The Military Survey (Geo) Branch

Spring Newsletter 2019 – issue 71

MILITARY SURVEY (GEO) BRANCH REA

IT'S A REUNION

FREE ENTRY AND FREE CURRY SUPPER

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

SUPER BAR @ MESS PRICES

FREE TRANSPORT LATE TO LOCAL HOTELS ONLY - M4 JUNCTION

1830hrs for 1900hrs FRIDAY THE 12th OF APRIL 2019

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.

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 2019 - THE CUT OFF DATE

FURTHER DETAILS AND THE ENTRY FORM ARE AT THE LAST PAGE

Brigadier Robert Eliot Fryer OBE CEng MICE FRICS

By way of a change this newsletter is devoted to highlighting the career of a senior survey officer namely Brigadier Robert Eliot Fryer OBE. Robert Fryer's military career spanned both World Wars and the interesting period between these great events.

I have drawn on Robert's personal papers held at the Imperial War Museum and also two articles he wrote for the Royal Engineer Journal covering his survey work in Aden (1931) and the '*Fake Map'* episode in 1942, the details of the latter may be familiar to some members.

Further to these articles Robert published a small book on his experiences with the B.E.F. as A.D. Survey 1st Corps in 1939/40 called *Brockenhurst and back via Dunkirk.* This gives a fascinating insight into the 'phoney war' and the evacuation from Dunkirk of Robert and 13 Field Survey Company RE.

Major R E Fryer RE GSGS 1934

ROBERT ELIOT FRYER was educated at Wellington College and the Imperial College of Science and Technology which he left for the war, obtaining a temporary commission in 1915. He served in France throughout the War, initially in 62 Field Company and later in October 1918 as OC 547 Field Company.

He then spent most of 1919 as Field Engineer to the Chief Engineer 4th Corps before being demobilized. In 1920 he went into business in Bombay. While there he married, in December 1921, Alice Jervois who he had met when she was a "Fany" in Belgium two years previously.

He re-joined the Corps, obtaining a regular commission as a Captain in January 1922. Two years then followed as Garrison Engineer in Ferozepore before he returned to England to attend the Survey Course at SME.

He must have been a successful student for he stayed on at Chatham as Assistant Instructor until the end of 1929, when he was posted to MI4 (the Geographic Section of General Staff) where he remained for a further five years. AP remembers him from Chatham days from his friendly, almost fatherly, way of dealing with YOs. In MI4 his university experience stood him in good stead as techniques in the Survey Service were being modernized.

Eliot Fryer returned to India in 1935 as Garrison Engineer Kohat District. However this tour was to be short-lived for he returned to the SME as Chief Instructor in December of that year and remained there for a full three years. After a brief spell with Ordnance Survey he was posted to HQ 1st Corps in France as Assistant Director of Survey returning after Dunkirk, to be Director Survey Home Forces until January 1942. Then began a long period of service in the Middle East; broken only by a brief period back in the War Office, at the end of the War

He went out first to Cairo as a full Colonel in January 1942 as DD Survey at GHQ Middle East, becoming Director in May 1943 in the rank of Brigadier. In August 1945 he returned to GHQ as Director of Survey until his retirement from the Army. He is well remembered in those days for his imperturbability and sense of humour, characteristics which were much needed in some of the darker moments of the War. The achievements of Middle East Survey at this time, well recorded in Brigadier Cloughs *Maps and Surveys* bear witness to the pressures that must have existed. The list is remarkable including, in addition to support in the field army with a directorate at Allied Force Headquarters in Algiers as well as in Cairo, new mapping in many peripheral areas particularly Aden, Crete and Cyprus.

Memories of WW1 by Brigadier Robert Eliot Fryer OBE

I am now nearly 89 years old but I was 23 and a subaltern in charge of No 4 Section of the 11th Field Company Royal Engineers in the 33rd Division.

We were not involved in the "Big Push" on 1st July 1916 – Of course we knew a big battle was going on as we could hear the terrific bombardment and see all the troops, guns etc.: going up toward the front. But as far as I can remember we did not know what a terrible failure that first day was.

However, very soon we were on the move up to the front passing through Meaulte and then on up beside Mametry wood – it must have been somewhere about 15th or 16th July, and my No 4 Section was leading the Company when I heard a large German shell coming even above the din that was going on all around us. It fell bang in the middle of No 1 Section only some 100 yards or so behind me – very few of that Section of 32 odd survived.

The rest of the Company bivouacked by the side of Mametry wood – the ground was covered with the dead of the 38th Welsh Division who had attacked on I think the 14th July.

We lived very rough beside the wood for 4 or 5 days. It was very hot and the smell of dead was very bad and the wood was constantly shelled.

During those 5 days my section was out every night doing RE jobs – wiring making strong points etc., and I remember very vividly working in both the Bazentin Le Grand and Le Petit.

At dawn on 20th July the Brigade to which we were attached – mostly Scots, was to attack High Wood just to the North of us.

We lay outside that infamous wood, all through that long hot July day. The Germans fortunately, had not got our range, and for most of the day their shells went over us, but one British gun was shooting short all day and causing us a lot of casualties including one of our other three subalterns.

What so many present day historians forget is that 66 years ago we had no wireless, only runners, so there was no way we could get in touch with this battery which was firing short even had we known which it was.

During the day I had 15 aimed rifle shots at a German officer with his orderly, probably a gunner going to an O.P. over towards Martinpuich. I never even made him duck and I always thought I was a good shot!

At night fall the Brigade attacked and took the wood, or most of it. My Sappers were supposed to make a strong point at the north end of the wood, but in the dark and the intense shelling we never actually got there as the Germans counter attacked and drove us out. The wood was not finally taken until mid-September.

In the wood there was a deep concrete dug-out and I rolled a Mills bomb down the steps, and several very shaken German prisoners came out. I remember that one of them had a bottle of soda water in his pack which I drank eagerly as after lying out all day in the sun I was very thirsty.

At about 9 or 10 pm a very large shell, probably 5.9" or 8" fell so close to me that I actually slid into the crater which it made. I was hit in the right wrist and in the head and was bleeding badly. My Section Sergeant, called Holmes, a splendid man who had no fear, helped me out of the shell hole and back through the wood and I made my way somehow to an R.A.P (Regimental Aid Post) in caterpillar valley.

From here I was sent to a C.C.S (Casualty Clearing Station) at Bray Sur Somme. Here for the first time my wounds were dressed and I was given a good breakfast.

Much later I was put on a hospital barge on the Somme, and eventually reached a hospital at Etaples. I was carried in on a stretcher and dumped between two beds (as all the beds were full) and was greeted by "By God here comes old 'Long 'UN" being my nick name in the Company (This was because I was 6' 3").

From here I went in a Hospital Ship, I think to Southampton, I was dumped on the quay on a stretcher where an R.A.M.C. orderly asked me if I would like to go to a hospital in London or Reading. I said "Reading" as I had relatives in Windsor. The Hospital is called Battle Hospital to this day.

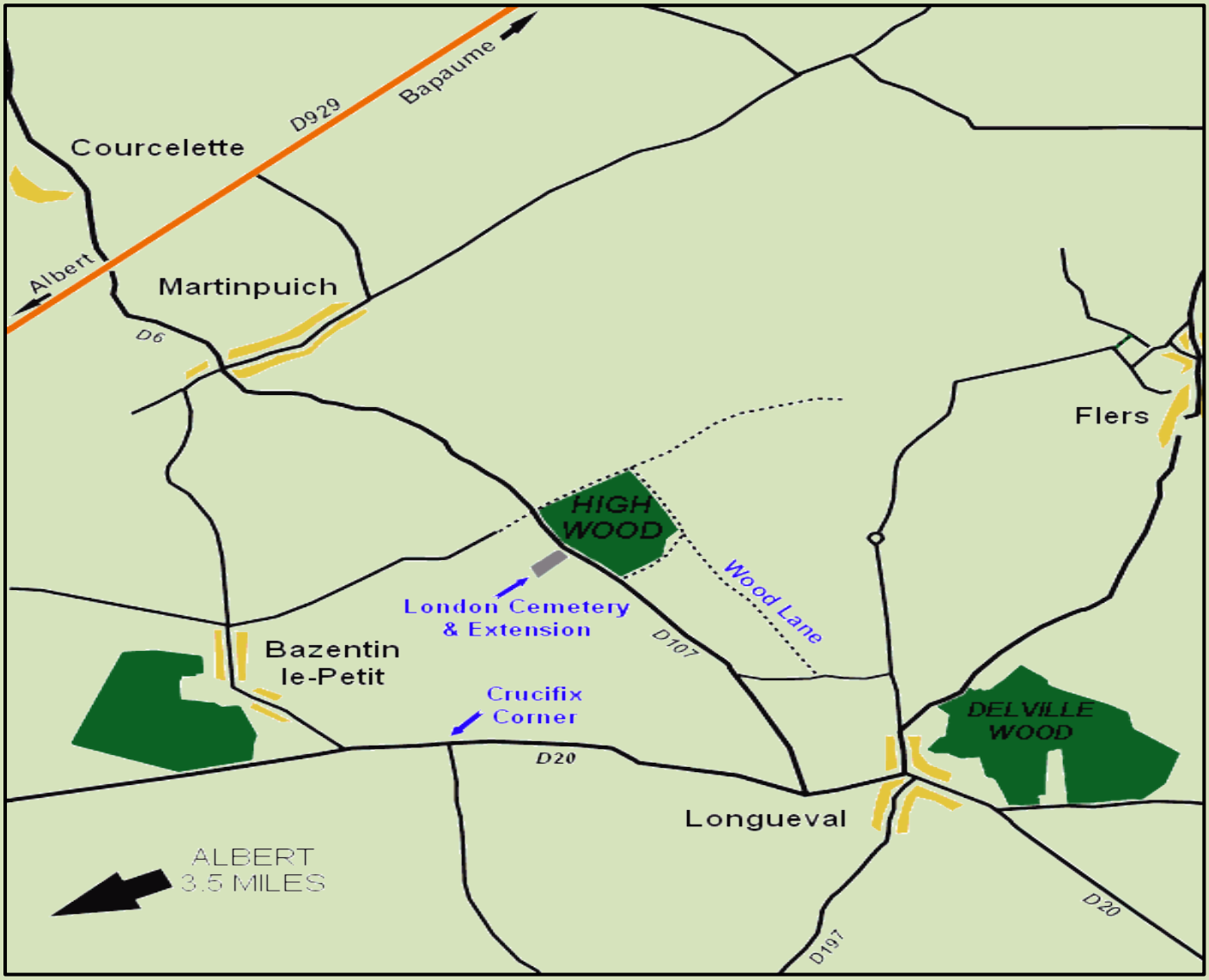
There I remained for several weeks after the operation to remove bits of shell from wrist and from the back of my head. I still have the two bits and one of them is over an inch long and has the lathe turn marks on it and a German number.

