

**AWM4**  
**Australian Imperial Force unit war diaries,**  
**1914-18 War**

Engineers

**Item number:** 14/4/8 Part 1

**Title:** Chief Engineer, Australian Corps

August 1918



AWM4-14/4/8PART1

**CONFIDENTIAL.**

ORIGINAL.  
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TRIPLICATE.

306

**Australian Imperial Force.**

**WAR DIARY**



OF

Chief Engineer - AUSTRALIAN CORPS.

FOR

A U G U S T 1918.

Signature of Officer compiling

*CH Frost*

Brig. General.  
Chief Engineer AUSTRALIAN CORPS.

Signature of Officer Commanding

*CH Frost*

Brig. General.  
Chief Engineer AUSTRALIAN CORPS.

WAR DIARY

or  
~~INTELLIGENCE SUMMARY~~

(Erase heading not required.)

Instructions regarding War Diaries and Intelligence Summaries are contained in F. S. Regs., Part II. and the ~~CHS/WH~~ Manual respectively. Title Pages will be prepared in manuscript.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
<u>BERTANGLES</u>	<u>AUG.</u> 1st.		<p>On this day the preliminary steps were taken for the operations by this Corps for the advancement of the front in an Easterly direction. A detailed history of these operations in their various phases will be found in the Appendices "<u>A to H</u>".</p> <p><u>Reorganisation of Engineers.</u> During the month of July the Chief Engineer took up the question of complete re-organisation of the Australian Engineers. It had long been apparent to him that the present organisation was capable of improvement, and in March 1918, on assuming the position of Chief Engineer, preliminary steps were taken. The matter was informally discussed with some of the Officers of the Corps, and a calculation was made of the personnel and material at disposal. On 29/7/18, consequent upon a discussion of the matter with B.G.G.S. certain information was received from the Chief Engineer of the Canadian Corps, this having been referred to the Chief Engineer Australian Corps. A letter, Appendix "<u>I</u>" was written. At the time of this writing, however, full details were not available regarding the transport side of the question. On 17/8/18 and 22/8/1918, however, S.M.T.O. Australian Corps supplied the necessary information and upon this on 23/8/1918 Chief Engineer Australian Corps wrote a memo to Headquarters, Australian Corps, relative to transport side of the question. The whole of this correspondence is included in Appendix "<u>I</u>".</p>	<p><u>A-H</u> .....</p> <p><u>I</u> .....</p> <p><u>I</u> .....</p> <p><u>J</u> .....</p>
"	<u>8th.</u>		D.G.T. Line moved to road FOUILLOY-0.17 - 0.23 - BRETTONEUX inclusive, also Corps Line CERISY - Q.27. Central - W.8.c.O.O. from midnight 8/9th. August. Appendix " <u>J</u> ".	
"	<u>12th.</u>		His Majesty the King visited Headquarters, Australian Corps.	
<u>GLISY.</u>	<u>13th.</u>		Headquarters, Australian Corps, moved to GLISY, a village on the Somme about six miles west of AMIENS.	
"	<u>14th.</u>		The 17th. (British) Division joined the Corps on this day. As far as can be ascertained the fact that this Corps normally consists of the same five Divisions it is a great factor in assuring the smooth working of the technical branches. The C.R.E. of the 17th. Division was naturally not cognisant of the method adapted in this Corps for the forwarding and handling of R.E. Stores. He apparently was used to sending back as far as possible for his RE Stores, whereas the method adopted in this Corps is for the Chief Engineers Branch to send the R.E. Stores as far forward as possible, thus taking from the Divisions much of the work of transport.	

# WAR DIARY

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## --INTELLIGENCE SUMMARY--

(Erase heading not required.)

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
<u>GLISY.</u>	<u>AUG.</u> <u>15th.</u>		<p>Brigadier-General LUCK, C.M.G., Director Inland Water Transport, called to see Chief Engineer with reference to the clearing of the SOMME Canal.</p> <p>In order that the Somme may be made available for canal traffic as soon as possible, every effort is being made to clear the water way. The attached schedule, Appendix " K " shews the bridges which will have to be removed or replaced by pontoon bridges, the lock gates which have to be removed repaired, and points where a large quantity of debris has to be removed. This schedule also shews where possible the date of completion of such work, and the unit directly responsible. In addition to the work set forth, the whole of the canal had to be cleared of a vast accumulation of both floating and sunken debris.</p> <p>For the purpose of carrying out this work the following units were placed under the Chief Engineer Australian Corps:</p> <p style="padding-left: 40px;">216 AT Coy RE - 574 AT Coy RE - 648 Field Coy R.E.</p> <p>Included in the work of clearing the SOMME was the removal of the piles of certain bridges which had been built during April and May - an endeavour was made to draw these piles in order to save them as timber is very scarce. The method adopted was as follows: Two <sup>bi-partite</sup> pontoons separately trussed were moored alongside the pile to be drawn and submerged until only 3" of freeboard remained to each. A snorter made from the wire tow rope used by the M.T. vehicles was dropped over the pile, hove taut, and made fast to bearers placed across the submerged pontoons. A pair of shear legs was then dropped down on each side of the pile, a second snorter was run down the pile and made fast to the lower block of a gun tackle, fall of which was taken ashore to a winch.</p> <p>The pontoons were then pumped out and at the same time power applied to the running end of the fall. It was estimated that the net lift on the pile was 16½ tons, but the pile would not move.</p> <p>The pile was then swayed from side to side by opposite luff tackles, and the lifting power before mentioned, i.e. pontoons and tackle was again applied, but still without result. It was then decided to waste no further time, but to lose the piles by cutting them, which was done by means of a Diver. The canal was ultimately cleared of all bridges and other obstructions as far as the down stream side of the Corbie bridge by Noon on 22/8/1918. The work of clearing the debris at Corbie Bridge however proved most difficult, and it was not until it was cleared.</p> <p>The bridging of the canal above CORBIE was not affected by the question of keeping the canal clear, and in this work some excellent results were obtained in very good time by the 216 AT Company RE and the 574 AT Company RE. Schedule attached, Appendix " L " shews the work done.</p>	<p>..... K .....</p> <p>..... L .....</p>

# WAR DIARY

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## INTELLIGENCE SUMMARY

(Erase heading not required.)

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
<u>GLISY.</u>	<u>AUG.</u> <u>15th.</u> Contd.		<p>The great value of the Inglis bridge as a means of rapidly bridging any stream up to 84' from bank to bank was amply demonstrated. It should also be noted that if it is desired to adapt a long span of Inglis bridge to carry a weight which could only be carried by a shorter span it may be quite easy to do this by applying under each end of the Inglis bridge a cantilever up to say 10' long, which thus reduces the span by as much as 20', and therefore correspondingly increases the weight carrying capacity of the bridge.</p> <p>About the best piece of bridging done under adverse circumstances was the repairing by the 3rd. Pioneer Battalion of the bridge at CHIPILLY 62D/Q.3.d.9.5. Full particulars regarding the rehabilitation of this bridge will be found in Appendix " L " .</p> <p>The work generally reflects great credit on the O.C. 3rd. Pioneer Battalion, and on Major H.P. Phillips, M.C., Australian Pioneers.</p>	<p style="text-align: center;">..... L .....</p>
"	<u>17th.</u>		<p>Chief Engineer Fourth Army and Colonel Ferguson, U.S. Engineers (Chief Engineer of the United States Corps) came, and were taken through portion of the Corps Area by the Chief Engineer Australian Corps in order that Col. Ferguson might study the methods in vogue in this Corps. At the same time his Staff Officer remained with Staff Officer R.E. Australian Corps in order to gain a small insight into the Office and Stores routine.</p> <p>The principal matters reviewed by Col. Ferguson were : -</p> <ul style="list-style-type: none"> <li>(a) The rapid bridging of the Somme.</li> <li>(b) Pushing forward all Railways, both Light and standard gauge.</li> <li>(c) The establishment of Advanced Corps Dumps for the feeding of Divisions in Line.</li> <li>(d) The constitution of captured enemy dumps as part of the Engineer Stores System.</li> </ul> <p><u>Travelling Cookers.</u> The question of provision of travelling Cookers for Field Coys. has frequently come up. The experience of the recent operations shews that <del>Coy</del> Cookers are more than ever necessary for Field Coys. of Engineers during active operations. The attached letter Appendix " M " shews the action taken by the Chief Engineer on the matter.</p> <p>In conversation with the Corps Commander a few days later, however, the Chief Engineer learned that while the Corps Commander sympathised with the request, and recognised the necessity for Cookers for Field Coys., he was reluctantly obliged to say that owing to the shortage in horses and the lack of transport, it was impossible at present to grant the request. The shortage of horses and transport is almost entirely due to the necessity which has arisen for equipping the American Army with these as well as other items.</p>	<p style="text-align: center;">..... M' .....</p>
"	<u>19th.</u>		<p>The duties and responsibilities of C.R.E. Corps Troops do not appear to have been clearly</p>	<p style="text-align: right;">P.T.O.</p>

2449 Wt. W14957/M90 750,000 1/16 J.B.C. & A. Forms/C.2118/12.

# WAR DIARY

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## INTELLIGENCE SUMMARY

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Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
GLISY.	AUG. 19th.		defined. <u>N</u> Engineer Instruction No. 12, dated 19/8/1918 was therefore issued. Vide Appendix "....."	..... <u>N</u>
"	Contd. 20th.		The Chief Engineer together with the Stores Officer went to LA TOUQUET to see tests of the HOBBS Cupola at the G.H.Q. Lewis Gun School at that place. A good deal of stress had been laid by General Staff of the Army upon these tests, even to the extent of making a special request for the presence of the Stores Officer, Australian Corps. On arrival at LA TOUQUET however, it was discovered that the Instructional staff of the School knew very little about the Hobbs Cupola and indeed it was not possible to obtain the Vickers Machine Gun in order to carry out any tests. After amusing himself by firing a drum of Lewis Gun ammunition from the cupola the Chief Engineer, accompanied by the Stores Officer, returned to Corps Headquarters. On this day the 32nd. (British) Division joined the Corps.	
"	21st.		Chief Engineer went to Headquarters of 32nd. Division and there saw the C.R.E. to whom he explained the methods of the Corps regarding Stores, works &c. Conference was held at Headquarters, 1st. Aust. Division, relative to forthcoming operations. The scheme outlined called for very little action on the part of the Chief Engineer as the Engineer Units are very well acquainted with their role and need very little instruction.	
"	22nd.		Chief Engineer of the Canadian Corps called and gave certain information regarding the area which was being handed over to the Australian Corps as a temporary measure prior to its being taken over by the 36th. French Corps, vide Appendix " <u>O</u> " Chief Engineer 36th. French Corps called regarding the same matter and arrangements were made with him for the taking over on the 23rd. instant of the Dumps, Bridges &c. in the Area. Chief Engineer Fourth Army called and discussed generally the bridging and forward roads policy.	..... <u>O</u>
"	23rd.		1st. Australian and 32nd. British Division attacked successfully on the PROYART front. <u>Labor.</u> At this moment the following are the principal works which have to be carried out by the Chief Engineers Branch of this Corps. (a) Maintenance of roads in front of D.G.T. Line. (b) Exploitation, improvement and maintenance of water supply, simultaneously with the Divisions of the fighting troops.	

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P.T.O.

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# WAR DIARY

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## or INTELLIGENCE SUMMARY-

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Summaries are contained in F. S. Regs., Part II.  
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Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
<u>GLISY.</u>	<u>AUG.</u> 23rd. Contd.		<p>(c) Clearing and bridging of the Somme.</p> <p>(d) Handling large quantities of stores both for the troops, and in the captured dumps. To do this the present labor supply is completely inadequate. The Chief Engineer has at his disposal the Engineer units and Labor Coys shown in Schedule, Appendix " <u>P</u> ". In order that better progress may be made Chief Engineer this day again pressed the Army for more labor - another five (5) Labor Coys with a total working strength of not less than 1500 is the minimum required. The Army promised to do what was possible, but to the 26/8/1918 only one Labor Company was received.</p>	<p style="text-align: center;">..... <u>P</u> .....</p>
"	25th.		<p>The D.G.T. Line was moved forward to the line MARCELCAVE-HAMEL-MERICOURT, and the Corps Roads Line at the same time advanced to Sheet 62D/ Grid line between KL and WX. At the same time Corps was asked to obtain from the Army the use of the main road from CORBIE to BRAY along top of the ridge. This is a much better road than the river road North of the Somme, which will never stand up in wet weather.</p>	
"	26th.		<p>Fourth Army today raised the question of adapting the Hobbs Cupola to the Champagne type M.G. dugout. A Hobbs cupola was erected on a Champagne type deep dugout in the BLANGY System. This particular dugout had been "throated" with reinforced concrete. Lieut.Col. Hill, M.C., Controller of Mines 4th. Army and Col. J.Charteris, D.S.O., Army Machine Gun Officer inspected the arrangements.</p> <p>Fully detailed drawings of this will be transmitted with next months War Diary as the rapid progress of the present operations have made it impossible to draw them. The bridging policy continued to be carried out but the progress of events renders it impracticable at present to forward full details. It is hoped that these will be forwarded next month.</p>	
"	31st.		<p>Corps Headquarters moved at 4p.m. to MERICOURT-sur-SOMME.</p> <p style="text-align: center;">.....</p>	

18,000-12/17-8723.

## WAR DIARY

OF

Chief Engineer, AUSTRALIAN CORPS.

FOR

AUGUST 1918.

## LIST OF APPENDICES.

No.	Subject.
Nos. "A" - "H"	"NARRATIVE OF OPERATIONS".
"A"	Condition, and proposed provision of roads.
"B(i)"	Instructions to C.R.Es.
"B(ii)"	Instructions to C.R.Es.
"Bl"	Wiring per 1000 yards of front.
"C"	Collation of information.
"D"	Engineer Instructions issued under Corps Battle Instructions. Nos 1 to 10.
"E"	Water Supply.
"F"	Enemy Dumps taken over.
"G"	List of bridges constructed or removed on the SOMME during the period 7th. to 15th. August.
"H"	Notes on work carried out by 1st. A.T. Company AE with Corps Heavy Artillery.
"I"	Reorganisation of Aust. Engineers.
"J"	D.G.T. Line moved to road FOUILLOY-0.17- 0.23-BRETTONEUX.
"K"	Bridges removed or replaced by Pontoon bridges - Page 2.
"L"	Bridging of canal above CORBIE, and repairing of bridge at CHIPILLY at 62D/Q.3.d.9.5.
"M"	Travelling Cookers.
"N"	Engineer Instruction No. 12....19/8/18.
"O"	Plans &c. handed over by CE Aust. Corps to C.E. 36th. French Corps 22/8/18.
"P"	Labor. Units working under C.E.
"Q"	Engineer Instruction No. 11...16/8/18.
"R"	Engineer Instruction No. 13...25/8/18.
"S"	Engineer Instruction No. 14...27/8/18.
"T"	Engineer Instruction No. 15...29/8/18.
"U"	Engineer Instruction No. 16...30/8/18.
"V"	Short Notes on Water Conditions in Advance Areas.
"W"	Weekly Progress Report - 2nd. Aust. Tunneling Coy. 21/8/18.
"X"	Letter to CE Fourth Army reference Stores Officers Conference, with Notes from Stores & diagram.
"Y"	List of Bridges in Australian Corps Area.
"Z"	Reports on ROADS, WATER SUPPLY, BRIDGES and DUMPS. Completed to 31/8/1918.

