runway lasted only a few days before having to be repaired.

The British Army advance accelerated. Lüneburg airfield was captured. I flew there immediately and ordered an advance construction party from 689 and 231 Companies to move there next day.

Being near Bremen, where the Germans were still resisting, Wunstorf B116 remained important to the RAF. I still had a detachment there, improving it and repairing damage caused by the Stirlings. It was, however, now too far back for my HQ which moved to the town of Celle where the house of a well-to-do printer was requistioned. He moved into another house which he owned on the other side of his garden. He professed to be glad we had arrived (we were the first British troops to enter Celle) and that he had never belonged to the Nazi Party. A day later, however, our HQ cook brought me a photograph he had found in a kitchen cupboard. It showed a Nazi rally in the main square in Celle, and the uniformed man on a rostrum, arm outstretched in the Nazi salute, was the printer.

Belsen concentration camp was only a few miles outside Celle. My medical officer visited it to see what should be done to prevent it being a threat to health in Celle. He advised me not to visit. I had no wish to do so. We made a grass runway on Lüneburg as a temporary measure while also making a parallel runway to receive SMT tracking. Meantime, as the Army was still unable to take Bremen, we had to maintain Wunstorf, Langenhagen and Hustedt.

The Auster strip at Deutch Evern was just off the southwest corner of Lüneburg airfield. It was to serve a new tactical HQ for 21 Army Group. The ceasefire was to be signed there – hence the provision for Dakotas.

An emergency of a different kind now arose. Displaced persons who had freed themselves during the German Army retreat were camping on Lüneburg Heath. One of their fires got out of control and was threatening bunkers containing what was said to be the whole of the German Army stock of chemical warfare gasses. I was ordered to stop it reaching them. Luckily I had a Pioneer company and a road construction company in transit to Lüneburg airfield. They made a fire break and put out the fire. It had crept frighteningly near before it was got under control.

News that a ceasefire had been declared came to me about lunchtime on 6 May. My first action was to hand my revolver to my driver for safe keeping and have a ten-minute walk down a nearby road, unarmed for the first time since D-Day. The sky was cloudless. Germans were sunning themselves on the roof terrace of a nearby house. I had no time for that yet.

I had to find out how soon I could reconnoitre German airfields in Schleswig Holstein to assess damage and how long it might take to make them scrviceable to enable the RAF to decide where to base its aircraft. General Montgomery had stipulated that he would not deal individually with the German Army, Navy, and Air force, but would issue all his orders to the German High Command, situated then at Flensburg. I asked 12 Army Group RE to arrange that all these airfields be instructed that RE recce parties would be arriving by road and that I personally would arrive at some by air.

I detailed my HQ recce officer, Captain Stanley Muus, to go to Copenhagen, where the airfield was expected to be undamaged. Stanley was a Danish mining engineer who had been in South Africa when war was declared and had immediately joined the British Army. Copenhagen was his home town. His wife had been shot for helping RAF crews to escape.

I next walked over to the Canadian Spitfire Wing to ask its CO, Group Captain George Sellars, for his Auster and a pilot. George thought that this was a trip not to be missed. He would be the pilot. We flew off north early next morning. As we approached Kiel canal, he should that he hoped that the anti-aircraft gunners had been told not to fire. I too hoped they had. The flak over the canal had been notorious. We got across safely. As we approached the first airfield, we saw an array of aircraft on a runway, their crews drawn up in front of them, and a group of men in front. We landed and got out. A German Air Force officer stepped forward and asked, in perfect English, if I was Lieutenant Colonel Mitchell. Then, when I said yes - ignoring my pilot - who was my superior in rank - he asked me to accept the surrender of his aircraft. He went on to say that as the war was now over we could all be friends again and would I step into his mess and have a drink with him. I said I wasn't interested in his aircraft, but required immediately a cross-country vehicle and driver so that I could inspect the airfield as quickly as possible. Either the high command had failed to convey the reason for my visit, or the airfield commander had made an incorrect assumption. The same performance took place at the other airfields I visited. The road recce parties had their moments also – one went to the island of Sylt, a fashionable nude bathing resort with a big airfield. At the edge of the beach there was a large notice announcing in German "It is forbidden to photograph the *Reichsmarschal* when he is bathing" – a reference to the corpulent head of the German Air Force, Hermann Goering. Sylt, we were told by the locals, was his favourite resort.

Shortly after the end of the war, at a dinner in the RAF Club, Sir Harry Broadhurst recounted how the German Air Force had surrendered to a Royal Engineers' officer!

## Selamat Datang Ke Malaysia (Welcome to Malaysia)

BRIGADIER G A HEWISH MBE FIMOT



Brigadier Garth Hewish (who can be seen left in Kuching in September 1963 at the start of Confrontation) served in the Corps from 1954 to 1990. He progressed from National Service through Short Service to Regular and his only service, in an Engineer regiment, other than Junior Leaders, was with 3 Training Regiment when he joined. Having not been allowed near Engineer regiments he enjoyed service with the parachute and commando squadrons, the Malayan/Malaysian Army, the Ulster Defence Regiment, the Brunei Armed Forces and finally Commander 30 Engineer Brigade. Staff tours included G2 HQ EinC, GSOI DS Nigerian Staff College, GSOI PR Crusader 80 BAOR, Col GS Royal Brunei Malay Regiment and British Liaison Officer (Engineers) in America.

Since leaving the Corps he has worked with Mabey and Johnson Limited with particular responsibility for military bridging worldwide. Happily for him this has kept him in close contact with the Corps – particularly in Bosnia.

DURING the period 1954 to 4969 a sizeable number of officers and warrant officers of the Corps served on secondment to the Malayan and later Malaysian Engineers. The Royal title was conferred and the regiment is now called Regimen Askar Jurutera Diraja (RAJD). Various links, mostly unofficial, have been retained over the years, but quite early on reunions of the formal annual cocktail party type failed.

During my years in the Corps I met many who had served on secondment and had fond memories of that period of their soldiering. Some of us in this category got to know of a reunion held at Colonel David Whitaker's house in Hampshire, in 1996. This was a great success, being well attended and including a party from Malaysia led by their Chief Engineer, Brigadier General Dato' Mohd Hashim bin Haji Abu, who in his short speech invited "one and all" to stage the next reunion in Malaysia and suggested that it might coincide with the Commonwealth Games. The result was just that, with ten former seconded officers, accompanied by five wives, visiting Malaysia from 8 to 17 September 1998.

A number of retired Malaysian Engineer officers also joined the trek to Kuala Lumpur. We were all received most warmly and were launched into a programme of events which I feel none of us will ever forget. I believe that collectively we were overwhelmed by the thoughtful, caring, detailed nature of the preparations and by the attentive way in which we were escorted throughout. Traditional welcomes, individual gifts, wreaths for cemeteries visited, individual ghotograph albums at the end and a video to come away with – are just a few of the endless ways in which we were made to feel welcome and cared for. Overwhelming indeed.

#### VISIT TO BATU GARRISON Captain (retd) A W A Iveson

BEFORE going to Batu Garrison we had a quick visit to the officers mess at the old Ministry of Defence complex on Rifle Range Road. Everything was quiet, but it brought back memories of noisier bachelor days for several members. The entrance to Batu Garrison, off Batu Road, was always busy and crowded, but now it is busier and more crowded and even for someone who spent two years in the garrison, it was difficult to identify some of the original buildings. However, there were several cries of recognition as our vehicles arrived outside what used to be 15 Plant Park

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## Brigadier G A Hewish MBE

Squadron HQ building, where we were met by the CO 91 Engineer Construction Regiment and the OC/92 Engineer Park Squadron. (The writer could feel Mike Reynolds looking on from the old 2IC's office.)

Accompanied by the background sound of tambourines and drums, we were then led by the CO and OC down one long continuous line of smiling faces to meet not only the officers, but all the NCOs as well, shaking hands with each, asying "selemat tengah haril", and "negeri apa<sup>2</sup>". Jast when we thought the line would end, we found that, in fact, it continued round the corner where all the other ranks were assembled. Never were so many "selemat tengah haris" spoken, and we are now all aware that the most common name in the RAID is "Rosli"!

After this hand-crushing experience our hosts provided light refreshments prior to a talk about the respective unit responsibilities, and some of the jobs they had undertaken. Men from both units have worked in Bosnia as part of the UN effort. Later we walked about the lines looking at plant equipment. Most had been replaced over the years however, some of the Pacific rubbertyred rollers did look familiar!

Going on to the Engineers Officers' Mess (in what had been a two-storey senior officer's married quarter in the mid-1960s) we once again found tables full of sweetmeats and other delicious things to eat.

> MEMORY LANE - KLUANG Major (retd) B Walton

Ron Doyle, myself and our wives, set off for the 4%-hour drive to Kluang. A very warm welcome awaited us at the Regimental HQ of the Engineer Training Institute (the old Gurkha Engineers' HQ) headed by the CO, Colonel Abdullah, his officers and their wives. Flanked by Bunga Manggar (decorative pole fans) and accompanied by Kumpulan Kampang (hand drums) we were ceremonially escorted to the Officers' Mess. Here, after introductions and drinks, we were entertained with an exhibition display of Malay martial arts followed by a two-man lion dance.

Good afternoon!

2 What State do you come from?/Where do you come from?



Brian and Virginia Walton (in shorts) with Ron and Vee (hidden) Doyle.

We were quartered in the VIP Rest House, and escorted there and subsequently to every meal, by charming lady officers of the Corps. On each occasion, including breakfast and "high tea", the Chief Engineer, the regimental officers and their ladies were "on parade" so we enjoyed both their company and the delicious curries served, although curry for breakfast is a different experience!

The highlight of the first evening's barbecue and entertainment was a spectacular lion dance, this time not at ground level but on top of a series of progressively higher pairs of columns. Some were over L5m high and the pairs more than a metre apart, with only a single foot-sized platform affixed to each. The lion team executed all the usual dance movements both onto, between and off these columns. Truly extraordinary – but then the team was one of the best in Malaysia.

On Sunday, still the "weekend" in Kluang, we were driven for a day out to Malacca, a fascinating place which has maintained its history, be it Portuguese, Dutch, British or Chinese.

Forewarned, we avoided high tea, saving ourselves for the fish barbecue that evening. Again excellent entertainment with both ethnic musicians and a large group from the Johor Cultural Dance Troupe giving a spectacular show of national dances in appropriate costumes. It obviously annused our hosts when we were "involved" in the dances, and my wife was conned into a Karaoke performance. We all enjoyed it immensely – apart from my wife's singing.

# Selamat Datang Ke Malaysia Welcome to Malaysia (1)



Brian Walton, (in his new Malaysian Engineers tie) explains to the Chief Engineer " ... it used to be this big but it is, in fact, a Lamp Minefield Marking."

Military Survey) for a briefing by the director and a tour of the department. We were shown examples of the work being done to create and update a 1:50000 mapping series of Malaysia using the latest computer-generated mapping technology, the creation of topographic databases, the supply of digital data to users and quick response mapping for the military. To conclude the visit the director gave a splendid lunch at a local hotel. This did much to offset the shock when we later met up with our wives heavily laden with Selangor pewter and other goodies to the extent that their spree was reported next day in the local paper!

### VISIT TO TAIPING (Lt Col (retd) F A F Daniell)

Monday was a real memory lane day. After a briefing on the background and build-up to the Institute, we had a walkabout. It was not difficult to project myself back 30+ years to when I was OC of 10 Training Squadron. As we walked through the old squadron lines, questions flowed and recollections enthusiastically recorded: "where were the messes, the office, the madrasa, the cookhouse, etc?" In the latter (now designated a "no fly" zone) I was asked to identify a large machine standing, much painted, in a corner - it was an electric potato peeler! From the lines we passed through the old Gurkha Engineers' trade workshops, bridging hard and plant area, all still used for their original purpose. Then to the museum with its excellent collection of memorabilia and photographs. Again it was they who asked the questions and noted the replies to verify articles previously unnamed.

Back to the mess for another excellent meal and a final round of speeches, plus an invitation to join the Corps at their Golden Jubilee in 2003.

### VISIT TO DIRECTORATE NATIONAL MAPPING (Lt Col (retd) A C Marles KMN(H))

AFTER saying goodbye to our wives, who departed, complete with credit cards, for a concentrated morning away shopping and sight-seeing in Kuala Lumpur, we were taken to the Directorate of National Mapping Malaysia (their equivalent of the combined Ordnance Survey and WE left the Fairlane Hotel, Kuala Lumpur, and headed north for Taiping. There was no semblance of the road conditions of thirty years ago. No bicycles or trishaws; these have been replaced by scooters carrying everything including the kitchen sink, but weaving through the traffic in defiance of all logic and sanity. The old route to Taiping still exists, we were told, but now the six to eight-hour journey, avoiding buffaloes, bicycles and handidos, is cut to four hours on the modern 3/2-lane highway. It was not until we passed lpoh that any major clues to the past showed themselves. The distinctive large rocky outcrops, some with caves dug into them, reminded us that Ipoh was close and that we were in Perak.

We left the highway and turned right at Simpang (the old open market, where you used to get some wonderful makan, no longer exists) and headed into Taiping. I was amazed at how it really had not changed that much. The three main parallel arterial roads, with small box-type shops edging the pavements and the monsoon drains, which have now been covered, remain connected by a host of joining roads all running parallel to each other and at right angles to the main roads. I cannot remember any traffic lights before, but they are there now. There are obviously a lot of new buildings, and the odd, very grand, hotel but basically Taiping remains unspoilt by modern architecture.

