



The Military Survey (Geo) Branch

Spring Newsletter 2018 – issue 67

MILITARY SURVEY (GEO) BRANCH REA

ITS A
REUNION

FREE ENTRY AND FREE CURRY SUPPER

NON MEMBERS (£10 with partner) (NB: £5 pp cash back if you subsequently join)

SUPER BAR @ MESS PRICES

FREE TRANSPORT LATE TO LOCAL HOTELS ONLY - M4 JUNCTION

1830hrs for 1900hrs FRIDAY THE 13th OF APRIL 2018

Location: SGTS MESS - DENISON BARRACKS - HERMITAGE

The Committee with the kind permission of Commanding Officer, the RSM, the President of the WO & Sgts Mess, extend an invitation to members to attend this reunion in the Sgts Mess Hermitage.

NB: OUR ANNUAL GENERAL MEETING WILL BE AT 1700 for 1730 ON THE SAME DAY

Do note that we only meet once a year and we must vote in officers of the Branch and approve the accounts therefore we are compelled to hold an annual general meeting (AGM). Those interested in attending the AGM should note that this will take place on the same day at the same venue but at an earlier time. It will not interfere with the opportunity for members attending the reunion to chew the cud, enjoy the food and of course the good cheer.

Please do try to attend with wives/partners and support your Branch.

Last year a good number of members turned out for the reunion accompanied by their wives/partners and NOT surprisingly the ladies too enjoyed the evening with their own memories of yesteryear. They even got together in their own huddles and ignored the men who all had to talk to each other much to their annoyance!!!!

So please try to convince the girls (!) to come along. All I spoke to last year thoroughly enjoyed the whole evening – please do not be shy girls.....!

RETURNS REQUIRED URGENTLY

BUT NO LATER THAN 1st APRIL 2018 [IS THE CUT OFF DATE]

FURTHER DETAILS AND THE ENTRY FORM ARE AT THE LAST PAGE



National Centre for Geospatial Intelligence

Over the past 18 months, the Chief of Defence Intelligence (CDI), Air Marshall Phil Osborn, has led Defence Intelligence through a significant transformation programme. During this process, the critical value that Geospatial Intelligence (GEOINT) provides to the UK was fully recognised and the requirement for a national capability was agreed. The model of a national GEOINT organisation was woven into the wider changes within Defence Intelligence and the National Centre for Geospatial Intelligence (NCGI) was formed on 1st December 2016. The NCGI combines the former JARIC, Defence Geographic Centre (DGC) Feltham, No.1 Aeronautical Information Documents Unit (AIDU), HQRE Geo and 42 Engineer Regiment (Geographic) under a 2-star led organisation, headed by Major General Jim Hockenull and managed day to day by myself. It is the authority for GEOINT delivery in the UK and a major step forward for the UK's GEOINT community.

As we near the end of the second decade of the 21st century, GEOINT remains critical to the UK military and its partners across government and allies.

It continues to underpin the other intelligence disciplines within the UK intelligence community, and enables situational awareness and safety of navigation at all levels from global to tactical, in both home-based and deployed capabilities. NCGI draws on rich and varied heritage, from the early days of photographic reconnaissance in World War 1 and the expansion of our imagery analysis capabilities at Medmenham during World War 2 and thereafter, as well as the long history of Military Survey in all its guises.



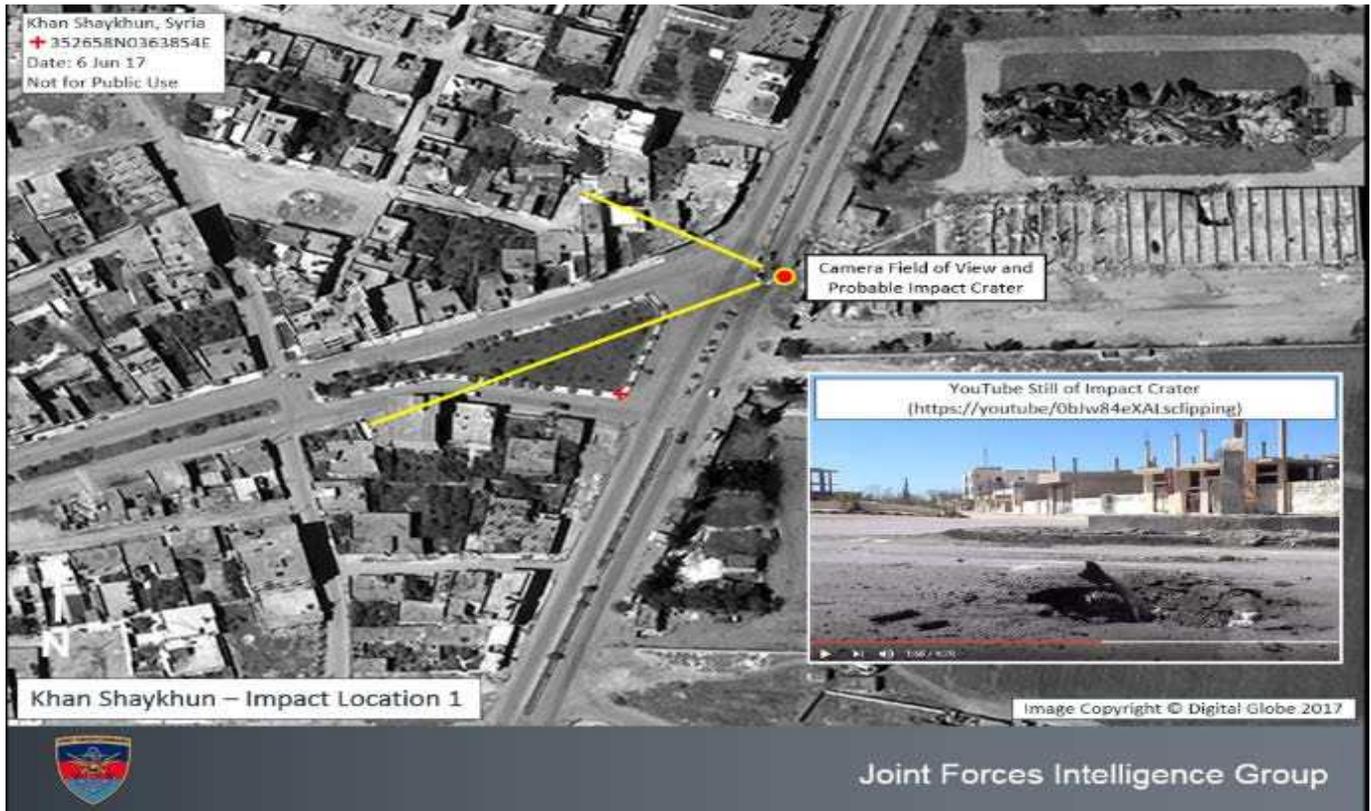
Pathfinder Building, RAF Wyton

Many things have changed over the years, but the need to innovate and apply the latest developments in technology to meet decision makers' demands for information, insight and foresight in an ever-changing geo-political environment remains a constant. The NCGI is organised into three output functional areas: Analysis (NCGI-A at RAF Wyton led by Group Captain Stewart), Foundation (NCGI-F at Feltham, West London and RAF Northolt led by Mr Ian Spencer), and Deployable (NCGI-D at RAF Wyton, led by Colonel Roly Cockwell).



The organisation combines the expertise of 1200 military and civilian imagery analysts, geographers and geospatial analysts in a mutually supporting organisation. The NCGI Foundation function now includes oversight and funding of all Defence support provided by the UK Meteorological Office and the UK Hydrographic Office, and the intelligence analysis function has been enhanced by embedding specialists from both of these areas. NCGI Deployable has functional responsibility for all the Royal Engineer geo detachments embedded in units across Defence as well as 42 Engineer Regiment (Geographic) which is based at Wyton.

NCGI continues to train and develop its analysts with a complementary range of bespoke training courses which builds on their foundation training from the Royal School of Military Survey, which is part of Joint Intelligence Training Group and includes IMINT Wing. NCGI analysts start their careers in their respective specialist fields and through improved career management have the opportunity to expand their skillsets and gain experience working in a range of intelligence or geospatial teams or within different organisations.