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NARRATIVE OF OPERATIONS.

APPENDICES "A" TO "H"

.....

Commencing 8th. August 1918.

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JULY 31st. A Corps Conference was held at which the Corps Commander outlined the impending operations and his intentions. At this Corps Conference Chief Engineer was instructed that he would be responsible, inter alia, for the rapid reconstruction of the roads through the area over which the Corps advanced. Upon this Chief Engineer forwarded to "Q" Branch of the Corps a letter showing the present condition of the roads as far as was known and the provision which it was proposed to make. Appendix "A".

1st. AUGUST. A Conference was held at Chief Engineer's Office attended by the C.R.Es 2nd, 3rd, and 5th. Australian Divisions, and Os.C. 3rd. and 5th. Pioneer Battalions, the latter two Officers because their Battalions were handed over to the C.E. for the purpose of the operation. C.R.E. 4th. Australian Division came in the afternoon when Chief Engineer explained to him all that had been done. The arrangements for the intended operation were discussed.

Battle Instructions No.1 were received.

All C.R.Es were instructed to make arrangements for the withdrawal of all demolition charges and for the dumping of pontoon and trestle loads, vide Appendix "B".

2nd. AUGUST. Chief Engineer, accompanied by the C.R.E. Corps Troops and C.O. 3rd. Pioneer Battalion, reconnoitred all roads in the left Divisional area up to HAMEL inclusive. These roads were found to be in relatively good order - it was known that the roads in the right Divisional sector were in a similar condition.

3rd. AUGUST. Engineer Instruction No.1, based upon Australian Corps Battle Instructions Nos. 1 to 7, was issued.

4th. AUGUST. The question was raised by the G.O.C. R.A. and C.H.A. regarding difficulty of getting heavy guns forward during the advance. Chief Engineer recommended to the Corps Commander that the 1st. Army Troops Company, A.E. should be placed at the disposal of C.H.A. for the operation, and this was done, vide Engineer Instruction No.3 dated 5th. August. In the same instruction various other dispo-

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7th. AUGUST. The Corps Commander directed that sufficient wiring material should be held ready, for the wiring of 15000 yards of front. The table of quantities shown in Appendix "B1" was worked out, and lorries carrying sufficient wire and screw pickets for 6000 yards of Single Double apron were loaded with correct loads and held in readiness. These were afterwards sent up to C.R.E. 4th. Australian Division and some of the material used.

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itions of Engineer and Labor units was made

7th. AUGUST. Chief Engineer Advanced Headquarters was established at GLISY at 8p.m. Full instructions were given to all Engineer units regarding cable heads and other points from which communication could be obtained. Arrangements were also made for formation of Advanced Corps RE Dumps.

8th. AUGUST. Zero hour fixed at 4/20am.

The Corps Commander had instructed the Chief Engineer that the main VILLERS BRETTONEUX-WARFUSÉE Road had to be opened for the passage of armoured cars up to the Green line. <sup>by Zero + 4 hrs.</sup> As a matter of fact this road was completed and armoured cars passed through at Zero, plus 3 hours 30" owing to the excellent work done by the 5th. Pioneer Battalion.

Reports from the Os.C. 3rd. and 5th. Pioneer Battalions regarding progress of work on the main roads were received rapidly and regularly from Zero, plus 5 hours onwards.

No difficulties worth mentioning were met with - the supply of material, stone &c. worked well.

The C.R.E. 1st. Aust. Division having meanwhile arrived with the Division was fully informed by the Chief Engineer of all matters affecting the technical services.

Battle Instructions, Series "B", Nos. 1 & 2 were received and Engineer Instruction No.6 was issued. The subsequent postponement of the operations detailed in Battle Instructions, Series "B" caused the stoppage of Engineer activity along those particular lines, and consequent concentration in <sup>other</sup> directions.

On the afternoon of this day the Corps Commander expressed his strong desire to push the railway line forward towards VILLERS-BRETTONEUX. In the absence of other arrangements, Major Lamsonby, D.S.O. R.E., together with one section of 567 A.T. Company RE and a Labor Company was set to work to clear the worst portions of the line. Good progress was made in view of the small number of men available. Chief Engineer, Fourth Army, advised during the evening that the Canadian Railway Construction Battalion would shortly be available, and in anticipation of their requirements 1000

yards 60 c.m. decauville and 20 hopper trucks were despatched to a point where they would be required. These ultimately were not used however, owing to the clearing of these cuttings being taken up by the French Railway authorities, who performed the work in a manner peculiarly of their own. The Canadian Railway Construction Battalion arrived on the 10th. August and began work. In order to expedite matters Chief Engineer handed over to them 1st. and 2nd. Aust. Tunnelling Coys.; a working party of 150 other ranks from the Field Punishment Compound was also placed at his disposal. This party worked remarkably well, while the Tunnellers gained great praise from the C.C. Canadian Railway Construction Battalion, not only for their technical skill, but for the large amount of work which they did in any given time. By the 11th. August work on the railway line had settled down; a single line was opened as far as VILLERS BRETONNEUX and was being pushed on in front of that - By the evening of the 13th. a single line was through to MARCELCAVE, and by noon on the 14th. a single line was opened to ROSIERES. In my opinion the speed with which this work was pushed through is very creditable to all those concerned.

9th. AUGUST. A system for the collection and dissemination of information regarding roads, bridges, water supply, enemy dumps, &c. was inaugurated under the control of Lieut. THORPE, M.C., 6th. Field Company AE, Adjutant to the C.R.E. Corps Troops, vide Appendix "C".  
Dumps. Engineer Instruction No. 5 shows the action taken regarding certain Corps Dumps and certain captured German dumps.

10th. AUGUST. Engineer Instruction No. 6 shows the return to their Divisions of the Engineer units specially allotted to the Chief Engineer for the purpose of the operation; it also shows the movement of the Corps Roads Line and the detailing of certain Units for the maintenance of roads.

River Somme. The semi permanent bridging of the River SOMME was now commenced, hand in hand with the clearing of the river for canal traffic as far as CORBIE. Chief Engineer Fourth Army placed the following units at disposal of the Australian Corps for this operation:

216 A.T. Coy RE.  
574 A.T. Coy RE.  
648 Field Coy RE.

P.T.O.

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14th. AUGUST. The operations having settled down a little, C.E. made arrangements for a comprehensive scheme of salving Engineer material along the Hamel-Villers Bretteneux-Monument Wood line, the scheme to come into operation on 16th. August 1918.

Engineer Instructions Nos. 7, 8, 9, and 10 show the disposition made of these Coys. Lieut. CHRISTIAN E.C., Staff Learner, was detailed specially to supervise the bridging operations on the SCHE.

In a separate communication I have brought to the notice of the Corps Commander the names of those Officers and other ranks who, during the period under review, performed work which, in my opinion, is worthy of notice. Every Officer, E.C.O. and Sapper to whom a responsible duty was allotted performed that duty in a highly satisfactory manner, and names mentioned are only of those who stood out above the very high level of excellence.

The following are the appendices to this report:

- Appendix A. Condition, and proposed provision of roads.
- B. (i) Instructions to C.E.Ss.
- (ii)
- B.1. Wiring per 1000 yards of front.
- C. Collation of information.
- D. Engineer Instructions issued under Corps Battle Instructions - Nos. 1 to 10.
- E. Water supply.
- F. Enemy dumps taken over.
- G. List of bridges constructed or removed on the same during the period 7th. to 15th. August.
- H. Notes on work carried out by 1st. AF Coy AE with Corps Heavy Artillery.

Brigadier-General.  
Chief Engineer, AUSTRALIAN CORPS.

COPY. <sup>306</sup> SECRET.

CE Australian Corps.

GP/WE

1st. August 1918.

Aust. Corps "AQ".

*"A"*  
APPENDIX.....

1. The attached map shows:
  - (a) In BLUE, the Corps Roads forward boundary as from 2/8/1918.
  - (b) In GREEN, the line proposed for the Corps Roads forward boundary, to come into effect on a later date, yet to be fixed.
  - (c) In BROWN, the M.T. two-way roads which it is proposed to put in order and to maintain.
  - (d) In YELLOW, the Horse Transport roads, which it is proposed to put in order and to maintain. (This part of the plan is as yet incomplete, and awaits further reconnaissance.)
2. It will be seen that provision is attempted for -
  - (a) A two-way M.T. road in each Divisional Area, running from West to East.
  - (b) One or more H.T. roads in each Divisional Area, running from West to East.
  - (c) Two M.T. Switch Roads.  
Two H.T. Switch roads.
3. A reconnaissance is now being made of an avoiding road North of VILLERS BRETTONEUX, certainly for H.T. and, if possible, for M.T.
4. A detailed reconnaissance of the VILLERS BRETTONEUX-MARCELCAVE Railway is now in hand, and result will be given to you later.

Enclos.

Signed. C.H. Foott. Brig. General.  
Chief Engineer AUSTRALIAN CORPS.

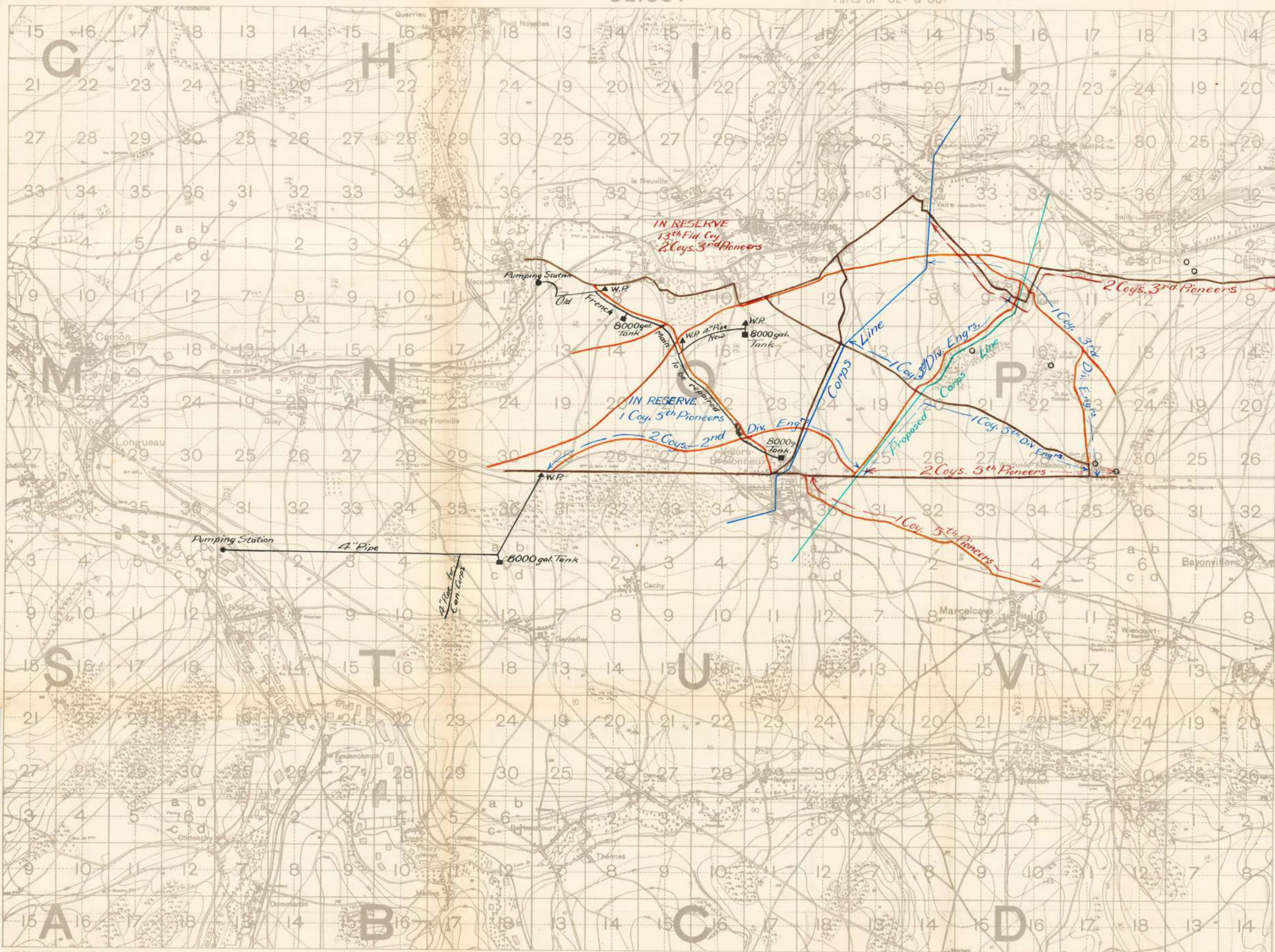


1:40,000

# GLISSY

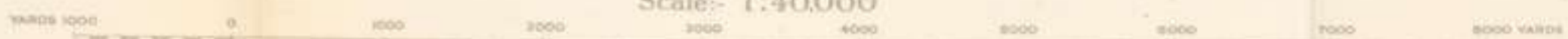
Parts of 62° & 66°

APPENDIX



5th FIELD SURVEY BY R.E. (4103.) 31-7-18

Scale: 1:40,000



**Reference**  
 M.T. Roads shown thus —  
 H.T. " " " "  
 Proposed Corps Line will not come into operation until orders are given  
 Water Supply shown in black  
 Approx. position of Wells & Bores o



B(1)

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COPY.

CF/WE

SECRET.

CE Australian Corps No. SO 1024.

1st. August 1918.

APPENDIX ..... "B(1)"

- Lt.Col. Corlette D.S.O.
  - Lt.Col. Bachtold D.S.O. M.C.
  - Lt.Col. Dyer, D.S.O.
  - Lt.Col. Mather D.S.O.
- .....

In anticipation of further orders you may at once make arrangements for withdrawing all demolition charges and for the return to their units of all guards on roads and bridges now under your control. The charges now in place are NOT to be withdrawn nor are standing guards to be taken off till definite orders are received. You will arrange for the following steps to be taken when ordered:

- (a) Withdrawal of guards when charges are withdrawn.
- (b) Withdrawal of charges.
- (c) Storage of charges.
- (d) Removal or retention (as you consider advisable in each case) of fuses, leads, and detonators.

Please acknowledge.

Signed. C.H. Foott. Brig.General.  
C.E. Australian Corps.

Copy to G.Aust.Corps.  
For information.

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COPY.

CE Australian Corps No. SO 1023

SECRET.

1st. August 1918.

Lt. Col. Corlette D.S.O.  
 Lt. Col. Bachtold D.S.O.  
 Lt. Col. Dyer D.S.O.  
 Lt. Col. Mather D.S.O.  
 -----

APPENDIX.....

You should make arrangements to dump your pontoon and trestle loads not later than 6/8/18, so as to free your pontoon vehicles.

These loads are to be dumped by Divisions in selected places, well camouflaged by trees, etc. where they will be easily accessible if required.

Please let me know early where you propose to dump yours. A small guard must be left with each.

Signed. C.H. Foott. Brig. General.  
 CE. Australian Corps.