# Selamat Datang Ke Malaysia Welcome to Malaysia (2)

At the far end of the town, before venturing through the lake gardens, we turned left by the prison and headed for Drummond Hill and the Officers' Mess. We wound our way slowly up undemeath a welcoming banner positioned above the road in our honour, and past Katanga House on our right, but were stopped outside the quarters area by a welcoming party of uniformed officers, a contingent of drum beaters, and two girls traditionally dressed and each carrying a home-made palm tree. After welcoming handshakes, we followed on foot the two girls carrying their palm trees up the hill with the drummers bringing up the rear beating out a welcoming rhythm. We were told that this is customary



The veranda, Katanga House, Bill Bailey and Tony Iveson relax with a minum (a drink) before moving off on a visit to the Maxwell PBIb.

at a wedding procession. I'm not sure who was the bride or the groom, but it was very touching. Another banner greeted us at the entrance to the mess, and two young boys gave a demonstration of a Malaysian dance at the entrance porch, again as a sign of welcome.

The entrance to the mess was lined with old military engineering artefacts from the past, to include a small Seagull outboard motor. In the anteroom, the officers had gathered a host of photographs showing various landmarks of Taiping, past and present. On the opposite wall, amongst photographs of the previous chief engineers, was a photograph taken in 1966 showing

the then Malaysian engineer officers grouped around the Colonelin-Chief, the Sultan of Perak, in which many of those present were able to recognize themselves.

Major Abdul Kadir, the regimental 2IC and acting CRE 2 Division, gave a welcoming speech and introduced his officers, to include Major Hamden, the OC 2 Engineer Squadron and PMC, Major Falulin, the OC 1 Engineer Squadron, and Captain Asmadi, the OC (acting) 72 Engineer Support Squadron, Brigadier Garth Hewish replied on behalf of the visitors using a "skilful" mixture of English and Malay to express how honoured we were to have been invited. We eventually made our way to our accommodation, the married couples to Katanga House, originally the habitat of one or two riotous British officers (including Clive Brousson and Jynx Fitzherbert) and the location for a number of never-to-be-forgotten parities, but now rebuilt with a number of en suite bedrooms and a magnificent entrance façade and balcony.

We were able to view the quarters which really hadn't changed. They still had a marvellous view over the jungle and, other than the *amah's* quarters being unused (we were really lucky in the old days) the site remains unaltered.

At the party that night many friendships were renewed, and memories rekindled. It was good to



The Old Pool, Taiping. Jenny Daniell down her "memory lane."

# Selamat Datang Ke Malaysia Welcome to Malaysia (3)



Taiping Officers' Mess (little changed).

be in Taiping again, and a walk down to Katanga House, with a pause to listen to the incessant chatter of crickets, and the jungle noises, was a great way to end another busy day.

Sunday was a day of visits, first to the Taiping museum where we were taken around a very high-class presentation of Malay culture and artefacts. After tea, makan and a touch of tuak (rice-wine) we moved onto the officers' mess, 9 Ranger Battalion. Many will remember our close liaison with the Rangers, both at Ipoh and in Sarawak and Sabah. Lt Col Stephen Mundaw, the CO, is an Iban from East Malaysia and a prime example of the advancement of the country. Alan Merle laid a wreath on our behalf when we visited the Commonwealth War Memorial at the far end of the lake gardens on



Taiping officers' quarters (little changed).

our way to the foot of Maxwell Hill. Taiping has changed. It was only by perseverance, and despite contradicting guidance by the locals, that we were able to find the remnants of the old swimming pool under the waterfalls, a godsend to many of us in the old days where we could have a really cool dip. The old golf course has moved elsewhere, but Taiping New Club is just the same and could do with a face-lift. All Saints' Church is also unchanged although the Indian vicar informed us that he now gets a congregation of around 100 each Sunday! The open market remains and is obviously very active although the "open" part of it has now been taken over as a taxi park.

That evening we tried to repay a little hospitality by taking some of our escorts out for supper. The venue was to be a Chinese restaurant nicknamed many years ago the "Drain", after the monsoon drain outside, or possibly the white wall tiles. In any event good food was had by all, for virtually no expense!

On Monday we went to Sangro Camp, another opportunity to walk down memory lane. The soldiers now wore camouflaged-patterned fatigues as opposed to the greens of our day. The stable belt is no longer used and there was no sign of the highly starched shirts and shorts we used to wear. Even the blue "engineer" *songkok* has been replaced by a green armed forces version worn by all. The barracks itself has hardly changed, with the unit lines and offices easily recognizable. All in all, the Malaysian Engineers in

Taiping seemed to be in good heart.

It was with great sadness that we bade farewell following a mid-morning snack, which included durian, much to the delight of Tony Iveson and the apprehension of the rest of us (who remembers the smell?).

#### CONCLUSION

I HOPE that what has been written will serve to bring back happy memories to many readers. We think that "us sappers" are the only cap badge with a continuing link of this kind with the Malaysian forces and many feel that we should do our best to retain it. Much was made of staging another Reunion on

# Selamat Datang Ke Malaysia Welcome to Malaysia (4)



### On arrival at Drummond Hill Mess, Taiping.

Left to right: Bill Bailey, Tony Iveson, Major Abd Kadir bin Soih, Roddy Sanderson, Micky Campbell, Allan and Beryl Marles, Major (retil) Au Yong Kun Fung and Jenny Yong, Bian Ward, Garth and Sheila Hevsiki, Jenny and Francis Daniell, Major (retil) Mohd Said bin Harum, Lientemant Colonel Tan Koon San, Major Handkut bin Abd Sanad, Major Faladh bin Seran.

22 April 2003 – the 50th Anniversary of the formation of the then Federation Engineers. Make a note in your diaries (a *peringatan*!!)<sup>3</sup>.

At the reception I presented the Chief Engineer with a Corps statuette dated and engraved "Presented to the Chief Engineer and All Ranks Regimen Askar Jurutera Diraja by Former Seconded Officers on behalf of the Corps of Royal Engineers". In return I received a presentation silver Kris which is now at RHQ RE Chatham and in due course should appear on the Malaysian Engineer Display<sup>4</sup> hopefully to be created in the RE Museum.

I know that I share with many the hope that our relationship with our Malaysian counterparts will continue. In many ways it is a pity that "secandment" is a matter of history since the Corps and many individuals of the Corps benefited

A reminder.

For those who would like to know more of this display – please contact L1 Col (retd) E L V Wall on 01276 602714 (Tel) or 01276 681874 (Fax). from the particular links and type of soldiering that secondment brought. I think the same advantages would accrue today.

Whatever! All those listed below enjoyed the reunion and I am sure will be happy to see this article if nothing else as a record of their thanks for a visit to Malaysia so well organized by our hosts of the Regimen Askar Jurutera Diraja, who made it possible for us to enjoy that special trip down "memory lane".

> THOSE WHO ATTENDED Francis and Jenny Daniell, UK Ron and Verena Doyle, UK Garth and Sheila Hewish, UK Allan and Beryl Marles, UK Brian and Virginia Walton, UK Mohinder and Narinder Jit Singh, Canada Mohd Fadzil and Farah Ying, Australia James Tan and Wendy, Australia James Tan and Wendy, Australia Micky Campbell, UK Bdl Balley, UK Charles Tch, Australia Tony Iveson, Australia Brian Ward, Thailand Brian Ward, Thailand

Selamat Datang Ke Malaysia Welcome to Malaysia (5)

## Jordan - The Last DCRE

### LIEUTENANT COLONEL P M LESLIE-JONES BSC



Lieutenant Colonel Leslie-Jones was born in Simla, India, and educated at Sherborne School, He was commissioned into the Corps in 1941, joining the Royal Bombay Sappers and Miners. He saw service in Manipur, and at Akyab. After gaining a regular commission he was appointed OC the Royal Bombay Sappers and Miners Boys Battalion, and then was briefly in Java.

Following a degree course at Shrivenham he was posted to the Royal School of Military Engineering, and later to the Canal Zone as OC 17 Field Squadron. A long engineering course brought postings to Jordan, Cypris, and Gibrahar (1st Fortress Squadron). Then a tour in the EinC's Branch, the War Office preceded a posting as CO Engineer Base Installation, Singapore. He retired in 1967 to Herefordshire to be a schoolmatter for 16 years teaching physics and engineer drawing and commanding the school combined cadet force.

He played rangely for the Corps and hockey during all his postings. His hobby is constructing model stationary steam engines. He is now in the 52nd year of a happy marriage.

#### INTRODUCTION

HAVING perused with interest the article in the December 1998 RE Journal by Major A O'Hagan, concerning the inception of "O" Force in Jordan, I thought the story should be rounded off by the tale of the last DCRE Jordan. The following account of the evacuation of Jordan by British Forces stationed at Aqaba is based entirely on memory aided by a few annateurish photographs.

Strangely enough, like Major O'Hagan before me, I was a member of 17 Field Squadron, and had spent two years as its OC in the Canal Zone when it was part of 22 Field Engineer Regiment. In 1952 I had attended a Chief Engineer's TEWT, based on Aqaba. In passing 1 visited Petra long before the tourist invasion? In Autumn 1956 I returned to Aqaba joining "O" Force, as Deputy Commander RE (DCRE) Jordan.

### "O" FORCE AT AQABA

"O" FORCE was a self-contained entity based in Jordan, its cantonment astride the only road from Aqaba village and port to the interior via the Wadi Ytum (Photo 1).

The force was commanded by a Colonel Jenkins if memory is correct, (King of the Wild Frontier!) It comprised a headquarters, an armoured regiment (10th Hussars 1 think), which had a detached squadron at Ma'an some 50 miles up country, a REME workshop, a RASC supply company (operating a transportable walk-in refrigerator), a RAOC depot and a RAMC unit. Infantry and artillery were not represented. DCRE Jordan worked with a local contractor and ran a power station and the water supply from various wells. The compacted sand airstrip was wetted with sea water and regularly rolled. There was an independent engineer stores depot next door to the Deputy Commander's yard, with a small sub depot at Ma'an (Photo 2).

Apart from messes, accommodation was in double fly, canvas-walled tents. These had electric lighting installed and had slab flooring. Some hutted units were provided for the female RAMC nurses, a WVS lady, and about six married officers quarters, though at that time there were no families and these huts were occupied by a few single officers. (*Photo 3*)

#### THE WITHDRAWAL FROM JORDAN

EARLY in 1957 Colonel Jenkins left and was replaced by Colonel Cordy-Simpson. Withdrawal was to have been in September but because of the predicted heat in July/August, and more probably for political reasons, the date for the eventual handover of the British installations was

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## Lieut Colonel P M Leslie Jones BSc. Jordan The Last DCRE



Photo I. View from the gebel looking SW over the station.

brought forward to early July. As a result the work needed to dispose of stores and other assets was accelerated. Force HQ went into overdrive and, in particular, "Q" Movements (then a RE responsibility). The Movements officer, (if my memory does not fail me) was a Major Thompson RE later rewarded with appointment as MBE.

A staff officer arrived from Aden to register their requirements of engineer and ordnance stores. A team from Cyprus, mainly civilian, arranged and conducted sales to the Jordanians, auctions being held in the open-air cinema. In one case the bidding for vehicles was reputed to have been accelerated when the Force commander threatened to have the "for sale" trucks driven off the docks into the sea!

To reduce the increased pilfering at night from the open-air depots, guard dogs were introduced with considerable success; the locals were terrified of them. The kennels constructed for the dogs were the envy of many a tent dweller!



Photo 2. DCRE's office building.

DCRE personnel packaged refrigerators and other stores and loaded them; for the docks where Landing Ship Tanks (LST) awaited in the Gulf. Somerfield track and corrugated galvanized iron sheeting were brought down from the Ma'an depot (*Photo 4*) a crane having been dispatched there on a low loader. The 20-ton Coles crane was invaluable for loading stores onto lighters. A special ramp for loading centurion tanks onto the lighters was prepared. The tanks were then hoisted onto the heavy-lift (150-ton) ship *Benledi* (*Photo 5, next page*).

Personnel were evacuated partly in stages by air, but in the main by troopship. The air-lift was interrupted by the tragic crash of a loaded aircraft in the desert some 20 miles north of Aqaba which killed all passengers and crew. There were no Sappers on the aircraft but, later, a DCRE team assisted in the recovery of the bodies – an unenviable task.

The final stages involved the handover of buildings and installations to the Jordanian Army. The



Photo 3, WOs' and sgts' lines at the DCRE compound.



Photo 4. Load of Somerfeld track brought down from Ma'an.

# Jordan The last DCRE (1,2,3,4)



Photo 5. Centurion tank being lifted onto the ship Benledi.

power station and wells were manned by local civilians, working under the E and MO (electrical and mechanical officer) and so continued to function without interruption. The physical handover of the buildings and so forth occupied, I think, three days. Initially slow and tedious, it later degenerated by mutual agreement into a more informal and quicker process.



Photo 6. Lowering the DCRE Jordan Flag for the last time.

#### FINALE

On evacuating accommodation, personnel just walked out leaving everything, beds, bedding and facilities exactly as they were. The final night was spent on the troopship which was dressed overall, as was the accompanying destroyer. At the last moment permission was given for some British ships to pass through the recently reopened Suez Canal and I, plus a few others destined for Cyprus, transferred to a LST.

After final formalities (Photo 6), I later passed through the Suez Canal Zone which I knew well, thence sailing to Famagusta in Cyprus, and eventually arriving at Episkopi where I was to be DCRE.

## Jordan The last DCRE (5 & 6)

## A Sapper Cadet Posted to India 1944

CAPTAIN JOHN IRWIN CENG FIMECHE FIEE FIMOT



John Irwin, when an officer cadet RE in 1943, was posted to India to complete his training with the Indian Army. He was commissioned into the Royal Engineers and served with Queen Victoria's Own Madras Sappers and Miners Group, Indian Engineers, in India and the Far East between 1944 and 1947. The following article covers the period he spent training in the UK as an officer cadet and his journey to India.