Khan Shaykhun – Alleged CW Attacks on 4 Apr 17

The intelligence community has reaped the benefits of access to this integrated specialist GEOINT capacity; much of the GEOINT analysis component is operating within the new Pathfinder building at Wyton. NCGI analysts working within the Defence Intelligence Mission Teams are able to produce innovative and dynamic products that are available to an increasingly broad community of interest. National GEOINT Officers (NGOs) are deployed to a variety of partner and defence organisations. Their GEOINT skills, authority and ability to reach back into NCGI and our international GEOINT partners are increasingly recognised as a force multiplier in intelligence terms.

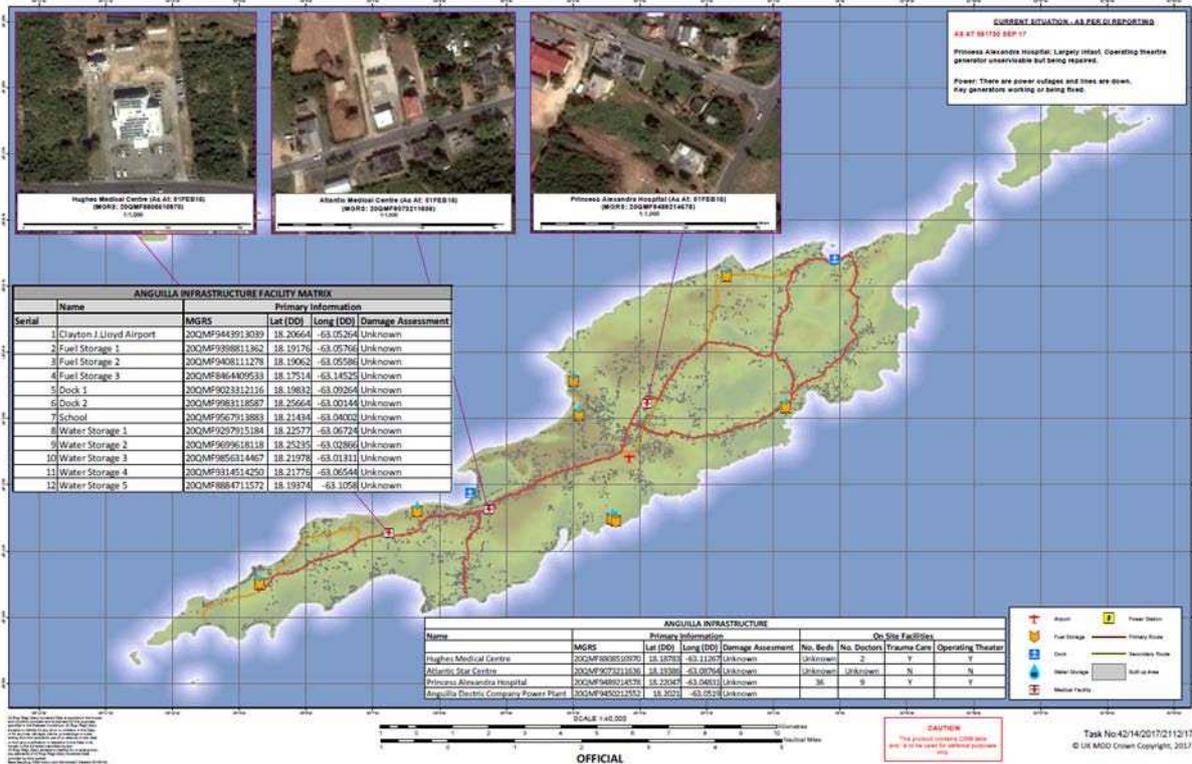
Our enduring long-term relationships continue to strengthen and will form the cornerstone of the future of GEOINT within the UK. We have embraced the digital age, bringing greater capacity and speed and putting advanced imagery and geospatial analysis techniques at every analyst's finger tips. These technical and analytical advances have made us better able to support our decision makers and customers in a timely manner.

The Future

Within Defence and Defence Intelligence, NCGI will continue to evolve and be recognised as a truly national capability, celebrating and developing the ethos of organisations that have preceded it and harnessing the best of the RAF Int Branch, RE Geo, Int Corps and Civil Servants who comprise the core staff. In doing so, NCGI will be able to support a range of Foundation GEOINT and intelligence activities and provide GEOINT expertise and advice across all of Government. Working ever closer with our allies, and with a growing number of commercial, academic and other partners, we are increasing our technical expertise and better utilising a range of emerging technologies thereby increasing the capabilities of our future analysts. As a result, our analysts and systems have an increasing capability to deal with the constant demand to answer challenging and complex problems.

ANGUILLA: INFRASTRUCTURE

AS AT 14 SEPT 17



Assessment of damage to infrastructure within Anguilla following Hurricane IRMA, developed jointly by both imagery and geospatial analysts

Access to an expanding number of traditional and non-traditional sensors and data sets will provide the breadth and depth of information needed to allow NCGI analysts to provide accurate and timely foundation and intelligence products. The integration of all the national GEOINT capabilities, along with our partners' capabilities, will give NCGI the competitive edge to meet current and future challenges.



A snapshot of a 3D model, created from multiple stills taken by a small COTS UAV currently being trialled by 42 Engr Regt (Geo) (image courtesy of Pix4d)

NCGI is the heart of UK's cross-Government GEOINT activities and will continue to deliver timely and effective GEOINT to decision makers, planners, and operational units in the UK and on deployed operations.

Ben Kite

B D A Kite OBE
Brigadier
Head of National Centre for Geospatial Intelligence



(Previously published in the 2017 Edition of The Ranger)



"Portrait of a surveyor; image shows full-length view, possibly of one of Anaheim's first surveyors, either George Hansen, Stephen E. Kiefer or Mr. Knox; dressed in surveyor's clothes, holding a book in his left hand, and standing next to a surveyor's transit on tripod." Anaheim Public Library California USA (Pinterest.com)

Paul Sandby RA (1731 – 1809)

Chief Drawing Master to the Royal Military Academy Woolwich



Paul Sandby by Francis Cotes (1761)

He left his post with the survey in 1751, and spent some time living with his brother Thomas, who had been appointed Deputy Ranger of Windsor Great Park. There he assisted his brother, and made a series of drawings of the castle, the town, and its neighbourhood, which were purchased by Sir Joseph Banks. His skills were applauded by fellow artists such as Thomas Gainsborough: if one wanted "real Views from Nature in this Country", declared Gainsborough in 1764, there was no better artist than Sandby, who frequently "employed his pencil that way."

He also etched a large number of plates after his own drawings, a hundred of which including views of Edinburgh, were published in a volume in 1765. In 1760 he issued twelve etchings of *The Cries of London*. He also made many plates after other artists, including his brother. In 1753–4 he published, anonymously, several single caricatures satirising William Hogarth. He returned to the attack in 1762, and produced other satirical work sporadically throughout his career.

It is not recorded how long Sandby lived with his brother at Windsor, but he is said to have spent part of each year in London, and much of his time was probably spent on sketching excursions.

Paul Sandby R.A. (1731 – 9th November 1809) was an English map-maker turned landscape painter in watercolours, who, along with his older brother Thomas, became one of the founding members of the Royal Academy in 1768.

Sandby was born in Nottingham, and baptised there in 1731, although his date of birth has traditionally been given as 1725. In 1745 he moved to London where he followed his brother Thomas in obtaining an appointment in the military drawing department at the Tower of London.

Following the suppression of the Jacobite rebellion of 1745, Sandby was employed to assist in the military survey of the new road to Fort George, and of the northern and western parts of the Highlands, under the direction of Colonel David Watson. He was later appointed draughtsman to the survey.

While undertaking this commission, which included preparing designs for new bridges and fortifications, he began producing watercolour landscapes documenting the changes in Scotland since the rebellion, and making sketches of Scottish events such as the hanging in Edinburgh of soldier-turned-forger John Young in 1751.



