

## NOTES ON THE HISTORY OF 516 FIELD SURVEY COMPANY R.E.

### 1. INTRODUCTION.

It is believed that there are no detailed “official” unit histories for the Field Survey Companies raised in the second world war. It is now perhaps doubtful if any will be compiled. For some of the companies, brief anecdotal souvenir histories were produced towards the end of the war using the cartographic and photographic skills and mobile printing resources of the units.

Hopefully, the following notes on various sources of historical material will serve in lieu of a unit history until the compilation of one is addressed, if ever.

There are four obvious sources of historical material :-

- a. Brigadier A.B. Clough’s monograph “Maps and Survey”, H.M.S.O., 1952.
- b. References, mainly war diaries, held in the National Archives at Kew.
- c. Anecdotal souvenir histories produced by the units.
- d. Personal accounts or reminiscences and correspondence regarding the same.

Notes on a-d above are at paragraphs 2-5 below. Anyone wishing to add to these notes or to suggest improvements or corrections is invited to contact the Defence Surveyors’ Association at [www.defencesurveyors.org.uk](http://www.defencesurveyors.org.uk) or :-

Defence Surveyors’ Association, c/o Royal School of Military Survey, Denison Barracks, Hermitage, Berks, RG18 9TP.

### 2. NOTES FROM “MAPS AND SURVEY” BY BRIGADIER A.B. CLOUGH, H.M.S.O., 1952.

For each theatre of war Brigadier Clough describes the historical background and the strategical and military considerations followed by the survey planning and an account of the phases of the campaign including the survey involvement. These are followed by sections on the maps and map production, triangulation and field surveys, aerial photography and survey and map supply and distribution. For anyone interest in military survey in general or survey unit histories in world war two “Maps and Survey” should be consulted. Notes towards unit histories have been extracted from “Maps and Survey” and these are shown below, sometimes in full, sometimes in brief.

Since these notes were made, “Maps and Survey” has been scanned by DSA and is now available on the DSA website. The notes below may still however provide an “at a glance” summary of the unit’s involvement in world war two.

For 516 Field Survey Company R.E., the index in Brigadier Clough’s “Maps and Survey” gives :-

| <b>Theatre</b> | <b>Pages</b>                           |
|----------------|--|
| Home Forces    | 37, 39.                                |
| Torch          | 39, 263, 266, 269, 270, 272, 273, 274. |
| Sicily         | 499, 501, 502.                         |
| Italy          | 299, 306, 313, 318.                    |

At the beginning of January, 1941 there were nine Field Survey Companies under Home Forces control and they were located in the commands as shown below :-

|                                      |  |
|--------------------------------------|--|
| Southern Command                     | No. 519 (just formed)<br><b>No. 516 (with 5 Corps)</b>     |
| Eastern Command                      | No. 14 (ex B.E.F.)<br>No. 1 Canadian (with Canadian Corps) |
| Northern Command                     | No. 13 (ex B.E.F.)<br>No. 521 (just formed)                |
| Western Command                      | No. 517<br>No. 520 (just formed)                           |
| Southern Command<br>(Clough page 37) | No. 518 (just formed)                                      |

Survey Directorates were assembled for the Allied Planning Headquarters for Operation “Torch” and for the British First Army which was to take part. 518 Field Survey Company R.E. was mobilized for this operation and ceased to be under Home Forces control. By October, 1942, the Survey organization in Home Forces was as under :-

Director of Survey, with Survey Directorate at G.H.Q. (now Colonel A.B. Clough who replaced Colonel Fryer on his appointment to Middle East in January, 1942).

A small Directorate with each of the Home Commands and certain Corps.

Field Survey Companies Nos. 14, **516**, 519, 520, 521, 523 (515 in Northern Ireland), 1 Canadian.

General Survey Sections Nos. 1, 2, 3, 4, 5, 6.

Field Survey Depots Nos. 3, 4, 5, 7, 10 (No. 6 in Northern Ireland).

Air (Survey) Liaison Section No. 1.

(Clough page 39)

**516** Field Survey Company R.E. arrived from the United Kingdom at the beginning of February, and moved to Draa. One topographical section was assigned for duty with U.S. II Corps, as the topographical unit belonging to that corps, 62 Engineer Topographical Company, was not yet available. It there joined up with one topographical section of 518 Field Survey Company which, having having been moved from the map depot to Bone for anti-aircraft surveys, was also assigned to II Corps (U.S.). These two sections remained with the corps working in conjunction with the field observation battalion until 62 Engineer Topographical Company was ready to take over, towards the end of March. No. 1 topographical section of **516** Company moved up into 5 Corps area along the line Beja-Medjez el Bab. Meanwhile No. 2 topographical section **516** Company carried out surveys for anti-aircraft defences at Bougie until about the middle of March, when it was withdrawn for employment on air-photo revision. The drawing and reproduction sections of the two field survey companies were employed on map revision, the preparation of special large scale battle maps, and the reproduction and printing of large numbers of maps for the fighting troops and for staff use.