WHITE linen tabs adorned our shoulder straps; the collars of our battledress jackets were open to display khaki shirts and ties, tangible evidence that we were five Sapper officer cadets1 from 99 War Party<sup>2</sup>, No 1 Training Battalion RE, Clitheroe, arriving at Wrotham Pre-OCTU and we were delighted! We had just completed 12 weeks' Sapper training at Low Moor Mill, Clitheroe, in the autumn of 1943. While there our War Party of 130 men had been allocated a barrack room on the top floor with the RE battle honour "Albuera" above the door. By a strange coincidence a faint historical thread connected Wrotham with that barrack room name. Colonel Henry Hardinge, the hero of Albuera, was born in Wrotham in 1785, which means he was only 26 when he rescued General Beresford from almost certain defeat in the Peninsular War. But the Sapper cadets from Clitheroe, having more important matters in hand, did not have time for historical research and were thus denied the knowledge of this fascinating link with their barrack room in Lancashire.

Wrotham OCTU was situated in the small village of the same name in the pleasant greenery of Kent. The wartime pre-OCTU was a featureless training centre – that is until one discovered the escarpment! A temporary hutted encampment spread out in the wooded Kent countryside, it was, in 1943, the location of 148 Training Brigade; this comprised the 8th Battalion The Royal Berkshire Regiment and a driving and maintenance wing of the Royal Army Service Corps (RASC).

The expansion of the Army in preparation for the Second Front and for the recovery of the territories lost to the Japanese in South East Asia, called for a rapid increase in officer training. At Wrotham cadets from many arms of the service were, in eight weeks, brought up to a basic standard in infantry combat, vehicle driving and motor cycling, before proceeding to the OCTU responsible for specific training for their particular arm. Sapper cadets and cadets from university and college with only six weeks' primary training, found themselves living and training alongside cadets who, only weeks before, had been sergeants and warrant officers in battle areas. Our hut included an RE sergeant who had parachuted into southern Italy to blow up major bridges in 1942; a company sergeant major who had fought his way out of Tobruk when it fell to Rommel;

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Captain John Irwin A Sapper Cadet Posted To India 1944

Sapper other ranks did not then wear shirts and ties. Named after the irregular Boer fighting units which had caused British troops so much trouble in the Transvaal and the Orange Free State some 40 years earlier.



Sketch plan of Wrotham Pre-OCTU 1942 to 1946. Published courtesy Curator, Museum of the Duke of Edinburgh's Royal Regiment.

and a warrant officer who had taken part in the battle of the Mareth Line. Experience from men like these, in the course of battle exercises, inevitably rubbed off on those new to the army or, like myself, who had been in the Home Guard.

The war seemed nearer at Wrotham. Hedgehopping RAF Mosquitoes setting off on continental forays would punctuate the quiet of a morning lecture. Then the drone of Flying Fortresses of the US Army Air Force, flying in massed echelons on daylight bombing raids into Germany would obliterate all other sounds. At night the constant drip of dampness from overhanging trees onto the corrugated roofs of our Nissen huts was in sharp contrast to the London anti-aircraft barrage when it started. On several occasions our hut and its bunks quivered as bombs fell too close for comfort. One night the Training Brigade was straddled with incendiary bombs ditched by a lone straggler from a German raid on London; fortunately little damage was done.

We soon made the acquaintance of the escarpment, a high wooded ridge about a mile long. Day after day we found ourselves running up this steep feature in full battle order, often towards the end of a scheme when we had already expended the day's allocation of energy. We became proficient in battle drill, so that melting into cover under simulated enemy fire became second nature to us. We carried out night attacks on map referenced objectives in unknown countryside with growing confidence. We proved to ourselves that we had the stamina to make 12-hour forced marches, engaging en route in grenade and Sten gun attacks on strongpoints under enemy fire and in bayonet attacks on field defence posts. We actually began to enjoy being infantrymen!

"Gentlemen, will you please change into PT kit", requested a sergeant. It was difficult to refuse such a request and it demonstrated one of the subtle changes in life now that we had become cadets. Another agreeable change was our automatic membership of the Toe H Cadet Club. I had only vaguely heard of Toc H. I did not know that it stood for the initials of Talbot House, with the "T" pronounced "Toc" as in the phonetic alphabet used by RE Signals in the Great War of 1914 to 1918. Talbot House was opened as a chapel and club for soldiers in December 1915 in Poperinghe, a few miles west of Ypres in Flanders, after "... the London R.E.s repaired the shattered wall and roof ..." damaged by a shell. It was founded by two chaplains, "Tubby" Clayton and Neville Talbot, a son of the Bishop of Winchester, and was named in commemoration of another son of the Bishop, Gilbert Talbot who had been killed several months earlier.

In the Cadet Club we were able to relax in quiet and comfortable surroundings. On Sunday afternoons and on Christmas and Boxing Day, I luxuriated in a warm bath and made full use of the writing room, library, games room and elegantly furnished sitting room. But back at camp, we still slept 18 to a hut, had to walk several hundred yards in the dark through the dank dripping atmosphere for morning ablutions and were still subject to "Lights out!" from the orderly sergeant!

My three years in the Home Guard proved a useful background for pre-OCTU. Because I had been in a reserved occupation, I had joined the Local Defence Volunteers when it was formed in May 1940. This force, similar to that formed in 1803 to meet the threat of invasion by Germany during the Napoleonic War, was later renamed the Home Guard by Prime Minister Winston Churchill. The speed and enthusiasm of recruitment for the Home Guard surpassed any previous volunteer movement. By the summer of 1943 about two million had joined. It was part of the armed forces of the Crown and subject to military law. There were approximately 1000 battalions, including anti-aircraft batteries, fully armed and trained in the use of weapons from the ubiquitous Lee Enfield to 3.7in anti-aircraft guns. All this was achieved by the patriotism of individual civilians who gave their time without pay during the emergency.

Three years' experience in the Cheadle Company of the Cheshire Regiment, had given me training in battle drill, armed and unarmed combat, map reading, Morse code and general infantry tactics. I also became familiar with a wide range of grenades and mines and had learned that the 68 rifle-fired anti-tank grenade must have a low trajectory for accuracy and must not be fired from the shoulder – that is if one wanted to retain the use of the shoulder! – while the 73 anti-tank grenade, "the Thermos Flask" had to be thrown from cover but doubled as a mine when fitted with an electronic detonator. Then one had to be careful not to throw an ST "Sticky" grenade overhand at an armoured vehicle as it was liable to break at the handle, while the purpose of the 69 Bakelite with its "Always Fuze" was really just to put the wind up the enemy. We were even trained in the PIAT (projectile infantry anti-tank) when it made its debut at the end of 1942. So I was well versed in grenades and mines before I learned about the "hasty" and "deliberate" methods of minelaying.

Infantry training over, we transferred to the RASC Wing for driving and motor cycle instruction. The RASC welcomed us with dire threats of punishment should our individual turnout fall short of being impeccable, putting an emphasis on smartness which would not have been out of place in the Guards Division. I soon mastered double declutching, and attended an advanced vehicle maintenance course. This had a strong appeal for a mechanical engineer and the tasksystem of maintenance gave me a better insight into automotive engineering. A simple mnemonic: WOFLTB (pronounced woffleteebee) reminded drivers to check, every morning, even during the course of battle, their vehicle's water, oil, fuel, tyres and brakes. Finally came motor cycling, a new-found joy for me which made the last week the highlight of the course.

During our first week at Wrotham, an Indian Army brigadier gave a talk extolling the virtues and advantages of joining the Indian Army. Having painted a detailed historical and glowing picture of service with this illustrious force, the brigadier called for volunteers, explaining that cadets in the infantry and certain other arms such as the Ordnance and Service Corps would be commissioned into the Indian Army, while those in the Sappers and Signals would be commissioned in the British Army. Looking forward, as I was, to further leaves and weekend passes to see my lady wife-to-be, I decided that the proximity of the RE OCTU at Newark to her home in Cheshire outweighed the tantalizing prospect of joining the elite of the Indian Army. But I was in for a shock! I had not legislated for a lack of volunteers and one morning I was staggered to find my name was included among 20 Sappers on the Pink List, the draft for the Indian Army.

The convoy assembled at the "Tail of the Bank<sup>3</sup>". Across the wind ruffled waters of the Firth of Clyde, rays of light of a low winter sun picked out the familiar town of Greenock with its

<sup>&</sup>lt;sup>3</sup>The uppermost point of deep water anchorage of the Firth of Clyde.

waterfront landmarks, the six Italianate towers of Princes Pier and the mammoth hammerhead crane at the foot of Ratho Street.

What an odd coincidence that my departure for India should take place within sight of not only the town of my birth, but also the actual house at the end of the esplanade in which I was born. It was also one of these wartime coincidences that within an hour of boarding HMT Orontes at Liverpool, I should meet a school classmate leaning over the rail on the boat deck, Robert MacRobert, a lieutenant in the Black Watch, going east to join the 2nd battalion of his regiment.

8 Han Million

INT Orontes depicted under attack in the English Channel. (Courters: Promodar & Oriental Steam Norigation Compare.)

Fourteen days' embarkation leave and nine days spent at the London District Assembly Centre (formerly the Great Central Hotel at Marylebone Station) was a break from military duties. Tropical kit had been supplied and with a supplementary issue of 40 clothing ration coupons I had bought additional items. Wartime London provided a variety of free entertainment for the Services. The Nuffield Centre and the Queensbury Club (the London Casino) had nightly stage shows, while the Forces Theatre Agency, from its hut in Trafalgar Square, distributed free tickets to servicemen and women for London theatres and shows. However, the enjoyment of this period was clouded somewhat by the realization that I would not be in Britain again for at least two years. Off-setting this to some degree was the anticipation of seeing a new continent and having experiences of which I had never even dreamed.

Despite its grey camouflage, the classical lines of *Inst Orontes* with her raked stem, two tall capped funnels and cruiser stern, gave evidence of her good breeding. A British twin-screw liner of 20,000 tons built by Vickers Armstrong at Barrow in 1929 for the Orient Line, she had six steam turbines which developed 3825NHP (nominal horse power) to give her a speed of 18 knots. Named after a Levantine river (all Orient liners had names beginning with an "O") HMT Orontes was designed with open decks to carry first and third class passengers on the Orient Line's Tilbury to Sydney run.

However, our mess deck was grim! Nine decks below the boat deck, it was under the waterline with no portholes for ventilation. We sat 12 to a table and slept in the same area, when hammocks were slung, giving us a close affinity with the brand name "Skippers". Obviously, there was no room for cabin luggage and it was quite clear that the Indian Army's view of officer cadets, as expressed by its brigadier at Wrotham, was not shared by those responsible for allocating accommodation on board!

Going through the Red Sea and across the Indian Ocean the mess deck became an oven and impossible to live in. We had to stay there at meal times when we had to strip to the waist with towels around our necks to collect the beads of perspiration precipitated by the heat and humidity. But at night we felt much better as we were able to sleep in the open on the main deck, cooled by the wind from the ship's motion and pleased by the sight of the sea, a shimmering mirror in the light of a brilliant moon.

As the Orontes traced a lengthening invisible umbilical cord from the motherland, we began our indoctrination into a new army and a strange country. GHQ Delhi had laid on mush/s – Muslim teachers – to give us instruction in Urdu,

# A Sapper Cadet Posted To India 1944 (1)

the lingua franca of the Indian Army. With something like 400 languages on the sub-continent, it was essential that all soldiers could understand a common tongue. Urdu, Turkish for "camp" meant "camp language" and is really Hindi interspersed with a great number of Persian, Arabic and Turkish words.

When at the age of 15, my stern Scottish latin dominic called me a "galoot" for a particularly unacademic translation of a passage in "Caesar's Gallic Wars", I had no idea that he was speaking Urdu. It sounded much worse too than the Urdu word ghalout meaning "wrongdoer". Schoolboys would say "take a dekko!" without knowing that *dekho* was the imperative of *dekna*, to look, and at Clitheroe we learned what a cushy billet was, although we did not know that *khushi* meant happy in Urdu. It was also a surprise to learn that bungalow was derived from *bangla* (pronounced "bungla"), the Urdu for house, which in India is normaily a single storey dwelling, and that *pyjama* was Arabic for "as far as the foot."

At induction classes junior cavalry and infantry officers of the Indian Army, returning from furlough, waxed lyrical on the histories of India's famous regiments and on India's martial races. The prospect of wearing the full dress canary yellow *alkhalak* (long coat) of the legendary "Skinner's Horse" (1st Duke of York's Own Cavalry) – mechanized in 1939 – or the full dress red uniform with green facings of the prestigious senior regiment of Indian infantry, the 1st Punjab Regiment (originally a Madras Regiment) made one somewhat envious of fellow cadets who would be commissioned into the top regiments of the Indian Army. However, we sapper cadets consoled ourselves with the thought that as British officers seconded to the Indian Army, we should have the best of both worlds. We should not have to wait for five years before qualifying for home leave and we should still enjoy Indian Army officers' rate of pay. And after all, we were still Sappers!

For the cadets the voyage could not exactly be called a cruise. Nevertheless, there were moments of relaxation and I was particularly fortunate in having a friend travelling first class. On numerous occasions I was able to join Bertie MacRobert for a chat in his cabin, a concert in the officers' lounge or a walk on the promenade deck. These visits were made possible for me by the simple expedient of wearing one of Bertie's battledress jackets complete with Black Watch flashes and two pips. Humane acts of this kind were, no doubt, the harbingers of MacRobert's postwar career as a minister of the Church of Scotland.

Flying fish were making unbelievably long flights on a course parallel to the ship, when after four weeks at sea, the Sapper cadets were at last told that their destination was to be the Indian Army Officers' Training School at Mhow in Central India. Apparently GHQ Delhi did not consider that our Wrotham pre-OCTU infantry training would meet the demanding standards the Indian Army required for service in a hot climate. We were informed that we were going to have a further four months' infantry training. What a prospect!