Incidentally my operation did not go quite as planned. Just as I was being 'put under' for my wrist 'op' I said to the Surgeon "I am sure I have got something in my head". He said "take him away and have his head x-rayed". So back again the next day where sure enough I had a large bit in the back of my head removed as well as the bit in my wrist.

I was indeed very lucky. Thus my effort in the Big Push was over.

As a post-script to this personal experience in 1916 – Early in 1940, in World War 2 (now a Lt-Col from H.Q. 1 Corps then Stationed in Douai) I visited High Wood. The concrete dug-out where I took my German prisoners was still there, but all was peaceful although later on in 1940 the wood was again over-run by the Germans.

(Transcribed from a manuscript by Robert Eliot Fryer held in his personal papers at the IWM)



Map of High Wood location

Aerial view of High Wood looking north-east (Photo courtesy of Mike Insall)

Instructions regarding War Diaries and Intelligence Summaries are contained in F. S. Regs., Part II. and the Staff Manual respectively. Title pages will be prepared in manuscript.

WAR DIARY
or
INTELLIGENCE SUMMARY.
(Erase heading not required.)

Army Form C. 2118.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
HIGH WOOD			H.E. and shrapnel. At about 11.30 pm an officer of the 5th S.R. & CAMERONIANS asked us to retire to the S.W. face of the wood. Lieut. FRYER was wounded by a shell at this time. We lay in this trench till between 12.30 pm & 1 pm. when the section was relieved. At about 12.30 pm, Sapper McLAUGHLIN came in from the end of the trench at S.3 b.8.1. where he had remained till then. Reporting that he had seen no Germans in the wood but that they seemed to be digging in about 50 yards from the N.W. face. Casualties in this section:- 2 Lieut. Fryer wounded (about 11.30 pm). 1 O.R. missing (believed killed). 5 O.R. wounded.	

T2134. Wt. W708—776. 500000. 4/15. Sir J. C. & S.

War Diary of 11 Field Company Royal Engineers – at High Wood on 20th July 1916, which describes the wounding of Lieut Fryer by a shell; at about 11.30 pm.

Fixing the Position by Astronomical means of Royal Air Force Landing-Grounds in South Arabia

by **Major R.E. Fryer R.E**.

(This article was published in the Royal Engineers Journal in March 1933)

In the latter part of 1931, the Royal Air Force in Aden asked that the position of several new landing-grounds in the Aden Protectorate might be accurately fixed, with two objects in view, namely:

1) The finding by any pilot of these landing-grounds by setting course and distance from Aden, this not being then possible, as their positions on the map, were known to be very inaccurate.
2) The use of the new positions as control-points, for some form of air survey at a later date.

In February of 1932 I was sent out from England to do this work. Although the actual survey work presented no very great difficulty, the project in general presented some interesting and novel features. As this class of work is increasingly likely in the future to be carried out by Sapper officers, it may be of general interest to describe it in some detail.

The whole region known as the Aden Protectorate, which stretches from the coast opposite the straits of Bab-el-Mandeb to a point 400 miles East of Aden has an area of about 9,000 square miles; and is administered by the Colonial Office; the civil administration coming under India, and the military command under the Air Force.

Aden, with its mixed population of about 56,500, was annexed to the British Empire in 1939, when almost all traces of its former prosperity and importance as a commercial center, dating back to many years B.C. had disappeared. It again attained prosperity as a coaling port, its importance becoming greatly enhanced since the opening of the Suez Canal in 1869, and is now also an important entrepôt for trade with Arabia.

The frontier was demarcated in 1902-04, the treaty between the British and Turkish Commissions being signed in 1905. It ran from Turba on the Red Sea to the Wadi Bana at Qa'taba, and thence N.E. into the desert. In the Great War the Turks approached Aden, occupying Lahej and Sheikh Othman, a place visited by many people landing at the port. The Imam of Yemen is supposed to conform to the 1905 convention, but some encroachments have been and still are the subject of dispute.

Only a small part of the Aden Protectorate has been accurately mapped. This mapping is almost all the western part, and was done by the Survey of India on ½" and ¼" scales. The rest of the Protectorate in the east and north has never been surveyed, and the largest scale map available is the War Office 1 to 1 million, and also the Survey of India 1 to 1 million (about 16 miles to 1 inch).

The inaccuracies in the 1 to 1 million map were not so evident in the days of army control in Aden, as the troops could not cover large distances; but now that the Royal Air Force flies daily over the Protectorate and has established landing-grounds, these inaccuracies become much more obvious and embarrassing. They are not to be wondered at, as the only materials on which much of the topographical details of this map is based, are travellers' and explorers' routes.

Modern exploration in this region may be said to have begun in 1761-4, when a Danish expedition entered the Yemen from Mocha on the Red Sea, then a great coffee port. Expeditions by explorers of many nations have continued right down to the present day, culminating in the crossing of the Rub'al Khali, or Empty Quarter, first by Bertram Thomas, and then by Philby, within the last year or two.

In the particular country round Aden in which I had to fix these landing-grounds, a political officer from Aden named Wyman Bury had, in 1903 and 1904, done important work. His wanderings up to Dhala, and later across the Kaur watershed to Yeshbum, are well described in his book, *The Land of Uz*. He started with the idea of doing an extensive survey with Indian surveyors, but unfortunately in a fight at Mis hal (one of landing-grounds fixed) one of his surveyors was killed. The rest refused to continue, and returned to Aden via Shuqra. Wyman Bury went on alone, doing most excellent work, and made a very good map.

Most people who have merely landed for a short time at Aden are surprised to hear that within a few miles the flat sandy plain gives way to foothills, and beyond these to the mighty cliff known as the Kaur. This outstanding feature rises 6,000 to 7,000 feet, and even higher in places almost vertically. Some of the ground on the top of the Kaur is fertile and cultivated. Parts of it are very broken and precipitous, but eventually in the N.E. hills merge into the great desert of the Rub'al Khali. It is extremely grim country to fly over, with no possible landing-places except those cleared and prepared by the Royal Air Force. It says a very great deal for the skill of the pilots and the reliability of British aircraft engines that the Royal Air Force are able to fly about daily over this sort of country.

The climate at Aden is hot and steamy, with little or no rain. Up country it is very much hotter by day and cooler by night. In March, when I was observing at Nisab, the temperature was about 100° F. by day and dropped to about 60° just before dawn. In Aden it was about 85° and 76°, but the atmosphere was far more humid and unpleasant. Night frosts are quite common in the hills in the cold weather, with scorching sun by day.

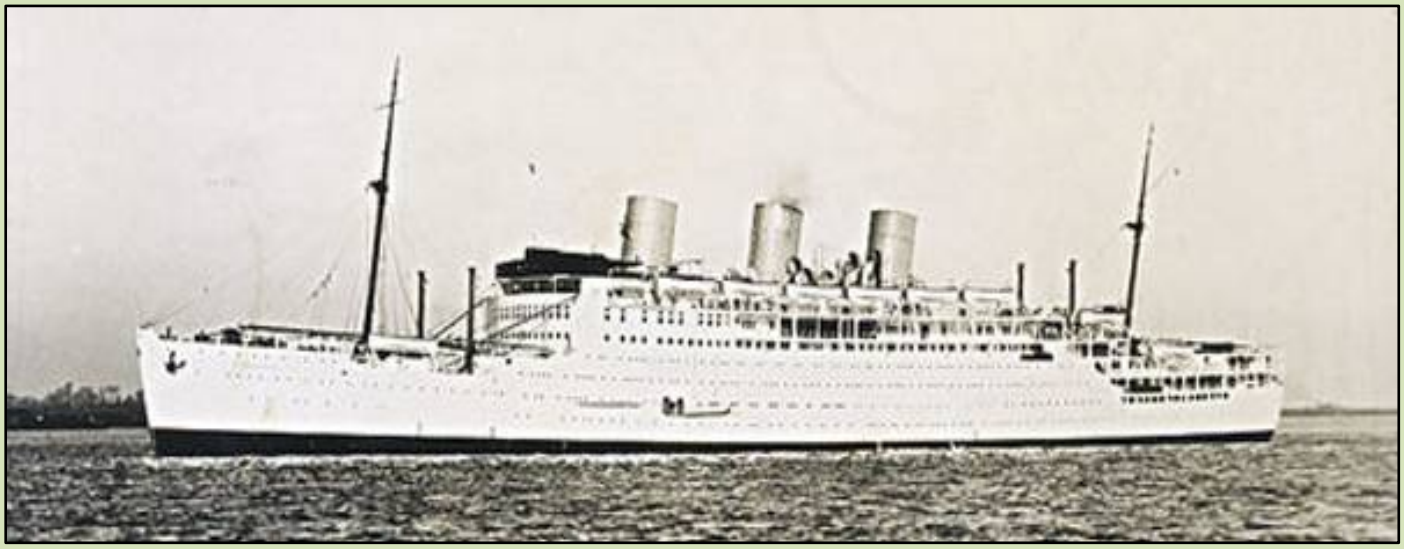
Although this work had been discussed between the War Office and the Air Ministry for some time, it was not before February 3rd that I received orders to leave London on February 18th, and to have all stores ready to leave on February 11th.

The stores I decided to take were as follows:-

1) The new Tavistock theodolite (Cooke, Troughton & Simms)
2) A spare 5" micrometer Cooke, Troughton & Simms theodolite most kindly lent at the last moment by the Director-General of the Ordnance Survey, Southampton.
3) Mean time and sidereal time chronometers by Messrs Mercer.
4) An R.P. 11a Marconi wireless set with frame, complete with 2 sets of inert H.T. and L.T. batteries.
5) A plane table with all its gear (alidade, etc.)
6) A 100-foot steel tape.
7) 2 aneroid barometers and 2 thermometers
8) A survey umbrella
9) The usual stationery, G.S.G.S. astronomical Forms 29 to 36, and Close's Textbook, the Surveyors bible.

Of the above all were War Office stores, and were lent to the Air Ministry for the job, and I was responsible for their safe return. All did return except one thermometer, which I sat on.

These stores, with the exception of (1) and (3); which were not ready by February 11th, were taken by lorry from the War Office to the R.A.F. depot at Kidbroke. They were there crated; when I went to inspect them, I was rather horrified to find them marked "Capt. Fryer's personal baggage." In order to make sure there was no hitch, I went personally with the R.A.F. lorry to Tilbury Dock in a snowstorm on February 10th; this was the only certain way to ensure that all stores would be loaded on the P & O *Strathaird* sailing next day.



P&O RMS Strathaird

The following week was spent in settling various points and in trying out the Tavistock theodolite, which I had never used before. Unfortunately the weather was intensely cold and cloudy, and I did not have much success.

I left Victoria by the P & O special train on Thursday, February 18th, and sailed from Marseilles on February 19th, reaching Aden on Sunday morning, February 28th. On the voyage I spent a good deal of time preparing my star programmes and rating the chronometers. The latter was made possible by the use of the ship's wireless, thanks to the courtesy of the Marconi officials; one of these on the *Strathnavar* was an ex-sapper.