WIRING PER 1000 YARDS OF FRONT.

APPENDIX "B1."

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	Wire. No of Coils.	Screw Pickets.		Lorry Loads.	Tank Loads.	Man Hours by night.	Man hours by Day.
		Long	Short.				
SINGLE DOUBLE APRON.	200	400	800	2	1½	600	400
		Weight		Tons.			
	2.5	1.07	0.9		4.47		
DOUBLE DOUBLE APRON.	400	800	1600	4	2½	1200	800
		Weight		Tons.			
	5.0	2.14	1.8		8.94.		

Allows for equal number of men wiring - and carrying from small dumps along the line of wire.

Allows for equal number of men wiring - and carrying from small dumps along the line of wire.

CHP/WE

Signed. C.H. Foott Brig. General.  
Chief Engineer Australian Corps.

APPENDIX B1

Ref.No.	Location.	Traffic	Condition.	Report from.	Time.	Date	Remarks.
1	To P.26.c.8.3.	3-ton axle.	Passable.	5th. Pnrs.	5/35pm	7/8/18.	8' wide. See also 2, 3, 4, 9, 12, 14.
2	To Warfusee.	Heavy.	Fair.	"	8/50am	8/8/18.	Road being pushed beyond LA MOTTE.
3	P.26.c.			Mjr Greenway.	8am.	"	Two tunnels under main road strutted 10' of each N.Side of rd.
4	To Q.25.d.8.5.	MT Double.	Fit-All tfc.	"	4pm.	"	
5	P.25.c.1.3. to P.20.a.5.5.	H.T.	Fit.	"	4pm.	"	See also 11.
6	Road through O.30.b.&.d.	H.T.	Being improved	"	8am.	"	2 Arty bdes placed over ALBERT & ARARAT CTs
7	Villers-Marcelcave O.30.c.2.3. to X Rds at O.36.a.3.7. to P.32.d.6.0.		Under repair.	"	8am.	"	
8	Track through P.20.c.&.d.			"	8am	"	Arty bdge placed.
9	To Warfusee.	MT Double.	Good.	Lt.Col.Carter from Lt.Christian	2/30pm	"	
10	Villers avoiding earth track O.25.b.3.0. thro. O.26.a.&.b. O.27.a.&.b., O.28.a.&.b. O.29.a.&.b., O.24.c. and O.30.b.&.d. to P.25.c.1.3.	Double HT.	Fair.	"	"	"	Completed.
11	P.25.c.1.3. to P.20.a.5.5.	Light MT (Amblces.)	Being metalled.	"	"	"	Shell holes & trenches filled in.
12	Warfusee.	M.T.	Fair.	"	"	"	Being repaired.
13	O.36.a. to V.3. Central.	H.T.	Good.	"	"	"	Being continued beyond See also 15.
14	To Warfusee.		Excellent.	1st. AT Coy AE.	2pm.	"	
15	From O.29.d.7.4. to O.36.a.2.6. to V.3.a.2. 6.	H.T.	Good.	CRE 5 Div. from 14th. Fld Coy.	12/40 am.	"	

PTO

APPENDIX 19

Ref.No.	Location.	Traffic.	Condition.	Report from.	Time	Date.	Remarks.
16	To Fouilloy thro. O.17.a.&.c. & O.23.a.&.c.	M.T.		CRE-CT.	8/10pm	8/8/18	Being used for double t/c but only suitable for single.
17	To Warfusee earth avoiding rd on N.side & approx.parallel with main Peronne Road.	H.T.	Under constn.	5th. Pnrs.		9/8/18	
18	do	H.T.	Completed.	do	1pm.	10/8/18.	

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APPENDIX

C

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**R O A D S      F R O M   O R   N E A R      H A R B O U N I E R E S .**

Ref. No.	Location.	Traffic.	Condition.	Report from.	Time.	Date	Remarks.
1.	Towards Morcourt to Main Peronne Road at Q.28.d.4.4.	M.T.	Good.	Lt.Christian.	9pm.	9/8/18.	
2.	To Bayonvillers through W.3.cent.	M.T.		ditto	5pm	10/8/18.	
3.	To Guillaourt through W.10.c.& d. W.15. a & b.	M.T.		ditto	5pm.	ditto.	
4.	Due south to the Railway Line through W.17.b. & d. and W.23.b.	M.T.		ditto	5pm	ditto.	
5.	Towards LIHONES Through X.13.cent, as far as X.29.a,5.5.	M.T.		ditto	5pm.	ditto.	
6.	To Framerville through W.12.c. a. & b.,X.1. c.& d. X.2.a. & b.	H.T.		ditto	5pm.	ditto.	
7.	To Vauvillers from main road at W.18.b.8.9.	H.T.		ditto	5pm.	ditto.	

APPENDIX



R O A D S .      from or near      V A U V I L L E R S .

Ref No.	Location.	Traffic.	Condition.	Report from	Time	Date	Remarks.
1	To Framerville.	MT.		Lt. Christian.	5pm	10/8/18.	
2	Towards Rosieres as far as Rly through X.14.b.&.d. X.20.b.&.d.	M.T.		"	"	"	
3	To Harbonnieres-Lihon Rd at X.13.d.4.9.	M.T.		"	"	"	

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APPENDIX

C

306

R O A D S . From or Near BAYONVILLERS.

Ref. No.	Location.	Traffic	Condition.	Report From	At	Date	Remarks.
1.	To. Q.25.d.	M.T.	Good.	CRE CT.Lt.CHRISTIAN,	1-5pm	8/8/18.	
2.	Q.32.c.5.2. through Q.32.d and Q.33.a. to Q.27.c,2.3.	M.T.	Good.	ditto	ditto	ditto	
3.	Q.27.c.2.3. through Q.27.cent. to Q.22.c.5.0.	M.T.	Good.	ditto	ditto	ditto	
4.	Q.28.d.4.4. through Q.34.b.& d. to W.4.b.9.3. HARBONIERRES.	M.T.	Good.	ditto.	ditto	ditto	
5.	To Q.25.d.8.2.	M.T.	Fit.	Maj.Greenway.	4pm.	ditto	
6.	To WIENCOURT from W.2.central.	M.T.	Fit.	ditto	ditto	ditto	
7.	To VILLERS BRETTONNEUX. Earth Track from W.2.a.0.6. through W.1. a. & c. V.6.a & b. W.5.a & b. W.4. a & b. W.3. a & b. to W.2.b.8.8.	H.T.	Fit at present	ditto	ditto	ditto	
8.	To Harbonierros.	M.T.		3rd Pioneers		ditto	
9.	To Cerisy from Q.32.c.5.2. through Q.32.d and Q.33.a. Q.27.b. & a. Q.21.c. & b. Q.15.b. & a.	M.T.		ditto		ditto	
10.	Towards Morcourt through Q.33.a., Q.27.c. & b. to Q.22.c.6.2.	M.T.		ditto		ditto	
11.	To Guillaucourt.	M.T.		Lt.Christian.	5pm	10/8/18.	

APPENDIX

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306

R O A D S From or near V A I R E - S O U S - C O R B I E.

Ref.No.	Location.	Traffic	Condition.	Report From	Time	Date	Remarks.
1.	To Hamel.	M.T.		CO 3rd Pns.		8/8/18.	
2.	To Hamel from J.32.c.8.4. thro. J.33.c., P.3.b., J.34.c., P.4 a & c. to P.10.a.2.8.	H.T.		"			

APPENDIX

C

R O A D S From or Near MARCHELCAVE.

306

Ref.No.	Location.	Traffic	Condition.	Report From	Time	Date	Remarks.
1.	To Wiencourt just N. of Railway.	M.T.	Fit	Mjr.Greenway.	4pm	8/8/18.	
2.	To LaMotte.	M.T.	Fit	ditto	4pm	ditto	
3.	To Villers Brettonnoux.	Passable for M.T.	Some shell holes to V.S.b.S.S.	ditto	4pm	ditto.	

APPENDIX

C

R O A D S . from or near WARFUSEE-ABANCOURT - LA MOTTE-en-SANTERRE.

44306

Ref.No.	Location.	Traffic.	Condition.	Report from	Time	Date	Remarks.
1	To Villers Brettoneux.	M.T.		3rd. Pnrs.		8/8/18	
2	From fork rds Q.13.c.4.1. to X Rds Q.7.a.3.7.	H.T. and Light Guns.		CRE-CT from 3rd. Pnrs.	8/8/18	10/40am	
3	Peronne Rd to Q.30.c.0.4.	M.T.	Good.	Lt. Christian	12Noon	8/8/18.	
4	Earth tracks to Bayonvillers. ) 1. Thro. P.36.b., Q.31.a.&.d. to Q.32.c.5.6. ) 2. From P.36.a.6.4. thro. P.36.Cent. & d. Q.31.c. to W.1.b.9.5. )	H.T.	Fit at present.	Major Greenway.	4pm	"	
5	To Marcelcave.	M.T.	Fit.	"	4pm	"	
6	Towards Fouilloy to P.20.a.4.6.	M.T.	Req. metalling	"	4pm.	"	
7	Towards Fouilloy to O.18.b.5.3.	M.T.		3rd. Pnrs.	-	"	
8	To Saily -Laurette thro. P.23.d.&.b. P.24.a., P.18.c.&.b. to Q.7.c.2.8. to X Roads at Q.7.a.3.7.	M.T.	Req. small amt labor & material.	"	-	"	
9	To Cerisy from LaMotte thro. P.30.d.&.b. Q.19.c.&.b., Q.14.c.&.a. to Q.9.a.9.9.	M.T.	do	"	-	"	
10	To Saily-Laurette thro. Q.24.b.&.d. Q.13.a.&.c. to Q.7.b. to X Rds at Q.7.a.3.7.	H.T.	Being repaired	"	-	"	Should be completed by night of 8/8/18.
11	Peronne Rd to R.26.d.9.4.	M.T.	First Class 36' wide.	CRE 4 A.Divn.	-	10/8/18.	

APPENDIX

C

R O A D S from or near C E R I S Y .

Ref. No.	Location.	Traffic.	Condition.	Report from	Time Date	Remarks.
1	To Peronne Rd from Q.9.a.9.9. thro. Q.9.Cent. Q.15.a.&c. Q.21.a.&c. to main Peronne Rd.	M.T.	Req. small amt of labor and material.	3rd. Pnrs.	8/8/18	
2	To Morcourt.	M.T.	Working on Road now.	"	"	Should be in good order by night 8/8/18.
3	To Morcourt.	M.T.	Good.	"	"	Later than above.
4	To Bayonvillers due south thro. Q.15.a.&c., Q.21.a.&c. & Q.27.a.&c.	M.T.		"	"	From map from 3rd Pioneers.

APPENDIX

R O A D S FROM OR NEAR HAMEL.

Ref. No.	Location.	Traffic	Condition.	Report From.	At	Date.	Remarks.
1.	To X Road at Q.7.a.4.5. to Q.7.c.3.5. Fork Road.	M.T.	Good.	Telephone from CRE CT from 3rd Pioneers.	7-35 a.m.	8/8/18.	
2.	Hamel - Cerisy. Q.7.a.		Bad.	1st AT Coy. AE.	2pm	ditto	
3.	To VILLERS - BRETTONNEUX.	H.T.	-	3rd Pioneers.		ditto	
4.	To WARPUSEE through P.19.d., P.17., a & c. and P.23. a & c.	H.T.	Good	3rd Pioneers.		ditto	
5.	Also. from Fork at P.17.a.8.2. through P.17.d. to X Rds at P.23.b.9.5.	M.T.		3rd Pioneers.		ditto	
6.	Through CERISY to MORCOURT.	M.T.		CRE CT from 3rd Pioneers.	3-50 p.m.	ditto.	
7.	Through CERISY to MORCOURT.	M.T.	Good.	3rd Pioneers.		ditto.	

APPENDIX

C

R O A D S . from or near F O U I L L O Y .

Ref.No.	Location.	Traffic.	Condition.	Report from.	Time	Date	Remarks.
1	To Warfsee.at P.21.d.		Passable for guns.	1st.AT Coy AE	2pm	8/8/18.	

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APPENDIX

*(Handwritten mark)*



R O A D S .

from or near

M O R C O U R T .

Ref. No.	Location.	Traffic.	Condition.	Report from	Time	Date	Remarks.
1	Towards Mericourt to Q.12.c.00.02	MT.	Good.	3rd. Pnrs.		8/8/18.	
2	Towards Proyart to Q.18.d.1.1.	MT.	Fair.	"		"	
3	To Cerisy (lower road).	MT.	Good.	"		"	
4	Towards Proyart to R.19.a.5.5.	MT.	First Class. 30' wide.	CRE 4 Aus.Div.	-	10/8/18.	
5	To main Peronne Road at Q.28.d.3.3.	Light MT HT.	2nd. Class 20' wide.	do		"	

APPENDIX

R O A D S from or near FRAMERVILLE.

Ref No:	Location.	Traffic.	Condition.	Report from	Time	Date	Remarks.
1	To Vauvillers.	MT.		Lt.Christian	5pm	10/8/18	
2	To Harbonniers through X.26.a., X.1.d.&.c. W.12.b.&.a.	M.T. as far as X.26.0.5. H.T.		"	"	"	

APPENDIX

*e*

R O A D S

from or near

P R O Y A R T .

Ref No.	Location.	Traffic.	Condition.	Report from.	Time.	Date	Remarks.
1	To Main road at R.25.c.0.5.	M.T.	First class. 30' wide.	CEE 4th.Divn.	-	10/8/18.	

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APPENDIX

C

R O A D S In or Near CHIPILLY.

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Ref.No.	Location	Traffic.	Condition	Report from	Time	Date	Remarks.
1.	To SAILLY LAURETTE.	Light M.T. and H.T.	Fair. Some shell holes to K.33. c.5.7.	CRE 4th. Aust.Div.		11/8/18.	Under repair
2.	Along foot of hills to Q.11. a.2.6. to K.35.a.7.1.	H.T.	Only good in dry weather.	ditto.		ditto	
3.	To BEINEHAM from Cometary through K.35.a.7.1.	M.T.	Good except at steep hill at K.35.a.7.1.	ditto		ditto.	Under repair
4.	Q.4.a.5.6. to K.29.a.5.6. thence to X Roads in K.24.c.2.6.		Good but has been moderately shelled & requires cleaning up near CHIPILLY.	ditto.		ditto.	
5.	K.34.c.3.1. to X Rds at K.28.c.8.1. thence to X. Rds at K.21.b.7.9.	H.T.	Good but has many shell holes and requires a good deal of work from K.28.c.5.0. to K.28.a.5.5.	ditto.		ditto.	Under repair
6.	X Rds at K.28.c.8.8. to X Rds at K.21.a.4.7.		Lightly metalled & in good condition.	ditto.		ditto.	
7.	CHIPILLY at Q.4.a.6.3. to main Road bridge at Q.3.d.9.5.			ditto		ditto	Under repair

APPENDIX

R O A D S

In of Neat SAILLY-LAURETTE

Ref.No.	Location.	Traffic.	Condition.	Report From.	Time.	Date.	Remarks.
1.	To SAILLY - le - SEC.	Light M.T. H.T.	Fair.	C.R.E. 4th Aust.Div.		11/8/18.	Under repair.
2.	To CHIPILLY.	Light M.T. H.T.	Fair. Some shell holes between K. 22.c.5.7. and CHIPILLY. Largo amount of debris on roads in SAILLY LAURETTE & CHIPILLY.	ditto.		ditto,	ditto.
3.	K.31.b.6.0. to K.21.c.7.9.	H.T.	Dry weather track only.	ditto.		ditto.	
4.	To X Rds at K.20.b.2.9.	M.T.	Requires repairs between K.31.b.7.5. to X Rds at K.20. b.2.9.	ditto.		ditto.	ditto.