It was ironic to realize that had I gone straight to the RE OCTU at Newark, I should have been more than half way through the course by the time I began Sapper officer training in India.

## Memoirs

### BRIGADIER J M CALVERT DSO\*

Born 6 March 1913, died 26 November 1998 aged 85.



Printed with permission from the Imperial War Museum.

BRIGADER Michael Calvert is best known for his unorthodox and outstandingly brave exploits in Burma during the Second World War, particularly in the Chindits with whom he served in both expeditions. How such a remarkable wartime career tailed off and suffered the stigma of a squalid court case is one of the saddest stories of the postwar years although there was some revision of attitudes to his decline even before his death last year.

Calvert was born in Rohtak in India, the youngest of four brothers all of whom were to serve in the Corps. He was educated at Bradfield and read Mechanical Sciences at St John's College Cambridge after commissioning from Woolwich in 1933. His first posting was to Hong Kong. "Having learnt Cantonese, he was allowed to accompany the Chinese Army, then fighting the Japanese near Shanghai. At one point he was taken prisoner by the Japanese, but managed to bluff his way to freedom. In 1939 Calvert returned to London, but in 1940 resigned his commission to join the Scots Guards Ski Battalion which had been raised to fight the Russians in Finland. However, before it sailed the Finns had been beaten.

"Calvert was now sent to Norway, where he was engaged in demolition work to slow the German advance. At the end of the campaign, in which he once nearly froze to death, he was one of the very last to leave."

Postings as an instructor then followed, at the Lochailort Commando Training Centre, in Australia and then at the Maymyo Bush Warfare School in Burma where he met Orde Wingate and who drew him into his plans for guerrilla warfare.

"In the closing stages of the retreat from Burma, Calvert was ordered to recruit a force for a lastditch stand, collecting soldiers from convalescent camps and detention barracks. After a few early desertions, the remainder fought like demons."

Calvert's biographer, David Rooney gives a vivid account of this episode in "Mad Mike", (Leo Cooper, 1997) including the occasion when, as a deception plan, he helped plant a briefcase of false intelligence in the path of the advancing Japanese.

"In May 1943 Calvert was awarded the DSO following the first Chindit expedition in which he commanded one of the columns.

"The following year, six Chindit brigades (a total of 20,000 men) were sent into Burma, this time by air. Although losses were again high, the achievements were impressive.

"Calvert [commanding 77 Infantry Brigade] established a blocking position at the "White City" airstrip, where he withstood fierce Japanese attacks from April 6 onwards; his brigade had been virtually decimated by the time it advanced to take Mogaung on June 27.

"After the second Chindit expedition, and having won a bar to his DSO, Calvert was posted back to Europe in January 1945 to command the Special Air Service Brigade, which took part in the final stages of the campaign in Europe. Then, with 36 men, he flew to Norway, where

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## Brigadier J M Calvert DSO

he had the task of ordering the Germans, numbering many thousands, to lay down their arms.

"Calvert ended the war as a temporary brigadier, aged 33, but he was soon brought down to earth. He was sent as a major to a Civil Affairs job in Trieste, a post for which he was entirely unsuited. But Calvert's outspoken support for unorthodox ideas had made him unpopular with his seniors."

A final opportunity to exploit his particular talents occurred during the Malayan Emergency when Calvert commanded the hastily-raised Malayan Scouts (SAS Regiment). He was, however, subsequently criticized for failures in discipline in the force.

His army career then went into a decline attributed to addiction to alcohol but as much to do with his unemployability in conventional peacetime soldiering. In 1952, while in a particularly inappropriate job in Soltaa, he was accused and eventually convicted of making homosexual advances to some German youths in a bar where he had taken to drinking alone. A review article by John Keegan in the *Daily Telegraph* of 14 June 1997 fully examined the rights and wrongs of this case suggesting the possible unsafety of the evidence and the case for restoring Calvert's good name, notwithstanding whatever the lack of judgement in his behaviour.

Some ten years after these events and a series of labouring jobs in Australia, Calvert finally overcame his alcoholism and took up writing as a living and offering advice on guerrilla warfare and counter-terrorism. He was too out of touch to make any impact in these areas. However, although it never provided him with a livelihood, his writing resulted in the classic and thrilling account of his own experiences, "Prisoners of Hope", the third edition of which was published in 1996 (Leo Cooper) and reviewed in the *Journal* in April 1997.

Brigadier Mike Calvert's twenty-one medals, among them the American Silver Star and the French and Belgian *Croix de Guerre*, were purchased by the Corps Museum with the help of a generous grant from the heritage lottery fund last year.

A final epitaph seems appropriate, taken from the *Journal* review of "Mad Mike": a gallant man, a great Sapper and a renowned Chindit leader.

GWAN

(Quotations from the *Daily Telegraph* obituary, 28 November 1998.)

#### BRIGADIER D J LONDON CBE

Born 8 June 1926, died 22 August 1998, aged 72.



"MANAGEMENT by merriment" was the maxim adopted by Don London who became the first Director of Postal and Courier Services not to have started his career in the Post Office. Brought up and educated in Bristol, he was commissioned into the Gloucestershire Regiment after attending 161 (RMA) OCTU in 1945. He served with them in Austria, where he met and married his wife, Friedl, and transferred to the RE Postal Service in 1949.

Four years followed in Germany with HQ 7th Armoared Division Postal Unit. Then in 1954 the family moved to East Africa where Don commanded 280 Postal Unit, based in Nairobi, and was subsequently appointed DA Postal Services, East Africa, During the six-year stay, which coincided with virtually the whole Mau Mau emergency, he and his family lived in a house with some land at Karen where, amongst many other activities, they grew onffee in commercial quantities. In 1960 Don returned to the UK as OC HQ AER and Training Centre where he established a rapport with the Reserve Army which was to be influential in his later career. This was followed in 1962 by his appointment as DAD-PCC 3rd Division and fate was then to take a hand in his affairs when the emergency blew up in Cyprus and the Division moved there the next year in its UN peacekeeping role. At the end of that tour Don remained in Cyprus as DADPCC HQ Cyprus District until 1968.

An important two-year appointment then followed as DADPCC in HQ 1st British Corps but, on promotion to lieutenant colonel in 1970, it was back to Cyprus, now as ADPCC Near East Land Forces where he remained until 1973. He was appointed OBE at the end of this tour.

After ten years away from the UK, eight of them in Cyprus where he had bought his Kouklia home in 1972, Don London returned with his family to Mill Hill as Second in Command of the Home PCC Depot and ADPCC. In 1975 he then went to SHAPE in command of 15 PCC Unit before returning to the UK in 1977 as DD PCS. He remained in that post until taking over as Director in 1980.

Don London's pinnacle year of service must surely have been 1982 when as Director at Mill Hill he welcomed the Queen to his headquarters in the centenary year of the Army postal services. In the same year he was appointed CBE and ADC to the Queen.

Retirement in 1983 enabled Don and Friedl to live most of the year in their home in Cyprus, though they retained a house in the UK for Christmas and New Year visits. For nine years up to his death Don was an active president of the the Army Benevolent Fund branch in Cyprus during which time £95,000 was raised for the fund. He also chaired the local branch of the Officers Pensions Society for three years.

Many a guest was to bear witness to the magnificent hospitality and good cheer that was dispensed both at Kouklia and Laleham. It will be by that good cheer and zest for life that so many of his colleagues and friends in the Corps will particularly remember Don and will forever be grateful for the morale-raising impression he always managed to convey to anyone whom he encountered.

His wife Friedl and their son and two daughters survive him.

DELW

# Brigadier D J London CBE

### COLONEL J1G CAPADOSE

Born 20 July 1925, died 8 August 1998, aged 73.



JIMMY Capadose will be remembered by the Corps not only as a highly competent and versatile Sapper, but also as a brilliant amateur actor, a very talented musician and an excellent linguist. Lively and gregarious: possessing natural charm, a highly developed sense of humour and a pervasive sense of fun, he enjoyed a varied career spanning regimental duty, intelligence, technical staff and three tours as an attaché, which certainly gave full rein to his gift of versatility.

Born in Hampstead, the youngest of three children, Jimmy started life with a very religious upbringing. Being sent to Stowe School, where he was taught music and learnt to play the organ – as well as rugby – was the making of him; and he loved being there. Colonel James Michell, his grandfather, was the family's only previous Army connection.

Enlisted in April 1944, Jimmy attended a RE short course at Trinity College, Cambridge, followed by basic and OCTU training before being commissioned in early 1946. After a tour in Gibraltar he attended No 15 Supplementary Course at the SME and then a degree course at RMC Shrivenham, gaining a BSc.

Shrivenham at that time provided the ideal environment in which Jimmy could give full vent to his renowned *joie de vive*; and this he certainly did by throwing himself into the activities of both the college's amateur dramatic and choral societies – quite apart from being the leading light in the conduct of many innovative undergraduate rags! His piano playing – by now mainly by ear – was always in demand, especially at dining-in or guest nights, for he had the gift of instantly being able to play anyone's request – be it traditional, jazz or boogie-woogie or a rugby song – at the same time as being fully

Jimmy's next posting was to 35 Engineer Regiment at Fayid, in the Canal Zone, where he arrived just after the Egyptian abrogation of the Suez Canal Treaty. An early task was for his troop to secure the El Firdan swing bridge across the canal, and thus prevent the Egyptians stationed east of the canal from using it to cross and threaten British units stationed on the West Bank - a mission he successfully achieved. He was later Regimental Signals Officer and 2IC of 42 Field Squadron. His time in the Canal Zone was specially enlivened by his talent for acting as witness his escapade of successfully entering the out-of-bounds bazaar in Port Said, disguised as a Portuguese steward, to buy food delicacies for the mess: and then being able to talk his way out of the clutches of both the Egyptian and Royal Military Police when subsequently intercepted. Jimmy's presentational skills at courts martial made him both a formidable defending officer and a most successful advocate in pleading for mitigation of sentence - talents that made him a very popular choice for those in the regiment facing trial. Leaving the regiment in 1954, by then in Cyprus, his next posting was as Adjutant of 16 Railway Training Regiment.

In early 1956 came a change of tack, with Jimmy joining M110 for intelligence work – which included undertaking a five-month special mission in the Aden Protectorate in 1957. In June 1958 he returned to RMCS as a student on No 12 Technical Staff Course, where once again he became prominent on the amateur stage – notably as the Police Chief Dobrieda in *His Excellency*. But undoubtedly his main claim to

# Colonel J I G Capadose

fame at that time was his enthusiastic leadership in the creation and presentation of the first ever Shrivenham Revue – which immediately became an annual tradition. Completion of the course then led to his appointment from 1960 to 1963 as Assistant Military Attaché in Paris, but also accredited to Brussels and The Hague.

Command of 65 Corps Field Park Squadron came in 1963, first in Osnabrück and then in Hameln; this was followed by a return to RMCS again for a tour on the directing staff – bringing promotion to lieutenant colonel. His particular subjects in the general division included chemical, biological and intelligence work as well as equipment sales. Changes in staff training at that time meant that all staff officers now came to Shrivenham "for a taste of science" – and Jimmy was one of those whose responsibility was to ensure that the taste was favourable. In one memorable playlet he was cast as a Middle Eastern equipment purchaser – a part he played to the full!

Then, in mid-1968, it was a return to the attaché field in which he had previously proved himself in Paris, and for which he was so uniquely qualified - personally, linguistically (he was interpreter standard) and technically. His first tour was for four years in Berne, Switzerland, as Defence Attaché: and it was there, by a happy twist of fate, that he became the prime salesman in selling to the Swiss such sapper equipments as the medium girder bridge. His next posting was two years as Defence Attaché, Algiers - a challenging job for which he was eminently suitable. Selected for promotion to substantive colonel in 1974, Jimmy returned home and, after attending the Senior Officers' War Course at Greenwich, was given the challenging task of planning and mounting the first ever British Army Equipment Exhibition. His final posting, until his retirement in 1978, was as Colonel GS on the Ordnance Board - a posting which gave him the satisfaction of feeding back into the system the wide experience of a full Sapper career.

Never one to let the grass grow under his feet, Jimmy then joined the sales and marketing side of Thomas Storey and stayed with them for six years. This was followed by a year as a consultant with Enterprise Engineering - dealing especially with market research for steel fabrication projects. He was a Blythe Sapper, an organizer of welcome gatherings for his former attaché colleagues and a talented vegetable grower in his garden's highly disciplined beds. He then devoted himself to a series of part-time jobs well suited to his compassionate nature - firstly as a fund raiser for the Haig Memorial Homes, secondly as county organizer for the British Heart Foundation in Surrey and thirdly as practice manager for the Amherst Medical Centre in Sevenoaks. Finally, for five years until his untimely death - as an enthusiastic volunteer he was SSAFA Fund Raising Adviser for Kent.

Although his retirement work alone kept him very busy, it was typical of Jimmy that he also played a full and charismatic part in the Westerham community where he lived. He was a staunch supporter of the church – being a regular choir member, stand-in organist and member of the parochial church council, a member of the Westerham Society and of the local Royal British Legion, a committee member of the Wolfe Society – which perpetuates the memory of the Victor of Quebec who lived in Westerham – and a gifted member of the Westerham Amateur Dramatic Society in which his last pantomime role of Captain Barnacle gave full rein to his irrepressible sense of humour.

Throughout his military and retirement lives Jimmy was marvellously encouraged and sustained by the unstinting support of his wife Monica – sister of the late Major Chris Bramwell RE – whose family home has always been in Westerham. Tragically, they were in the last throes of preparations to celebrate their 40th wedding anniversary when Jimmy suffered the stroke from which he did not recover. He is survived by Monica, two sons and a daughter.