Paul Sandby by Sir William Beechey, 1789, National Portrait Gallery



Windsor Castle by Paul Sandby

On 3rd May 1757 he married Anne Stogden, and by 1760 he was settled in London. In 1760 he contributed to the first exhibition of the Society of Artists. He exhibited regularly with the society until the foundation of the Royal Academy eight years later, and was one of its first directors when it was incorporated in 1765. In 1768, he was appointed Chief Drawing Master to the Royal Military Academy at Woolwich, a position he retained until 1799. On the formation of the Royal Academy in the same year he was one of the 28 founder-members nominated by George III. He often served on its council, and contributed to all but eight of the exhibitions held between 1769 and 1809.

Sandby made extensive journeys around Britain and Ireland, sketching scenery and ancient monuments. He made his first recorded visit to Wales in 1770, later (1773) touring south Wales with Sir Joseph Banks, resulting in the 1775 publication of XII Views in South Wales and a further 12 views the following year, part of a 48-plate series of aquatint engravings depicting Welsh scenery commissioned by Banks. He died at his house in Paddington on 7th November 1809, and was buried in the burial ground of St George's, Hanover Square. He was described in his obituaries as "*the father of modern landscape painting in water colours*".



An Ancient Beech Tree, by Paul Sandby

Survey Directorate General Headquarters Middle East Forces Algiers - 1943

(At the C.G.S Conferences held weekly at GHQ MEF each Director had to get up in turn and give a 15 minute talk on the work of his Directorate and units under his control. It fell to Brigadier Fryer to do this on 25th June 1943 and a transcription of his briefing notes are given below)

Survey Directorate
GHQ, MEF.

Tel GHQ Southern 34

SURVEY TALK C.G.S. WEEKLY MEETING

FRIDAY 5 JUN 1943

GENERAL:

Survey is a "G" Service controlled directly by the C.G.S. and is normally given orders by the D.M.O. or D.C.G.S.

Survey are responsible for making and printing every form of map, chart, and diagram, and carrying out every form of Survey work for the Navy, Army and R.A.F. in the Middle East. Much help is also given to A.F.H.Q Algiers in the printing of maps, and technical control is maintained over all the Survey Units in Paiforce. The area is shown on this map and is about 6 million sq. miles.

To enable this vast task to be undertaken the following are the staff allowed:

At G.H.Q. – 5 Officers, 11 O.R.s

Working closely with me at G.H.Q. is my G.H.Q. Survey Coy of 9 Officers, 60 O.R.s. I have also recently had attached to my staff an American Survey Liaison Section of 7 Officers and about 12 enlisted men.

The calling for all Surveyors in the M.E. is 145 Officers, 2,555 O.R.s. many of these Officers were recruited from the Colonial Survey Services and are skilled at their work, and many of the men came from the Ordnance Survey of Great Britain. The 17 British Survey Units have been helped by the 46th S.A. Coy, which has fought from Alamein to Tunis. This Coy has done excellent work, had rather heavy casualties of 3 Officers and 4 O.R.s. killed and one Officer and one O.R. captured. This Officer subsequently escaped from a German submarine which was destroyed by the R.N. when he was being transported to Italy.

At one time we have had an Australian Survey Coy, a N.Z. Coy which afterwards went back to Gunner Survey, a Marine Survey Section who did excellent work up near Tripoli, Syria and we are forming a Polish Survey Coy in Paiforce (Persia & Iraq Force). We have also raised since May 1942 a large Palestinian Coy who will shortly be fully trained and equipped, consisting of 14 officers and 277 O.R.s. In 512 we have 100 Indian draughtsmen, some Arab dilution and in 19 Coy we have Basutos who work on the machines. In my civilian drawing office in Maadi I have 100 men almost all of whom are different nationalities. I don't think therefore that the A.G. can complain that we haven't had a crack at dilution.

At the back of all this we have the help of the Civil Survey Depts. from whom we get slow help at a price. These include S of Egypt, Palestine, Transjordan and Sudan. Also the S.G.A in Syria. I maintain the closest touch with Survey in E.A. who now look after Aden, and the Survey authorities in S.A. and India.

Finally we have that tower of strength the Survey Directorate at the War Office who are themselves assisted by the Ordnance Survey of Great Britain, all civil firms like Bartholomew's, W & A K Johnston, and Phillips etc. and to a lesser extent by all the Survey Coys under G.O.C. Home Forces.

The British Companies in M.E. consist mainly of two sorts. The large static 512 Coy of about 21 Officers and 500 O.R.s working in Tura Caves and have large drawing, topographical and printing power. The 7 machines are large, static, fast running and entirely automatic feed. They run at about 3,500 per hour. One of them prints two colours at once. Also 19 Coy of similar type but has about one-third the strength. From May'42 – May'43 512 Coy printed 6,698,313 maps.

The Mobile or Corps Companies who were originally designed to work with each Corps and consist of 7 Officers and 134 men and include a drawing section, two topo sections for work with R.A. Survey and two printing sections, all mobile.

Counting the static Coys there are 9 Topo Secs, working on $\frac{1}{4}$ mapping in the T.J. Desert at the moment. The machines are exactly the same as the static ones only smaller. They run fast up to 80 maps a minute and are fully automatic feed. One such section is in action in the car park outside this building now for demonstration purposes. Will all officers who are interested and can spare the time spend a few minutes looking over these machines and their auxiliary equipment. Will they also allow any other of their staff officers to visit the demonstration between 9 -11. It is particularly requested that G. and I. officers who deal with maps so much be asked to attend by their Directors.

A year ago from now you will remember that the great “flap” in Egypt was at its height. We had printed large quantities of maps for the Knightsbridge Area and even up to Benghazi for “goings” maps but not so near home as Alex. It is rather interesting to note how Knightsbridge got its name.

One of my Coy Commanders was going home one day across the desert and he passed this junction of tracks where an M.P. was on duty and saw the board the M.P. had made with the word “Knightsbridge” on it. As he very much wanted a name for this meeting of tracks in a featureless desert, on arrival at his camp he put this name on the map and as you know it afterwards became known all over the world.

Thus in June and July last year we printed 2,780,316 maps at a time when everything in Egypt was in a state of turmoil and preparations had to be made for a hurried move and destruction of the Caves.

From Alamein to Tunis has been an exceedingly busy time for us at the Base and for the Corps Coys with Eighth Army.

The number of maps issued from 2 Depot during this period was 4,381,650 and the total issued during 1942 was 10,117,313. The highest issues and receipts were both during July of 1942 both being just over two million.

Added to this 46 Coy during the same period printed in the field 1,089,325 maps and handles 40,000 air photos. 517 Coy also with Eighth Army did similar work but not such large printings.

The most interesting points during this time as far as Survey were concerned were the increasingly effective development of the following:

- (a) The Defence overprint map.
- (b) The Block Photo Plot for C.B. work
- (c) The Co-ordination between the R.E. & R.A. Surveyors on the ground.

In a recent 2 days' demonstration in Cairo these lessons were brought out and a description of all that was done is being sent out later by D.M.T.

Air photos are an absolute essential to Survey. Survey is a look ahead long term business and the earlier we can be told of future plans and the earlier we can get adequate air cover of the proposed area of operations the more likely are we to produce maps in time.

Maps do not arrive by turning a handle, they take a long time to produce and most staff officers don't realise this and often ask the impossible and when told they can't have it, give one look which says “He's talking balls and doesn't know his job”.

60 Sqn S.A.A.F have been taking air photos for Survey in the Desert from Alamein to Tunis and are now equipped with the only two really good aircraft for this work in M.E. i.e. Mosquitoes. They did 51,000 square miles in 13 months. (Oct 41 – Oct 42). 1434 Flight R.A.F. equipped with Blenheim's which cannot fly in the face of the enemy have done magnificent work in the rear but might have been important areas and they have done 45,000 square miles in 23 months. (July 41- May 43).

It is quite safe to say that without proper Survey aircraft in modern war that adequate maps cannot be produced nor can C.B. and I. work be done properly.