The *Strathaird* was on her maiden voyage, and all her wireless gear was of the most modern. All the same, the wireless time signals were no easier to pick up than they were with the set I used on land.

In all classes of latitude determinations it is essential to have a programme prepared beforehand (see Notes on Field Astronomy, 1932, pages 81 to 83).

I worked out a programme of all possible stars (about 70) from dusk to dawn, and used almost all of them at one time or another.

On Monday, 29th February, I unpacked all my stores at the R.A.F. Squadron, and was able on Tuesday to hear the 8 a.m. wireless signal from Rugby. This was extremely gratifying, as all the wireless fans at Aden scoffed at the idea that I should be able to do so. Incidentally, I did not hear any more until I was out on the job owing to terrible atmospherics due to thundery weather up country. I tried out the Tavistock theodolite on two nights at Aden with no results, owing to very high wind and dust on both nights.

After a conference on Monday with the Air Officer Commanding it was decided that I should fix the position of the following landing-grounds:

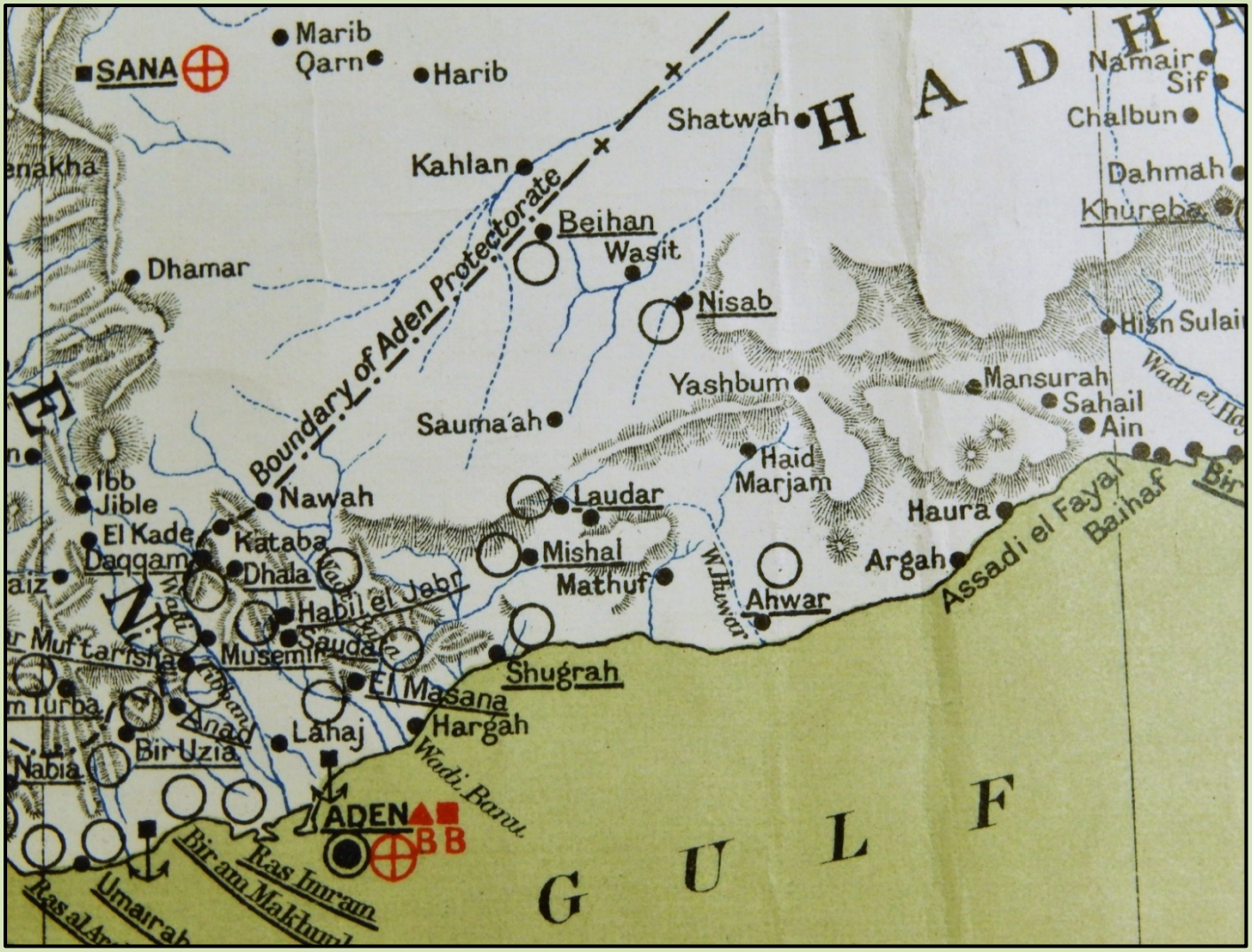
1) Laudar
2) Mishal
3) Nisab
4) Beihan
5) Ahwar
6) A place somewhere near where the Wadi Maifa'a runs into the sea. (This was not fixed owing to the difficulty of landing at this spot, and is not shown on the map.)

It was agreed that aircraft for carrying all my stores, food, etc, should be allotted to me, and also that F/Lt A.R. M. Rickards, O.B.E., A.F.C. R.A.F., who knew the country well and could speak Arabic, should accompany me. Captain T.A.N. Bent, the R.E. officer in Aden, also came with us on nearly every occasion, and performed most excellent work as a booker and an indefatigable plane-tabler. Rickards did all the camp and food bandobast, and obtained full marks, as we never ran out of anything, not even beer!

On Wednesday, March 1st, I did a reconnaissance flight with Rickards in a Moth machine lasting 2½ hours, landing at both Laudar and Mis hal. I decided that we would fix the centre of the white stone circle of each landing-ground, and that we would also make a plane-table sketch of the vicinity of each one. This would assist pilots flying to the landing-grounds for the first time, and might also assist any ground personnel.

I was very sick indeed on this flight, both in the air and on return. It is almost unbelievable how a small machine can be thrown about in bumps in that hot atmosphere, without coming to pieces in the air. I may say I never went in a Moth again and also that I was never sick again.

I decided to go to Laudar on Saturday, March 4th. I was allotted three aircraft, and we loaded them at Aden at about 6.45 a.m. The Machines were Fairey IIIF, with cruising speed of about 100 m.p.h. and a total flying duration of about five hours. These machines have bomb-racks of 2' 3" and width 1' 6" and depth about 1' 6" under each wing, and a large rear cockpit, length 5' 2", width 2' 10", and depth 2' 9". The normal fuel- capacity is 137 gallons, the average consumption being 25 gallons per hour. All the same, when I saw all the stores, beer and three large officers on the tarmac, I never thought we should get everything loaded.



Map produced under the Superintendence of Captain J A Edgell O.B.E. R.N. Hydrographer - 1937

It is essential that the R.E. officer should carefully check all his stores, as the R.A.F. is only concerned with loading the machines correctly. Despite most careful checking, on one occasion important store was not loaded, as no one thought I wanted "that old sack," in which the said store had been packed.

Fairey 111F General Service Aeroplane

For those officers who have to do much flying I strongly recommend the purchase of goggles and a helmet with earphones. The R.A.F. can and does lend them, but it is much better to have your own. Another point is the fitting of your parachute. Don't be diffident about asking how this works, as your life may depend on it. Make sure also of getting the straps adjusted to fit properly, as this makes a long flight far more confortable.

We left Aden at 7.30 a.m. and arrived at 8.37. I must here relate the sad stray of the S.T. chronometer. The M.T. chronometer, by the way, stopped in the Red Sea and refused to go again. Both had been treated by me with the utmost care since I left London. When flying, I carried the instrument on my knee to save vibration. I was in the rear cockpit with Rickards, the pilot being a pilot-serjeant. Just as we were going down to land, Richards noticed that the landing-ground was covered with camels. He stood up to shout "Camels" to the pilot, who had not seen them, and in the act his earphones caught in the chronometer on my knee and it slipped on to the floor of the machine. This shock altered the rate of the chronometer from losing about 1 second a day to about 55 seconds, but this remained very constant.

The Tavistock theodolite has a very poor box for aircraft-transport, and I found it impossible to give it a better place than the floor of the machine. The wireless set always travelled in the bomb-racks and suffered no ill effects. The H.T. battery however, which consisted of several inert cells coupled together nearly always after a flight had loose connections due to vibration.

At Laudar we lived in the local sheikh's dar or house, which was almost one mile from the landing-ground. I soon found this a great disadvantage for time signals, etc, and at all future landing-grounds we invariably camped or lived on the landing ground itself.

The night of the 5th March was cloudy after a thunderstorm, and although we were up on and off all night, nothing was achieved. We did, however, measure a base of about 1,200 feet with a100 foot steel tape, in the approved style, once in each direction, with an error that was surprisingly small, as the tapemen were totally untrained Arabs. Bent, then as later, was indefatigable with his resections and intersections and walked miles in the heat of the day. Rickards also was not idle, as he had about 100 Arab coolies at work all day clearing the landing-grounds.

Sunday, 5th, was nearly as bad for clouds, but it was on this night that I confirmed my suspicions that the Tavistock theodolite was not working properly. It was possible in some pointings on a star to get two readings, both of which appeared to be equally good. I was unable to put the trouble right and did not use the instrument again. This was very disappointing, as I had brought it out especially for the job and electric lighting and easy reading make it delightful to use at night.

As machines could not stay out on the landing-grounds all night, due to difficulties in protecting them, they always returned at once to Aden, leaving us three officers on the job. On Monday 6th I returned by air to Aden, it having been agreed that aircraft should call for us on this day.

I got out my spare theodolite which was an old 5" micrometer Cooke, Troughton & Simms, packed in two heavily padded leather boxes, which were most suitable for air transport. This theodolite is well known to all R.E. officers and will bring back memories of chilly nights outside the S.M.E observatory, and the well-known formula "Stand by, coming up ------ D------- that cursed light"

The Tavistock theodolite is the new Service instrument, and gives readings to the nearest second, meaning face right and face left in one operation. The lighting is excellent, and is worked by an electric battery and is, and the weight is only 11lb. The cost at present is £96.

The wireless set was the standard 4 values Marconi time-receiving set used by the War Officer for some years. It is operated by inert H.T. and battery and an aerial, and it worked without a hitch. At times the signals were so good that I had to tone them down. Especially was this so with Namen, the German station, which signaled at admittedly the best time 3 am I.M.T. while Rugby at 11 pm, was the poorest.

No wireless time-receiving set has, I think, ever been used in this part of Southern Arabia before, and I fancy that this is the first time that complete survey-gear for finding latitude and longitude has been transported by air. The Arab sheikhs who listened to the signals from England were highly thrilled, but they liked the ticking of the chronometer best. They would listen intently with wonderment written all over their faces, and then would smile and say, *"ha allah il Allah"* ("There is no god but God")

The S.T. chronometer was a standard Mercer instrument ticking half-seconds and seconds, and missing a beat at each complete minute. It had seen much use on gravity survey, but worked well. I started it at Marseilles on February 18th to read Greenwich sidereal time, and it maintained an excellent losing rate of about 1 second per day, until the unfortunate incident previously described. I kept the chronometer going the whole time, as I wished to observe its behavior after transport by air. I carried it always on my knee on these occasions, and was unable to detect any marked change in its rate even after long flights. It was finally stopped on April 3rd after 45 days' non-stop running.