APPENDIX

306

R O A D S in or near SAILLY-le-SEC.

Ref No.	Location.	Traffic.	Condition.	Report from.	Time	Date	Remarks.
1	To Saily-Laurette	Light MT HT.	Fair.	CRE 4 A.Divn.		11/8/18.	Under repair.
2	To Cross Roads at I.18.c.8.1.		Good, but has a number of un- filled shell holes in it.	do		do	

APPENDIX

C

35

BRIDGES at or near CORBIE - SOMME.

Ref No.	Location.	Description.	Condition	Report from	Time	Date	Remarks.
14	P.6.d.4.8.	Footbridge.	Demolished	CRE 3 A.Divn.	4/40pm	8/8/18	
15	P.6.d.2.8.	Reinforced concrete bridge.	Demolished-Just passable to Inf. to scramble past.	do	"	"	
16	Q.1.c.3.9.	<u>Gailly Bridge.</u> Similar to Corbie Loch, practically a loch with a bridge at one end. The bridge was of wood with masonry abutments and cleared the water level of the loch by a bout 12'. Span was about 35'. The two loch gates are about 150' apart and are still intact.	Demolished.	do	"	"	
17	J.34.b.5.1. Sailly-le-Soc Bouzencourt.	Steel draw bridge on pile piers - Brick abutment on south side.	Girders now demolished. Piles slightly dam.by shell fire.	do			" Piles could be repaired & used as piers for temp.rd. bridge.
18	J.34.d.7.9.	Loading stages. Decking & joists have been removed from two end bays on Sth. side. Piles are mostly of 9"x3" spiked together. These piers would probably not take road traffic.		do		"	
19	J.26.c.0.2. Vaux-sur-Somme to Vaire-sous- Corbie.	<u>Pontoon Bridge.</u> Piles driven in were evidently used as piers for bridge. These are still in good condition. Metalled approach on both sides.		do		"	
20	J.25.a.6.0.	Proposed pile bridge for 60 pndrs. Approaches to be corduroyed over low river flats. Road on south side 75% complete - Nth. side marked out only.		do		"	

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APPENDIX

36

B R I D G E S at or near CERISY - CHIPILLY.

Ref No.	Location.	Description	Condition	Report from	Time	Date	Remarks.
1	Q.2.b.74.95	Evidently was a high level wooden bridge which was demolished. A wooden structure has been erected in its place. Abutments are of brick & in good condition.	Fit for ordinary transport & light guns.	Maj. Phillips 3rd. Pnrs.	9pm	8/8/18.	
2	Q.3.d.95.60	A small footbridge exists.		"	"	"	
3	Q.3.d.90.55	Double steel bridge. About 50 yds on the upstream side of this bridge a low level wooden bridge has been erected. This is in good order and will carry all transport and light guns.	Demolished.	"	"	"	This is an important bidge being on main rd between CERISY and CHIPILLY.
1	do Later.	On this site at one period, two distinct steel bds existed, one which we will call the Civilian, or road bridge, and the other I would say is an Army Railway bridge, as it is bolted together in sections. The road or civilian bridge has been constructed on brick abutments which are in good condition. Span between a butments, approx. 70'. Built of two steel girders which span the entire distance, the floor being constructed on the brick arch principle, with metal gressing. It has been blown about 10' from the N. side of bridge.  The railway bridge has been built on pile abutments, which are still sound. This has also been blown 10' from N. side, and that end of the village fallen into the river. The south end remains, however, resting on the abutments. No very great difficulty would be experienced in the repair of this bridge. Sketch herewith attached, of the wooden low level bridge situated 50 yds on the upstream side of the double bridge, this also being mentioned in report No. 2 of yesterday. Approaches to this bridge are all in good condtn.		"	3pm	9/8/18.	

306

APPENDIX

PTD

Q

37



B R I D G E S at or near CERESY - CHIPILLY.

Ref.No.	Location.	Description.	Condition.	Report from	Time	Date	Remarks.
5	Q.2.b.8.9.	(CHERRY BRIDGE) Will carry 60 pndrs.. Now that the CHIPILLY Ridge has been cleared further reconnaissance is being made of two bridges and road across swamp to road at K.32.d.7.9. which leads on to this bridge.		CRE 4th. Aus.Divn.		9/8/18.	
6	Q.3.d.8.5.	(CHIPILLY BRIDGE) - now only footbridge, having been previously demolished) A diversion leads to a bridge 100 yds upstream which will carry all traffic except tanks (timber-very short spars).		do		"	
7	Q.4.c.2.2.	A complete German Pontoon equipment is lying along N.bank of river at this point.		do		"	
8	Q.2.a.8.3.	Small bridge over ditch beside canal - Decking not good; being repaired.	After repairs will be fit for Horse Transport	do		"	
9	Q.2.b.7.6.	Small bridge over ditch - Will carry H.T.		do		"	
10	Q.3.a.8.7.	Footbridge.		do		"	
11	Q.3.a.1.9.	Footbridge.		do		"	
12	Q.1.c.Cent.	Does not exist having probably been demolished during the German advance in March.	Nonexistent.	do		"	Further reconnaissance & sketch follow.
13	Q.1.c.35.75	Has been completely demolished. Originally a steel structure with masonry abutments - these are still in good condition. At a later date a wooden structure has been erected, but this has also been demolished. The site of the bridge is over a loch consequently is well above water level. Both N. & S. approaches in good condition.	Demolished.	Mjr. Phillips.	5/45pm	8/8/18.	

APPENDIX

38



2. (a) Allotment of duties to Units (Contd).

D u t y .	Northern Sector.	Southern Sector.
Water Supply.	Under C.W.S.O. - 238 A.T.Coy RE.	
Reserve.	13th. Field Coy AE.	15th. Field Coy AE.
	146 A.T.Company R.E.	567 A.T.Company RE.
		1st. Aust. AT Coy.AE.

- (b) The attached map shows the detailed allocation of roads to units for repair and maintenance in accordance with the above. Mule and Pack Tracks will be a Divisional responsibility.

(c) Corps Roads Line.

The Corps Road line, marking the forward boundary of Corps responsibility for road maintenance will be moved forward to the line shown on the attached map as "Proposed Corps Line" at a date and time to be named later.

3. R.E.Stores.

- (a) The main Corps R.E.Dumps are as follows :-

Northern Sector.	VECQUEMONT.
Southern Sector.	CHATEAU (M.36.d.).

- (b) Advanced Corps Dumps will be established as opportunity offers.

- (c) Transport of Stores from Corps Dumps.

Until further orders, four 3-ton lorries will be placed by "Q" Branch of the Corps at the disposal of C.R.E. each Division daily for the transport of R.E. Stores.

- (d) Stone dumps will be located as follows :-

LONGUEAU.  
POULAINVILLE.

- (e) CHATEAU Dump will be closed from 9p.m. on the night before Zero day till 8/30a.m. Zero day.

4. Water.

- (a) The existing sources of supply, and proposed extensions are shown on the attached map.

- (b) The following transport for water is also allotted:-

- To each Division. 1 Water lorry - 125 gallons.
- 4 G.S.Wagons with tanks, each 300 gallons.
- 3 Hand pumps for deep wells.
- 4 Windlasses with bucket & 100' rope.
- C.W.S.O. 3 Sterilising Lorries, capacity 1500 gallons per hour.

5. Bridging Equipment.

(a) Pontoons. Material now in bridge will remain, and will be replaced by the issue to Divisions of pontoons and trestles; the whole of the equipment of all four Divisions (less vehicles) will then be dumped as follows: in a Corps Pool:-

- 2nd. Aust. Division )
- 3rd. Aust. Division.) Will be notified later.
- 4th. Aust. Division )
- 5th. Aust. Division. N.21.c.8.7.

Each of these Divisional Pontoon Dumps will be under the charge of an N.C.O. detailed by the Division. The whole of the Pontoon equipment (less vehicles) of the 2nd. and 5th. Aust. Divisions will be at the disposal of the 3rd. and 4th. Aust. Divisions if required as follows:-

- 3rd. Aust.Division will draw from 2nd.Aust.Division.
- 4th. Aust.Division will draw from 5th.Aust.Division.

C.R.Es. of Divisions concerned will make mutual arrangements with their opposite numbers accordingly.

(b) Artillery Bridges.

Artillery Trench Bridges will be deposited at CHATEAU, VECQUEMONT and POULAINVILLE.

The Heavy bridges are at the disposal of, and may be drawn by Corps Heavy Artillery only. The Light bridges will be drawn as required by Divisions in equal amounts.

P.T.O.

(c) Special bridging material, R.S.J., timber girders, planking as available will be deposited at VECQUEMONT and CHATEAU Dumps.

6. Prepared Demolitions.

All Road mines and Bridge Demolition charges in Divisional Control (Vide Instructions for Defensive No.55) will be withdrawn and stored under arrangements to be made by C.R.Es by the night 5/6th. August. Parties in charge will return to their units not later than 6/8/1918.

7. Tunnelling.

Tunnelling work on deep dugouts will cease on completion of last shift on 6/8/1918; Engineers, Pioneers, and attached personnel will return to their units on ceasing work.

8. U.S. Engineers.

All Officers and other ranks of U.S. Engineers at present attached to Australian Engineers or Tunnellers will rejoin their own companies etc. not later than midnight 6/7th. August.

9. Special Duties.

(a) 1st. Aust. A.T. Company AE is at the disposal of G.O.C. R.A. Australian Corps for special duty. If not required for this duty or on completion thereof, it remains in reserve under C.E.

(b) O's.C. 1st. Aust. Tunnelling Coy and 2nd. Aust. Tunnelling Coy. will detail parties to C.R.Es of Divisions as follows:

From.	To	Strength.	
		Off.	OR.
1st. Aus. Tunnlg. Co.	3rd. Aust. Divn.	2	30
1st. Aus. Tunnlg. Co.	4th. Aust. Divn.	2	30
2nd. Aus. Tunnlg. Co.	2nd. Aust. Divn.	2	30
2nd. Aus. Tunnlg. Co.	5th. Aust. Divn.	2	30.

These will be employed in locating and exploiting deep dugouts, wells &c. as directed by C.R.E.

(c) When opportunity offers, the 1st. and 2nd. Aust. Tunnelling Coys. will undertake deep dugout work in the Northern and Southern Sectors respectively, under arrangements

P.T.O.

-- 5 --

similar to those now in force.

- (d) Special arrangements will be made by the Corps for the rehabilitation of the Villers Brettoneux railway line.

10. ACKNOWLEDGE.

*C. A. Foot*

Brigadier-General.  
Chief Engineer AUSTRALIAN CORPS.

DISTRIBUTION:

- |        |   |
|--------|---|
| 1-2    | G. Aust. Corps.                           |
| 3-4    | Q. Aust. Corps.                           |
| 5      | CE 4th. Army.                             |
| 6      | CE III Corps.                             |
| 7      | CE Canadian Corps.                        |
| 8      | G.O.C. R.A.                               |
| 9      | CRE 2nd. Aust. Divn.                      |
| 10     | CRE 3rd. Aust. Divn.                      |
| 11     | CRE 4th. Aust. Divn.                      |
| 12     | CRE 5th. Aust. Divn.                      |
| 13     | CRE - CT.                                 |
| 14     | CRE RZD (S).                              |
| 15.    | Lt. Col. Sanday, D.S.O., 3rd. Pion. Btln. |
| 16.    | Lt. Col. Carter, D.S.O., 5th. Pion. Btln. |
| 17.    | 1st. Aust. Tunn. Coy AE.                  |
| 18.    | 2nd. Aust. Tunn. Coy AE.                  |
| 19.    | 1st. AT Coy AE.                           |
| 20.    | 146 AT Coy RE.                            |
| 21.    | 238 AT Coy RE.                            |
| 22.    | 567 AT Coy RE.                            |
| 23-25. | War Diary.                                |
| 26.    | File.                                     |
| 27-35. | Spare Copies.                             |

.....

S E C R E T .Copy No. *Jef*A U S T R A L I A N   C O R P S .

Engineer Instruction No. 2 issued under Australian Corps  
Battle Instructions Nos. 1 to 12.

.....

4th. August 1918.1. Allotment of Duties to Units.

The <sup>567</sup> A.T. Company RE will arrange with CRE 2nd. Aust. Division to take over the maintenance of the plank roads leading from bridges GLISY 2 and BLANCY 8 from Midnight 5/6th. August. The maintenance of the bridges, approaches and plank roads will then devolve upon 567 A.T. Company RE.

2. Roads. Para. 2 (b) of Engineer Instruction No. 1 refers to certain roads which are shown on the map issued with that order. This map shows the roads only so far as approximately the line Marcelcave, Warfusee, Cerisy-Gailly. It is intended that M.T. and H.T. Roads shall be pushed forward as opportunity offers as far as the line Wincourt - Q.27.c.3.3. - Morcourt. The O.Cs allotted to roads will therefore arrange for the necessary reconnaissance and repair of the principal roads up to this line as early as practicable.

Provided that opportunity offers it is desirable that the track passing from the cross roads in Q.7.a. through Q.13.a.& b. P.24.b. d. to Warfusee should be rehabilitated for horse transport as early as practicable.

It is not the present intention to do anything to the road from Q.7.c.2.8. through P.18. Central to P.23.b.8.4. as this is an exposed road.

3. Tunnelling Companies - Special Instructions.

Attached to those copies of these orders which are issued to 1st. and 2nd. Aust. Tunnelling Coys. is Australian Corps Circular No. I.G. 106/1000. This circular contains certain special information for the Tunnelling Coys.

P.T.O.

4. Resting of Troops.

Commanding Officers are to make every effort to rest any troops not employed on work during the day before Zero-day.

Horses. Commanding Officers to take special precautions to avoid the overworking of horses prior to the operations.

Weak and unfit horses are to be given every possible chance of resting and feeding up.

## 5. ACKNOWLEDGE.



Brigadier-General.  
Chief Engineer AUSTRALIAN CORPS.

DISTRIBUTION:

1-2	G.Aust.Corps.
3-4	Q.Aust.Corps.
5	CE 4th.Army.
6	CE III Corps.
7	CE Canadian Corps.
8	G.O.C. R.A.
9	CRE 2nd.Aust.Divn.
10	CRE 3rd.Aust.Divn.
11	CRE 4th.Aust.Divn.
12	CRE 5th.Aust.Divn.
13	CRE - CT.
14	CRE RZD (S)
15	Lt.Col.Sanday, D.S.O. 3rd.Pnr.Btln.
16	Lt.Col.Carter, D.S.O. 5th.Pnr.Btln.
17	1st. Aust.Tunn.Coy (With special Appendix).
18	2nd. Aust.Tunn.Coy. (With special Appendix).
19	1st. AT Coy AE.
20	146 AT Coy RE.
21	238 AT Coy RE.
22	567 AT Coy RE.
23-25.	War Diary.
26.	File.
27-35.	Spare Copies.