STORES:

As in other Services form a vital part of the show as a whole. Several times we have been on the edge of nothing particularly with films, certain rare chemicals and paper. I went to India in Feb and squeezed quite a lot of paper out of them and 300 tons has arrived this week and put my mind at rest on one score. At one time we were as low as a fortnight's supply.

The bulk of all my stores come from America at present and very good they are.

LIBRARY:

We have about 38,000 single maps in the Library excluding duplicates. The Library is a vital link in the chain of map production as it must be able to produce at short notice the best and most up to date material for a rush job say for M.O.4.

FUTURE OPERATIONS:

For nearly 5 months now we have been working at very great pressure day and night on 24 hour shifts preparing for future operations, mostly outside my M.E. Area of responsibility. For this map material (show Kodalines) comes from the War Office mostly by air freight usually at the last possible moment and sometimes not at all. Apart from this there are of course 101 jobs of all sorts for all Services. One of the largest and most difficult jobs I have had to do lately has been one for the Navy and quite unexpected.

During May 43 over 280 different Sheets were completed and a further 382 were in hand on 31st May. These formed part of 39 different series.

In May over 2 million maps were printed or roughly one 3-ton lorry load of maps every day. 512 alone can turn out 50,000 maps in 4 colours per day or about 2 tons of paper.

So far we have printed 3,600,000 maps which includes 300,000 large scale Defence overprint maps each in 4 colours, i.e. over 12,000,000 impressions. These maps would make a pile of paper 1,100 ft. high (nearly 3 times as high as St Paul's) or if laid in a strip would make a path from Cairo to Tunis.

It is interesting to note that for the N. African landing the whole of the resources of GSGS London and Washington printed just 10 million maps.

Well Gentlemen that describes as briefly as I can how we in Survey earn our pay or as Kipling said help to produce the finest picture in the world – *a map*.

R. E. Fryer
Brigadier, D. Survey.

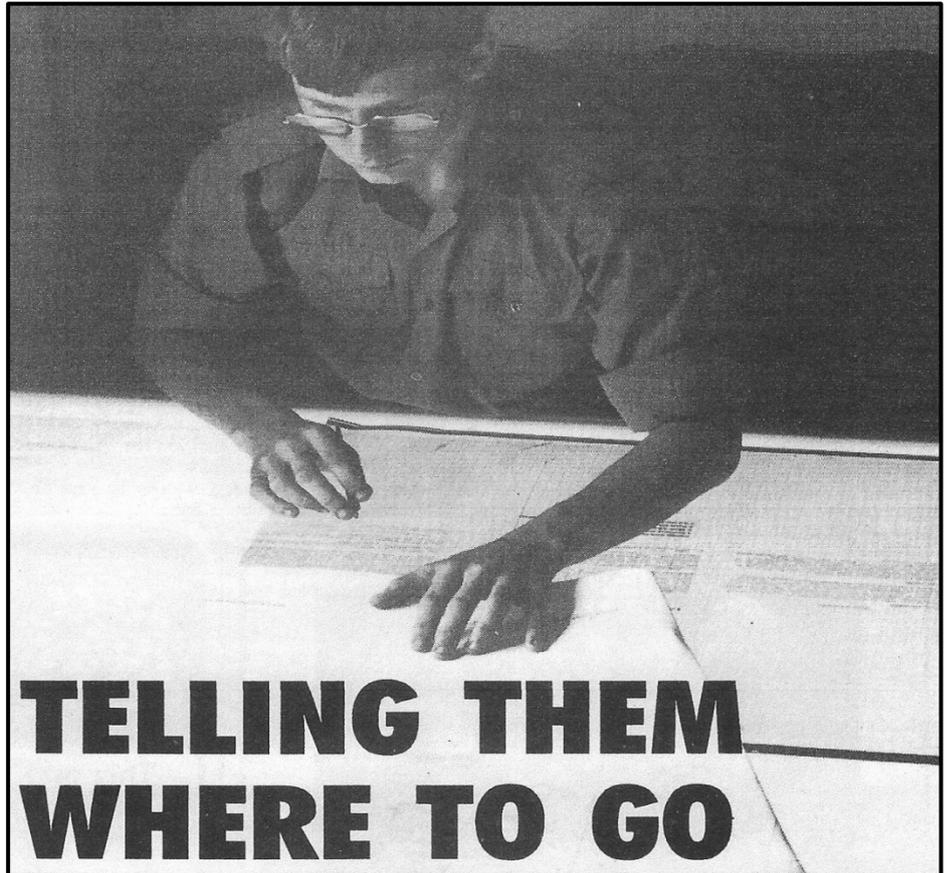
(Source: *The Long Report of Middle East Land Forces Survey Service for June 1943 - TNA File WO 402/172*)



An accurate, detailed map is one of the most vital weapons of war. But when a crisis like the Falklands blows up, how do you suddenly get hold of 654,000 of them? Graham Smith has been finding out from the Army backroom boys who specialise in ...

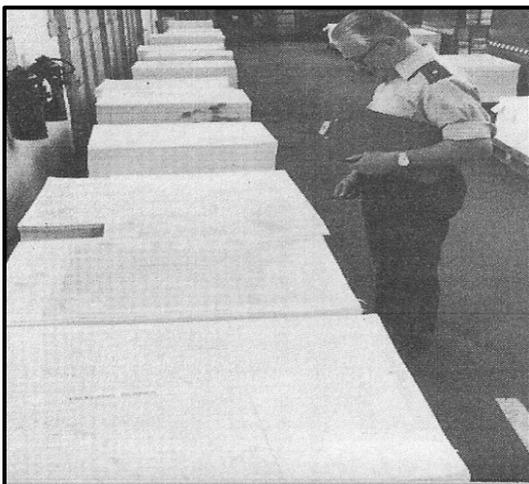
IT LOOKED like being another routine Thursday with the prospect of a pleasant weekend at his Winchester home for Major Mike Stanbridge, Royal Engineers. Then the office phone jangled on its cradle. He picked it up and a familiar voice at the other end inquired: "What map cover have you got for the Falklands and South Georgia?"

Certainly, it was April Fools' Day but Major Stanbridge knew the call was no joke. He is responsible for the supply of land maps and air charts to meet tri-Service contingency plans at the Directorate of Military Survey at Feltham, 13 miles southwest of London. He was speaking to his counterpart at C-in-C Fleet at Northwood, Middlesex and already had inkling that trouble was afoot in the South Atlantic.



TELLING THEM WHERE TO GO

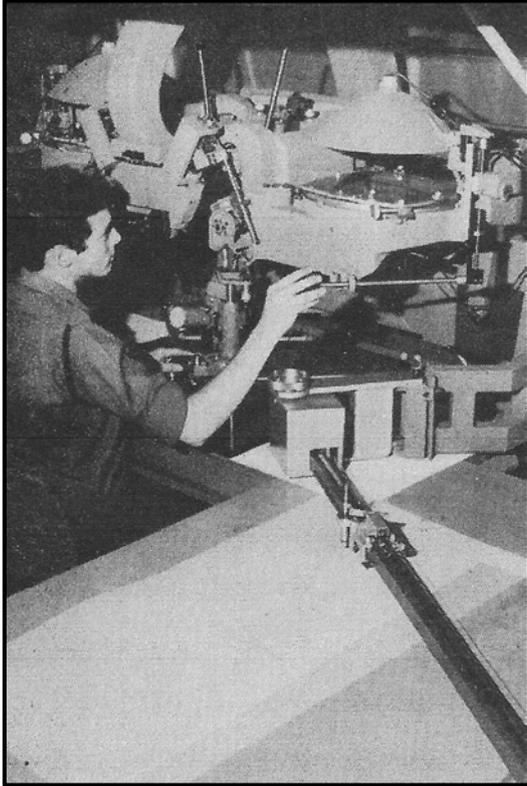
Spr Michael Forsdick revises map on to positive film for printing



Major Keith Butt OC at Guildford surveys some of his stored maps

That call at 0900 hours heralded the start of a map-making marathon – Operation Corporate – right on the eve of the Argentinian invasion of the Falklands. It was the start, as he put it, of the very "hot weekend" for the Directorate and its UK Survey units. Maps, thousands of them, would be needed for the Task Force then being assembled, and which was to sail just five days later, on Monday April 5.