All important time-signals are now sent on continuous wave on a wave-length of about 19,000 metres. The stations I used were as follows: -

Station	Wave-length	Aden time of Signal
Rugby	18,750	12.55 p.m.
		20.55 p.m.
Bordeaux	18,900	11.01 a.m.
		23.01 p.m.
Nauen	18,130	15.01 p.m.
		03.01 a.m.

These were very useful times for star work, giving good brackets 9 p.m. to 11 p.m. with Nauen at 3 a.m. always very clear. Much useful information about time-signals and receiving sets is given in *R.G.S Technical Series No 3*, by Mr Hinks, last published in 1929.

The type of signal received is known as the rhythmic, and consists of 306 dots or 305 gaps sent in exactly five minutes of mean time with 61 intervals equal to one minute of mean time. For ease in identification, dots number 0, 61, 122, 183, 244 and 305 are lengthened to 0.4 seconds, and are usually called bars. This has the great advantage that when signals are badly heard any bar at a precise minute will give a useful signal. The principle of this type of signal is the comparison of the ticks of the observer's chronometer with the wireless dots spaced at exactly equal intervals of time apart, each interval being nearly but not quite a second. If the seconds-hand of the chronometer be watched by eye or listened to with one ear, and if the wireless dots also be listened to, a time "vernier" will be established, and it will be possible to get four or five coincidences of the wireless dots and the chronometer seconds-hand. As the Greenwich time of the first and last bar of the wireless signals is known, it is only a matter of proportion to calculate the Greenwich time of any dot coincidence.

Different observers have different methods of obtaining these coincidences, each thinking of his own method is the best. Several such methods are described on pages 100 *et seq* in *Notes on Field Astronomy*, 1932. The method I used was first used on a gravity survey in 1931, and I found it extremely successful. In this method the observer looks vertically down on the chronometer with the wireless dots sounding in the earphones. A little practice will enable him to estimate the coincidence of a wireless dot with the "flick" of the seconds-hand of the chronometer. There is a belt of about six dots, all of which appear to be coincident, but this does not matter. As soon as the wireless dots begin, the chronometer is watched intently until the estimated first coincident occurs. The reading of the minutes-hand and seconds-hand of the chronometer is immediately written down. On looking back at the chronometer it will be found that the wireless dots and the seconds-hand are still nearly coincident. The observer continues counting the wireless dots assigning to the dot the number indicated by the seconds-hand of the chronometer, and then continuing to count wireless dots until the next bar is reached; the number of the bar should then be noted down. This completes one coincidence, and the observer can then begin to concentrate on the next. The results then appear as follows:

Date		*21st March 1932*	
Station		*Beihan*	
Signal and Time		*Rugby 17hr 55 min (G.M.T.)*	
H.	*M. S.*	*Count to Bar*	*Bar number*
5	*36 44*	*59*	*1*
	37 55	*59*	*2*
	39 7	*60*	*4*
	40 17	*60*	*5*

To obtain the chronometer error, all coincidence times must be referred back to the time of the first wireless dot. The working of this is shown on Table 1.

TABLE I

Date: 21/3/32 Station: Beihan Signal and Time: Rugby, 17hr 55 mins Chronometer: Mercer Sidereal

1	2	3	4	5	6	7	8	9
Chron.	Time of	Coincidence	Count To Bar	Bar Number	Dot intervals Between coincidence and next bar (Col 4 – Col 3)	Dot intervals between coincidence & first dot. (Bar number – Col 6)	Time between coincidence and first dot	Chron time of first dot. (Col 2&3 – Col 5)
H.	*M.*	*S.*					*M.* *S.*	*H.* *M.* *S.*
5	36	44	59	1	15	61 – 15 = 46	46 x .9863 =	5 35 58.63
	37	55	59	2	4	122 – 4 = 118	45.37	35 58.62
	39	7	60	4	53	244 – 53 = 191	1 = 56.38	35 58.62
	40	17	60	5	43	305 – 43 = 262	3 = 08.38	35 58.59
							4 = 18.41	
							Mean	5 35 58.61

To calculate the chronometer error:

	H.	M.	S.
G.S.T. of G.M.M. (21st March 1932)	11	53	11.13
P. M. signal add 17 hr. 55 min in S.T. units	{17	02	47.56
	{	55	09.04
G.S.T. of 1st dot ==	5	51	07.73
But Chron. time of 1st dot ==	5	35	58.61
Chron. is slow		15	09.12

If the signal is sent correctly and the coincidences are observed correctly, then they should be 72 seconds apart on a S.T. clock. The magic figure should not be allowed to bias the results. It is interesting to note that an error in judging the time of the coincidence of 1 second in the same sense throughout only affects the answer by 0.0137 seconds; if only one coincidence is wrong, the difference in the results is only 0.003 seconds. Unless obviously faulty, results should not therefore be discarded, as the mean result will not be far wrong, and is just as likely to be right as any complicated method of adjustment. A complete example is shown on Table 1.

If the R.A. and Decln., of a star and the L.T. be known, then an observation of its altitude at the instant of upper or lower transit will give a value for the latitude.

There are, however several limitations to this as a practical method of observing in the field, for the following reasons:-

(1) The direction of the meridian must be accurately known and this is not easy to determine
(2) The L.M.T. or L.S.T. must be known accurately by means of wireless time-signals.
(3) With a single observation to a star it is impossible to eliminate the collimation error of the theodolite. If, however, a north star is observed on F.L. (say), then an observation to a south star also on F.L. will give a reading which is as much too great (say) as the former reading was too small. Hence the true latitude can be obtained by taking the mean of a determination to a north star and a south star.

If these limitations can be overcome, then the method is easy to observe and compute, no logs at all being required for computation. For high latitudes it is possible to find the meridian by computing the azimuth of Polaris. In the low latitude of Aden, the following method was adopted. A star of fairly large magnitude was chosen with a convenient time of transit at the beginning of the night's work. Several readings both before and after transit were taken on both circles of the theodolite. It was found that for about one minute of time before and after transit it was impossible to detect any rise or fall in the star's altitude.

The sequence of work then is as follows: -

(a) Prepare the programme of stars as already stated.
(b) Obtain by wireless signals the error of the Chronometer.
(c) Set up, observe large star, note H and V readings at transit and note time by chronometer. The horizontal reading at the moment of greatest altitude (best obtained from a graph) will give the correct setting for the meridian. A comparison between the time noted at transit and the R.A. of the star will give the error of the chronometer on L.S.T.
(d) Observe north and south stars at transit on *same* face
(e) Compute latitude from the simple formula $\pm \lambda = \pm\xi \pm \delta$ correcting each observation for refraction.
(f) Pair north and south stars of about the same latitude.

The above method, although not perhaps of great accuracy, gave very good results, and was used at all stations. The usual method of circum-meridian altitudes was also used as a check. The difficulty was to get enough north stars to pair with south. The ease of computation compared with the more rigorous circum-meridian method is very marked indeed.

On Wednesday, 9th March, I returned by air to Laudar with the old 5" micro-theodolite, and on that night and the next was able, despite clouds, to complete my observations. Our reception on arriving was rather amusing after the initial shock of it. A *feu de joie* was fired, and bullets whistled all over the place; then the local sheikh or sultan came up and shook hands. All the *askaris* or soldiers of the tribe were armed with serviceable rifles or carbines of every description and make, but the majority were British. Nearly everyone possesses also a *jambiya*, or curved knife, which he wears round his waist with his cartridge belt. At Laudar there were two men who had been to Aden and had served with the local levies; having some idea of discipline, they were most useful men. Note how nicely they stand to attention for the photographs.

On Friday, the 11th, three aeroplanes came up from Aden and moved us to Mis hal, about 15 miles. Here–-after my experience with clouds at Laudar–-I decided to spend four days. As it happened the nights of 11th and 12th were both good, and I completed the observations. The local sultan was a truculent man, but had a most entertaining son, with whom I made great friends; we frequently landed at this landing-ground. We had tents of a sort here, brought up by camel from Aden; so we lived in more comfort.

The Tavistock in use at Laudar – Note the military bearing of my carriers

On Sunday, 13th, we had an early night, as we had been up practically all night for four nights running. Rickards had some trouble with the coolies working on the landing-ground. He said 8 annas was his rate for a day's work. The local T.U.C. would not agree to this, and they spent the whole morning till mid-day arguing before any agreement was reached. Rickards now said that the pay was 4 annas for the rest of the day, and after further arguing they agreed. When paid in the evening, those who got one four-anna piece thought they were very hardly treated compared with those who drew four one-anna pieces. Many had never seen money before, being only accustomed to a system of barter.

On Monday, 14th three aeroplanes moved us to Nisab, about 100 miles. This meant flying over the Kaur, and some very grim country beyond. We camped on the landing ground; it was a hot day, the temperature just reaching 100° F in the only little tent we had. Our *feu de joie* here was fired by one man, who had run miles, and arrived in a breathless condition putting a round (live) into the breach.

On both 14th and 15th we were up all night and were much bothered by high cirrus cloud. However, we just managed to get enough observations. There was a very distinguished-looking old sheikh here. One of his sons used to sit on my camp-bed and stroke the blanket, which was no doubt a wonder to him.

On 16th we left for Aden, which we reached in 1 hour 27 minutes. The 17th and 18th were spent in working out computations, of which I now had legion, and in enjoying a well-earned rest.

We left for Beihan on Saturday, 19th and took 1½ hours on this flight, which was over some very grand high country; one village, Al Qara, perched on the top of a hill, was very remarkable. As Beihan lies right on the supposed boundary indicated on the 1 to 1 million map, I decided to spend four days there in order to improve the chance of getting good results. It was lucky that I did so. On the 19th there was a thunderstorm and it rained nearly all night. The Wadi Beihan, which is very wide here, came down in spate next morning. All this water runs to waste in the great desert Rub' al Khali, and by next morning the wadi was dry again. The, 20th – 21st – 22nd were cloudy at times, and it was only by staying up all night that I managed to get enough observations – a very tiring job.

We lived in a very grand *dar* at Beihan, but it was full of bugs, as indeed were all the houses we slept in. Being fresh from England, I was bitten worse than the others, and as the sand-flies were also troublesome, I spent most of my time scratching, a source of great amusement to the native inhabitants of the house. Flies were also very bad everywhere. There were so many on the food, drink, etc., that it was difficult to avoid eating them, and quite impossible to do anything about it.

Observing here one night I had as many as 70 Arabs, armed to the teeth, sitting round the theodolite. They would attempt to imitate my calling out angles, and became very good at calling out "Coming up—Oopp". They thought I was photographing the stars, and it seemed to us a good plan to foster this belief, as the tribesman is suspicious of instruments, especially of those that tick, and therefore probably have *jinns* or devils inside them.