FWEF PJMP NJDP SJB

### BRIGADIER W H AYLWIN

Born 10 December 1909, died 14 August 1998, ageil 88.



BRIGADEER Bill Aylwin was one of the pioneers of assault engineering who had commanded 1st Assault Engineer Regiment in the closing year of the war in Italy.

William Harry Aylwin was educated at King's School, Rochester, the RMA Woolwich and Cambridge University. He was commissioned into the Corps in August 1929 and his career started in another technical speciality, searchlight Battalion at Blackdown, the only regular searchlight mit at the time. There followed a period of becic reorganization as the Corps absorbed over twenty infantry TA battalions converting to the role and Aylwin became Adjutant of 32 AA Searchlight Regiment, the former 7th City of London Regiment TA.

The outbreak of war found him in France and Belgium with 227 Field Park Company (48 Division) and he was evacuated from Dunkirk where his impressive calmness in the surrounding mayhem was noted.

After a brief spell of service with 4 Commando based in Weymouth, Aylwin was dispatched to the War Office (SD 9) on promotion to major and remained there until 1942. He was then appointed OC 17 Field Squadron (later known as 617), part of 42 Armoured Division, which was forming and training in the UK under Major General Miles Dempsey. Bill Aylwin is remembered at this time for the lively and imaginative exercises that he set his squadron in their preparation for operations.

In 1943 he joined 1st Assault Brigade RE as Brigade Major. This was the Sapper formation of 79 Armoured Division and eventually expanded into three regiments each of four assault squadrons primarily for the invasion of north-west Europe. By that time Aylwin had gone to Italy to take over command from an RTR officer of a hybrid unit and to weld it into 1st Assault Regiment RAC/RE. This eventually became part of the Italian theatre's equivalent of the north-west European assault brigades but in early 1944 it was in process of building up very much from within the limited theatre resources of men and equipment as could be made available. However, with their ARKs, AVsRE and Sherman bulldozers, they notched up many successes in support of the advancing brigades, particularly in the approach to San Marino and Rimini and thence in the crossings of the numerous rivers and canals up to Faenza and, via the Rivers Senio and Santerno, on to the Po.

Taking over this command can have been no easy task. Apart from the daunting difficulties of squeezing equipment and men out of the system, Aylwin had little operational experience behind him at that time and his new team was full of battle-experienced veterans. "He did not allow it to affect his cheerful and commanding presence – be was well-liked and well-organized, but he had of course a bunch of iconsclastic and fiercely independent squadrons to deal with who were not anxious to swallow all that had been learnt in the exercises in the UK. It is a tribute to his commonsense and grace that he made a success of his command." (*EHP*)

This wartime experience was put to good use in the postwar years as postings followed in 32 Assault Regiment as second-in-command (1948-9), 7 Armoured Division (SO 1 RE) and 11 Armoured Division as CRE and CO of 26 Field Engineer Regiment in BAOR.

After two years (1953-5) as CRE North Wales in Shrewsbury, Aylwin was posted to the British Army Staff in Washington (RE and Special Weapons). About that time he contracted tuberculosis and spent some weeks recuperating, Philately, which he took up there initially as occupational therapy, became a lasting hobby.

## Brigadier W H Aylwin

Fully recovered, in 1957 he was appointed Deputy Chief Engineer, Southern Command, His final posting before retirement was as Chief Engineer Western Command at Chester. This tour was much saddened by the death at sea of his son who was serving with the Merchant Navy.

In retirement the family settled in Suffolk and he took a retired officer post at Colchester. Later they moved to Staffordshire. His wife, Valentine, whom he had married in 1940, died in 1989. His health then deteriorated and he spent the later years in a nursing home. However, he never lost his interest in the Corps and its affairs, enjoying keeping up to date through the Corps publications. "A man of distinction, highly respected and warmly regarded", is typical of the tributes received after his death.

His daughter and three grandchildren survive him. EHY BH REW EJS LMY

### LIEUTENANT COLONEL R L CLARKE

Born 23 September 1917, died 16 December 1998, aged 81.



RALPH Lionel Clarke was born in Chester, where his father was commanding the depot of the Cheshire Regiment. Educated at Cheltenham College and Christ's College Cambridge, he was commissioned into the Corps in 1937, obtained an honours degree at Cambridge, and served in the 4th Division Royal Engineers in the British Expeditionary Force, experiencing the evacuation at Dunkirk. While serving with technical military intelligence at GHQ Home forces in London, he met, and married, Elizabeth Mary "Molly" Whitehead, before commencing active service in North Africa, Sicily, and Italy (mentioned in despatches), with a break in Haifa, Palestine, as staff college instructor.

After the war, he served on the Allied Commission for Austria (Military Division ACA), and (at home) set up the Territorial Army in East Anglia. Qualifying as a technical staff officer at the Military College of Science, he subsequently serving in Technical Military Intelligence, designing mines and fuses, and on works and buildings in Germany. After appointment as Military Assistant to the Controller of Munitions, he was offered a job in industry, and retired from the army with the rank of lieutenant colonel, to direct research and development with the Hoffmann Manufacturing Company in Chelmsford.

Whilst working as a research mechanical engineer, he became interested in the new science of tribology and published several articles on friction and bearings. In a lighter vein, he wrote, and had published by the Institution of Mechanical Engineers, the book "Lighter Engineering", in conjunction with the cartoonist A E Beard, in which he distilled the wisdom learned from his experiences in industry working as a senior manager.

He was a Fellow of the Institutions of Mechanical and Electrical Engineers and took an active role in their work.

Clarke's experiences at Hoffmann showed him that, although the professional engineers may have been well represented academically by the institutions, they were poorly organized and represented at work in practical matters toward their employers and other professions. Taking the BMA as a model he co-founded, and later became president of, the UK Association of Professional Engineers

# Lieutenant Colonel R L Clarke

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(UKAPE), now the Professional Engineer section of the Amalgamated Engineering and Electrical Union. He published widely on the subject, most notably in his booklet "Responsible Trade Unionism". His efforts had a profound effect on the way that the unions moved in the 1970s to a more general and responsible role in representing the entire workforce rather than just trades and manual workers.

After retiring from active work as an engineer, he became increasingly interested in literary activities, and was the founder, and first president, of the Dorothy L Sayers Society, which has thrived, and is now one of the foremost active literary societies in the UK and the United States. He also became a lay reader and was involved in local affairs, with a particular interest in conservation work. He was President of the Witham Community Association, Deputy Town Mayor, and President of the Witham Operatic Society. He also took an active part in the Witham Dramatic Society.

He retired to Pentlow Mill, Cavendish, where his wife, Molly, died in December 1985. Later he married Anne Dobson, and lived in Foxcarth until she died in May 1995. He then returned to Pentlow Mill and spent his last years quietly, travelling extensively, and enjoying the company of his children, grandchildren, stepchildren and step grandchildren.

ARMC

# **Memoirs in Brief**

## Brief memoirs are published below of distinguished men whose deaths have been notified recently in the press and who served in the Royal Engineers.

Steven Sykes, who died recently at the age of 84, was an artist whose work only achieved celebrity status six years before his death, following an exhibition in New York at which he had been persuaded to show some of his work. His contribution to the Corps, however, was as a camouflage artist in the Second World War. He was commissioned early in the war and his service took him to France with the British Expeditionary Force, North Africa and elsewhere in the Middle East and back to France on D-Day. He recorded his experiences in his autobiography, "Deceivers Ever", a copy of which is held in the Corps Library. A further connection with the Corps occurred postwar when he created the bas relief reredos in the Chapel of Christ in Gethsemane at Coventry Cathedral. This is normally seen framed in the metal grille representing the Crown of Thorns, designed by Sir Basil Spence, which was made in the Blacksmiths' and Welders' Shop at the School of Military Engineering, Chatham, in 1961.

Stuart Taylor, who died recently at the age of 78, was a wartime Sapper who was awarded the George Medal for an incident in Italy in 1944, in which he lost the best part of both his hauds while attempting to defuse a mine. An active sportsman before this setback, he continued to play rugby for his college at Cambridge when he returned there after the war. He became a schoolmaster at Uppingham where his talents and leadership found outlets in the classroom, as a rugby coach, and with the Combined Cadet Force in which he formed a Sapper section.

Major A G Peter Wood, who died last October, was for nearly 50 years the tenant of Herm, the small island between Guernsey and Sark in the Channel Islands. He had come to England from New Zealand as a teenager and after schooling joined the Territorial Army in 1938. He served in Norway, Italy and North Africa and also with SOE with Tito's partisans in Yugoslavia, finishing the war as a major. When he acquired Herm in the 1940s, on lease from the Guernsey States, it was uninhabited and all existing buildings ruined after the island's use as a training area by the occupying Germans. Peter Wood and his wife, Jenny, a former SOE wireless operator whom he had met during the war, brought the island to profitability by developing it for tourism and agriculture while maintaining its beauty and natural character. Since 1980 it has been managed by Wood's daughter and son-inlaw in accordance with his principles.

# Correspondence

## **BRIGADIER E C W MYERS CBE DSO**

### From: Lt Col G E P Mulhern OBE

Sir, – Somewhat belatedly, I offer the following comments on the memoir of Brigadier E C W Myers CBE DSO, published in the August 1998 *Journal*.

Firstly, Eddy Mycrs "own book" was entitled "Greek Entanglement", NOT "Greek Encounter" – quite a massive tome which, to me, was compulsive reading. Secondly, the two opposing guerrilla factions, at that time, which he by friendly! persuasion, cooperated against the common enemy, were communist and royalist (for King George of Greece) – NOT republican.

For outstanding courage, professionalism, audacity and endurance, at times beyond normal breaking point, Brigadier Myers must surely be rated as high in the list of our distinguished war time Sappers. My superlatives are by no means extravagant. In late 1939-early 1940, doing a stint as Staff Captain to the CE, HQ British Troops Egypt (Brigadier later Major General Sir Eustace Tickell) he was given two tasks which, although involving no fireworks, may be of interest:

The Needham Report, named after General Needham who arrived in Cairo with a War Office brief to submit detailed plans of locations within the Delta and Canal Zone in which a stated number of divisions could be accommodated in six-monthly phases up to 18 months. The Chief Engineer was, therefore, delegated to deal with the technical side of this exercise (service depots, hospital, high explosives and ammunition stores etc. etc) and he, in his turn, left this extensive recce and planning to Captain Myers - assisted (modestly but very ably) by me the Chief Draughtsman (WOII), Thus, we covered many miles over a few days in a Ford V8 estate car selecting sites at Tel-el-Kebir, Quasseassin, Abu Sultan, El Firdar, Fayid, etc. At Telel-Kebir we were excited to find traces of Arabi Pasha's trenches which had defied countless sand storms over so many years. We were given a small office near the Chief Engineer's, double locked with a large notice on its door - "NO ENTRY except to Heads of Services accompanied by the Chief Engineer"!!

Using the Accommodation Manual (Volume 7) as his bible, Captain Eddy wrote his report in great detail whilst I illustrated it with site plans and detailed working drawings of the installations (he called them pretty pictures).

The report had the full approval of the Chief Engineer and other Heads of Services and needless to say construction was carried out accordingly. Throughout he was interesting company and we had many a belly laugh at the hilarious stories of Broadway by Damon Runyon whose books he'd recently acquired.

Turkey With this country remaining a sympathetic neutral, our hopes and expectations that they would join us as allies made their ports and road network of considerable if not vital interest. And so it was that (by this time) Major Myers carried out the recee for the modernisation of these ports and improvement of the road system. I vaguely remember that he was accompanied by another Sapper officer – probably Bagnal-Wilde. All recommendations must have been implemented, for I'm sure we had works teams employed there (in civilian clothes) throughout the war. Yours sincerely – George Mulhem.

PS Of the two viaduets that were destroyed in Greece, the BBC filmed one of them for television, the part of the lead Sapper officer being played by David Niven. I think it must have been Asopos. – GM

### THE "CULT" OF GORDON

### From: Colonel MJ W Wright DSocSc MIMgt

Sir, -1 was very interested to read the article by Mr James Rattue in the December 1998 issue of the *Journal*.

My son has for over 20 years been a foreign correspondent for Reuters, mainly in the Middle East. His work has taken him many times to Khartoum and he knows most of the political leaders there. About two years ago he was interviewing the President and at the end of the interview the President said "Tell me Mr Wright, have the English forgiven us for killing Gordon?" Never at a loss, my son said "Mr President, I'm sorry to say most people in England would not know who Gordon was."

I regret that my son was probably right. It is sad that such a great man is not better remembered. Yours -MJ Wright.

### From: Captain J E Borer LCG

Sir, – I read "The 'Cult' of Gordon" by James Rattue in the December *Journal* with some interest, not least because in my position as a RO3 at Chatham, I wear two hats. In both jobs, I have charge of picces of "Gordonia" – none of which are recorded by Mr Rattue in his article. As SO3 Training Support, Command Wing, I account for the General's gravestone which is set into the wall of the reception room. As an aside, it is "guarded" by a Vickers .303 machine-gun, which, had it been invented and on issue to Gordon at the time, would have made for a different story! Carved across the top of the stone are the words from the entry of the last page of his journal: "I HAVE DONE MY BEST FOR THE HONOUR OF OUR COUNTRY, GOODBYE".

In my other position as Treasurer of the Garrison Church, I account for both a stained glass window and yet another tomb. This is a handsome wooden structure with an effigy of the General laid at rest on the top. This one was presented by his brother, Sir William Henry Gordon KCB.

Also in the Garrison Church, there is a brass plate on the base of the pulpit to the memory of one Lt Col Chermside. The plate says he was Army Service Corps, but Chermside is not a common name and he could be the officer referred to as a Royal Engineer by Mr Rattue on page 185, especially as he is commemorated in a RE church. Another plate in the church commemorates a Group Captain Kirby VC CBE DCM. None of the staff or congregation had a clue as to who he was, but reference to Colonel Gerald Napier's book "The Sapper VCs" provided a fascinating story.