A quick check with the main map supply depot – 8 Mapping and Air Chart Depot, RE, at Guildford – revealed that limited numbers of Falkland Islands maps were available among the immaculately-kept shelves in one of two giant warehouse (former armoured vehicle repair sheds) sprawled like a couple of cathedrals over two acres of floor space.



Spr Stephen Tarling updates air photography

There was, however, one major snag from the military point of view in the field. None of the available Directorate of Overseas Survey-produced maps at 1:50,000 scale had any grids on them and, even then, it was known that the currency of some of the maps was suspect. Something was better than nothing but they would be of limited use to soldiers wanting accurate reference points. Without them, it was rather like having rifles with no bullets, as Major Keith Butt, RE, the Depot's OC pointed out.

The might of Feltham's 750-strong, civilian-staffed Mapping and Charting Establishment, RE, in concert with the Army's own 42 Survey Engineer Regiment, RE, at Barton Stacey, six miles from Andover, swung into round-the-clock action to produce and print successive second and third editions- this time, with the full military grids and updated topographical information gleaned from aerial photographs.

This was done within a week to replace the interim stocks. The Guilford Depot handled the distribution. Meanwhile, as an interim measure, the original 1:50,000 series had been re-printed – ungridded – and sent out to meet the original requirements. But there were other major snags. The series spread over 29 sheets and the strife-torn islands lay right in the middle of a grid zone change; two halves of the island group fell into different zones, as the 60 degrees West meridian bisected the “area of interest”.

“People ordering them didn't realise or appreciate the sheer bulk of the maps”, said Major Stanbridge. “For instance, 200 maps stand about one-inch high while 1000 maps weigh about 100 lbs.”

He recalls one amusing incident in which a customer for 57,000 maps ordered them over the phone and then blandly posed the rider: “Oh ... and what time shall I send the Land Rover down to pick them up?” It took three 4-tonne trucks to “pick up” the maps, cocooned in 104 cartons and lashed to 11 pallets! Later, Military Survey had to produce cover at 1:100,000 in five sheets to ease the handling problems for planning staffs.

Major Stanbridge added: “Having issued the limited supplies on the first day we were told more would be needed within a very short space of time and we knew we were in for a very busy time.” But that was not all. The Middlesbrough-based map-makers had to meet an urgent demand from the RAF for the Sea Harrier pilots acting in the ground attack role, which involved producing film strips for the moving map display system in each aircraft.

In all, up until the end of June, military survey units had produced a total of some 654,000 maps – 210,000 of them by Barton Stacey – of the contested Falklands and “associated area”, of which about half had been distributed for South Atlantic operations and other various UK tri-service agencies.

By the time the Task Force sailed, Military Survey had met its initial deadline. But other units had since been put on standby, notably 5 Infantry Brigade. They would need maps, too. Earlier, in preparation for its possible involvement in conflict, the Directorate had to provide 3500 maps of the Sennybridge training area for Exercise Welsh Falcon, a training preamble for 5 Infantry Brigade in the Falklands.

During the next ten weeks of Operation Corporate, more than 350 ‘products’ – 178 of them from Barton Stacey – including new revisions were printed in connection with the dramatic events in the southern hemisphere.

“We initially produced a very rapid adhoc catalogue for all users to refer to,” said Major Stanbridge, “which was later refined and published as Edition Two. The catalogue included Harrier moving map displays, Maritime Patrol Charts for the Nimrod crews, pilotage and navigation charts, maps of South Georgia – which also needed a grid – and three editions of the Falklands maps including large-scale maps of Stanley and the airstrip showing such details as terminal buildings and fuel dumps.



L/Cpl Andrew Howe prints revised Falklands mapping

“In conjunction with the Engineer-in-Chief’s Branch in MoD we also compiled goings or cross-country maps, called Royal Engineers’ Briefing Maps, giving access and movement details for troops and vehicles. In addition, we produced Topographical Information Overprints (TIOs) for Ascension Island which was being used as a huge mounting base for the Task Force”. Large-scale maps for Darwin Settlement, Fox Bay, Port Howard, Pebble Island, Port San Carlos and Stanley – household names now – were secretly produced in maximum detail.

Demands for maps came to the Guildford Depot by what are familiarly called “Wantamap” signals, a standard procedure that posed no problem for Major Keith Butt and his 41-strong staff who operate in the warehouse and a staggering turnover of five million maps a year. The figure includes issues to Regional HQ reserve maps stores in the UK and others in Cyprus, Belize, Northern Ireland, BAOR and Hong Kong.

Amid the warehouse floor space, the ten-foot high shelf racking holds 31 million maps incorporating 40,000 ‘line items’ or different sheets. For instance, the UK map series – M 726 at 1:50,000 scale – spills over into 204 sheets. At the outset, the Falklands Islands were covered by 33 sheet items – now, there are a further 26 line items covering either the whole or part of the islands!

Major Butt explained: “we hold maps for anywhere British troops are serving and for any location included in MoD contingency plans. Map stocks are also held for all regular training areas both in the UK and overseas.

“In addition to land maps we also keep air charts for the RAF’s worldwide needs. The maps on issue to units are normally moved from here by road or are sent by post. Our peak periods for map demands are during summer camps and autumn exercises. Obsolete maps are sent for savage under contract and taken away in ten-ton palletised loads to be re-cycled”.

Lieutenant-Colonel John Himbury, who leads the Directorate’s Survey 2 Branch, told SOLDIER: “During Operation Corporate we set up a 24-hour Ops cell which remained in force for nearly 12-weeks and, throughout, military survey units at Feltham and Barton Stacey worked at maximum capacity for seven days a week with production help from the School of Military Survey, The Directorate of Overseas Survey and some contract work by government and civil firms for specific assistance.

“It is true to say that great versatility and flexibility has been shown but most important of all, has been the splendid response of all those who were involved in this enterprise. The urgency of the situation was very clearly recognised and great enthusiasm was generated. There were many instances of individuals working well over 18 hours a day”. The enthusiasm and response were very much the order of the day for men of 13 Map Production Squadron, one of two Squadrons forming part of 42 Survey Engineer Regiment, RE – the other is 19 Topographic Squadron – down at Barton Stacey.

As Lieutenant-Colonel Noel Charles, CO of the Regiment, pointed out to SOLDIER “A lot of people wanted the maps in bulk and I always remind people that maps just don’t grow on trees.

“The first month was helter-skelter. We, here, because we are soldiers in uniform can be told to get up at two in the morning and be available to the Directorate of Military Survey to respond to an emergency. “In peacetime, we support tri-service directors by producing maps and survey data. If there is a flap we are used straight away because, as soldiers, we do maintain 24-hour standby personnel continuously which makes it easier for us to respond to an emergency tasking very, very quickly. “Also, if a Force, anywhere, wanted someone to go with it, then someone would go. We had an adviser on Ascension Island.”