We established quite definitely the fact that Beihan is well inside the Protectorate, although it is known that the Imam of Yemen maintains that it is inside his country.

One man at Beihan was most inquisitive, and asked intelligent questions about England; he insisted on showing me his prowess at writing Arabic by giving me examples in my angle-book. He also gave me his *jambiya* in exchange for cigarettes. Many of these knives are very ornamental. They are said to be made by local cutlers in a town on the borders of the Hadhramaut.

Here also are to be found Himaritic remains, and Rickards went miles to take a photograph of inscriptions on a rock. I acquired two stones with figures and inscriptions all complete. Alas! The British Museum tells me they are forgeries. It is indeed a sign of the times when a factory for forgeries of this nature is found in these remote corners of the world, where probably only half a dozen white men have ever been before.

The currency used in this part of Arabia is interesting. It is not the rupee, the standard British currency of Aden, but the Austrian Theresa dollar, worth about 1s. 4d. The history of this coin is that in the eighteenth century it was the popular currency of the Levant, whence its use spread through Arabia and Abyssinia and as far as Madagascar. The Arabs liked it, and have always insisted on having it.

Some 15,000,000 are still struck annually in Vienna, and the coins have or had a good ring. This and the figure of the Empress (1717-1780) are supposed to be reasons for its popularity. Attempts by the British, Abyssinians and Italians to oust it have always failed.

We returned to Aden in the 23rd March, and the whole population complete with band turned out to see us off. It is a difficult job to keep these Arabs out of the revolving propellers of aircraft. They want to poke their noses in everywhere and to handle everything. The objection to stopping the machine is that it is often extremely difficult to re-start, as we knew to our cost on several occasions.

From 24th to 30th March was Easter leave week, and I was left alone with my comps. It is most trying to compute in Aden in the heat, and when you use the fan, all your papers blow away.

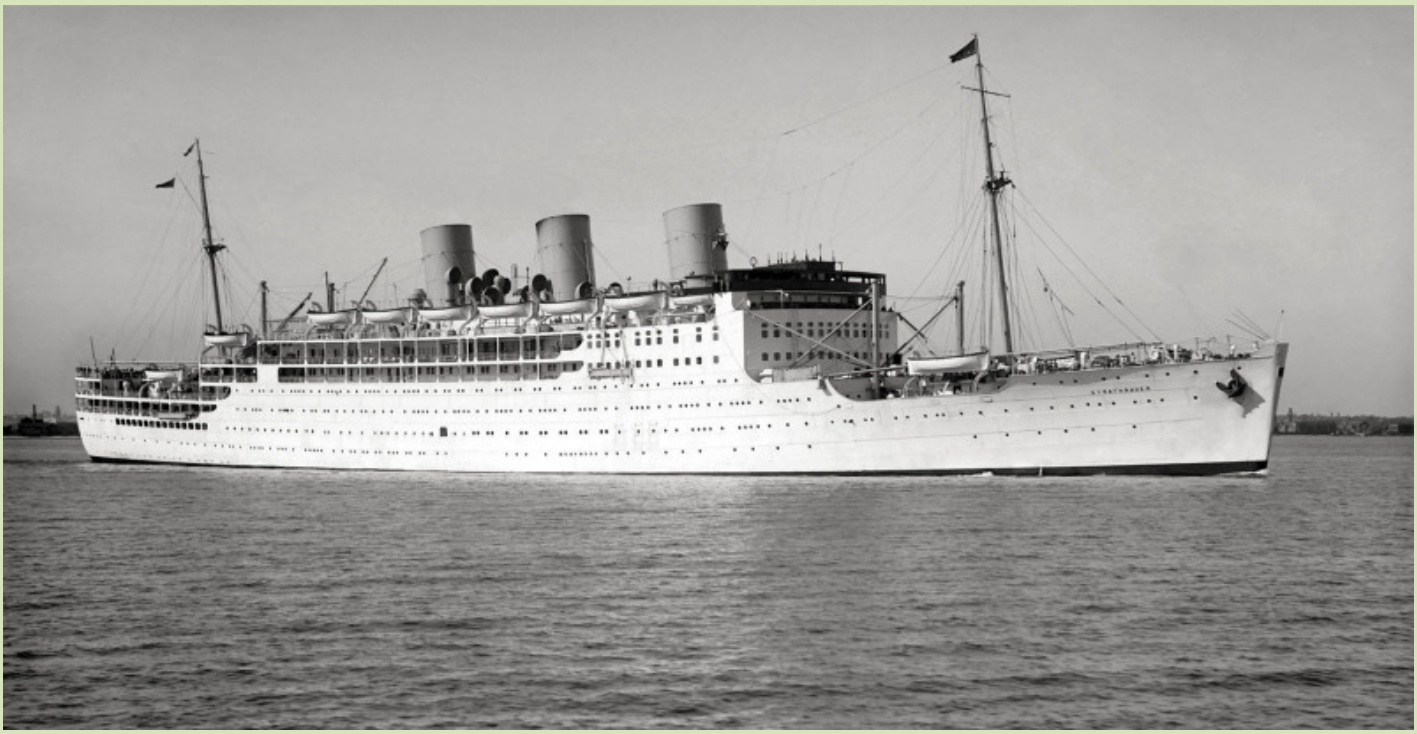
On the 30th we left for Ahwar, some 120 miles along the coast, quite a different type of place from the others, all of which were about 3,000 feet up. However, we had two consecutive cloudless nights for the first time on this work. The only hitch was that I lost my way from the centre of the landing–ground to our tent, where the wireless set was. I found it only just in time to get the 11p.m. Rugby Signal. Needless to say, all our bodyguard of *askaris* were fast asleep and had forgotten to display the light as ordered.

We had returned to Aden on April 1st, and on the nights of 1st, 2nd and 3rd I worked at Tarshyne Fort, one of the trig., points of the Aden triangulation, whose position was required.

On the 2nd I did 4-hours reconnaissance flight with Rickards in glorious visibility. We flew over Bani Baq-Beidha (held by Yemen) – Laudar – Habban – Yeshbum – Mis hal (landed) – Aden. On Monday, the 4th, I lectured to the Fortress Company R.E. in the morning, and to the Command in the evening. I also took all my stores to be packed.

On Tuesday, 5th I completed another 2½ hours' reconnaissance flight in poor visibility, but over wonderful and awe-inspiring country via Lahej – then west towards Mocha – Museimir – Dhala' – Qa'taba – Awabil Fort and back to Aden.

On Wednesday morning I said good-bye, and sailed at 5 p.m. on the P & O *Strathnaver,* the sister-ship of that on which I travelled out.



P&O RMS Strathnavar

On my way home I stopped at Cairo for a fortnight, where the R.A.F. were carrying out air survey experiments, and also flew over to Ramle (Palestine) and thence up to Jerusalem. I arrived back in London on Saturday, April 30th, having been away just over 11 weeks.

All the computations were completed at the War Office, and the results are appended, showing the difference between the map fixings and mine. Now that it has been decided to carry on with mapping of Aden, these positions will be invaluable, so that both the objects given in the opening of this article will be achieved.

The lessons learnt are all old, but will bear repetition:

(1) Most careful organisation of stores before leaving London.
In a one-man job of this nature where speed is essential it is imperative that nothing should be forgotten. Adequate provision of spares must be taken. In this case I should have been completely defeated if I had not had two theodolites, to say nothing of the chronometer. No such thing existed in Aden.

(2) Make sure that you are provided with definite orders from home as to what you are to do. This prevents unpleasantness when you arrive and enables you to carry out your reconnaissance and to make your plans with all possible speed.

(3) Make sure that you are clear as to what you want to do before you start. Do all in your power to foster the good relations that already exist between the R.A.F. and the Sappers. I have nothing but praise for the efficiency with which the R.A.F. managed my trip in England, Aden, Egypt and Palestine.

Lastly, if anyone wishes for further information on any of the methods used, I shall be most happy to give them. Of books on Arabia there are many; but I recommend *Arabia Felix*, by Bertram Thomas, and no doubt Mr Philby will shortly be supplementing his recent article in *The Times* by a book describing his remarkable journey across the Empty Quarter or Rub' al Khali. Arabia is a most fascinating country, and I can easily understand how it is that people get bitten with the idea of exploring it

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I am indebted to Squadron-Leader Rickards for some of the photographs published.

TABLE II

A FEW FIGURES IN CONNECTION WITH THE JOB

Total distance travelled: 10,270 miles by land, sea and air.
Total cost: Just under £200 or about £33 per station observed.

Flying time in Aden: 20 hrs 44 mins
Egypt: 4 hrs 43mins
Total: 25 hrs 27 mins

Approximate number of stars observed for: {Latitude: 145
{Time: 88
or not less than 2,000 pointings on stars.
Wireless signals observed, 66 made up as follows: -

Rugby	28
Bordeaux	28
Nauen	10

Number of days in Aden: 39

Place	Old Latitude	Old Longitude	New Latitude	New Longitude	Difference in miles from Old Position
Laudar	13.54.45	45.57.05	13.52.58	45.52.05	6
Mis hal	13.43.00	45.50.00	13.39.26	45.48.47	5½
Nisab	14.36.20	46.24.40	14.30.57	46.24.50	7
Beihan	14.55.35	45.38.45	14.48.41	45.43.48	9
Ahwar	13.27.35	46.38.50	13.32.05	46.43.20	5½

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A Short History of Aden

In 1838, under Muhsin bin Fadl, Lahej ceded 194 km^2 (75 sq miles) including Aden to the British. On 19th January 1839, the British East India Company landed Royal Marines at Aden to secure the territory and stop attacks by pirates against British shipping to India. In 1850 it was declared a free trade port with the liquor, salt, arms, and opium trades developing duties as it won all the coffee trade from Mokha. The port lies about equidistant from the Suez Canal, Mumbai, and Zanzibar, which were all important British possessions. Aden had been an entrepôt and a way-station for seamen in the ancient world. There, supplies, particularly water, were replenished, so, in the mid-19th Century, it became necessary to replenish coal and boiler water, thus Aden acquired a coaling station at Steamer Point.

No 8 Squadron RAF - Between the Wars: 1920 - 1939

No 8 Squadron reformed at Helwan, Egypt, on 18th October 1920, in the day bombing role, using DH 9As for the policing of Iraq and, from 1927, the Aden Protectorate. General purpose Fairey IIIFs replaced the venerable "**Ninaks**" in January 1928, and in April 1935 the capable Vickers Vincent arrived in Aden to help in the continuing task of keeping the more belligerent tribesmen in check. Much of this time in the Middle East was spent at Khormaksar in Aden and the Squadron's association with this base was to last more than 40 years. This earned the Squadron's Title of "Aden's Own".