I feel we are very lucky in the Corps to have people such as Colonel Gerald or Mr Rattue who are willing to do research to better inform such people as myself who often wonder, but hardly ever do something to find out. Yours sincerely – John Borer.

### BRIGADIER MICHAEL CALVERT DSO\*

### From: Alan Hunter

Sir, - In 1952 I was GE North, 275 Deputy CRE, Hannover, living in 1252 Field Park Squadron Mess. One day I came back early in the afternoon and found the OC (whose name I cannot remember) and a much medalled major. Talk turned to Burma and the strange major said "We captured Mogaung and Stilwell's Force had claimed it a week later". I had read Calvert's book and so exclaimed "That's just what Brigadier Calvert said". At this the OC, who was sitting to the rear of the major, surreptitiously pointed to him. Then the OC explained this was Brigadier Calvert, in his substantive rank of major. There had been a break in the court martial proceeding and the OC, who was his escorting officer, had brought Calvert illegally into his mess. Calvert then said "This court martial is all a bloody nonsense. I haven't done what is alleged." I believed him, and I fulfilled the OC's request not to mention the incident.

Later, the OC told us that the Judge Advocate's summing up was very much in favour of Brigadier Calvert and there was surprise when a guilty verdict was given. As he was marched out past the "bench", Brigadier Calvert eyed a Gunner officer and said. "Bloody Gunners". The Judge Advocate went to his room and immediately had a heart attack.

I was saddened to read Brigadier Calvert's obituary in the *Daily Telegraph* and wish I had revealed this incident a year last August when Colonel M Cooper told me that General Sir George Cooper felt there had been a miscarriage of justice. The ex-OC of 1252 could still be alive and traceable through RE Records. As escorting officer he will be able to enlarge on the court martial. Yours faithfully – Alan Hunter Ex-Engineering Cadet.

### FORGOTTEN RESERVES AND MILITARY WORKS FORCE (V)

### From: Colonel M W Knill TD BSc, DIC, ACGI, CEng, FICE, FIWEM, FIMgt

Sir, -1 read with interest the two recent articles, "Forgotten Reserves" and "Military Works Force (V)" as these were the areas in which I spent my Reserve service from 1955 to 1980. I acted as one of the advisors to the Corps History 1960-1980 on these aspects of the period.

I note Captain Mapstone's letter in the December 1998 *Journal* referring to Dr Watson's paper and can both expand on his memory and also correct one misapprehension in the article which was repeated in the August editorial.

In the period between the ending of compulsory part-time service by national servicemen after their service in the Regular Army and the 1961 reorganization, the field regiments of the Army Emergency Reserve (AER) were reduced to cadre-type units having to camp four at a time to produce worthwhile numbers. Even then training was forced to be on a TEWT basis. The last regimental photograph of 251 Construction Regiment showed it reduced to 19 all ranks. The post-1961 personnel were by no means all "former regulars" being initially selected members of the previous units with former war service, regular service or national service then supplemented by recruits from all these sources.

The units which came under HQ AER RE (Field and Works) in the period 1961 to 1967 were 111 Corps Engineer Regiment together with not only 40 CRE Works referred to by Captain Mapstone, but also 38 CRE Works, five STsRE, the Works Staff Pool and the Geologists Pool.

In the 1967 reorganization three additional STsRE were formed, two of these were construction teams created from the two CsRE and the third 505 Procurement Team which came in from HQ AER RE (Resources) with 198 Field Park Squadron. 504 and 506 STsRE were then raised from a shadow existence and the two pools merged to form the Engineer Specialist Pool (ESP).

A list of these post reorganization units shows them sponsored by Central Volunteer Headquarters RE. 111 Regiment was simply one of these units and was not, as Dr Watson writes, "a central headquarters which was termed 111 Engineer Regiment (V)". This error is repeated in the August editorial. As one of the officers commanding a STRE I was responsible to the Commander CVHO RE via the reservist Deputy Commander. Having been one of the original officers of 111 at the 1961 reformation and a former adjutant, I have great respect for the regiment but it never assumed overall administration of all the former AER units. It certainly was the "most important sponsored element of the Corps" and even earlier in 1962 after heavy recruitment I understood that it was, at about 615 all ranks, the largest unit of the Army embodied together in one place at its annual camp that year in Wyke Regis.

In his paper on the Military Works Force(V) Colonel Brookes naturally does not linger on history but I would make a few comments.

Following the 1967 reorganization, those of us who had served in the AER and the TA became part of the T&AVR and were Volunteers. The Territorials were then a reconstituted form of Home Guard for "Defense of the United Kingdom". The list of STsRE shows three bulk petroleum teams, and the well drilling team is referred to as a later creation. As set out earlier only two bulk petroleum teams were in existence then and the well drilling team had been set up much earlier. I believe it was not always an officially recognized unit but it was formed and trained as such being recorded as a detachment of 198 Park Squadron. It appears that they lost their number 502 to a new bulk petroleum team at a later date to be renumbered 520 and the letters now mean water development!

One feature of the history I feel needs mentioning is the re-roling of the ESP and teams in 1978 from the flanks of NATO to join with the Military Works Force (MWF) on formation of the Engineer Works Organisation to replace the Property Services Agency in BAOR on the outbreak of war. When I became Commander ESP at the beginning of May 1978 I also found myself Deputy Commander MWF. We began the process of learning our new roles in BAOR, training on the ground alongside our regular counterparts.

With the imminent disbanding of 198 Field Park Squadron the MWF (V) will be the only Sapper survivors of the former AER units. Those of us who remember "The Forgotten Reserves" with affection can at least still see the blue colour of those reserves retaining the place of precedence on the right of the medal ribbons given for service today. Yours faithfully – M W Knill.

### CLOSE SUPPORT ENGINEERS CONTINUED

### From: Major R E Ward

Sir, – I would first like to congratulate both Matthew Whitchurch and Jon Welch on such fine articles. Since Matthew has challenged senior gentlemen to respond, and as our motto was always "bash on regardless", this I will now do!

Although I have not served with armoured engineers since 1946 and have been out of the Army for over 30 years I have followed the fortunes of armoured and recently of close support engineers with the greatest of interest by a close study of the *RE Journal* and by meetings and discussions at reunions at Chatham and elsewhere.

To establish my own credibility I was commended by the Commandant of the Engineer School, Fort Belvoir, Virginia for a paper I wrote on *The Tactical Handling of Armoured Engineer Vehicles* (1950), the main purport of which was to integrate the "EAVs", as they called them, into the combat engineer battalion in the armored division. (Note spelling – I became bilingual before NATO standardization was introduced.)

In the British Army armoured engineers nearly disappeared, except for 26 Sqn and there was nothing much in the *Journal* until 32 Engr Regt produced <u>three</u> articles in one issue in 1984, when I sent comments proposing integration into divisional engineers. I was delighted when I read John Russell-Jones' fine and interesting articles about the Close Support Engineer Trial in the December 1990 *Journal*, preceded as it was by Brigadier Sheppard's article in 1987 emphasizing the Counter-Mobility Role, something we did not experience – anyway this produced the result that we do have integrated Close Support Engineers, as do the Americans, the French and Germans I read.

But although I was pleased to see the arrival of the Close Support concept I was extremely disappointed to read the earlier articles about the Chieftain AVRE because the whole concept of an AVRE gun, or other remote demolition device, seems to have been abandoned and I will expand below under the heading **Firepower**.

General Impressions. It seems that we have got a good Close Support System now but that there is still some argument about how it should be organized and employed. Perhaps this is because there is not enough time, money or suitable land for more units and officers to get the kind of experience described by Jon Welch. It seems that some units are detailed for BATUS without much previous experience. We did not have much time to argue like this although I can remember some very heated arguments about command, control and radio communications in the lane assault in the months before D-Day. We did of course have very intense training and huge resources before going into action. After that methods developed as we went along and one never saw any TDs or SOPs - the first I heard of SOPs was in America!

Another impression is that emphasis on manoeuvre, counter-mobility and counter-penetration, started with Brigadier Sheppard's original paper while we still expected an attack from the east. But now that the Warsaw Pact has disappeared whose penetration are we afraid of? Are there not other places Close Support Engineers can be used, such as in the Balkans? Perhaps the fact that it is really only easy to train on the plains of Poland, or the prairies, that makes people think that is the only terrain to prepare for.

I will now comment under headings used by Matthew and other writers.

Composition of Close Support Units. Although John Russell-Jones suggested integrated troops it seems that this is no longer favoured. "Plus Ca Change..." by Major Francis, April 1996, makes the point that armoured and field troops should be kept separate. I feel strongly that AVRE should not normally be mixed with field troops for the main reason that it can operate well forward of unarmoured sections, which cannot get up close under heavy fire, so how a troop commander could control both I cannot see.

At Le Havre our AVRE, after breaking through the main minefield, got to work on the Division main axis about a mile ahead of the Division Engineers, working in an area where "The tactical situation would not have allowed dismounted sappers or soft-skinned vehicles to operate" (report by HQ 42nd Assault Regiment 12 September 1944). Incidentally both the troop commander and the OC were in AVREs [sic] well forward – I find it hard to see how modern troop commanders could keep forward with the AVREs in their apparently less well-armoured Spartans (I do not know how well-armoured these vehicles are against, say, mortar fire or air burst. One could always jump into an AVRE under mortar fire to save digging!) I am also a bit suspicious about the CETs – how well armoured are they?

Grouping and Regrouping. Not only are Close Support Engineers now permanently allotted to formations but also the tempo is much greater, apparently, so that regrouping should not so often be necessary. Nevertheless it ought to be considered, particularly if any unit or sub-unit is so exhausted or reduced by casualties that it has to be relieved.

Before Battle. In 21 Army Group we only had 12 assault squadrons to support 15 or more British, Canadian and occasionally one American division. My own squadron actually supported nine of them at one time or another, in six corps in two Armies and with all three Allies, and on more than one occasion had to support elements of two divisions at the same time.

When with the Americans at Geilenkirchen in the Siegfried Line, we came under the Superb Sherwood Rangers Ycomanry, in the famous desert 8th Armoured Brigade, who organized all the British armour and I read later in the history of 84th US Division that "the support of the British Tankers was terrific". At all events they gave out two Silver Stars. In the forward area our troop commander found out what the American infantry wanted by inviting an American officer into his AVRE to help direct the fire. (He got one of the Silver Stars.)

During Battle. This was sometimes necessary, notably when forward infantry battalions were relieved by reserves passing through, as in the Scheldt estuary when we supported two Canadian battalions in two different brigades in less than a week, having arrived in a hurry after the battle had started to relieve 284 Squadron after the explosion at IJzendijke.

On one occasion a composite troop of AVREs and Crocodiles [AVREs with flame-throwing capability] was formed and later a troop joined an armoured column of AVREs, flails and Crocodiles assault regiment was successful in Italy I am against this idea because I feel that Cavalry officers would not want the job and that keen engineers would want more scope – I think it might be a Cinderella organization.

In the last war bridgelayers (Jumbos) were held by armoured regiments but I believe they were rarely used successfully except when grouped under ARE control, as in the Reichswald and at Le Havre. At Overloon on the Molenbeck, when we only had two troops for three crossings, 6 Guards Tank Brigade deployed their Jumbos on the other site but they bogged down and failed completely; one overturned. Whether they would have done any better under RE control I cannot say as the ground was exceptionally boggy, and on another crossing tanks got over our bridge but bogged down as soon as they left the bridge.

Only one crossing was successful for the whole of the 3rd Division and infantry casualties were so heavy that the Dutch still speak of "the Molenbeek tragedy".

Engineer Intelligence. Experience on the Molenbeck emphasizes the need for forward engineer intelligence – no amount of recce or equipment can make up for its lack. So far as I can see the planners did not appreciate the difficulties of terrain in the waterlogged Dutch countryside, intersected with wide dcep waterways. Perhaps they did not expect to go there until the sudden decision to go to Germany via Arnhem, leaving months of fighting to clear south Holland before any more progress could be made.

Firepower and the AVRE gun. In a book review in the *RE Journal* in December 1989 the reviewer makes the following pronouncement:

"As manoeuvre is easier to demonstrate in peace it gains the ascendancy over firepower. In war, of course, it is firepower which is the dominant requirement."

### Is this where we have got to?

When *The Times* published the existence of AVREs in 1945 they used the following wording: "The Royal Engineers once again fulfilled their traditional role as those responsible for handling the King's Engines of war". They made a special feature of the Petard and stated: "Whenever walls of thick concrete, road blocks and steel obstacles hold up the advance the AVRE is called for to blast a path for the Advancing Armour".

What has happened to this ability?

When we attended the ARE VE Reunion at Perham Down in May 1995 I spoke to several young soldiers and asked how they would deal with such very strong obstacles or defences. I had several answers:

- There would not be time in a modern war to construct such obstacles.
- 2. The RAF could do it.
- 3. The RAC might do it.
- 4. We should have a suitable weapon ourselves.

### I do not believe 1, 2 or 3.

At our recent reunion at Chatharn I spoke to General John Russell-Jones. He told me that modern explosives are so powerful that a hand-held weapon could do the job. If this is so why not put a small discharger inside the AVRE, under cover, to fire without exposing the firer to enemy fire?

I assume that, although manoeuvre war and counter-mobility are given priority, the possibility of fighting in closer country and in towns and villages has not disappeared and in fact might be more likely, eg, the Balkans, so I do think the ability to use explosives in the assault is still necessary and should be possible from behind armour without dismounting. I believe that only the French have a discharger, but loaded from outside; rather perilous and even more dangerous than the Flying Dustbin loader – "The French Engin Blindé du Génie" – *RE Journal* December 1990 and "Have the Germans got it right?" December 1989 (no I don't think they have!)