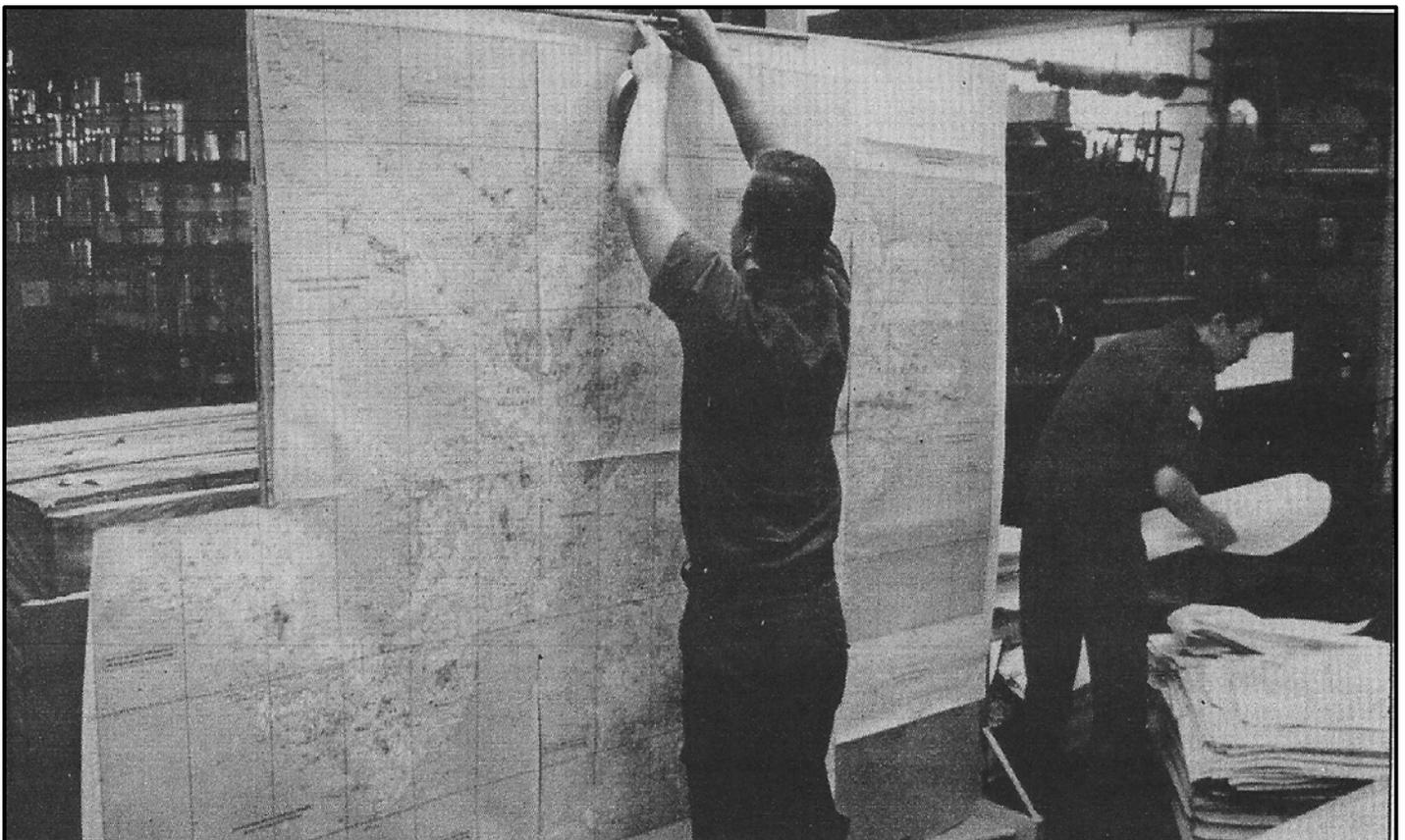
The Regiment's Cartographic Troop within 13 Map Production Squadron compiled about 100 drawings spread over 2500 man-hours during the conflict. Captain Peter Wood, its Troop Commander, said: "These 100 jobs included re-gridding and revising other topographical information. We are the Regiment's main drawing capacity and we, as a Troop, do everything from map compilation to appreciation and ensuring fair drawings. We also carry out revision tasks and pre-print work – checking and re-checking negatives before printing plates are made. We plot, accurately, all grids and graticules on a co-ordinatograph."

"It's very, very important to get the gridding right," emphasises Captain John South, the Squadron's Technical Staff Officer. "You could end up with a situation where our troops are firing on our own chaps. That's not to say there were no map cock-ups. All the major ones were spotted before they went out. Human nature being what it is, no one is infallible. The most fiddly bits to put on the maps were the sheep fences and gates."

At the peak of production, the Squadron's five massive, German-built printing presses worth an estimated £1 million were churning out 10,000 maps an hour while soldiers, on 12-hour shifts, were man-handling eight tons of paper into and out of the machines in as many times a day.

Captain South summed up the efforts of his men thus: "An operation like Corporate gives the lads in the back room, as it were, a tremendous boost to know the maps they have produced have been used in a particular action. Pebble Island, for instance, was produced about six days before the action took place." And still the map-making men and women at Feltham and Barton Stacey are producing maps of the Falklands and those "associated areas" during what is termed the "rehabilitation stage".

The last word came from the Director of Military Survey, Major-General Eric Barton: "In our business, if you haven't done your homework in peace then it's too late in war!"



How the five sheets looked as a set

(Reproduced from the SOLDIER magazine article from the edition dated – 28th Jul to 8th Aug - Victory in the Falklands, kindly provided by Dave Jordan)

Memories and anecdotes from some of the key players mentioned and involved in Operation Corporate: -

Mike Stanbridge – From the BBC news and daily papers in March 1982, we all knew that an Argentine flag had been raised on South Georgia (SG) and objected to by the BAS Team. Also, that HMS Endurance, with some RM on board, was on its way from Stanley to sort out the problem. Hence, Svy 2 did indeed have some inkling that trouble was afoot in the South Atlantic. However, the second paragraph in the article is not true as the very first enquiry I had was from an SAS colleague in Hereford and not from Northwood as the article states but as a consequence of the Argentine flag and Endurance news, some homework had already been done in terms of what was available viz. out of date DOS Maps with no grids!

The article is correct in that Gen Eric Barton & Lt Col John Himbury AD Svy 2 were very quick to establish a 24 x 7 Ops Cell and I only returned home to Winchester once, during the campaign, to collect more personal gear as I was only a mid-week and weekend commuter at that time.

Svy 2a (Production), Svy 3 (mapping intel & HO/AIDU liaison) and a Richmond Building rep' were all part of that Ops Cell team albeit a military officer from Svy 2 was always on the end of the Ops Cell phone 24 x 7 during daytime and diverted to an Officers Mess phone at night time. Svy 3, under Mick Beynon, was responsible for contacting and obtaining a wide variety of mapping information from individuals who had up to date knowledge of FI and SG e.g. BAS team members, previous past FI Governors, FCO staff and RM personnel who had been there in recent years. There was one RM whom I knew, because of my offshore sailing activities, and met during his Feltham visit was Maj Ewan Southby-Tailyour, who during his tour on FI had sailed around the islands, and charted all the inlets and landings. The information he provided was invaluable.

Herewith a couple of anecdotes:

- When it was discovered that there was no grid on the DOS maps a certain person commented that the 5 Inf Bde would have plenty of time to draw the grids on them during their QE2 cruise to the Falklands!
- When the PM, Margaret Thatcher was heard to say on BBC News that we would never invade or attack Argentina, we all looked at each other without saying anything wondering why certain products were being produced? Op Paraquet, Pebble Island and Rio Grande Airfield are in my personal notes made later but what was actually produced and used I have no idea but there were certainly requests coming in. MCE Map Library may be able to help. Helicopters frequently flew in to Feltham car park or sports field to collect small packages as well as the occasional Land Rover, instead of a 3 tonner, to pick up large stocks on pallets!

John South – I think my main memory of Op Corporate was of spending many long hours at work, trying, with my great staff, to keep everything on track to meet sometimes unrealistic deadlines. Certainly the lads of 13 Squadron did a great job. On the tech front I can remember when it was found that there was a grid zone junction right across the AO so we ended up printing two grids, red and blue, across every 1:50,000 sheet so that the grids would agree with the JOG and the gunners didn't have problems firing across the grid junction.

Another highlight, completed in short time, was the production of Operation Room maps, often shown on the TV. MCE did the three north sheets while the Regt did the two southern sheets. They were enlargements of the JOG. Co-ordinating the sheet joins across all the sheets was an issue with two agencies involved and it caused some amusement when the proofs of the Northern sheets that came down from Feltham had the on sheet titles "*Falkand*" to meet up with our "Islands", a slight error on the sheet join. Fortunately we picked it up and took some delight in letting MCE know. As quoted, there weren't any significant errors that got through.