The **Airco DH.9A** was a British single-engined light bomber designed and first used shortly before the end of the First World War. It was a development of the unsuccessful Airco DH.9 bomber, featuring a strengthened structure and, crucially, replacing the under-powered and unreliable inline 6-cylinder Siddeley Puma engine of the DH.9 with the American V-12 Liberty engine. Colloquially known as the "**Ninak**" (from the phonetic alphabet treatment of designation "nine-A"), it served on in large numbers for the Royal Air Force following the end of the war, both at home and overseas, where it was used for colonial policing in the Middle East, finally being retired in 1931. Over 2,400 examples of an unlicensed version, the Polikarpov R-1, were built in the Soviet Union, the type serving as the standard Soviet light bomber and reconnaissance aircraft through the 1920s.

Rommel Foxed by Faked Map

by Brigadier RE Fryer OBE

(This article was first published in the Sapper Magazine in January 1961 and in The Ranger Winter Edition 2003)

When Rommel made his first attack on the El Alamein line at Alam Halfa on the night of 30th -31st August 1942, he had a captured British "going" map in his possession. Rommel was known to have captured several of this type of map before and had placed great faith in them. Little did he realise that the use of this map would contribute to the first of a series of defeats that would end in the rout of his Afrika Korps.

The fuller story, which I will now tell, is one of the best strategic ruse stories to come out of the war, and the part the Royal Engineers took in the preparation of this phoney map is not generally known.

A "going" map is one that shows the use of colours and symbols where movement of all vehicles, and especially armoured vehicles, is possible and where it is impossible. In a vast area like the Western Desert such maps, mostly on quarter-inch scale, were made from information received from the Long Range Desert Group patrols, from air photographs, and every other possible source. They were usually prepared by the Intelligence branch of the Staff but were printed by the Survey units of the Royal Engineers.

Perhaps some of you have never heard that the Royal Engineers produce maps. You will not be alone as a number of the General Staff seem never to have heard of the Survey Service either. I well remember in September 1939, when the British 1st Corps mobilised at Aldershot I was appointed its first Assistant Director of Survey. My allocated place for mobilisation was in the lavatory of the Prince Consort Library at Aldershot. I am sure Survey was looked upon then as one of the odds and sods of the Army and classified with Graves, Postal, NAAFI, Provost, and such like. Useful, perhaps, but a damned nuisance, and anyway, what was there to survey?

However, to return to the false "going" map. I must now put you into the picture about the military situation before the battle of Alam Halfa.

The Afrika Korps with Rommel as its leader had just pushed the British back to the El Alamein position. This was only about 60 miles from Alexandria and Rommel had told his Korps that with one more push they would be through into Egypt and the Nile Delta.

British morale was at a low ebb. Secret papers had been burnt in Cairo, on what came to be known as Ash Wednesday, and our enemies within the city were getting ready to welcome the Germans and Italians.

But – and it is a very big but – great changes were taking place in the higher command. General Alexander became Commander-in-Chief and on 13th August 1942, General Montgomery took over command of the Eighth Army in the Western Desert. Within a day or two General Horrocks, whom you all know from seeing on TV, was transferred from his command of the 9th Armoured Division in Northumberland to join General Montgomery in the desert to command 13th Corps.

The effect was really electrifying. I was Deputy Director of Survey at GHQ at this time and I sensed at once a change of outlook. When a little later on I visited our Directorate and RE Survey units in Eighth Army in the desert I felt immediately the upsurge of morale. Most people had only vaguely heard of Genera! Montgomery and then only through stories – especially the one about making old Colonels and Generals go out for run.

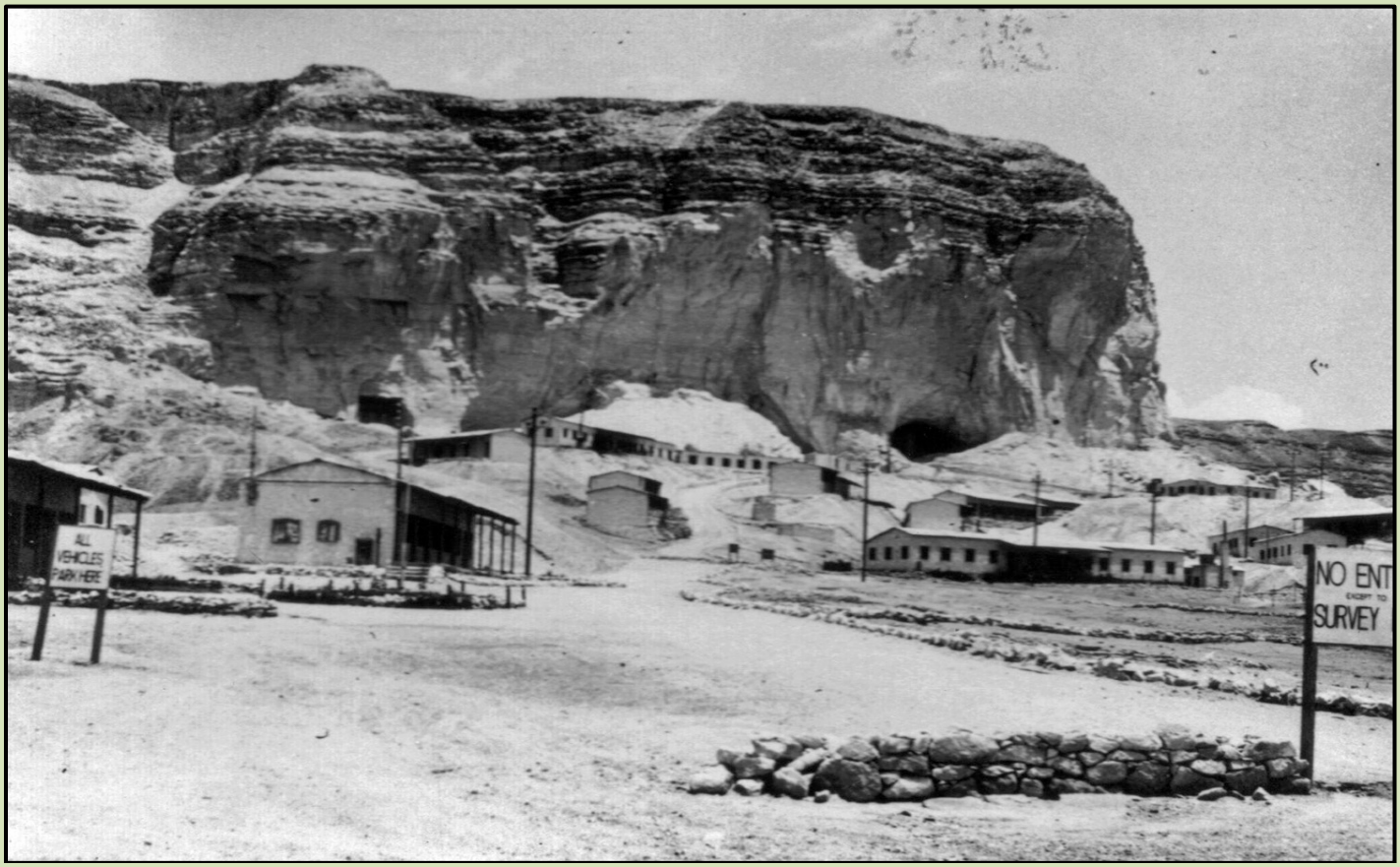
This increase of morale at this moment could not possibly have been more valuable. It was known that Rommel was at the top of his form and that he was about to attack us with the avowed object of rolling up the Eighth Army and driving into Egypt and the Nile Delta.

Our line at El Alamein was admittedly a strong one. It was 35 miles long with the two ends firmly based the right flank on the sea and the left on the Quattara Depression. This depression was impassable to tanks and vehicles. Every indication from Intelligence sources pointed to the fact that Rommel would attack us in the south and try to roll up the left flank of the Eighth Army.

Then it was that General de Guingand, General Montgomery's Chief of Staff of Eighth Army, had the cunning idea of making a "going" map which would link up with the maps already in German hands and then to falsify a particular area to suit Eighth Army plans.

The area he selected was south of the Alam Halfa Ridge. Due south of the highest point (132ft) of this ridge was an area of very soft sand. Eighth Army were certain that Rommel must make for this ridge and if the map showed this known bad area as good going for vehicles, Rommel might be tempted to send his tanks round that way.

This was what was done. The actual tracings for the false map were prepared in the Intelligence branch of the Staff. The RE unit that carried out the work was the 512 Field Survey Coy located with all its printing machines at Tura Caves, about 6 miles south of Cairo.



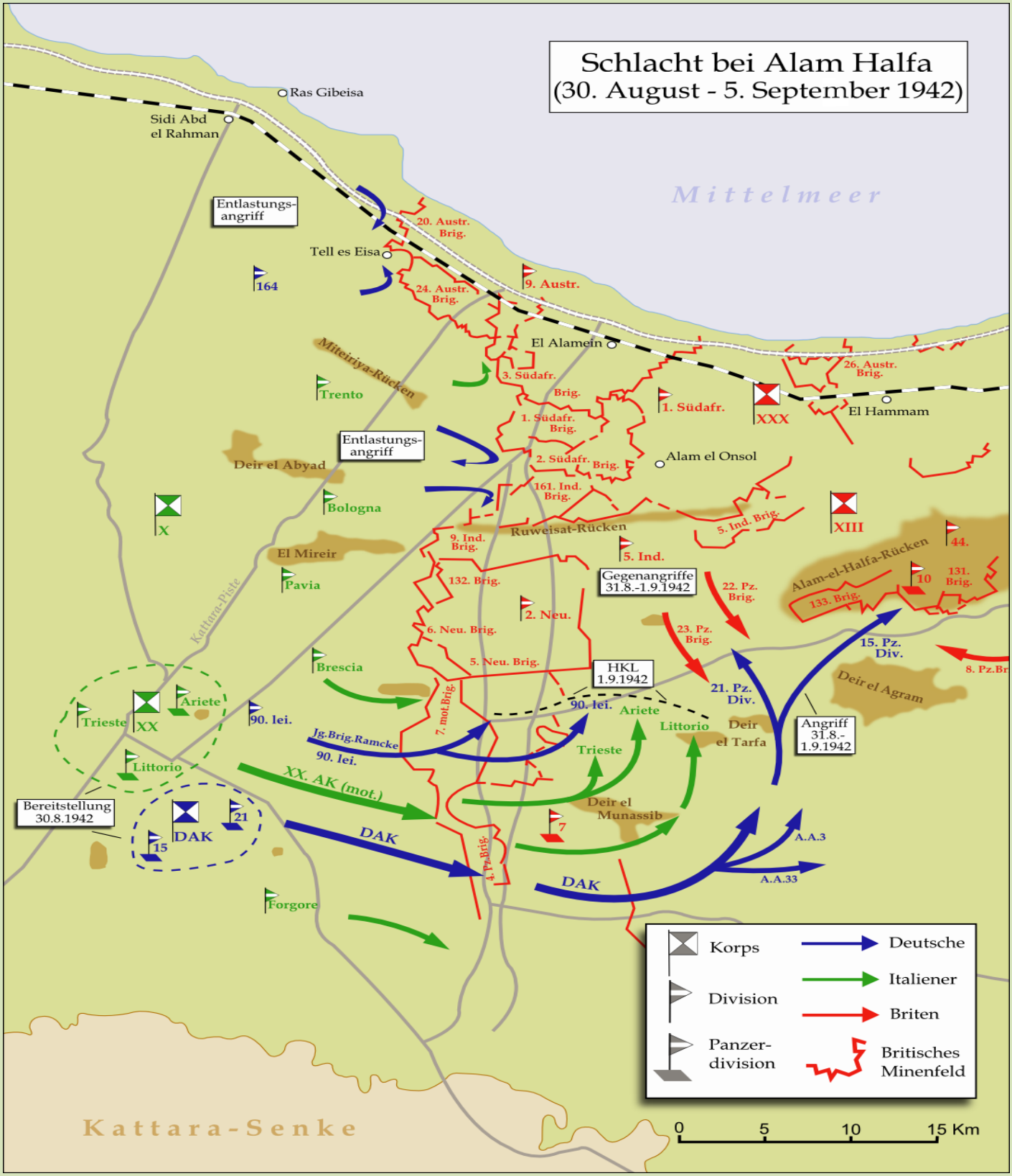
The camp at Tura and the entrances to the caves where 512 Field Survey Company produced the fake map

The plan was naturally a very 'hush hush' one, and "officer only" if possible, and as few as possible at that. 512 Coy RE at that time had an Intelligence Officer by the name of Gentil attached to them. He is a New Zealander and is now working in the A.A. office in Auckland, New Zealand. It was he who brought the finished traces of the false "going" to the Tura Caves.