Matthew mentions "FIBUA" – we called it street fighting and AVREs were well to the fore with Petards.

I told Matthew last year that I was sure that:

- Engineers must be there in a closely controlled team of infantry, engineers and armour.
- The engineers must be armoured, in AVREs.
- AVREs must have a demolition gun or other remote demolition device (engineers must be able to do everything in armour that they have always done before without it).
- Flame throwers are also needed.

Protective and Covering Fire. In the paper introducing the Chieftain AVRE in 1987 it was suggested that the increased mobility made up for the loss of the AVRE gun (manoeuvre versus firepower). Whether or not this is so I do not see why there are now no vehicle-mounted machine-guns or other weapons. We always used GP AVREs (ones without devices – often officers' AVREs) to give covering fire. A huge roadblock near Bremen was destroyed by 14 rounds from an AVRE commanded by Captain Dougie Hamilton MC. The under a Crocodile major. This also happened at Geilenkirchen, where new groupings were arranged at nightly "O" Groups when the armour came out of the line for rearming, refuelling and maintenance. But if night fighting is now prevalent I do not know if they do come out at night or how they re-arm, etc. No doubt regrouping nowadays is less likely and more difficult but the possibility should not be discounted, I feel.

TDs and SOPs. As I have said I don't think we ever had these and very little written guidance, except on radio procedure which was strictly controlled when it first came in (**not** in the Royal Engineers at all until 1942 and at first very little). I suppose things developed very quickly under stress of war and on the battlefield basic military experience and the common desire to knock the enemy out and get the war over drove people to cooperate even if they did not speak the same language.

I never saw US SOPs but they probably had them. Their written operation orders were incomprehensible to us, as standardization had not been thought of. Some common guidance is needed but if more training and experience is gained it seems less necessary.

Like Jon Welch, I feel that the suggestion that squadron commanders need a book to tell them how to command is horrifying. One should not select squadron commanders who have no experience in this field – although I think this is more likely in peace than in war. In our day in Armoured RE (ARE) squadron commanders were mostly promoted on the battlefield from within our own ranks.

Can a close support squadron support more than one battle group? Here my experience may be misleading. If we supported one or more units or formations they would always already have their own divisional engineers and affiliated field companies. I once took my troop to support 2 Canadian Division while squadron HQ remained with 3 Canadian Division. On arrival, the Acting CRE, who was also OC 7 Field Company RCE, put me under command of his company. I was to support the leading battalion while the field sappers followed up. It was not tested because the battalion took the first village in Germany without armoured support.

It seems that the present organization would make supporting more than one battle group very difficult, unless it had two integrated troops or split the field and armoured troops to different groups; undesirable, perhaps but might be forced by necessity or shortages. **Recce.** I have been surprised to read of the reliance upon inexperienced recce sergeants. For most of the war recce was done by section or troop officers, supported by recce lance sergeants, but after 1943 all squadrons and companies had two recce officers in HQ – the troops and platoons still had their recce lance sergeants. In ARE we had no recce element; if necessary troop commanders or second officers and occasionally troop sergeants did it.

At Overloon the troop sergeant did a night stalk with an infantry patrol and made a rough measurement of the gap. This led to a complete overhaul of the plan and the next night, before the attack, the troop commander went down again with his sergeant almost to the obstacle in the pitch dark until they heard the Germans talking. This crossing was entirely successful (the only one that was).

Further to the right the troop commander was injured so the second officer sent down his troop sergeant with an infantry patrol, but the patrol turned back before finding the minefield which eventually caused the troop heavy casualties to AVREs and their crews. A field company major was next on the scene but he was wounded and had to be rescued by our OC in his AVRE. In the end, after two attempts, no tank crossing was made but the field Sappers came up and worked with dismounted crews to make a very rough wheeled crossing with broken down fascines.

On the Rhine, as Acting OC, I did the recce myself with an experienced troop commander and a small infantry escort, who refused to come all the way to the water's edge. We could never rely implicitly on infantry covering parties on either recce or demolitions in withdrawal.

I feel sure that the recce sergeants are nowadays better educated and able to hold their own with other arms, but they apparently need more training, especially in reporting. In field units we made much use of proformas, especially for bridging and demolitions, and clear sketches were essential. If I had a squadron I would want to train them all myself and not rely on ready made ones being supplied. When I had a troop training with an armoured division I used to train the section commanders in recce as well in case they got there first with the vanguard. But if it was bridging, as a troop commander I would always want to go myself as I never liked to bridge on another man's report alone.

Should armoured engineers be in the RAC? Although I have heard that a combined RAC/RE Infantry thanked him profusely. So why no machine-guns on a tank hull?

When I sent a photo of the new Chieftain AVRE to Bob Harvey, *Croix de Guerre*, one of our best AVRE commanders, he said "A fine machine but no fighting ability but the Dozer blade might give increased protection in front". So let's hope the next new AVRE will have fighting ability!

Fighting as Infantry. I was amazed to read that this is another art that seems to be neglected in our Corps. At the beginning of World War Two it was neglected but Dunkirk changed all that when even rear construction units had to fight when the Panzers broke through. Later, I began to train my troop in semi commando-type ops. But in Autumn 1942 General Dempsey, Commander 42nd Armoured Division, came down and said that as Engineers we were second to none but that as soldiers we were very poor. All units, even the field hygiene section, must understand that our first and foremost job was to kill Germans! All of our troops, including cooks, storemen, clerks, everyone, were sent to Infantry battalions to be put through the whole works including assault courses, forced marches and live firing. Later when I commanded 23 Field Squadron in Palestine we all learned about Lieutenant Digby Jones VC, and the defence of Wagon Hill. I read, in the history of the 1st Division, that 23 Field Squadron had been put in the line with the Scots Guards at Anzio and had lost over 100 men. So when we went to Transjordan with the Guards Brigade I put 23 Field Squadron in the line with the Guards as an infantry company and I also volunteered to provide guerrilla enemy for battalion night exercises. I report this to show what can be done as I have always understood that a field company is the best and most likely unit to be called up in a crisis.

**Combat Service Support.** As Second in Command of 617 Assault Squadron throughout its existence I had to organize our echelon system from scratch, starting from a field squadron HQ. So I think Jon Welch has got a thoroughly sound system going and is probably better established and equipped than ever we were – we had no admin officers, TQMS or echelon commander but a really excellent MT sergeant, a RE fitter sergeant on the ARV with RE and ex-RAC vehicle mechanics and also a small REME section under an AQMS with only a wheeled recovery vehicle. We also had an ex-RAC tech sergeant for tank spares and armoured-vehicle paperwork.

We nearly always did our refuelling at night in rear rallies; tried it forward by day at Le Havre under (unobserved) air burst and got away with it; not to be repeated! And can TES simulate air burst or mortaring in rear areas? Do they have any crosscountry or armoured vehicles to get well forward to the AVREs?

And where do the armoured engineers ancillaries come from? Do they have dedicated transport or do they, like we did, have to unload and go back for them (we had them delivered during large setpiece attacks only – over 300 tons at Le Havre for four assault squadrons).

HQ Squadron. Matthew mentions HQ squadron, but I do not know how it is organized or what it does. We always had field or assault park squadron and companies who handled resources.

When 42 Armoured Engineer Regiment reorganized for the Far East in 1945 I took over and formed 203 Armoured Engineer Park and Forward Delivery Squadron. The idea being that we could take over forward delivery from the RAC and send replacement AVREs with complete crews. We finished up in Hameln in 1946. So how do replacement AVREs and crews now come up? Do they come via HQ squadron? We had a training squadron but now Bovington is used which I hear is very good.

**Conclusions.** I think we now have a good Close Support System and if more priority was given to training and experience in various types of warfare, not only counter-mobility, the apparent conundrums of organization and procedure would soon iron themselves out.

Regrouping, although perhaps more difficult in fast moving warfare, may still be necessary. Likewise support of more than one battle group is not so easy but its necessity in a crisis cannot be ruled out. Good training and experience make all these things easier.

I am certain that more attention should be given to military training, both as infantry and in armoured warfare, and that AVREs should have machine-guns or other weapons for defensive and supporting fire and that complete reliance on other arms for protective and supporting fire can never be taken for granted.

I am still certain that AVREs must have a means of projecting large charges of explosives from within the AVRE for attacking very strong obstacles and fortifications.

Well, as I said, Matthew challenged and the result you have seen! I hope it is not considered the wanderings of a "has been" and I hope it is helpful. Yours sincerely – Roland Ward.

# Reviews

THE HISTORY OF LANDMINES Mike Croll

Published by Pen & Sword Books (Leo Cooper), 47 Church Street, Barnsley, South Yorkshire, S70 2AS – Price £18.95 ISBN: 0 85052 628 0

MIKE Croll is a former Sapper captain, who served in 33 Engineer Regiment (EOD). Since he left the Army in 1991 he has been involved in de-mining in Cambodia, Afghanistan, Bosnia and Mozambique. In this interesting and well-written book, he charts the history of landmines, starting with sharpened stakes and caltrops 2500 years ago and leading on through to the first explosive land-mine – the fougasse, which appeared in Europe in the sixteenth century – to the sophisticated minimum metal mines of the present day. The development of mine technology and the tactical lessons learnt in wars from the American Civil War to Vietnam are well covered. Strangely, the British experience with the Falklands' minefields is not mentioned.

Casualty figures are dealt with comprehensively, both in terms of the operational losses due to minefields and the attrition of clearance parties after conflicts. In the former case, the figures show that during the Second World War, German mines accounted for about 20 per cent of Allied tank casualties, rising to 30 per cent in the Italian campaign; this was significantly higher than the proportion of casualties caused by direct fire from tanks.

Clearance of the anti-invasion minefields laid in England started in earnest after the war and the majority had been cleared by 1948. However, the last beach was not opened to the public until 1972 and 155 de-miners were killed between 1945 and 1957. Painstaking postwar clearance operations proceeded - often using prisoners of war - throughout the battle zones and about 95 million mines were cleared in Europe and North Africa. Mike Croll provides a table analysing the casualty rates on these operations, which indicates that on average one casualty occurred for every 3279 mines cleared. But these figures are misleading, because no casualty figures are available for the 58 million mines cleared in the USSR; thus the true figure is much higher, perhaps at least one casualty for every 2000 mines cleared. About 40 per cent of the casualties were killed.

The humanitarian issues arising from the mines laid in an uncontrolled fashion by poorly trained guerrilla armies are well covered. This unquestionably serious problem has been confused by the grossly exaggerated figures quoted by some organizations. Mike Croll quotes the example of Afghanistan where there were initial estimates of 35 million mines. This was later reduced to 10 million, but even this figure would have required the Soviets to lay a hardly realistic 3000 mines every day throughout the nine years of the conflict. About 10,000 mines are being lifted annually in Afghanistan, leading to estimates that it will take 1000 years to clear them all. But about 25sq kms of land are being cleared annually, and it should therefore take only about 20 years to clear the 466sq kms estimated to be contaminated. Clearance methods are examined, leading to the conclusion that manual de-mining will remain the primary method, due to the inadequacies of the mechanical methods that are available. The majority of the mines to be cleared in the developing world are of Soviet origin, with a relatively high metal content and thus easy to detect. Although manual clearance is labour-intensive, labour is not in short supply in these areas. Even though the de-miners are paid very little by Western standards, these operations bring a significant influx of cash to impoverished regions.

Mike Croll goes on to indicate that laudable humanitarian aims are almost certainly better served by providing more funds for the de-mining organizations to increase the rate of clearance, than by the international campaigns to ban land-mines. The Ottawa Convention will enter into force on 1 March 1999. This convention will ban the use and stockpiling of anti-personnel mines, and requires the clearance of extant minefields within ten years. Signatory states that have used mines in a responsible way will therefore be deprived of the use of a legitimate and effective defensive weapon. But many of the principal manufacturers of anti-personnel mines, including Russia and China, are not signatories, and the convention will do little to prevent mines getting into the hands of guerrilla forces. Under the convention, the UK is committed to clearing the mines in the Falklands', even though - in the opinion of your reviewer - there is no conceivable humanitarian or economic reason for doing so. It is a sobering thought that historical evidence shows that some casualties will be inevitable in this operation, particularly given the uniquely difficult ground conditions.

This is a well-researched and produced book with clear drawings and photographs. Mines are a subject of professional interest to every Sapper, and this book can be recommended thoroughly.

CPRB

## QUEEN'S GURKHA SAPPER HANK BOWEN

Privately published by the Queen's Gurkha Engineers Trust, available from Corps Enterprises, Brompton Barracks, Chatham, ME4 4UG (ring: 01634 822316) Price £29.99 incl p&p in UK,

It has always been widely accepted that Gurkhas have a special flair for soldiering. What was not so clear fifty years ago was that they would also be trainable as Sappers. Such doubts seem laughable now in the light of the indispensable part the Queen's Gurkha Engineers have played in the post-Second World War era. Without them the Corps would simply have been unable to fulfil its myriad commitments in both peace and war.

How all this came about has been recorded in Hank Bowen's book, with contributions by a great many of those who have had the privilege to serve in this unique band of brothers. "Queen's Gurkha Sapper" is a comprehensive record of the history and background of the family within a family that has become the Queen's Gurkha Engineers. Hank Bowen has wisely summarized the essence of General Lance Perowne's earlier and authoritative "Gurkha Sapper" into the first four chapters of its successor so that the record is complete. It is clear from this section how the vision of the early architects (particularly Generals Lance Perowne and John Bowring) paid off through a Corps policy of manning the fledgling unit with officers and senior ranks of exceptional talent.