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SECRET.

Copy No.....

A U S T R A L I A N C O R P S .

Engineer Instruction No.3 issued under Australian Corps  
Battle Instructions Nos. 1 to 17.

.....  
5th August.1918.1. PERSONNEL.

The following allotment of personnel is made :-

1st A.T.Coy.A.E. ( less 1 section ) is allotted  
to Corps Heavy Artillery.

One section of 1st A.T.Coy.A.E. is allotted to  
C.W.S.O. until 6 p.m. 7/8/18. On completion of duty with  
C.W.S.O. this section moves into reserve under C.E.

Major.LAMONBY.D.S.O. R.E. is placed in charge of  
all roads within the Corps area between the D.G.T. Line and  
the Corps Roads Line as from midnight 5/6th/8/18. The  
following units are allotted to him :-

567th A.T.Coy.R.E.

90th Labour Coy.

168th Labour Coy.

80 O.R. of 59th Labour Coy.

146th A.T.Coy.R.E. is held in reserve.

105th Labour Coy, less 60 O.R.s detailed to 2nd  
Aust.Tunn.Coy, will come into reserve on completion of work with  
"E" Coy 108th U.S.Engineers.

"F" Coy 108th U.S.Engineers are placed at the disposal  
of C.R.E. Corps Troops for the purpose of clearing the debris  
from railway line between LONGEAU and MILLERS-BRITTONNEUX.

105th Labour Coy, less 60 O.R.s already detailed for  
Tunnelling work, are at the disposal of C.R.E.Corps Troops to  
assist "E" Coy 108th U.S.E. on the Railway Line.

"D" and "F" Coys 108th U.S.E. are placed at the  
disposal of 3rd Field Squadron until further orders.

P.T.O.

## 2. STONE DUMPS.

It is intended to establish Stone Dumps as follows :-

Southern Sector. On the main VILLERS-BRETTONNEUX Road at about O.30.

Northern Sector. At about VAIRE.

Any of the following units are authorised to draw R.E.Stores from any Corps or Divisional Dump within the Corps Area :-

1st.Army Troops Coy.A.E.

3rd Pioneer Battalion.

5th.Pioneer.Battalion.

5th,6th,9th,10th,13th and 15th Field Coys.

## 3. ACKNOWLEDGE.

*John G. Burnell Capt A.E*

for Brigadier-General.  
Chief Engineer.AUSTRALIAN CORPS.

DISTRIBUTION.

- 1-2. G.Aust.Corps.
- 3-4. Q.Aust.Corps.
5. C.E.4th.Army.
6. C.E. III Corps.
7. C.E.Canadian Corps.
8. G.O.C. R.A.
9. B.G. H.A.
10. C.R.E.2nd Aust.Div.
11. C.R.E.3rd.Aust.Div.
12. C.R.E.4th.Aust.Div.
13. C.R.E.5th.Aust.Div.
14. C.R.E. C.T.
15. C.R.E. R.Z.D.(S).
16. Lt.Col.Sanday.D.S.O. 3rd.Pnr.Btn.
17. Lt.Col.Carter.D.S.O. 5th.Pnr.Btn.
18. 108th.U.S.Engineers.
19. 1st.Aust.Tunn.Coy.
20. 2nd Aust.Tunn.Coy.
21. Labour Commandant.
22. 3rd Field Squadron.R.E.
23. Lieut.GRANT.A.E.
24. Lieut.CALDER.A.E.
25. 1st.A.T.Coy.AE.
26. 146.A.T.Coy.R.E.
27. 238.A.T.Coy.R.E.
28. 567 A.T.Coy.R.E.
- 29-31. War Diary.
32. F i l e .
- 33-36. "G".Aust.Corps
- 37-42. Spare Copies.

JB/WE. 306

Copy No.....

A U S T R A L I A N   C O R P S .

Engineer Instruction No. 4 issued under Australian Corps  
Battle Instructions Nos. 1 to 21.  
-----

7th. AUGUST 1918.

1. REPORTS.    Advanced Headquarters for C.E. will be established with C.R.E. 2nd. Aust. Division at GILSY at 8p.m. 7th. inst. C.Os 3rd. and 5th. Pioneer Battalions will forward consolidated reports to Advanced C.Es. Headquarters on the condition of the roads, where units are working, materials and transport required and available, and on any other matters of interest, at 8a.m., 12 Noon, 4p.m. and 8p.m. on 8th. and at 8a.m. and 6p.m. on following days.    These consolidated reports will be furnished on 1/40,000 maps issued to Pioneer Battalion Commanders herewith, information being written on the backs thereof.

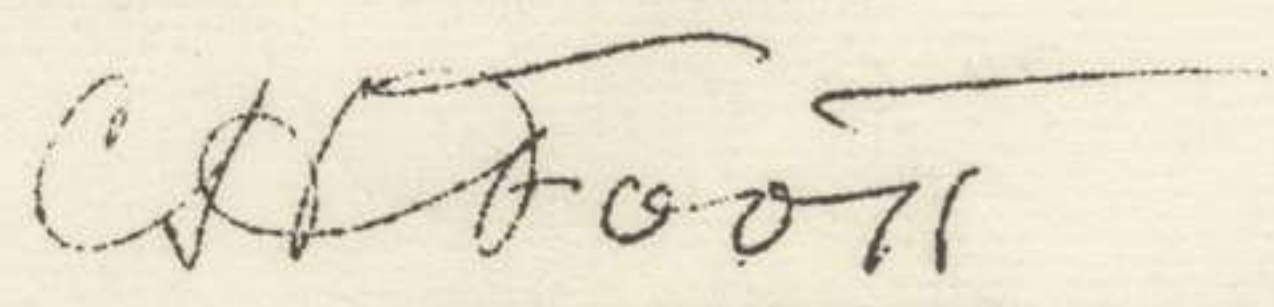
Telegraphic or telephonic communications can be sent through Cable Heads, Divisions, Brigades &c. and should be sent to C.E. Corps or to his Advanced Headquarters with C.R.E. 2nd. Aus.Divn. Written reports should be sent through the nearest Division or Brigade that has a D.R. service.

2. The 146 A.T.Company RE will be held in readiness with a view to assisting in the work of maintaining the roads between the D.G.T. line and the forward line of Corps responsibility. Should this become necessary the policy will be to allot the Northern half sector to the 146 A.T.Company RE and the Southern half sector to the 567 A.T.Company RE. The 146 A.T.Company RE will be prepared accordingly.

3. From Noon 8th. August, Corps Advanced R.E.Dumps will be established as follows:-

TRANSIT Dump	...	...	N.29.d.3.4.
FOUILLOY Dump.	...	...	O.10.b.7.6.

4. ACKNOWLEDGE.



Brigadier-General.  
Chief Engineer AUSTRALIAN CORPS.

DISTRIBUTION:  
Overleaf.

DISTRIBUTION:-

- 1-2 "G" Aust. Corps.
- 3 -8 "Q" Aust. Corps.
- 9 CE 4th. Army.
- 10 CE III Corps.
- 11 CE Canadian Corps.
- 12 G.O.C. R.A.
- 13 CRE 2nd. Aus. Divn.
- 14 CRE 3rd. Aus. Divn.
- 15 CRE 4th. Aus. Divn.
- 16 CRE 5th. Aus. Divn.
- 17 CRE - C.T.
- 18 CRE - RZD (S).
- 19 Lt. Col. Sanday, D.S.O. 3rd. Pioneer Btln.
- 20 Lt. Col. Carter, D.S.O. 5th. Pioneer Btln.
- 21 1st. Aust. Tunn. Coy.
- 22 2nd. Aust. Tunn. Coy.
- 23 1st. A.T. Coy AE.
- 24 146. A.T. Coy RE.
- 25 238 A.T. Coy RE.
- 26 567 A.T. Coy RE.
- 27-29 War Diary.
- 30. File.
- 31-40 Spare Copies.

....

SECRET.

Copy No..... 26

A U S T R A L I A N   C O R P S .Engineer Instruction No.5.....9th August.1918.R.E.DUMPS.

1. CHATEAU DUMP M.36.b.2.2. will be entirely handed over to the Canadian Corps at noon 9th August.
2. FOUILLOY Dump, O.10.b.7.6. will continue for the present as an advanced Corps Dump for the Left Divisions.
3. No further stores will be sent to TRANSIT Dump N.29.d.3.6. which will be emptied as soon as possible and abandoned.
4. Captured German Dumps as follows will be taken over by the C.E. at noon 9th August and operated as Advanced Corps Dumps :-

(Q.27.c.      Lieut.BOLTON    i/c.

(Q.25.d.      N.C.O.    i/c.

(W.7.d.      Lieut.SMITH.    i/c.

(V.4.d.      MARCELCAVE STN.    N.C.O.    i/c.

5. From noon 9th August the Stores Officer to the C.E. will be at POULAINVILLE R.F.Dump.  
Inquiries as regards R.E.Stores should be made to him at this place. Telephone is through Australian Corps.
6. ACKNOWLEDGE.

*John G. Burnett Capt A.E*  
for Brigadier-General.  
Chief Engineer. AUSTRALIAN CORPS.

DISTRIBUTION.

- 1-6. "G".Aust.Corps.
- 7-8. "Q".Aust.Corps.
9. C.E.4th.Army.
10. C.E.Canadian Corps.
11. C.R.E.1st.Aust.Div.
12. C.R.E.2nd Aust.Div.
13. C.R.E.3rd.Aust.Div.
14. C.R.E.4th.Aust.Div.
15. C.R.E.5th.Aust.Div.
16. C.R.E. R.Z.D.(S).
17. Stores Off.(Capt.Greenlees.)
18. Lieut.BOLTON.A.E.
19. Eng.Off. att.C.H.A.
20. 1st.Aust.Tunn.Coy.
21. 2nd Aust.Tunn.Coy.
22. 1st.A.T.Coy.A.E.
23. 146.A.T.Coy.R.E.
24. 238. A.T.Coy.R.E.
25. 567 A.T.Coy.R.E.
- 26-28. War Diary.
29. F i l e .
- 30-35. Spare Copies.

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DIRECT ENGINEER,  
AUSTRALIAN CORPS.

APPENDIX

SECRET.

Copy No. 18

306

A U S T R A L I A N C O R P S .

Engineer Instruction No. 6.....10th. August 1918.

ROADS.

1. Certain units employed under C.E. during the present operations (vide Engineer Instruction No.1 of 3rd. August issued under Australian Corps Battle Instructions Nos. 1 to 7) cease work under the C.E. and return to their respective Divisions as follows:

- |                      |   |                              |
|----------------------|---|------------------------------|
| 3rd. Pioneer Battln. | } | Midnight 10/11th.<br>AUGUST. |
| 9th. Field Coy AE.   |   |                              |
| 10th. Field Coy AE.  |   |                              |
| 13th. Field Coy AE.  |   |                              |
| 5th. Pioneer Battln. | } | NOON 10th. August.           |
| 15th. Field Coy AE.  |   |                              |
| 5th. Field Coy AE.   | } | Midnight 10/11th.<br>AUGUST. |
| 6th. Field Coy AE.   |   |                              |

2. Forward of the line O.36.d.O.2) - VILLERS BRETTONEUX - FOUILLOY CORBIE - I.24.b.O.O. responsibility for the maintenance of the roads up to the Corps Line CERISY - Q.27.Central - W.8.c.O.O. will be as shewn on the accompanying map.

the 146 A.T.Company RE in the Northern Sector.  
567 A.T.Company RE in the Southern Sector.

Labor is allotted as follows:-

- |                     |                        |
|---------------------|------------------------|
| 146 A.T.Company RE. | 105 Labor Company.     |
| 567 A.T.Company RE. | 90th. Labor Company )  |
|                     | 168th. Labor Company ) |

The 146 A.T.Company will take over six (6) tip carts and horses from the 567 A.T.Company R.E.

O.Cs 146 and 567 A.T.Coys. will indent daily on C.E. for lorries for carrying forward stone from railhead dumps.

3. Forward of the Corps Line Divisions will be responsible for the maintenance of the roads in their respective Divisional Sectors.

4. ACKNOWLEDGE.

*John G. Burnell Capt A.E*  
for Brigadier-General.  
Chief Engineer Australian Corps.

DISTRIBUTION:

- |                            |                         |
|----------------------------|-------------------------|
| 1-6 G.Aust. Corps.         |                         |
| 7-8 Q.Aus. Corps.          |                         |
| 9 CE Fourth Army.          |                         |
| 10 D.A.D.Roads Aus. Corps. |                         |
| 11 CRE 1st. Aus. Div.      | 17 567 A.T. Company RE. |
| 12 CRE 2nd. Aus. Div.      | 18-20 War Diary.        |
| 13 CRE 3rd. Aus. Div.      | 21: File.               |
| 14 CRE 4th. Aus. Div.      | 22-25 Spare Copies.     |
| 15 CRE 5th. Aus. Div.      |                         |
| 16 146 AT Coy RE.          | .....                   |

SO 1040  
306

A U S T R A L I A N C O R P S .

Engineer Instruction No. 7...Dated. 11th. August. 1918.

BRIDGING.

1. Consequent on the recent advance now forward bridges must be built across the River SOMME, and certain bridges in the rear will be removed.

Following Army Troops Companies R.E. arrived in Australian Corps Area today and will carry out this work under C.E. Australian Corps :-

- 216 A.T.Coy. R.E.
- 574 A.T.Coy. R.E.

Those Companies are billeted in VECQUEMONT.

2. Work will be commenced as follows :

216 A.T.Coy.R.E. will make good for M.T. the bridge at J.34.d.7.9. which has following spans unbridged 16' 10", 17' 6" & 33'. They will also get ready the abutments ( reported needing some repairs ) for the R.S.J. 21' 6" span Class A Bridge for Tanks to be erected by them at GAILLY at Q.1.c.3.8.

574 A.T.Coy.R.E. will begin at once the erection of an INGLIS Bridge ( now at POULAINVILLE R.E.Dump ) across the SOMME between VAUX and VAIRE at J.26.c.0.2. utilizing the existing piles at this spot for abutments.

3. O.C.s Companies will familiarize themselves with the river and its bridges as follows :-

- O.C.216 Coy.R.E. East of J.28.c.0.0.
- O.C.574 Coy.R.E. West of J.28.c.0.0. to DAOURS.

4. Main Corps R.E.Dump is at POULAINVILLE with advanced Corps Dump at FOUILLOY.

Additional transport in the form of Pontoon trailers and F.W.D. Lorries may be obtained from C.E.

5. Liout. CHRISTIAN.M.C. of the C.E.'s Staff will keep in close touch with the work being done, and will assist the Companies to obtain transport, stores, etc.

6. ACKNOWLEDGE.

*John G. Burnett Capt R.E.*

for Brigadier-General.  
Chief Engineer. AUSTRALIAN CORPS.

DISTRIBUTION.