(Clough page 266)

Colonel S.G. Hudson succeeded Colonel Wheeler as D.D. Survey First Army and had at his disposal the following survey units : -

518 Field Survey Company R.E., which had been with First Army from the start.

**516** Field Survey Company R.E., which arrived from the United Kingdom on 1<sup>st</sup> February.

12 Field Survey Depot R.E., which had been available since shortly after "D"-day. This was of the standard type, with one officer, 18 other ranks and one lorry only.

(Clough page 269)

One of the principal tasks during this last phase was to establish a third-order control for artillery operations during the battle which opened on 7<sup>th</sup> April to clear the enemy positions in the mountainous area Sidi Nsir-Oued Zarga-Medjez-el-Bab, as a preliminary to the main final offensive. To enable this work to be done, the topographical sections of 518 Field Survey Company had been moved to Beja on 15<sup>th</sup> March to establish control on the North African grid before the end of the month. This was done in the area from Beja towards the north-east as far as possible along the road to Sidi Nsir, and also between Beja and Oued Zarga. One topographical was, for this operation, attached to each survey troop of 5 Survey Regiment R.A., and the co-operation between R.E. and R.A. surveys appears to have been admirable. The topographical sections carried the control forward to keep pace with the advancing battle in face of enemy opposition and other difficulties such as minefields.

The establishment of trig control in 19 (French) Corps area was effected by one topographical section of **516 Field Survey Company** in conjunction with the Army Group R.A. On completion of this task on 9<sup>th</sup> April, this section moved into 5 Corps area to carry out preparatory surveys for the final offensive. This was completed by 21<sup>st</sup> April, when one section moved north to near Grenadier Hill and the other section went into reserve.

On the completion of the preliminary surveys along the First Army front, three topographical sections were attached to 5 Survey Regiment R.A. for work in the following areas : -

One section (518 Field Survey Company) from Medjez el Bab towards Longstop Hill.

One section (518 Field Survey Company) around Medjez el Bab and towards Grich el Oued.

One section (**516 Field Survey Company**) in the Grenadier Hill area.

As soon as sufficient ground had been gained by the attack begun on 22<sup>nd</sup> April, each section carried the triangulation forward, and sufficient points were established to control the great concentration of artillery used for the offensive of 5<sup>th</sup>-6<sup>th</sup> May. The advance after that date was so rapid that the topographical sections had practically no further calls made on them.

After the cessation of hostilities in Tunisia on 12<sup>th</sup> May all topographical sections were employed on anti-aircraft surveys at Bone, Bizerta and Tunis.

(Clough page 270)

Within First Army 518 Company was available from about "D"+16 and **516** Company from early February. To provide A.F.H.Q. with adequate map printing power 11 and 12 Map Reproduction Sections R.E. were sent out by the War Office, arriving towards the end of March.

When Eighth Army entered Tunisia, and thereafter came under the control of 18 Army Group and A.F.H.Q., it brought with it 46 South African Field Survey Company and 517 Field Survey Company R.E., both of which had mobile reproduction sections of the normal type.  
(Clough page 273)

#### **Operational mapping tasks undertaken by 516 and 518 Field Survey Companies R.E.**

..... These 1/25,000 maps of Tunisia were produced by First Army survey units. There was no existing French series on this large scale, and as no survey photography could be obtained which would be suitable for new large scale mapping, it was necessary to utilize, as basic material, the French 1/50,000 series which was of good quality. The detail was enlarged photographically and revision was incorporated from air photographs taken for intelligence purposes. The scale of these photos varied from 1/12,000 to 1/50,000, and there were varying tilts and overlaps, and large gaps in the coverage. A small party of topographic draughtsmen was attached to the Army Photo Centre to collect revision information from its library set of photographs.

Over 80 of these 1/25,000 sheets were produced and they were overprinted to show enemy defences. They were published in two stages. A first edition was issued somewhat in advance of the battle, bearing such intelligence information as was then available. A second edition was then usually produced immediately before the operation, containing the most up-to-date information. In some cases third and fourth editions were produced, but these were exceptional, as time was rarely available. The General Staff (Intelligence) at Army H.Q. accepted responsibility for all overprint information whatever the source, and no attempt was made to short-circuit the normal channels by going to corps or divisions for information.