"Oueen's Gurkha Sapper" contains a lot of detail as befits the keepsake aspect of such a complete record of a single unit. These are the trees that form the wood and if the non-Gurkha reader skips some of them to view the wood as a whole he will find much to enjoy. The sections dealing with operational tours, for example in Borneo (particularly), postwar Falklands, Belize and Bosnia and operations in Hong Kong itself, give as lively a picture of those campaigns as might be wished. They are well set in context. An excellent feeling for the experiences of these campaigns and many so-called peacetime events round the world comes from the copious use of personal reports, extracts from the Regimental Newsletter and other contemporary records and publications including many colourful anecdotes. There is also a whole chapter devoted to the activities of Gurkha Engineers in Nepal itself. This includes accounts of several challenging tasks undertaken by former members of the Regiment, employing their skills with admirable enterprise to the great benefit of their own country.

Behind the whole story, however, lies the looming shadow of the British defence budget and the perennial battle to retain the regimental establishment, ebbing and flowing as it has in parallel with perceived commitments. Peaks of 1500 in 1965 (Confrontation) and 900 in 1991 reduce to 300 at the end of the depredations of SDR. Yet to be discerned is whether this is an adequate base on which to maintain the special requirements of Gurkha Sappers while accepting the inevitable trend towards a degree of integration with the rest of the Army. Clearly no effort has been spared within the Corps to prepare for this challenge.

This is a gem of a book, marvellously well produced and worthy of any Sapper's collection. The artwork, pictures and maps, are of exceptional quality. It is impossible for a non-Gurkha to read of this creation of the Corps without basking in a little reflected glory. What the Corps has contributed to the Gurkhas is clear from these pages but what also emerges so well is the special contribution of the Gurkhas to the Corps. We will do well to follow their example in preserving our own kaida. Anyone who is unaware of the significance of that word should certainly read the book.

GWAN

### THE PENINSULAR WAR: ASPECTS OF THE STRUGGLE FOR THE IBERIAN PENINSULA General Editor: Ian Fletcher

### Published by Spellmount Ltd, The Old Rectory, Staplehurst, TN12 0AZ – Price £20.00 ISBN 1 873376 82 0

This collection is rather like a bag of Liquorice All Sorts and every reader will have his preference. Eleven well known writers of the period offer their aspects and, for this reviewer, five are good. David Chandler, in a wonderfully rounded yet concise chapter, discusses siege warfare; Philip Haythornthwaite follows with a very readable, informative chapter on the unusual subject of fraternization - including some excellent quotations; Paul Chamberlain takes on Prisoners of War in the Peninsula and hides nothing from us, and nor should he; Paddy Griffith chooses to discuss the value of drill in the Peninsular War, but under the delightful title of "Keep step and they cannot hurt us", and makes a prosaic subject entertainingly readable, and, lastly, John Grehan looks at Wellington's Fighting Cocks, our comrades-in-arms in the Portuguese Army, giving these undersung warriors the place in history they deserve.

On the remaining six aspects, their authors deserve a clap for trying and if they didn't quite succeed for
me they may well do so for others. One suffered from Adjectival Fever, which made for difficult reading, another presented a paper originally delivered at an international seminar in 1984 in Madrid and although, for this book, the chapter was actually written in English, so many untranslated Spanish words and phrases were used that the text became impossible to understand; a stronger editorial hand was certainly required. The remaining four aspects were careful, solid and informative.

At the end of this book are a total of six empty pages yet there is no Index, and the one, general, map of Spain, inadequate. In the List of Plates on page vii the information on Marshal Soult, Duke of Dahnatia, is inaccurate. As I said at the beginning, a bag of Liquorice All Sorts. Take your pick.

JVP

#### TO JAPAN TO LAY A GHOST Peter S Rhodes

### Published by Citron Press, Connors Corp Ltd, Suite 155, Business Design Centre, 52 Upper Street, Islington Green, London, N1 0QH – Price £6.99 ISBN 0754400115

INTERESTING and very readable, this is the account of Gunner Rhodes P S, a battery surveyor in 155 (Lanarkshire Yeomanry) Regiment, Royal Artillery, part of 11th Indian Division during the long, exhausting and wretched retreat in Malaya which started in December 1941 and culminated in the surrender of Singapore on 15 February 1942. All reports show that the regiment performed as well as it was permitted in those confused weeks, but the unrelenting pressure, frequent outflanking tactics and sheer momentum of the Japanese advance proved to be unstoppable. After a short period in Changi goal on a minimal, watery diet, Rhodes was detached in a working party to the Great World amusement park, from which stevedoring detachments were sent to work in the Singapore docks. The hard work, thieving and smuggling involved were much relieved by his activities as stage manager of the camp concert party. His enthusiasm and ingenuity in this task were rewarded by the personal congratulations of General Yamashita, the Japanese Army commander, who bowed to him and shook his hand. This period of his life as a prisoner of war was followed by a return to Changi where his morale was maintained by further concert party work, interrupted by incidents of pure terror when forced to dig his own grave after his theft of diesel oil from a nearby coastal gun emplacement was discovered by his guards. The brutal beatings that he suffered at that time seem to have affected

him little. His phlegmatic and optimistic attitude lasted throughout his captivity and was responsible for his survival.

In May 1943 Rhodes and 900 other prisoners were shipped to the small port of Moji on the southern Japanese island of Kyushu (oddly enough, my first port of call in 1958 en route from Hong Kong to Yokohama to begin the Japan part of my long language course in Japanese. Oddly too, my ship was an old 4000-ton tramp steamer, which also ran into a typhoon off Taiwan, but I had five co-passengers, not 900).

Rhodes spent the rest of the war working at a coal mine in northern Kyushu, under the orders of a Japanese miner named Maeda but nicknamed by the prisoners "the Pig", who worked him as hard as his enervated physical condition would allow. Fortunately there was a fine Dutch camp doctor who cared for these debilitated prisoners and who must have been responsible for saving many of their lives.

The wartime account ends with the Japanese capitulation and American air supply of the camp, followed by Rhodes' repatriation through the United States and Canada. To me, the last chapter of the book, describing his return to Japan in 1970 and his meeting with Maeda, is unsatisfactory, as nothing is recorded of his conversations with Maeda. However, this and subsequent visits to Japan "laid the ghost" and Rhodes ends by writing "I have neither forgotten nor forgiven, but I have stopped hating, and as a result of much close and personal contact, I find that I like the modern Japanese and am happy to treat them as my friends."

Rhodes qualified as a Chartered Structural Engineer and became Chief Structural Engineer to the Northern Ireland Government. He is an Honorary Member of the Institution of Royal Engineers.

DOC

# ON WELLINGTON: THE DUKE AND HIS ART OF WAR

JAC WELLER EDITED BY ANDREW UFFINDELL

Published by Greenhill Books, 1 Russell Gardens, London, NW11 9NN – Price £19.99 ISBN 1 85367 334 X

On the subject of history Jac Weller commented on one occasion "To be interesting is the supreme aim." Happily, he himself never fails us. Author of a first class trilogy covering Wellington's campaigns in India, the Peninsula and Waterloo, in this selection of essays he ranges splendidly over the Great Duke's logistics, his engineers, his intelligence system, use of guerillas, and tactics at Waterloo – and for the reader there is never a dull, or wasted, moment. In plain, simple language he shows us how Wellington's battles were half won long before any day of physical contest dawned, dwelling on the Commander's exceptional vision in correctly identifying enemy weaknesses and taking measures to capitalise on them. And nowhere is this ability more obvious than in the chapter on the engineers and their work in the Peninsula.

Pitifully few in number they were more than fully stretched and, to their righteous indignation, also undertrained in many important aspects of Napoleonic warfare. However, in Wellington they found someone who understood, precisely, requests made of them, "His Lordship ... went through every computation and every detail of preparation with the readiness of the Professional Engineer of the first order", wrote an officer, although, admittedly, this expertise could have its drawbacks and even embarrass them, particularly in respect of sieges in which he was experienced and they were not. But the construction of the defensive lines or Torres Vedras before Lisbon, destined to halt the tide of French aggression in Portugal, also proved the catalyst that finally drove the invader over the frontier for good. They stand forever as a memorial to the engineers who created them, and to Wellington for their initial, brilliant conception.

From 1808 to 1814 his engineers mapped not only the country immediate to present operations but also areas likely for future ones. New roads were cut, the old widened, and bridges constructed whether flying or otherwise, in fact everything that would enable infantry, artillery and the vital supply train to travel more swiftly. When even faster communications were necessary, obedient to his fertile mind, the engineers opened up to navigation the great rivers of the Douro and Tagus. Weller describes how, "Drag lines attached to teams of oxen scooped out thousands of tons of sand. Tons of gunpowder were used to blast away rock and at least one canal was cut so that boats could be towed atound a particularly tough stretch of river."

Of Anglo-American birth and very much an allrounder in history, Weller also tackles the subject of a young Wellington's campaigning problems in India in 1799 to 1804, and compares them with those of the American commanders in Vietnam in the 1970s. And one essay, somewhat mischievously, puts his Lordship "into Confederate Grey" and considers how he might have fought the Battle of Gettysburg. Andrew Uffindell's able and sympathetic editing of this collection further enhances the book, which opens with his warm memorial tribute to Weller and his wife, Cornelia, for much of the research and writing was shared. Uffindell's, too, are the important linking paragraphs in each essay. Weller once commented on how, "Far too much well-researched history is written in a manner so dull that not even other historians read it", a trap his editor as well as himself have wonderfully avoided in this delightful book.

JVP

#### CHURCHILL'S SECRET WEAPONS PATRICK DELAFORCE

Published by Robert Hale Ltd, Clerkenwell House, Clerkenwell Green, London, EC1R OHT – Price £18.99

## (£13.50 for veterans and servicemen direct from the author at 2 Hamilton Road, Brighton, BN1 5DL) ISBN 0 7090 62370

A TREMENDOUS amount of research has gone into this well written book. It adds up to a detailed history of the origins and actions of 79th Armoured Division in the Second World War, and of its commander, Major General Sir Percy Hobart, always known as Hobo.

The Division was by far the largest armoured division during the war and was involved in every major action by British and Canadian forces that took place during and after the D-Day landings in Normandy. As Field Marshal Montgomery wrote, "the record of the Division is unique and its contribution to the winning of the campaign in north-west Europe has been incalculable." From its formation to its disbandment it was commanded by Hobo.

Hobo supervised the training and development of all the new tank-mounted weapons that were produced as a result of our experience in the earlier phases of the war. These included the swimming tanks, flails, flame-throwers, tracked amphibians and, of course, the Assault Vehicle Royal Engineers (AVRE), with its multiplicity of "funny" attachments, such as assault bridges, fascines, dozer blades, spigot mortars, mine clearing "snakes", etc.

The story of 79th Armoured Division is such a vital part of the history of the last year of the war, that it needs to be understood by anyone who is interested in that war. No other published book is available for purchase that gives such a comprehensive picture as does "Churchill's Secret Weapons".

# Explanation of Abbreviations and Foreign Words Used in This Journal

MWF	
NATO	
NCO	non-commissioned officer
OCTU	Officer Cadet Training Unit
Qps	operations
ORBAT	
OTC	Officer Training Corps
PMC	president of the mess committee
PCC	
PCS	Postal & Courier Service
PR	public relations
Pre OCTU	nre Officer Calet Training Unit
PT	physical training
OMSI	maitermaster sergeant instructor
RCE	Royal Canadian Engineers
RAC	Royal Armoured Corps
RAF	Royal Air Force
PAMC	Royal Army Medical Corps
RAOC	Royal Arun Ordnance Corps
PASC	Royal Army Service Corns
20	Royal Engineers
Ramo	reconnaissance
Daart	lenging
REME	Royal Electrical and Mechanical Envincers
RHO	regimental HO
DMA	Royal Military Academy
80	retired officer
REAL	Regimental Sergeant Major
DTD	Royal Tank Regiment
SD	staff duties/special duties
SDR	Strategic Defence Review
sand	section
sect	Supreme Headauarters, Allied Powers, Europe
sect SHAPE SOP	Sopreme Headquarters, Allied Powers, Europe standard operating procedure
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21/2	Prof in Commund
2R	
(A)	seti simed
AA	
ADC	and development of the state of
admin	auministration
AGM	annual general meeting
AER	Army Emergency Reserve
APTC	Army Physical Training Corps
AQMS	
ARK	
Armd	armoured
ARRC	. Affred Command Europe Rapid Reaction Corps -
ARV	armoured recovery vehicle
ATD	annual training directive
AVER	atmoured vehicle-launched budge
AVDE	armoured/assault vehicle RE
handida.	bioham mon/bandits
DADD	Reith Army of the Phine
DATES	Deid & Yeary Tenning Lon Suffield
8410.5	Debt & Decision Comparison
BBC	
BBQ	
Bde	brigade
BFT	basic fitness test
BMA	British Medical Association
сарт	
CE	
CET	
co	
Comd	
cpl	
CVR(T)	combat vehicle, reconnaissance (tracked)
CRF	
CS	close support
n	deputy
0.00	denus assistant director
DAD THEFT	damate director
1212	division
DR	function comment in other
DSO	deerston support overlag
dvr	
EAV	engineer armoured vehicle
eg	evenpli gratia for example
EinC	Engineer in Chief
Engrander	eognocer
EOD	explosave ordnance disposal
FIBUA	
FR	
FTX	
FUP	
G4	.material/materiel
GE	
GOC	general officer commanding
GP CP	veneral purpose
CS	eeneral staff
(1)	Howebold Cacalry Regiment
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100	Latellinese
101	Automaticas ( Complete La Complete State
150	
. Ефі	tance corporal
minum	Jo drink (Malay)
MENE	Military Engineering Experimental Establishment
MI	
MOD	
Mf	

Please note: the above abbreviations are those which appear within articles published in this edition of the Journal and are printed for the benefit of our many foreign and inon-initiary readers. Appointment abbreviations which appear on the first page can be found in the back of "The Royal Engineers List".