Here plates were made, and the colours were printed on the quarter-inch base map by Captain Murdoch RE, a printer by trade who now runs his own firm in Glasgow. He remembers the job because he had trouble with the machine, but he eventually finished in the early hours of the morning. I was with him at the time and I remember putting the serial numbers on the maps as is always done with "secret" copies. The finished map looked like any other "going" map, but in the southern area it was completely phoney. Having selected 5 or 6 copies at random I took them to Cairo and gave them to the General Staff.

What became of them is recorded in many books, including Sir Winston Churchill's "The Hinge of Fate". A copy was "planted" on the Germans. A fake blowing up of one of our scout cars was staged in the minefield in the southern area. It is now known that the Germans found the map. They record the fact in considerable detail in a book called "Foxes of the Desert", by Paul Carell, translated by Mervyn Savill.

They say, “it was well printed by the first-class British map-making studios”. I’m sure that Jock Murdoch will be pleased with that compliment! Further, the Germans say “it bore serial and code numbers and it seemed genuine enough, in fact it was just what Rommel wanted as he did not know the “going” in this part of the British front. The open sesame to the key point of the British position, the Alam Halfa height was as good as in our hands”.



Map in German language showing the operations during the Battle of Alam el Halfa (1942). It is based (with several modifications) on a map in Ian Stanley Ord Playfair: The Mediterranean and the Middle East, Vol III, Her Majesty's Stationary Office, London 1960.

What actually happened in the battle has been told many times, but perhaps most vividly by General Horrocks in his article in the *Sunday Times* of 20th October 1957. The German attack went very much as General Montgomery said it would. Rommel's tanks were bogged down in the soft sand we had shown as good going on the map and they were shot up and heavily bombed by the RAF. Rommel's petrol consumption was increased threefold in trying to get out of the sand, and he was known to be very short of fuel. In six days the battle was over and Rommel withdrew beaten.

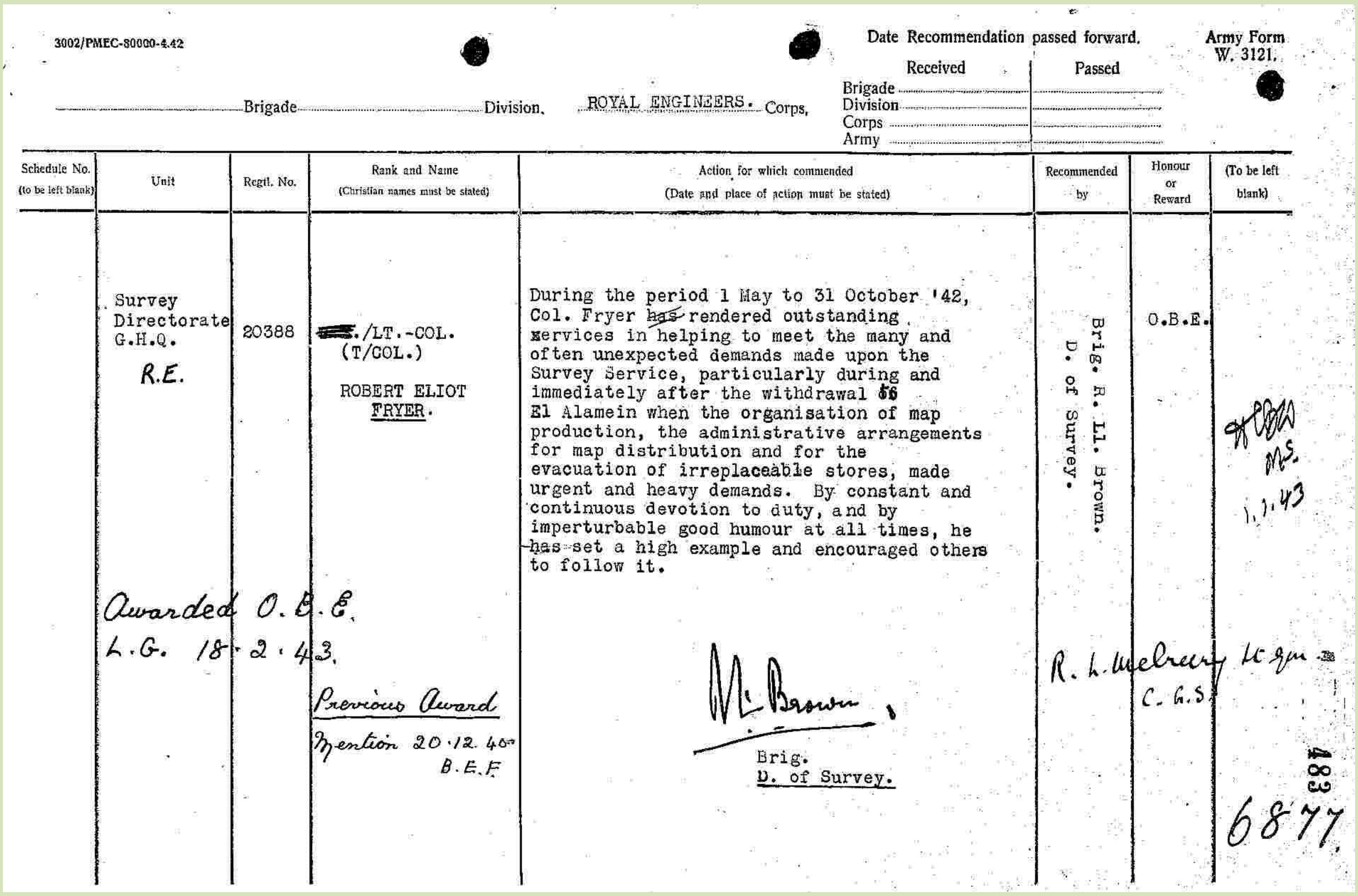
German Panzer MkIII tank destroyed at the battle of Alam el Halfa

After General Horrocks' article in the Sunday Times in 1957, I wrote to him and asked him if he had any fresh evidence that our map had really been captured and used by the Germans. This is what he says; "When General von Thoma was captured during Alamein (two months later) he spent the first night at General Montgomery's Camp. Over dinner he said that before Alam Halfa they had captured a map 'which proved very helpful' (sic). I think this must be so because no one in his senses would choose a centre line through the Rajil Depression" shown falsely on our map as good going.

The Germans in their latest book say that our map was the basis for the plans of attack and the prototype for the German route maps and that the faked map had an important influence on the course of the Alam Halfa battle.

And what did General Montgomery have to say after the battle? In his book "El Alamein to the River Sangro" he says: "It was a vital action, because had we lost it, we might well have lost Egypt. The victory had a profound effect on the Eighth Army. The morale of the soldiers became outstanding, their confidence in the higher command was re-established, and they entered into the preparations for the decisive battle that was to come with tremendous enthusiasm".

The importance of the RE work at the time was certainly not realised. It was not particularly spectacular but to use the words of General Horrocks, "it bore wonderful fruit".



3002/PMEC-80000-4.42

Army Form W. 3121.

Date Recommendation passed forward.

	Received	Passed
Brigade		
Division		
Corps		
Army		

..........Brigade..........Division. ROYAL ENGINEERS. Corps,

Schedule No. (to be left blank)	Unit	Regtl. No.	Rank and Name (Christian names must be stated)	Action for which commended (Date and place of action must be stated)	Recommended by	Honour or Reward	(To be left blank)
	Survey Directorate G.H.Q. R.E.	20388	[redacted]/LT.-COL. (T/COL.) ROBERT ELIOT FRYER.	During the period 1 May to 31 October '42, Col. Fryer ~~has~~ rendered outstanding services in helping to meet the many and often unexpected demands made upon the Survey Service, particularly during and immediately after the withdrawal to El Alamein when the organisation of map production, the administrative arrangements for map distribution and for the evacuation of irreplaceable stores, made urgent and heavy demands. By constant and continuous devotion to duty, and by imperturbable good humour at all times, he ~~has~~ set a high example and encouraged others to follow it.	Brig. R. Ll. Brown. D. of Survey.	O.B.E.	M.S. 1.1.43

Awarded O.B.E. L.G. 18.2.43.

Previous Award Mention 20.12.40 B.E.F

Brig. D. of Survey.

R. L. McCreery Lt Gen C.G.S.

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6877.

TNA File - WO-373-76-414

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The Ministry of Defence will be launching a new Veterans ID card on 18 February which will enable public and charitable sector services to instantly recognise the service of a Veteran. This card will provide proof that a Veteran has served in HM Armed Forces in line with the Government definition of a Veteran, which is one day's service. Currently, there is no way for existing Veterans to easily prove the fact that they have served, and the administrative burden on providers when verifying that a person is a Veteran can be considerable, both in time and cost. This card will allow you to confidentially verify that someone has served in the Armed Forces.

Phase 1: The Veterans ID Card will be provided to all Service Leavers only, as part of the discharge process with effect from today, and retrospectively to those who left on or after 17 December 2018.

Phase 2: Applications from the wider Veteran Community will be encouraged once the process has been agreed. Information on how to apply will be made available closer to the time, before the end of 2019.
Telephone: 0808 1914 218 - Website – www.veterans-uk.info

Notification of Deaths

Walter Purvis Smith CB OBE MA (Oxon) FRICS

8 March 1920 – 11 December 2018

A memorial service was held at the Church of St Michael and All Angels Lyndhurst Hampshire on 26th February 2019.