Dave Jordan – As WO1 2i/c 8 Map Depot RE in Guildford where I worked alongside Major Keith Butt during the Falklands war (Operation Corporate), apart from sleeping many nights under my desk I have three lasting memories of that time. A divisional commander, who shall remain nameless, insisted on having his maps laminated, even though we advised against it. Upon completion he said he would send his Land rover over to collect them. I advised him that he would need at least 3 x 3 TON trucks to do so!!

I also had a phone call from the local Liberal M.P. His constituents were complaining about the round the clock noise of lorries delivering and collecting mapping, and interrupting their sleep. I never thought I would ever use the phrase "Don't you know there is a war on!"

News from the Geographic Community



42 Engr Regt (Geo) - After this morning's gunfire, the Christmas Carol Service marks the start of festive celebrations for the Regiment, and the drawdown of a busy year.





Good luck to the members of the Regiment who are travelling to Ecuador to climb Chimborazo (6268m), Ecuador's highest mountain. Although lower in height than Mount Everest, Chimborazo is believed to be the furthest peak from the centre of the earth due to its location near the equator and the equatorial bulge. Chimborazo is an ice-capped inactive volcano, it is a double volcano composed of one volcanic edifice on top of another. Its height was originally determined by members of the Regiment 25 years ago during a GPS survey.





The Regiment's Alpine Race Team has been out in Austria since the start of November taking part in Ex Alpine Sapper. This prepares the skiers to take part in the Corps and Divisional Alpine Championships early next year.



Combat Jiu Jitsu for 14 Geo Sqn

Obituaries

**24328408 Warrant Officer Class Two
Keith Allan Fenton VR RE
Service Dates 1974 – 1992**

Warrant Officer Class Two Keith Allan Fenton was born in Ashford, Kent in 1958 and after secondary education he joined the Army as an Apprentice Lithographic Print Technician at Chepstow in 1974.

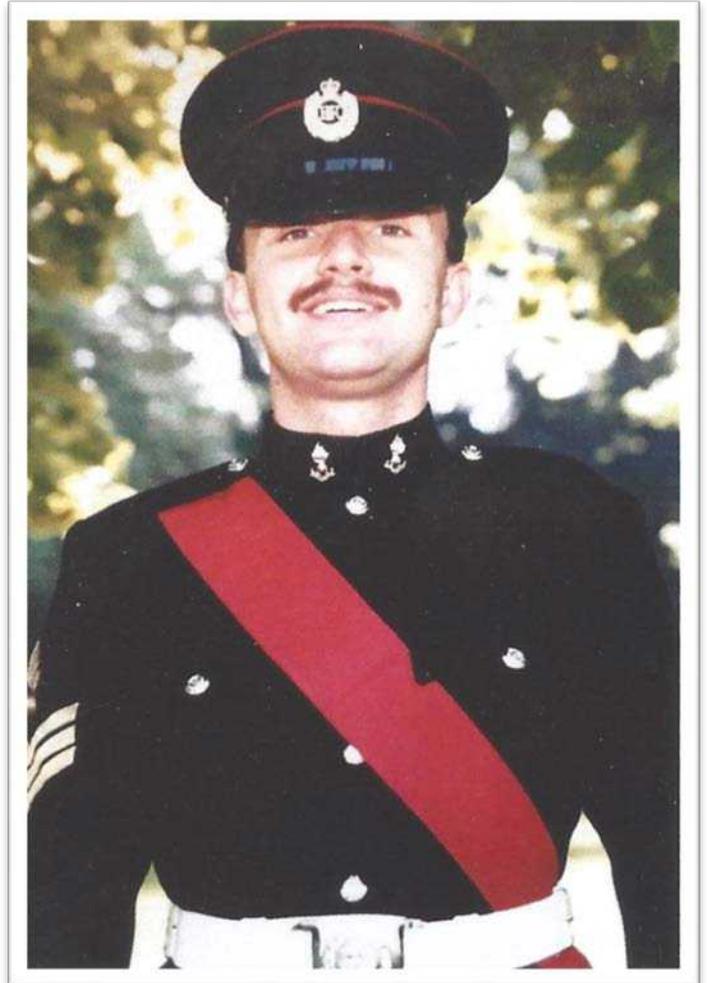
He received the Engineer in Chief's prize for trade excellence in 1974 and again upon completion of his trade training 1975. On completion of his basic Combat Engineer course at the Training Regiments, Cove he was posted to 22 Map Production Squadron at Barton Stacey. Whilst at Barton Stacey he was detached to the School of Military Survey, in 1978, for his Class Two course and also went on detachment with 19 Squadron on Exercise Trig Norge to Norway. He earned a superb reputation as one of the best Heidelberg printers that the Squadron had seen and hence it was no surprise when he went to his next posting as an Instructor at the School of Military Survey at Newbury and whilst here, in 1981, he completed his Class One course.

His prowess as an outstanding printer and instructor witnessed him move seamlessly into a Sergeant Instructor's post at Chepstow. In 1986 he successfully passed his Survey Staff Specialist course at the School of Military Survey, Hermitage. In 1988 he had the honour to be posted to the Royal Australian Survey Corps Regiment in Bendigo, Victoria, Australia, for over two years, as the British exchange Warrant Officer. He returned to 19 Squadron in Hermitage in 1991 as the Squadron Sergeant Major. It was at Hermitage in 1991 that he was awarded the Long Service and Good Conduct medal for 15 years of exemplary Regular service.

In 1992 he retired from the Army and took on the appointment of Senior Civilian Print Instructor at the School of Military Survey in Hermitage and became a Civil Servant. At the same time, he joined 135 Independent Topographic Squadron Royal Engineers (Volunteers) and served with the Territorial Army until 2009 where he finished his uniformed service as the Squadron Sergeant Major. In 2004 he received a certificate for Meritorious Service by Her Majesty's Lord Lieutenant for outstanding service and devotion to duty. He retired from the Civil Service in 2009.

A service to celebrate Keith's life was held at St Lawrence's Church, Hungerford RG17 0JB on Friday the 26th of January 2018 at 1500hrs. After the Service, Sara, Edward and Charlotte invited all to join them at the Royal British Legion Club, 20 Church Way, Hungerford RG17 0JU for light refreshments.

Nick Collins



Lieutenant Colonel Walter Dennis Rushworth MBE BSc FRICS RE



Dennis Rushworth on the left (Home Guard), with General Montgomery c1944

Dennis Rushworth who has died aged 91 was a land surveyor and cartographer and an adviser and expert witness in international border disputes. Born in Camberwell London on 14th September 1926 and was educated at the John Lyon School Harrow. He joined the Home Guard in 1941 and then went on to Cambridge University on an Army Sponsored Cadetship in 1944. He started his RE basic training at Shrewsbury in March 1945, followed by Survey Trng at Longleat in July 1946. He was awarded an emergency commission as a 2/Lt RE in August 1946; passed WOSB and awarded a regular commission as Lieut in Nov 1947. Having completed his survey training he was posted to O.S. from 1948/50.

Posted to MCS Shrivenham in 1951 he took and passed BSc Finals with First Class Honours and promoted Captain in 1954. He joined 22 Field Engr Regt in Mar 1956 with various tasks around Middle East, including getting Centurion tanks into Jordan in support of their action against Israel. After being on loan to Cyprus police in 1957, he re-joined 22 Regt as Adjutant. Dennis returned to the UK; and in 1960 did a one year Geodesy course at Oxford School of Surveying. In 1961 moved as a Major to JARIC RAF Brampton to set up "The Photogrammetric Section" later renamed the "Technical Support Squadron" and undertook many visits to US Intelligence and Mapping Agencies. He was then posted with wife Valerie to Aden, as OC 19 Topo Sqn and later posted with 19 to re-join 42 Svy Regt at Barton Stacey in Feb 1964 along with his wife and son Adrian.

From 1965 to 1967 Dennis was a Divisional Officer (Carto) at MCE Feltham and on promotion to Lt/Col was posted to AFNORTH Oslo as Chief Geographic Officer. He applied and was accepted into the Civil Service and posted to Tolworth Surrey as Principle Survey Officer. In 1970 was promoted to Ass Dir (Fd Svy) DOS Tolworth (the most satisfying job). From 1976 until retirement in 1986 he was appointed Director of the Mapping and Charting Establishment (Feltham), Ministry of Defence, responsible for the provision of maps to the Army and RAF.