- 1-6. G.Aust.Corps.
- 7-8. Q.Aust.Corps.
- 9. C.E.4th.Army.
- 10. C.E.III Corps.
- 11. C.R.E.1st.Aust.Div.
- 12. C.R.E.2nd.Aust.Div.
- 13. C.R.E.3rd.Aust.Div.
- 14. C.R.E.4th.Aust.Div.
- 15. C.R.E.5th.Aust.Div.
- 16. 216 A.T.Coy.R.E.
- 17. 574 A.T.Coy.R.E.
- 18. Stores Officer. (Capt.GREENLEES.M.C.).
- 19 -21. War Diary. ✓
- 22. F i l e .
- 23-30. Spare Copies.

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31 CRB Harsen Gora

SECRET.

Copy No.....

A U S T R A L I A N   C O R P S .Engineer Instruction No. 8.....12th. August 1918.

1. 648 Company R.E. arrive in Australian Corps Area today and take up quarters in BLANGY-TRONVILLE. The Company will be employed under the C.E. on the erection and dismantling of bridges on the Somme.  
Work will be commenced 13th. August as follows:
2. 2 Sections will assist the 574 A.T. Company RE with erection of INGLIS Bridge at VAUX-sous-CORBIE.  
2 Sections will proceed with the dismantling of the BLANGY S Bridge at 62D/N.15.c.2.4.
3. Lieut. Christian M.C. of the CEs. Staff will keep in close touch with the work being done, and will assist the Company to obtain transport, stores etc.
4. Acknowledge.

*John G. Burned Capt. H.E.*

for Brig. General,  
Chief Engineer Australian Corps.

DISTRIBUTION.

- 1-6 G. Aus. Corps.
- 7-8 Q. Aus. Corps.
- 9 CE Fourth Army.
- 10 CE III Corps.
- 11 CRE 1st. Aus. Divn.
- 12 CRE 2nd. Aus. Divn.
- 13 CRE 3rd. Aus. Divn.
- 14 CRE 4th. Aus. Divn.
- 15 CRE 5th. Aus. Divn.
- 16 CRE Liason Force.
- 17 CRE 17th. Division.
- 18 648 Field Coy RE.
- 19 216 AT Coy RE.
- 20 574 AT Coy RE.
- 21 Stores Off. (Capt. Greenlees)
- 22-24 War Diary
- 25 File.
- 26-30 Spare Copies.

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SECRET. 22

Copy No.....

A U S T R A L I A N C O R P S .Engineer Instruction No. 9.....13th. August 1918.CHIEF ENGINEER,  
AUSTRALIAN CORPS.

50 1043

BRIDGING.

1. C.E. has taken over all bridging on SOMME between LONGEAU and CHIPILLY inclusive, except temporary tactical bridges.
2. A Corps Pontoon Park is established at SAILLY LAURETTE, from which Divisions on the SOMME can draw Pontoon equipment as required.
3. ACKNOWLEDGE.

*John G. Burnett - Capt R.E.*  
for Brigadier-General,  
Chief Engineer. AUSTRALIAN CORPS.

DISTRIBUTION.

- 1-6. G. Aust. Corps.
- 7-8. Q. Aust. Corps.
9. C.E. 4th Army.
10. C.E. III Corps.
11. C.R.E. 1st Aust. Div.
12. C.R.E. 2nd Aust. Div.
13. C.R.E. 3rd Aust. Div.
14. C.R.E. 4th Aust. Div.
15. C.R.E. 5th Aust. Div.
16. C.R.E. Liason Force.
17. C.R.E. 17th Division.
18. 648 Field Coy. R.E.
19. 216 A.T. Coy. R.E.
20. 574 A.T. Coy. R.E.
21. Stores Officer (Capt Greenloos.)
- 22-24. War Diary.
25. F I L E .
- 26-30. Spare Copies.

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SECRET.

Copy No. .... 27 .....

A U S T R A L I A N      C O R P S .Engineer Instruction No.10.....14th. August 1918.Ref. Map 62D/1-40,000.1. Bridging.

- (a) 574 AT Company RE will proceed with the bridging of the CORBIE Loch so as to give a two-way traffic crossing for all traffic including tanks, and so at the same time to allow barges to pass through the loch.
- (b) 216 A.T.Company RE will proceed with the construction of a set of bridges at GAILLY to permit all vehicles including tanks to cross the SOMME at this place.
- (c) 648 Field Company R.E. will continue with the dismantling of bridges GLISY 2 (N.14.c.8.3.) and BLANGY 8 (N.15.c.2.4.)- they will place a pontoon bridge with cut near GLISY 2, and will proceed with dismantling of bridges GLISY 3, (N.13.c.8.3) and BLANGY 1 (N.17.c.9.3.)

2. Roads.

90th. Labor Company will move to locality of *VAIRE* on the 15th. instant and will be available for work on the 16th. instant under 146 A.T.Company RE on roads in the N. of the Corps Area.

3. ACKNOWLEDGE.

*John G. Burnett Capt. R.E.*  
for Brig.General.  
Chief Engineer Australian Corps.

DISTRIBUTION.

1-6	G.Aus.Corps.
7-8	Q.Aus.Corps.
9	CE 4th.Army.
10	CE III Corps.
11	CRE 1st.Aus.Divn.
12	CRE 2nd.Aus.Divn.
13	CRE 3rd.Aus.Divn.
14	CRE 4th.Aus.Divn.
15	CRE 5th.Aus.Divn.
16	CRE Liason Force.
17	CRE 17th.Divn.
18	648 Fld Coy RE.
19	216 AT Coy RE.
20	574 AT Coy RE.
21	90th.Labor Coy.
22	146 AT Coy RE.
23	567 AT Coy RE.
24	Stores Off. (Capt.Greenlees).
25-27	War Diary.
28	File.
29-35	Spare Copies.

*29 Labor Comm.*

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WATER SUPPLY.

On 1st. August instructions were issued to Water Supply Officer to make arrangements for forward waterpoints, and on his reports it was decided to establish these at O.25.a.1.5. and O.11.c.1.2. and O.29.b.3.2.

To provide water at O.25.a.1.5. it was necessary to lay a pipe line over 5 miles in length from a spring in a marsh at S.6.b.3.9.

The work was commenced on 2nd. August and the daily progress was as follows:

2nd. August.	Excavation	1000 yards	Pipe laid	
3rd. "	"	2000	"	1200 yards.
4th. "	"	500	"	1800 "
5th. "	"	1000	"	2100 "
6th. "	"	1900	"	2800 "
7th. "	"	3000	"	500 "
		-----		-----
		8400	"	8400
		-----		-----

The pumping station which contained two Astor Boving centrifugal pumping sets was erected concurrent with pipe laying. These pumps are each capable of lifting 5000 gallons of water per hour against 500 feet head. Water was available on 8th. August and waterpoint has been largely availed of.

In addition to providing water for Australian Corps the Canadian Corps constructed a branch line Southwards to near Gentilles Wood - the storage tanks being erected by this Corps

To provide water on Villers Bretonoux-Faillivy Road it was necessary to overhaul old French Plant near Tacurs - repair 5000 yards of existing main. This proved a most difficult task as any records of the route of the pipe line were proved to be inaccurate, and it was only by opening along the main at frequent intervals that its location could be discovered. In addition there were 14 breaks disclosed. Fittings were not available on the site, but these were obtained from Amiens Water Supply Store and fortunately it was found that for a short length this main had been duplicated. The main was found to be 200 mm in diameter and repairs made with the object of leaving the main in a perfect manner for use by civilian population after the war.

Waterpoints have been provided at O.8.a.0.4., O.15.b.5.4., O.11.c.1.2. where two standpipes, bottle and dixie filler have been fixed. To supply water to last mentioned report 1200 yards of 4" pipe was laid by 108 U.S. Engineers, a party of 30 O.Rs being attached to 1st. AF Company. In addition a 3000 gallon storage tank has been erected. All these points were in full working order on the 8th. Aug.

Owing to unforeseen trouble, probably a branch line going off at the lower level, water has not yet been delivered to point at O.29.b.3.2. but now labor is available the pipe line is being opened up to ascertain the cause of the trouble.

In order to provide facilities for sending water forward to troops 16 GB Wagons were fitted with storage tanks holding 500 gallons and these were allotted to Divisions in the line. Motor water lorries and sterilising lorries were also sent forward, and have done excellent service. Tanks for storing water were sent to Divisions by 200 - five 100 gall and five 50 gall. being given to each Division. All further demands have been met.

Windlasses were made and issued as required.

It is satisfactory to note that owing to the effort of the G.R.E.s that these have been used to such advantage that all temporary supplies are exploited to the utmost and ample water made available for the fighting troops.

So soon as the position allowed the construction of forward water points was put in hand and Hand chaine Helice pumps put in at BAYONVILLERS and HARBOINNIERS. The old British pumping plant at ROSIERS was found in good order and at once put into action by 1st. Divl. Engineers. At HARBOINNIERS a hand elevator driven by Jappy Engine is now in operation. This outfit supplies 1000 gallons per hour - the source of the supply being a deep well.

A bore has been sunk at LA MOTTE where water has been struck at 110 feet from the surface. A 3000 gallon per hour plant is being installed and the water point is well forward.

At BAYONVILLERS a well known to yield a good supply has been re-opened and a hand elevator pump and engine is in course of erection, also a waterpoint (mainly for horse watering) is in hand.

The old bore at aerodrome P.E.S.d. has been cleaned out; the yield is about 2400 gallons per hour - a waterpoint is almost complete at this point.

The schedule attached shows in detail the work done each day.

*J. W. Lawson*

Major. AE  
Water Supply Officer Australian Corps.  
For CE Australian Corps.

August 1918.

WATER SUPPLY

in or near

BAYONVILLERS.

Ref. No.	Location.	Description.	Condition.	Remarks.	Report from	Time	Date.
1	Bayonvillers	Q.32.c.3.7.					
2	"	Q.32.d.3.9.					
3	"	Q.32.d.3.7.	Good.	Good water tested & is fit for drinking. Req. 1 meas. Bleaching powder.	CRE 5th. Aus. Divn.		9/8/18.
4	"	W.2.b.4.3.	"				
5	"	Q.26.c.8.3.	Well w/ windlass.	"			
				Good drinking water Tested-1 meas. of Bleaching powder per water cart.	"		3/30pm 8/8/18.
6	Bayonvillers and Harbonnieres.			6 W'lasses sent to R. Div. for erection in these villages. 353 E.M.Co instd to overhaul all hand chaine helice pumps.	C.W.S.O.		4/30pm 10/8/18.
7	Bayonvillers	W.2.a.8.7.	Well.	To be repaired & power pump fixed.	"	"	"

WATER SUPPLY in or near HARBONNIERES.

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No.	Location.	Description.	Condition.	Remarks.	Report from	Time	Date.
1	Harbonnieres. Q.35.a.7.9.	Large well covered w/ heavy timber fitted with pump 2 1/2" feed pipe	Good.	Good water, tested & fit for drinking. 1 Meas. bleaching powder reqd. per water cart.	CRE 5 Aust. Divn.	6/55pm	8/8/18.
2	W.11.c.1.5.	Well.	"	Good water req. 1 Meas. Bleaching powder.	"	11/10pm	9/8/18.
3	W.11.d.3.7.	Well.	"	do	"	"	"
4	W.11.c.7.7.	Well.	"	Good water. Req. 3 Meas. Bleaching powder.	"	"	"
5	Harbonnieres.	Well in Brewery.	Damaged pump.	To be removed & hand pump to be erected, also two standpipes, D. & B. filler.	C.W.S.O.	4/30pm	10/8/18
6	"	General.		Nearly all houses have wells in which water appears good. These wells are small & app- arently only for household use	CRE 1st. Aus. Divn.	-	"
7	W.11.b.1.9.	Well 60' to water, 6' to 8' water 600 gals. with windlass.		Prev. tested by Brit. Div San. Sec. Req. 1 meas. Chloride- Water good taste & color - No smell.	"	-	"
8	W.11.d.0.5.	Well-30' to water 10' water 500 gals. Has windlass.		Sample forwd. Water good color and taste - no smell. Good approach water cart.	"	-	"
9	W.11.c.5.7.	Well 50' to water 12' In need of water 400 g. Has W'lass. repairs.		Not recently in use-Sample for- wd. Good taste & color-no smell.	"	-	"
10	W.11.c.6.6.	Well 50' to water 11' water 700 g. Has W'lass		Water good taste, color & smell.	"	-	"
11	W.11.c.9.4.	Well 55' to water 10' water 600 g. Has W'lass.		Good taste & color - no smell.	"	-	"

APPENDIX

E

59

P.T.O.

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APPENDIX

WATER SUPPLY in or near HARBONNIERES (Contd)

Ref. No.	Location.	Description.	Condition.	Remarks.	Report from	Time	Date.
12	W.11.d.0.5.	Well 65' to water 7' water 1500 gals. Has windlass.		Tested Brit. San. Sec. Req. 1 Meas. Chloride.	CRE 1 Aus. Div	-	10/8/18.
13	W.17.d.6.7.	Well 43' to water 7' water 1500 gals. Has windlass.		Sample forwd Good taste color & smell.	do	-	"
14	W.17.b.8.6.	Well 42' to water 8' water 1800 gals. Has windlass (Wire rope could be used.		Not recently in use- Color good-Slight smell & taste Sample forwd.	do	-	"
15	W.12.c.5.8.	↳ Bath House.	Good.	About 150' x 30'	Lt. Christian	-	"
16	W.12.c.5.8.	Boring plant (Hand) Complete with spares.	"	Boring commenced.			

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WATER SUPPLY in or near VAUVILLERS.

Ref.No.	Location.	Description.	Condition.	Remarks.	Report from	Time	Date.
1	X.8.c.1.6.	Well abt 30' deep has windlass rope & bckts.		Good drinking water.	Lt.Christian.	-	10/8/18.
2	X.8.c.5.3.	Deep well near Church Has W'lass & bucket.	Good.		"	-	"
3	X.8.c.9.0.	Deep well Has Gyn erected over well & winch & wire rope attached.	Seems muddy at bottom.	Apparently in process of being cleaned out.	"	-	"
4	X.8.c.3.4. No.5 Billet	Well 50' to water 10' water 1500 gal W'lass.		Sample forwarded.	CRE 1 Aus.Div.	-	"
5	X.8.c.8.5.	Well 40' to water 10' water 700 g.Has W'lass.		Good water-main village supply.	"	-	"
6	X.21.c.8.5. Hospital.	Bore.		In recent use byt pumping gear o/o order.	"	-	"
7	X.8.c.4.9.	Well-Has endless chain gear.		Unable to estimate quan.	"	-	"
8	X.14.c.0.5.	Well 40' to water 10' water 2000 gals Has windlass.		Used by dressing stn.	"	-	"
9	X.20.a.7.4.	Well 30' to water 10' water 2000 gals water Windlass.		Water good.	"	-	"
10	X.21.c.9.3.	Well-Unknown quan.Several thousand gals.Has pump.		Water good.	"	-	"

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APPENDIX

E



WATER SUPPLY in or near MORGOURT.