Survey, however, accepted responsibility for the positioning of the information on the maps, and for this purpose, a small R.E. survey detachment was attached to the Photo Centre, where it had access to the latest photos.

The reproduction sections of both **516 and 518 Field Survey Companies** were kept busy at full stretch on the production and printing of these 1/25,000 maps right up to the cessation of hostilities though, towards the end, the campaign was going so fast that it outran the need for maps on that large scale. Their other main task was the reprinting of the 1/200,000 and 1/50,000 series of Tunisia for stock. When at full pressure each unit was turning out 1,000,000 or more impressions each month.

For the heavy artillery concentration in the Medjerda Valley before the final thrust it was decided to produce a "barrage overprint". An officer and a draughtsman from the Army Survey Directorate went to H.Q. 9 Corps R.A. in the evening, the draughtsman drew the overprint trace on the spot, and it was flown down to **516** Company, located further back. The required number of copies were run off on previously printed base maps and flown forward to the artillery.

(Clough page 273-274)

#### **Sicily**

The Survey organization, apart from that in Cairo, was as follows : -

A.F.H.Q.            Survey Directorate (Brigadier R. Ll. Brown).  
                          649 Engineer Topographical Battalion (U.S.).  
                          **516** and 518 Field Survey Companies R.E.  
                          etc.

(Clough page 499)

#### **Map production and supply**

(c) In North West Africa. Both 649 U.S. Engineer Topographical Battalion and **516** Field Survey Company R.E. were employed under A.F.H.Q. control on the revision of 1/25,000 maps of Sicily, and 649 Battalion completed a programme of 1/25,000 photo-maps of the island so far as photo-cover allowed, and also a 1/500,000 road map.

(Clough page 501)

#### **Italy**

The survey units under direct A.F.H.Q. control at the beginning of the campaign in Italy were as under : -

British  
**516** and 518 Field Survey Companies R.E. (late of First Army).

11 and 12 Map Reproduction Sections R.E.  
2 Air Survey Liaison Section R.E.  
10 Field Survey (Stores) Depot R.E.  
7, 12 and 26 Field Survey (Map) Depots R.E.  
U.S.  
649 Engineer Topographical Battalion (Army).  
Atlantic, Mediterranean, and Eastern Base Section Map Depots.  
2611 and 2697 Engineer Map Depot Detachments.  
(Clough page 299)

This work was done largely by 649 Engineer Topographical Battalion (U.S.) and **516** Field Survey Company R.E. Difficulty was experienced in interpretation owing to the fact that small scale photographs had to be used for 1/25,000 revision. A few of the new 1/25,000 sheets were produced by enlargement from existing 1/50,000 maps and incorporating revision from air-photos.  
(Clough page 306)

**Final mapping preparations for the invasion of southern France.**

..... A drawing section was also attached to G-2(Army) to prepare their Intelligence and collation overprints. During this phase two Field Survey Companies (13 and **516**) worked under the survey detachment at Seventh Army H.Q. under the strictest security conditions.  
(Clough page 313)

**Mapping preparations for the spring offensive (1945) in Italy.**

.....516 Field Survey Company R.E., working under A.F.H.Q. control in support of 336 Photographic Reconnaissance Wing, was employed largely on the production of lithographic photo-mosaics, communication overprints, and other intelligence maps.  
(Clough page 318)

**3. NOTES FROM REFERENCES, MAINLY WAR DIARIES, IN THE NATIONAL ARCHIVES, KEW.**

As far as possible, the brief notes from unit war diaries listed below are in chronological order. War diaries from world war two are generally foolscap in format. In addition to the war diary proforma which may be in manuscript in pencil or ink, or typescript, the files usually contain the periodic returns of soldier and officer strengths. Some also contain technical diary annexes but many are confined to mundane notes on arrivals and departures and movements and their content as a source for a historical and technical account can be disappointing. Where they exist, the following "shorthand" notes are generally based on initial hasty examinations of the diaries simply to assess their scope and possible worth as sources for a unit history. In them, WD = War Diary, ms = manuscript. P or p = pages. Seen dates simply indicate the document was "in place" on that date.

Authority for the formation of 516 Field Survey Company R.E. was promulgated in a letter dated 30 April 1940.