Walter Smith was born in Houghton-le-Spring, County Durham and was educated at state schools in eastern Durham. He studied at St Edmund Hall, Oxford in 1938, but his studies were interrupted by the outbreak of World War II and he left in 1940 with a War Honours Degree. In 1946 he married Bettie Cox and had two children: Barbara and Geoffrey.

After initial service in the Royal Artillery, Walter joined the Royal Engineers. Following training at Fort Widely, near Portsmouth, he was commissioned in 1941. He joined 519 (Corps) Field Survey Company RE in August 1941 and was appointed 2 i/c on 30th October 1942. For the next two years he was engaged mainly on coast defence surveys until, in 1943, he took part in exercises resulting in a whole new mapping of the northern coast of France in preparation for the Normandy landings. For the latter, he was awarded the Commander-in-Chief's Certificate. In June 1944 he landed at Arromanches-les-Bains and undertook surveys in support of the artillery. He was appointed a Member of the Order of the British Empire (MBE) (military) at the end of 1944. Walter took command of 519 Field Survey Coy RE on 16th August 1945. In 1945-6 he worked with the Control Commission for Germany on the rehabilitation of some German State Survey Offices (HVA).

On demobilisation in 1946, Walter joined the newly formed Directorate of Colonial Surveys and took its first field party abroad to The Gold Coast (now Ghana) for surveys connected with the Volta River hydro-electric project. This was followed by a mission to Nyasaland (now Malawi) to measure that country's base-line and reconnoitre a major triangulation chain from Mount Mulanje in the south, then 600 miles northwards to Mbeya in southern Tanganyika (now Tanzania).

In 1950 Walter returned to the UK to take up an appointment as Chief Surveyor of the Air Survey Company, a subsidiary of The Fairey Aviation Company and in the same year was made a Fellow of the Royal Institution of Chartered Surveyors. He remained in the private sector for the next 24 years, which included three years as founder and manager of Fairey's Southern Rhodesian subsidiary. He became Joint Managing Director of the UK Company and was responsible for mapping projects in many parts of the world, including the UK, Singapore, East Pakistan, Nepal, East Africa, The Caribbean and in support of international boundary determination in Patagonia. The latter project, which involved service officers from the UK, Argentina and Chile, achieved a high profile because of its urgency, the very mountainous terrain and the uncertain weather conditions which were likely to impede high altitude aerial photography.

In 1957 he returned to his earlier interest in the Territorial Army where, on promotion to Lieutenant-Colonel, he assumed command of 135 Survey Engineer Regiment TA. He was advanced to OBE (military) in 1960.

Walter was appointed the first civilian Director General of the Ordnance Survey in 1977 and was immediately involved in the work of an independent committee set up to review the organisation; the first such review for forty years. He was appointed a Companion of the Order of the Bath (CB) in 1981. Following his retirement from the Ordnance Survey, Smith was deputy chairman of an independent committee appointed to review the handling of geographic information in the UK. He presided over a major international conference on digital cartography in 1985. In the same year he was awarded the Patron's Gold Medal by the Royal Geographical Society. In 1992/3 he spent a year as the first Director of the Association for Geographic Information. *(Source - Wikipedia)*

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Brian Terence Tidy

24 May 1947 – 22 December 2018

Bryan Tidy, of Chepstow group 64B, passed away on 22nd December 2018. His funeral was held on Wednesday 30th January 2019, at Wilford Hill Crematorium Loughborough Road West Bridgford Nottingham NG2 7FE.

Eulogy by David Powell: -

Some of us here today are wearing these red shirts, produced for the 50th anniversary of us becoming part of the 64B group at the Army Apprentices College in Chepstow in 1964. Bryan, like the rest of us, joined up between the age of 15 and 16.

Bryan trained as a land surveyor at Chepstow. Land surveyors are a strange bunch, obsessed with numbers, with lining things up, of keeping lists and being a bit insular. Bryan, though, was far from insular. He was rarely seen without a smile on his face and would always have time for a chat with anyone who was feeling down or depressed. He has attended all our reunions, and we shall all miss the sound of his laughter at these events.

Bryan was a great sportsman and was the best athlete in our group by far, and a footballer who I am sure, should have been snapped up by his great love, Nottingham Forest. A regular sight during army football games was Bryan racing down the wing, his hair flowing behind him and his legs going 19 to the dozen. He would unselfishly provide pin-point crosses to centre forwards who didn't always manage to score… and so, every now and again, Bryan would cut inside and effortlessly plant the ball into the net himself.

When Bryan came first, as he invariably did, in a cross-country race, instead of going off to get his winning certificate, he would always wait at the finishing line to give encouragement and a pat on the back to every straggler. He was the consummate team player.

All those years ago, I can clearly remember Bryan standing in the barrack room playing air guitar with a broom-stick while singing "Silence is Golden" at the top of his voice! He had an encyclopaedic memory for every pop record of the time and participated in memory games and quizzes in the army and, by email, right up to last month.

On behalf of all his army friends from 64B who are here today, I would like to say …

"Thank you, Bryan, for being one of us. Thank you for your laughter, for your kind nature, for your loyalty, and for being our friend."

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Peter Smith

We have been informed that Pete Smith (Air Surveyor) 64A, A Coy, AAC Chepstow passed away on 19th February 2019.

Pete joined 47 Sqn, 42 Svy Eng Regt from Chepstow during the work on the K 669 Aden series – he was one of four all from the same intake; Pete Fassam, Bruce Oxley and Dave Moss. He took over from Alan Gordon in 1 ASLS in Cyprus in 1970, and did several JARIC tours.
From Barry Hughes & Ian Parr

John Pettett

John Pettett passed away suddenly at home with his Family on 26th November 2018 and was cremated at Wessex Vale Southampton on 13th December 2018. He leaves a widow Jean, 3 children and their families.

John joined as an apprentice at Harrogate in 1949. He trained as a field surveyor, serveing in Africa, Singapore, Germany, RSMS and AAC Chepstow. His last posting was as SSM of 14 Sqn in Dusseldorf. He completed his 22 years and left the Corps in 1973, joining the Survey Dept of Southampton Technical College, where he remained until retirement. *From Geoff Keefe*

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Jeanette Yeo

Jeanette Yeo, aged 69, wife of the late Malcolm Yeo, passed away peacefully in Basingstoke Hospital, on the 15th February 2019. Many of you will remember the tragically early death of Malcolm, in Germany, after he suffered from congenital heart failure following a game of rugby. *From Nick Collins - The Newbury Weekly Obituaries*

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We have received a message from **Mark Ellis** with the sad news that **Glenys**, his loving partner, has died suddenly. They had recently settled in their dream house in Wales, after all their adventures travelling around Europe. Mark has expressly asked that social media is not used and if you wish to contact him, please use email or the phone. The funeral is to be held on the 4th March at 1330 hrs - Taunton Crematorium, Wellington Road, Taunton, TA1 5NE.
From SSgt Keith Simmonds, MT/TRG SSgt, 135 Geo Sqn RE

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"MAPS & SURVEYS 2019"

THE DEFENCE SURVEYORS' ASSOCIATION ANNUAL SEMINAR FRIDAY 28 JUNE 2019

The 13th annual "Maps & Surveys" Seminar on historical & current hydrographic and military surveying, charting and mapping will take place at the Arlington Arts Centre, Donnington, Nr Newbury, Berks, RG14 3BQ, on Friday 28th June. There is ample parking space available at the Arlington Arts Centre. A location diagram for the Arlington Art2 Centre [Tel: (01635) 244266], can be found on its website. http://www.arlingtonarts.co.uk/pages/planVisit.php.

Limited space should be available for the display of historical military mapping, charting or other "Survey" memorabilia in the Centre.
Attendees who wish to display such material should arrange for display space, in advance, with Tony Keeley.

The cost of attendance is £25, which include lunch, and tea & coffee breaks. Drinks are available at the Arlington Arts Centre bar at their usual prices.

The detailed programme for the day is still being worked up but will include presentations on Human Geography, DGC operations including the old GSMB, 42 Regt operations, Historical topics and the Cold war

1015 – 1100 – ARRIVAL/REGISTRATION/TEA/COFFEE/DANISH PASTRIES IN FOYER
1100 – 1230 – Two presentations
1230 – 1330 – LUNCH IN FOYER

Display of historical military maps and memorabilia in the Arlington Arts Centre foyer

1330 – 1430 – Two presentations
1430 – 1500 – TEA/COFFEE IN FOYER.
1500 – 1600 – Two presentations
1600 – 1615 – Final Questions, Discussion and Closing Comments by President, DSA.

BOOKING FORM

Defence Surveyors' Association Seminar

ARLINGTON ARTS CENTRE 28 JUNE 2019

Return hard or soft copy with payment to the Secretary as appropriate below
(If you have any admin queries contact the Secretary)

Administrative Details

1. Name (s) Contact Tel No email address/address as appropriate

2. Dietary requirements. If you have specific dietary requirements, please indicate.
3. Display space. Contact Tony Keeley – Details below
4. Transport. It may be possible to arrange pick up/return to Newbury Station for those travelling by train ie from other delegates.

Contact the Secretary. Payment - £25 per person. Receipts will be acknowledged by email/Tel No as appropriate. (Refunds on necessary cancellation will be made if received at least one week prior the event). Payment may be made by bank transfer (preferred) or by cheque. If by bank transfer, details below please ensure that identification is made as follows: "DSA Seminar - Name". Please send an advisory email to the secretary at the email address below, copying to the treasurer when the transfer is made. If your payment covers more than one person then indicate in your email.
Bank details for UK payers: HSBC. Sort Code 40 36 16 Account No 10344184
Account in Name of Defence Surveyors' Association

Secretary a.keeley288@binternet.com Treasurer Phil.Wildman47@gmail.com

Cheques made payable to "Defence Surveyors Association". Please set out on the back of the cheque the names of the people covered by the cheque and send to:

Hon Sec DSA
Tony Keeley
Orchard Cottage
Chapel Lane
Ashampstead
Berkshire
RG8 8RU Tel 01635 578 506 Mobile 07899842456

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THE MILITARY SURVEY BRANCH OF THE REA

IT'S A REUNION

FREE ENTRY AND FREE CURRY SUPPER

NON MEMBERS £10 PER PERSON or £5 pp. cash back if you subsequently join)

1830hrs FOR 1900hrs FRIDAY THE 12th OF APRIL 2019

PRECEDED BY AN ANNUAL GENERAL MEETING 1700hrs FRIDAY THE 12th 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 but do note that as the barracks are no longer under the command of RSMS that this may be too difficult. Hotel facilities are available at junction 13 of the M4 motorway and at Chievely 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.
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**:

PLEASE SEND RETURNS BEFORE THE 1st APRIL 2019 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 12th APRIL 2019.
I *wish to/*will be unable to: - attend the AGM beforehand.
Guests: Wives/partners are welcome 1 …… 2……

DO PLEASE REMEMBER THE GEO SOLDIERS SUPPORT FUND
I enclose a cheque 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. Please note - 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.