Ref. No.	Location.	Description.	Condition.	Remarks.	Report from	Time	Date.
1	Morgourt Q.28.a.8.4.	2 storage tanks 10' dia. 10' deep with 6' main.	Tanks empty.	Main being followed up.	CRE 5 A.Div from 8th F.Co	4/45pm	8/8/18.
2	E. of Morgourt Q.16.a.2.4.	Well.		Tested-Fit for use.	CRE 4 A.Divn.	10/5pm	9/8/18.
3	" Q.16.a.4.5.	Well.		"	"	"	"
4	" Q.23.c.1.8.	Well.		"	"	"	"
5	" Q.23.c.2.6.	Well.		"	"	"	"

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APPENDIX E 62

WATER SUPPLY in or near WARFUSEE.

Ref. No.	Location.	Description.	Condition.	Remarks.	Report from	Time	Date.
1	Warfusee P.29.d.0.7.	Deep well windlass.		Supplying large no. of troops.	1st.AT Coy AE	2pm	8/8/18.
2	Warfusee.	Two wells.		1 W'lass erected- 1 repaired-Both now in good order.	CWSO	4/30pm	10/8/18.

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APPENDIX

E

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WATER SUPPLY in or near H A M E L .

Ref No.	Location.	Description.	Condition.	R e m a r k s	Report from	Time	Date.
1	P.16.d.2.5. Accroche Wood.	Well 110' deep timbered & with concrete top.	Dry.		11th.Fld Coy AE	-	11/8/18.
2	<u>HAMEL.</u> P.14.b.9.8.	Well 70' deep 4'x4' tim- bered Has Windlass 18" water -Notice up "Not fit for drinking".			do		"
3	<u>HAMEL.</u> P.15.a.0.5.	Bore - No machinery in position.			do		"

APPENDIX

E

306

WATER SUPPLY in or near SAILLY-LAURETTE.

No.	Location.	Description.	Condition.	R e m a r k s	Report from	Time	Date.
1	Sailly-Laurette. Gailly Lock & Vicinity.	Water supply for horses Salvaged pump & hose put in order. Casks also salvaged.		Water being pumped into casks in bank for horses	11th. Field Coy All.	-	11/8/18.

APPENDIX

E

65

WATER SUPPLY in or near LA FLAQUE.

300

Ref No.	Location.	Description.	Condition.	Remarks.	Report from	Time	Date.
1	<u>LA FLAQUE.</u> X.26.d.8.4.	Well.	Good.	In old factory at Cross roads.	CWSO	6pm	13/8/18.

APPENDIX E 66

WATER SUPPLY in or near MARCELCAVE.

Ref No.	Location.	Description.	Condition.	Remarks.	Report from	Time	Date.
1	V.9.d.3.4.	Water Towers filled from well at V.9.d.3.4. 50' deep 5' dia depth of water 15'	-	-	2nd.Aus.Tunn Coy	-	11/8/18
2	V.4.c.9.0.	Well at rear of Cafe near Bridge.	-	-	do	-	"
3	V.10.a.8.8.	Underground Tank near road junction.	-	-	do	-	"

APPENDIX

E

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WATER SUPPLY in or near PROYART.

No.	Location.	Description.	Condition.	Remarks	Report from	Time	Date.
1	Q.24.d.4.3.	Well.	Good.	Report follows. See also 59.	CRE 4 A. Divn.	-	10/8/18.
2	Q.29.c.7.4.	"	"	do See also 61.	do	-	"
3	Q.30.c.4.7.	"	"	See also 60.	do	-	"
4	Q.24.d.4.3.	Well sunk in valley 4x4' timbered throughout 66' to water 5' water Windlass.	"	Sample sent to MO 4th. Div Engrs who reports 3 scoops chloride.	do	lpm	"
5	Q.30.c.4.7.	Well at house near German CCS 76' to water 35' water 3'6" dia. Has windlass - present rope too short.	"	Excellent supply. 1 scoop per water cart.	do	-	"
6	Q.29.c.7.4.	Well sunk in valley with bricked cover Walls raised by means large plunger operated by level arm.	"	Possible site for power driven pump. Fit for drinking with one scoopful bleaching powder per W.C.	do	-	"

APPENDIX

E

68

WATER SUPPLY in or near FRAMERVILLE.

Ref. No.	Location	Description.	Condition.	Remarks	Report from	Time	Date.
1	X.2.b.8.2.	Well 50' to water 15' water 2000 gals Water No Windlass		Not in recent use. Tested by Div. San Sect-Unable to obtain sample.	CRE 1 Aus. Div		10/8/18.
2	do	Well 50' water 12' water 1000 gals Has windlass.		Water good.	do		"
3	do	Well with endless chain gear.		Water good.	do		"
4	do	Well with endless chain gear.		Water good.	do		"
5	X.3.a.9.2 .	Well 40' to water 10' water 400 galls water Has windlass.		Bad approach-Good water.	do		"
6	X.3.a.9.0.	Well 60' to water 10' water 600 g. water W'lass.		Good approach-water clear & no smell.	do		"
7	"	Well 600 galls water Has Endless chain.		Sample taken.	do		"

APPENDIX E  
69



WATER SUPPLY in or near LA MOTTE.

No.	Location.	Description.	Condition.	Remarks	Report from	Time	Date.
1	LaMOTTE P.30.c.6.7.			Army have been asked to put bore down.	CWSO	4/30pm	10/8/18.
2	LA MOTTE. Q.19.a.3.8.	Well 75' deep-timbered Has windlass.	-	Men working on this well removing rubbish from bottom with a view to deepening & to obtain water.	11th.F.Coy AE.		11/8/18.
3	LA MOTTE. P.30.c.6.7.	Bore.		Boring plant commenced work.	do		"
4	LA MOTTE. Q.26.c.7.4. Old P.of W.Compound.	Well.	Windlass fixed.		do		"
5	LA MOTTE. P.30.c.6.7.	New Bore.	Down 50'		CWSO	6pm	13/8/18

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APPENDIX

E

70

WATER SUPPLY in or near LIHONS.

Ref.No.	Location.	Description.	Condition.	Remarks.	Report from	Time	Date.
1	X.28.b.2.7.	Well 40' to water 10' water 2000 galls. Has Windlass.	-	Water good taste, no smell or color. Sample forwd.	CRE 1 A.Divn.	-	10/8/18.
2	X.18.c.8.5.	Well 40' to water 10' water 700 galls Has Windlass.	-	Good water-main village supply	do	-	"

APPENDIX

E

WATER SUPPLY in or near VILLERS-BRETTONEUX.

No.	Location.	Description.	Condition.	R e m a r k s .	Report from	Time	Date.
	Villers Brettoneux P.25.d.9.1.	Damaged bore.	Bad.	No.3 Well Boring Sec.instd to get well going.1600 gall.tank & two standpipes Dixie & Bottle filler to be erected.	CWSO.	4/30pm	10/8/18.

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APPENDIX

E

72

WATER SUPPLY in or near ROSIERES.

Ref No.	Location.	Description.	Condition.	R e m a r k s	Report from	Time	Date.
1	X.26.d.5.5.	Pumping plant complete Boiler & Worthington Steam pump complete Present sup- ply is in tanks about 20000 galls.		Water is good.Plant being put in order.	CRE 1 Aus.Div.		10/8/1918.
2	X.27.c.0.4.	Well 50' to water 14' water 700 galls Has windlass.		Water good.	do		"
3	<u>ROSIERES.</u> X.26.d.5.5.	Pumping plant.	Working satisfactory.	CRE 1 A.Div issued with authority for 6 canvas troughs to be erected in suitable places.		CWSO	" "

APPENDIX

E

73

WATER SUPPLY in or near RAINECOURT.

Ref No.	Location.	Description.	Condition.	Remarks.	Report from	Time	Date.
1	X.4.b.3.8.	Well with endless chain.	-	Sample taken. Good flow CRE 1st. Aus clear water-no smell Divn. or taste.	"		10/8/18.

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APPENDIX E

74

"F"

Ref.No.	Location.	Description.	Report from	Time	Date	Remarks.
1	Q.25.d.7.3.	6 rolls Wire Netting. 200 Picks 60 shovels 100 coils B.W. 300 Mining sets 6x4, 250 long wooden pickets Quan.Barbed Con.Wire, Boeah slabs, timber of various sizes.	CRE 5 Aust. Divn.from 8th.Fld.Coy.	10/55am	8/8/18	See also 7.
2	Q.25.d.2.3.	100 Barbed Concertina - 12 Coils B.W. 3 bundles L.Screw pickets.	do	"	"	
3	Q.27.c.3.2.	Large quan.of timber, Mining sets, Barbed & Plain wire, Screw pickets. Small quan. Nails (assorted), Sandbags, C.I.	do	11/50am	"	
4	W.7.b.&.d.	Large RE Dump containing great quantities Timber, Wire, Railway Iron.	CRE 5 A.Div from 14 F.Co	12 Noon	"	Details later. See 6,8,& 12.
5	N.Side Marcel- cave Rly Stn	10000 long screw pickets, large stock Plain wire.	do	12/8pm	"	See also 9 & 10.
6	W.7.d.	Large supply of Barbed wire Concertina, Steel girders, Mining sets, Squared timber (all sizes) Matting, Pit props-round and square, Explosives, Wire netting, Heavy cupolas Plain wire, Malthoid, C.I. Camouflage, and duckboards.	do	1pm	"	
7	Q.25.d.	Barbed wire, Mining sets - large quantities.	CRE-CT	2pm.	"	
8	W.7.	Large quan.of Engineer Stores undamaged by shell fire reported.	"	2pm	"	Detailed report being obtained.
9	Marcelcave Rly Station.	800 tons Road metal.	CRE 5 A.Div from 14 F.Co	2/20pm	"	See also 11.
10	Q.27.	Huge RE Dump.	BGS from Armd.Cars.	2/45pm	"	
11	N.Side Marcelcave Railway Stn.	10000 screw pickets long.	CR 5 A.Divn.	6/55pm	"	

300

APPENDIX

F

75

E

Ref No.	Location.	Description.	Report from	Time	Date	Remarks.
12	W.7	Malthoid, Shovels, Picks, Duckbaords, Fascines Barbed wire, Concertina Wire, Wire Netting, Elephant shelters. Angle iron pickets, Camouflago Screw pickets, C.I. Mining timber, Notice Boards, and general assortment of tools.	Lt.Christian	11/5pm	8/8/18.	
13	F.2.b.9.9. Rosieres.	Large RE Dump.	CRE 2 A.Divn.	8/55pm	10/8/18.	
14	R.26.d.3.3. LA FLAQUE.	Large RE Dump, estimated as large as Steenwerck Dump- contains tools all descriptions, cement, pumps, hutting, Dec.track 60 cm. Poles, Barbed Wire, picks, shovels, large quantities of sawn timber.	CRE 4 A.Divn.		"	Guard put on this dump.
15	X.7.d.9.2	Small RE Dump 40-6' lengths of 18" gauge dec. rail, 50 duckbaords, 100 - 3'6" stakes.	CRE 1 A.Divn.		"	
16	X.3.a.7.2.	70 - 10' lengths 6" x 6" timber.	do		"	

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B U M P S . ( Contd ).

Ref.No.	Location.	Description.	Report from	Time	Date	Remarks																										
17.	X.26.d.	<p>RE Dump containing the following :</p> <p><u>Timber - 9000' 9x9.</u></p> <table style="margin-left: 20px;"> <tr> <td>33000' 9x3</td> <td>25000' 9x1</td> </tr> <tr> <td>2500' 9x9</td> <td>3000' 6x6</td> </tr> <tr> <td>2000' 4x4</td> <td>2000' 14x9</td> </tr> <tr> <td>2500' 2x1</td> <td>300' 15x12</td> </tr> <tr> <td>35000' 2x1<math>\frac{1}{2}</math></td> <td>4500' 9x4</td> </tr> <tr> <td>150/12' 7" spars.</td> <td>3000' 1x1</td> </tr> <tr> <td>1500/20' 6" spars.</td> <td>15000' 9x2<math>\frac{1}{2}</math></td> </tr> <tr> <td>100/30' spars 12".</td> <td>5000' 7x7</td> </tr> <tr> <td>600' 9" spars.</td> <td>5000' 6x2</td> </tr> <tr> <td>250/15' 6" spars.</td> <td></td> </tr> <tr> <td>40/24' 6" spars.</td> <td></td> </tr> </table> <p><u>Wiro.</u></p> <table style="margin-left: 20px;"> <tr> <td>4500 coils Barb Wire.</td> </tr> <tr> <td>800 coils Wire Netting.</td> </tr> <tr> <td>1810 coils Plain Wire.</td> </tr> <tr> <td>400 coils French Wire.</td> </tr> </table> <p><u>RE Stores.</u> 3500 duckwalks, w2000 Angle Iron Pickets 5' long, 600 long corkscrews, 350 barb wire resettes, 800 Straw Fascinos, 2000 ordinary fascinos, 6 Malthoid huts in sections, 250 rolls Camouflage, 100 sheets Elephant iron, 350 medium cupolas, 25 drums for windlasses with framework, 14 20' heavy rails, 16000 mining sots, 450 rolls malthoid, 150 coils hoop iron, 5 windlasses complete 2000' <math>\frac{1}{2}</math>" diam. iron, 2000 30' long heavy rails, 1000 lengths RSJ, Tools. 6000 shovels, 100 spades, 3000 picks, 13 wheelbarrows, 100 mallets, 90 crowbars, 100 pick helves.</p> <p><u>Railway material.</u> 1000 lengths of light 18 lb rails. 15 trucks 60 cm gauge, 8 Railway Engines. 2000 heavy 9" sleepers, 64 trollies. 6 large light railway trucks.</p> <p><u>Workshop.</u> Containing one portable engine, 2 iron lathos, 1 Milling machine, 1 grindstone, 18 German Limbers, 1 drilling machine, 1 Blacksmith Shop complete.</p>	33000' 9x3	25000' 9x1	2500' 9x9	3000' 6x6	2000' 4x4	2000' 14x9	2500' 2x1	300' 15x12	35000' 2x1 $\frac{1}{2}$	4500' 9x4	150/12' 7" spars.	3000' 1x1	1500/20' 6" spars.	15000' 9x2 $\frac{1}{2}$	100/30' spars 12".	5000' 7x7	600' 9" spars.	5000' 6x2	250/15' 6" spars.		40/24' 6" spars.		4500 coils Barb Wire.	800 coils Wire Netting.	1810 coils Plain Wire.	400 coils French Wire.	CRE 4th A.Div.		11/8/18.	
33000' 9x3	25000' 9x1																															
2500' 9x9	3000' 6x6																															
2000' 4x4	2000' 14x9																															
2500' 2x1	300' 15x12																															
35000' 2x1 $\frac{1}{2}$	4500' 9x4																															
150/12' 7" spars.	3000' 1x1																															
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4500 coils Barb Wire.																																
800 coils Wire Netting.																																
1810 coils Plain Wire.																																
400 coils French Wire.																																