At the beginning of 1941, 516 Company was one of nine Field Survey Companies under Home Forces control and it was located in Southern Command with 5 Corps. In September 1941, 518 Field Survey Company was detailed for special assault training with the Combined Training Centre in Scottish Command. 519 Company was sent to take its place being replaced in Southern Command by 516 Company which had just been released from 5 Corps. 516 Company remained in England until December 1942 when it was transferred to War Office control pending its move to North Africa in January 1943 as part of Operation "Torch".

**517 Corps Field Survey Company War Diary May-Dec 1940.**

This war diary for 517 Fd Svy Coy contains the letter authorising the formation of **516** and 517 Companies, dated 30 April 1940.

PRO WO 166/3782

Seen 15-11-08

**516 Company War Diary Jul-Dec 1943 & 514 Company War Diary Jan - May 1943.**

Jul 1943. WD 1p ms. Unit at Clos St. Antoine. O.C. Maj E. Curry R.E. Topo dets at Boufarik . Heavy repro programme of maps of Sicily and Italy.

Aug 1943. WD 2p ms. 22 Aug half coy moved to Azure Plage.

26 Aug. Second half coy moved.

Fixation and azimuths of DF sites, Algiers. Revision of Italy 50,000 S of 40N. Heavy print prog of Italy.

Sep 1943.

4 Sep Topo det returned from Oran.

7 Sep No 3 dwg sec returned from Bouzarea. Officer return shows Curry, Lt A.O.Holt, Lt E.W. Lawrance, Lt D.E. Morgan.

Summary of work done in montyh.

Oct 1943. At Azure Plage.

7 Oct Maj Burnet takes over command of Coy.

27 Oct Capt Purchas RE joins as 2ic.

Att is 2 page typescript Monthly Report for Sep. Also list of carto tasks by sheet number. Company organisation chart. C.S.M. is R. Dixon.

Nov 1943.

WD 1 p ms. Typescript monthly report 2p. Italy 50,000 and 25,000. 332,700 maps printed.

Op Order ref defence overprints Florence-Rimini area

Dec 1943.

WD 1 p ms. Progress report 6p typed. Italy 50,000, 25,000. 6,600 photos plotted in Nov. 5,000 used for revision. Two 10-ton Print Foden and two 10-to photo-mechanical Foden received

Oct & Nov progress report.

PRO WO 169/10697

Seen 18-12-08

#### **516 Coy War Diary Italy, Jan - Dec 1944.**

Jan 44.

Feb 44.

Mar 1944. Includes Tech Instructions to Topo Sections - Corrn to observed directions on Lamber Conical Orthomorphic Projection.

May 1944, contains details of trade tests for various survey traDES. Also Experiments on transfer sensitizing paper on the laquer.

Aug 1944. Coy at Arzano 1-21 then Maddaloni.

Sep 1944. Report on visits to Avignon and Lyon ref German Survey units. Report of work in S. France

Oct 1944. Usual typescript statistics in monthly report. Still at Maddaloni.

Nov 1944. Lt Lawrance posted to 2 ASLS. Report on new type Thornycroft camera lorries 3p.

Dec 1944. Coy moves to school in Serracapriola.

PRO WO 170/1700

Seen 18-12-08

#### **516 Coy War Diary Italy Jan - Jul 1945.**

Jan 45 Monthly report 6p typed. Coy at Serra Capriola. Detailed print statistics. Attached 3p report on Half-Tone process using 300 line contact screens. Four sample half-tone air photo mosaic maps included, Molinella; Molinella 1:25,000; S. Alberto 1:25,000; and Conselice 1:25,000.

Feb 1945. Monthly report 6p typed. Still at Girls' School Serra Capriola. Town plans of Austria. Topo plotting of air cover. Detailed statistics for repro.

Mar 1945. Usual detailed monthly report.

Apr 1945. Maj S.L. Newcombe now O.C. Usual detailed monthly report.

May 1945. Same location. Intention to train personnel in 1:2500 revision for post-war reurvey by O.S. of G.B. Scheme known as TOSCA Training of Ord Scy Civilian Assts. Instructions for revision of Austria 25,000.

June 1945. Usual detailed report.

Jul 1945. Coy at Serra Capriola still. Officer are S.L. Newvombe, Capt W.M. Broomfield, Lts A.J. Hunt, R. Morgan, J.O. Wiulliams.

PRO WO 170/5228

Seen 18-12-08

#### **4. NOTES FROM SOUVENIR BROCHURES.**

None are known for 515 Field Survey Company R.E.

#### **5. NOTES FROM PERSONAL ACCOUNTS.**

None known of.