During his Army service he was seconded to the Argentine-Chile (Palena) (1965) border dispute case (awarded an MBE) and after retirement had been an adviser and expert witness to Israel in the *Taba* case on the Israel-Jordan border - Chile in the *Laguna del Desierto* case - Namibia in the *Kasikili Island* case and to the International Court of Justice (ICJ) in the *El Salvador-Honduras* case. Dennis published a series of articles on the practical application of surveying and mapping techniques to the arbitration of land frontier disputes for the International Boundaries Research Unit (IBRU) – Durham University.

His funeral took place at the Chichester Crematorium, Westhampnett Road, West Sussex on Wednesday 31st January 2018 at 3.30pm, and was attended by family and friends, followed by a reception at the Chichester Park Hotel.

(Details of Dennis Rushworth's career were kindly provided by his son Adrian from his father's original notes)

Further notifications of deaths:

Mr Ronald Alfred Dawson – Moira Dawson informed us about the death of her father. Ron was born in 1927 in Chester and became a boy soldier training at Bryn Howell on Llangollen. He served in the Royal Engineers in Egypt and Cyprus before leaving the army for civilian life in the 1950's. His early training meant that throughout his life he had a love of maps and never really got to grips with sat navs as he liked an old fashioned map book! He looked forward to receiving our newsletters. He passed away in August 2016 aged 89 and is greatly missed by all his family.

Mrs B E Alcock – of Stoke-on-Trent is also assumed to have died as her newsletter was returned “Not at this Address”. She was the widow of the late John Alcock. Unfortunately, no other details are held.

Mr George Craven – Mick Perry informed us of the death of George who died on Monday 16th October 2017, after a long illness. He was interred on the 27th October. A field surveyor of some repute George served in the mid-sixties with Mick, along with the likes of Bernie Pollard & Tommy Thompson and other names long gone. He was an old school surveyor who was unimpressed with the discipline of the Regiment but was brilliant out in the field doing his trade and was a really great guy to work with. George is survived by his wife, Linda who lives in Silsden, Yorkshire.

Mr William (Bill) Chandler – We have heard from Victoria Chandler that her father, William (Bill) Chandler, had died on 13th December 2017, aged 89 years. Bill had joined as a boy at Bryn Howell in 1945 and served as a photographer, reaching the rank of Sergeant until he left the army in 1954. He had lived at Beckenham, Kent for many years and been a Branch Member since our formation.

14 Geographic Squadron Royal Engineers – History Project

The following was posted on the 42 Engr Regt Past and Present - Facebook Group and is repeated here in case some members missed it or are not members of the Group. 14 Geo Sqn are going on a history tour of France and Germany to learn about how the Sqn has evolved over the past 100 years. The guys are being split into syndicates and researching significant periods in the Sqn's history in order to deliver presentations. I am also hoping to attend the reunion on 13th April to deliver a presentation of our trip. I am reaching out on behalf of my guys to see if anyone has any pictures/memorable stories/accounts of these times that they could use to include in their presentations. There have been many responses from multiple eras' so thank you to all that have already contacted me. The periods we are looking at are:

- 1918 – 1939 (emphasis on the Sqn's withdrawal from Dunkirk)
- 1940 – 1945 (emphasis on support to WW2)
- 1947 – 1991 (Cold War overview)
- 1946 – 1963 (several locations incl. Dortmund & Dusseldorf)
- 1963 – 1994 (based in Ratingen)
- 1995 – 2013 (based in Monchengladbach)

I am happy for anyone to message me privately, or contact me via email on - dale.routledge656@mod.gov.uk.

Thank you in advance. Dale Routledge (SSM 14 Geo Sqn)

Committee Contact Details

Secretary

Rod Siggs
11, Merlin Way,
Southwood
Farnborough Hants GU14 0PF
email: rod.siggs@ntlworld.com
Telephone: 01252 660144

Treasurer

Ted Davies
email: teddavies48@gmail.com
Home: Telephone: 01635 582892
Mob: 07934512097

Webmaster

Dave Johnson
Auchen
Hermitage Road
Cold Ash
Thatcham Berks RG18 9JH
email: webmaster@militarysurvey.org.uk

Newsletter Editor

Noel Grimmett
5 Canford Close
Shedfield Hants SO32 2HZ
email: noel@burwells1.demon.co.uk
Telephone: 01329 830153 or 07817 683299

Visit to Wyton in the near future

Will all members interested in a visit to the Regiment at Wyton please let us know by contacting the Secretary?

Visit www.militarysurvey.org.uk

The Branch FaceBook Group membership has now reached 231 but I am sure that there are many ex-survey/geo colleagues out there who need to be reminded that they are most welcome to join!!

Carto Norge 1968 to 1982

Early last year Brian Garvan, a member of the team selecting DGC materials for deposit in The National Archives, approached Alan Gordon to produce a description of the Carto Norge series of exercises that resulted in a number of map sheets that are now destined for the Archives. He had been involved with the first exercise in 1968 and then the re-plotting of the last four sheets ten years later but knew nothing of what happened in the interim years.

A call for assistance from those who had been involved brought a fund of information from around the globe; Jim Jefferies and Tony Harder in Australia, Dave Mead in Vancouver and nearer home from Colin Price in Bognor, Mick Clowes up North, Ted Davies still at Hermitage at the time and Garry Asbery, Pete Hesketh, Bev Hill, Roy Stevens, Chris Teeling and others – many thanks to you all. An article was produced from the wealth of information that they provided and it will accompany the maps when they are deposited in The National Archives.

The article can be found on the branch website at www.militarysurvey.org.uk

THE MILITARY SURVEY (GEO) BRANCH OF THE REA

IT'S A REUNION

FREE ENTRY AND FREE CURRY SUPPER

NON MEMBERS (£10 - with partners) (NB: £5 pp cash back if you subsequently join the branch)

1830hrs for 1900hrs FRIDAY THE 13th OF APRIL 2018

TO BE PRECEDED BY AN ANNUAL GENERAL MEETING 1700hrs FRIDAY THE 13th OF APRIL 2018

Please note that the bar will be open before 1830hrs. Food will be served at about 2000hrs.

Accommodation: A small number of rooms may be available for members only but do note that as the barracks are no longer under the command of RSMS that this may be just too difficult! Hotel facilities are available at junction 13 of the M4 motorway and at Chieveley too; we will provide transport free **back** to these locations late evening.

Dress: Smart casual or better if you wish!

WARNING: - Hermitage has become a high security Barracks and ENTRY WILL ONLY BE PERMITTED to those who have returned this entry form with their details; IDENTITY CHECKS WILL BE REQUIRED TO GAIN ACCESS TO THE CAMP.

It is vital to establish firm attendance figures early and so once again we would request that you return this form as soon as you can:

SO PLEASE SEND RETURNS BEFORE THE 1st APRIL 2018 TO:

M. Perry, 101 Craven Road, Newbury, Berks, RG14 5NL

Problems? [Then contact me on] **mandpdperry@sky.com** or Tel: **01635 37510**

From: Forename:..... Surname:..... I am a member – YES//NO
non-members £10 pp cheque please
Address: - Tel No: -
E-mail: -

Type & Make of transport:..... Registration No

I *shall/*shall not be attending the Reunion on Friday 13 APRIL 2018.

I *wish to/*will be unable to: - attend the AGM beforehand.

Guests: Wives/partners are welcome [Payment not required for Member's wives/partners]

DO PLEASE - REMEMBER THE GEO SOLDIERS SUPPORT FUND

I enclose a cheque to support this for £..... payable to "Military Survey Branch REA"

If you have any special dietary needs or require disabled access please detail these below and every attempt will be made to accommodate them.....

NB: Military units do not cater for severely disabled conditions (for obvious reasons) and we apologise in advance for any shortcomings that might cause individual inconvenience.