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APPENDIX F-77



DUMPS . (contd). (4)

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Ref.No.	Location.	Description.	Report From.	Time.	Date.	Remarks.
18.	La.FLAQUE. R.25.d. and R.26.c.	Dog Spikes. about 5 ton, Nails 6" $\frac{1}{2}$ ton, Sandbags 200,000, Barb Wire coils 1000, Concertina 200, Mining sets 5000, Picks 5000, Shovels 5000, Camouflage rolls 30, Carts hand 6, Timber mixed, 6" x3", 6" x1", 2" x2", 7" x2", etc, 5,000,000 about. Minenworfor guns large 14, Minenworfor guns small 17, Spare wheels for same, 12, Pinoapple guns 26, Coment barrels 800, Coment bags 300, Pumps single action 50, Pumps well, 50, Grindstones with stands 8, Grindstones 10, Buckots iron 100, Watering cans 20, Paint assorted, Rakes 50, Pitch Forks 50, Mauls 300, Hammers sledge 100, Rope 3" coils 3, Lashings 100, Pulloys double 10, Scythes and handles 50, Anvils 15, Iron black, 7" x4" sheets 40, Notice Boards Tin 200, Kamps Hurricane, 20. Tools assorted, saws, hammers, etc. Wirecutters 200, Door locks box 1, Wiring gloves pairs 100, Cupola iron 100, Strengthening rods tens 2. Notice Boards wooden 400, Spars round 50' x9" 100. Huts in sections 3.	CRE.2.A.Div.		11/8/18.	This list is only a rough inventory 7th Fld Coy instructd to picquet the dump.

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BRIDGES CONSTRUCTED OR REMOVED ON THE SCHEM  
DURING PERIOD 7/8/1918 TO 12/8/18.

308

Location.	Bridge No.	Type of Bridge.	Load	Work done	Unit	Remarks.
N.14.c.3.3.	Grisy B.	75' - 'A' Glass Bridge Mark II On piles.	H.T.	Dismantled except piles.	648 Fld Coy. RE	Sections transferred to site of GAILLY bds.
N.15.c.3.4.	Blangy B.	75' - 'A' Glass Bridge Mark II On piles.	H.T.	do	do	( 1 Section transferred to site of GAILLY Edge (1 Section transferred to GERBIE LOCK.
N.18.c.3.4.	Blangy BA.	75' span medium pattern.	P.A.	Erected.	do	(to GERBIE LOCK.
J.26.c.3.3.	Vaux B.	Englis Bridge 105' span heavy roct. type.	H.T.	do	574 AT Co	To be later turned into an 84' span bridge to take all the except tanks.
J.54.d.7.9.	Douzencourt B	Circle bridge on Piles.	H.T.	Completed.	216 AT Co.	Centre bays of bridge completed.
Q.1.c.3.6.	Gailly 2.	16' - 'A' Glass Bridge Mark II.	Tanks.	Erected.	do	1-16' span complete from Grisy B delivered onto job and erected.
Q.1.c.5.7.	Gailly B.	21'6" 'A' Glass Bridge Mark II.	Tanks.	do	do	1-21'6" " " " "
Q.1.c.2.7.	Gailly 6.	24' 'A' Glass Bridge Mark II.	Tanks.	do	do	do " " " "

APPENDIX  
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COPY.GRE Corps Troops,  
Australian Corps.

Herewith Notes on Work with Corps Heavy Artillery during operations of August 8th asked for by CE Australian Corps.

It is difficult to state exactly what the Sappers have done, but the fact remains that their employment has been constant, opportunities for getting into action quickly are of first consideration to my mind, I can see no way where their employment would have been more useful.

I have purposely gone into details as I understand that it is only a few occasions that an Engineer Company has worked with the H.A. during operations and the results of the dispositions made this time may be of some use for further reference.

10th. August 1918.

Signed. G.E. Evans. Capt AE  
O.C. 1st. Army Troops Coy AE

1. Disposition of Company.

Prior to the commencement of operations the C.H.A. was divided into two groups - Left and Right constituted as follows:

Left Group -           69th. Brigade.  
                          5th. Brigade.  
                          9th. Brigade.

Group Commander being C.O. 69th. Brigade.

Right Group -         14th. Brigade.  
                          21st. Brigade.  
                          68th. Brigade.

Group Commander being C.O. 14th. Brigade.

As soon as operations commenced the group system ceased and the CHA would consist of six H.A. Brigades.

The first instructions received by this Company were that the three Right Bdes. (14th, 21st, and 68th. Brigades) would move forward along the VILLERS BRETTONEUX-WARFUSEE Road and that two of the Left Bdes. (69th. and 5th) would move along the FOUILLOY- WARFUSEE ROAD the remaining brigade (9th) to move along VAIRE-HAMEL-CERISY Road.

It was decided to send three sections of the Company out, the Officer of one section being away from the unit. This section was split in half, each half being placed under the control of the two Officers moving forward. One and half sections totalling 1 Officer 40 ORs. were to work with three Right Brigades and a similar number to work with three Left Bdes, or as it worked out two NCOs and 11 Sappers to work with each Bde.

Later on instructions were received that two Bdes. would move along the VILLERS BRETTONEUX WARFUSEE Road, two along the FOUILLOY-WARFUSEE and two along the VAIRE-HAMEL-CERISY Road.

The best arrangement for the sappers to work in this case would have been to send three Officers forward and to work a complete section with each two Brigades moving along the same road; this was not done as the information was received too late to attempt to change the original disposition of the Company.

On the afternoon of Y. Day the parties of two N.C.Os and 11 Sappers detailed to work with the various brigades moved to their Bde. ASC lines where the lorries containing stores were parked; the Officers were with the senior Brigade of each group.

All ranks carried 48 hours rations and arrangements were made with each Brigade to ration them on and after the 10th. instant.

Working parties of approx 2 Officers and 60 ORs were told off from each Brigade; this party together with the Sappers and stores moved off ahead of each Bde column in order to repair the roadway where necessary.

2. Stores. Each Bde drew from 14 to 18 H.A. ~~xxxxxxx~~ <sup>Bridges</sup> according to the number of guns being taken forward; these were all on lorries; two to a lorry. Four of these bridge lorries in each case had approx.  $\frac{3}{4}$  ton of brick placed on board as well as for use on road repairs in places where material would not be available, as it was realised that units on road repair under CE Australian Corps might not have the road fit for M.T. four hours after Zero at which time the leading batteries of each Bde expected to be well forward of our original front line.

One lorry from each Bde was also loaded with the following RE Stores.

Hand saws	3	Pit props	10
Axes felling	4	Sandbags	1000
Axes Hand	4	X.P.H.	10 sheets.
Hammers hand	2	Plain wire	1 Coil.
Nail 6"-4"-3"	10 lbs each.	B-type Shelter	10 sheets.
Fascines.	20	Picks.	50
Shovels.	50.		

As only one lorry was available from each Brigade no forest planking was taken forward owing to its weight and it was thought that fascines would be useful particularly if the ground was found to be at all wet along the WARFUSEE CERISY Valley, where the Brigades intended to take

2. Stores (Contd.)

up positions if possible.

Shortly after Zero hour the Sappers, working parties and RE Stores left their Bde ASC Lines and moved forward to pick up the various gun columns along the three main roads. Each column to work with the Sappers consisted of seven lorries, two for personnel, 4 for Artillery Bridges and bricks and one for RE Stores.

The remainder of the lorries carrying Artillery Bridges were distributed amongst the batteries of each Brigade.

Attached are details of movements and work done by Sappers for each Brigade on 2. Day.

(a) 14th. Brigade Heavy Artillery.

At Zero, plus 1½ hours these batteries were out of range and moved forward to new positions at 0.36.a.and.b.; they remained in action in this position until Zero plus 4½ hours when they were again out of range and commenced moving forward along the VILLERS BRETTONEUX WARFUSEE Road; this road was in excellent condition and no difficulty at all was experienced.

These batteries were pulled into position alongside the road in P.36.a.7.8. this road was very much blocked with brick and timber and had to be cleared right through from the church to allow the lorries to get along; as it was expected that the guns would have to be taken forward again, no permanent work was done on the gun pits; two small Battery Command posts 6x4 were constructed with B. type shelters, the remainder of the Sappers and Bde working parties being employed on further repairs to the road running past the church through P.36.a. to allow the ammunition lorries to get up.

At 10/45pm approx. 20 returning ammunition lorries were standing alongside this road, when one was hit and set on fire by a shell; Lieut. Hunter immediately took charge and cleared the road of the lorries, driving the last one out himself, the lorries were in close contact with one another and his action undoubtedly prevented a greater number than two lorries being destroyed by fire.

Approx. 600 yards of road were repaired and two B.C. Posts were constructed for this Brigade on 2. Day.

(b) 31st. Brigade Heavy Artillery.

At Zero, plus 1½ hours the batteries of this Brigade were out of action and commenced to move along the VILLERS BRETTONEUX WARFUSEE Road, these lorries were the first heavy M.F. to pass along this road and in a few places minor repairs to road have been had to be effected. On reaching WARFUSEE the main road had to be cleared of debris in several places to allow the lorries and guns to get through conveniently. These batteries were pulled into position along the road running through P.30.c.0.0. this as in the case of the road used by the 14th. Bde was considerably blocked and the guns were held up for some time while the roadway was being cleared. One cellar was pinned up with 9x9 timber for use by Signallers of the Bde and a buster course of bricks (3") placed on top. Seven cellars were cleaned up and repaired as well as 500 yards of roadway being cleared and re-made.

(c) 68th. Brigade Heavy Artillery.

Moved along the VAIRE-HAMEL-CRISY Road. This road was in good condition until the eastern edge of HAMEL was reached; from here on to CRISY minor repairs had to be effected. While moving along this road the lorries came under direct fire from an enemy gun firing from the southern edge of MALARD WOOD, two lorries carrying stores being put out of action. The remainder of the stores lorries were held up in a deep cutting in Q.S.b., for some time until this gun was put out of action. The guns were pulled into position along the road running North and South through Q.S.c.0.0. and just off the main road in Q.S.c. 400 yards of roadway were repaired by this party exclusive of minor repairs to main road, splinter proof walls were built round four guns as they were in an exposed position and could come under enemy fire at short range, and existing B.C. Post was enlarged.

It was pleasing to note that the true Sapper spirit prevailed amongst this party of Sappers; after the guns had been placed in position

(c) Contd.

and the Battery Commanders were resting their men, evidently as they would be needed during the night, this party of sappers were working without any assistance on the road in order to get it into a fit condition for the ammunition lorries to pass over. This was at 6pm or 14 hours after they had left their original positions that morning.

(d) 69th. Brigade Heavy Artillery.

Guns were out of range at Zero plus 1 hour and commenced to move forward along the FOUILLOX-WARFUSSE Road at Zero plus 2 hours. A check was experienced in P.31.d. at 9a.m. - the road was in bad condition here and also a notice board had been placed in position stating that the road was mined, this on investigation by Lieut. Doblo was found to be not so. Another bad portion of this road was repaired in P.33.b. by this party. The batteries were in WARFUSSE by 11am and were in position alongside road in P.30.d. by 1/30pm, 500 yards of roadway were repaired by this party exclusive of considerable repairs to the FOUILLOX-WARFUSSE Road, where the bricks taken forward on lorries were proved useful.

(e) 5th. Heavy Brigade Artillery.

Followed the 69th. Brigade along the FOUILLOX-WARFUSSE Road; shell holes along this road which had been filled with earth were causing trouble as to the lorries and bricks were again used.

These batteries were in position along road through Q.19.c. by 2/30pm.

1000 yards of road which had not been very seriously damaged were repaired and one battery command post 8'x6' was constructed.

(f) 9th. Brigade Heavy Artillery.

Moved along the VAIRE-HAMEL-CERISY Road. These batteries while passing through P.12.b. came under fire from enemy gun in Malard Wood and were ordered back to VAIRE. 250 yards roadway were remade in VAIRE for the lorry and gun park of these batteries.

A suggestion by Brigade Commander that the road running along the WARFUSSE-CERISY Valley through P.30.d., P.30.b. and P.24.b. be repaired with bricks from WARFUSSE was quashed after investigation, as it was found that no road formation existed as it was only an earth track; the labor that could be supplied by CHA was not sufficient to make any show at all and chiefly because no roadway put down in the best way we could hope to do it would stand for any time in that valley with H.T. passing over it. Decauville could have been used but as it was almost certain that all brigades would have to move forward on the following day it was allowed to remain for the present.

The Artillery bridges which were taken forward were not used as there were no trenches across the roads, nor was there any other ground passed over where they might have been conveniently used, the same applying to small number of fascines which were taken forward.

During the operations the two Engineer Officers sent forward have no doubt been of assistance to the Brigade Commanders in the reconnaissance of forward roads and selection of battery positions. The Sappers have taken charge of the working parties and as is usual have been able to increase the output of work as well as giving technical assistance which was required. They would be still more useful to CHA when an advance was taking place in bad weather or over more difficult country than was experienced this time.

10/8/1918

Signed. G.E. Evans Captain AE  
O.C. 1st. A.T. Company AE

CHF/EE.

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CE Australian Corps. 41/227/3

23rd. August 1918.

Headquarters,  
Australian Corps.

WAR DIARY "APPENDIX... I ..."

The S.M.T.O. has shown me a copy of his memo, dated 22/8/1918 relative to the provision of M.T. for Engineer Services, based upon the provision now authorised for Canadian Corps.

The provision of adequate M.T. is the corollary of the proposal to reorganise the Engineers and Pioneers - vide my memo of 29/7/1918 on this subject.

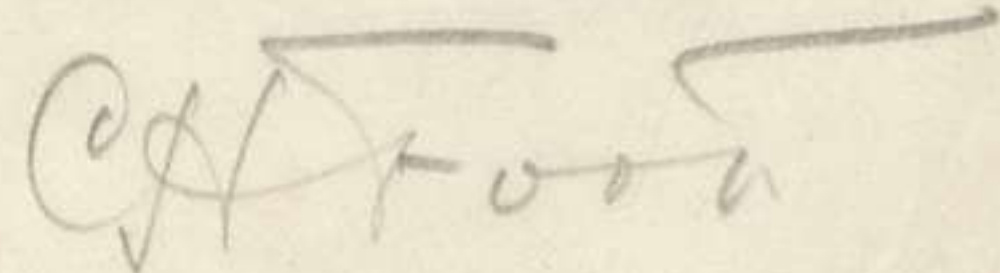
I would urge the adoption of the establishment of M.T. now recommended by the S.M.T.O. If this provision were made, it would place the transport of Engineer Stores, material, and stores on a thoroughly sound basis. At present, it is most unsatisfactory.

I have no hesitation in saying that the present system of roads in the forward Corps Area could never have been successfully initiated, let alone maintained during and after the recent operations, had the weather not been so extraordinarily favorable.

If there had been rain, I could not have kept the roads up with the few lorries at my disposal, and furthermore, bad weather, plus bad roads, would have reduced the transport output of the lorries at Corps disposal.

If, however, I can get the lorries - 115 in all - together with the other vehicles set forth in the schedule, the Engineer Services in the Corps would be at last on a proper footing as regards transport.

It must be remembered, too that if these lorries, or any of them, are not required for Engineer purposes, (e.g. if there was a complete light railway system) then they would be available under S.M.T.O. for general work.



Brigadier-General.  
Chief Engineer AUSTRALIAN CORPS.

Copy to:

S. M. T. O.

22/8/1918.

APPENDIX

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Headquarters,  
Australian Corps.

In 1915 when I commenced to do the Corps Transport for "V" Corps I reported to them that there should be an M.T. Company upon whom the Engineers of the Corps should have first call, just as the supplies and ammunition had first call on them then Supply Columns and Ammunition Parks.

I pointed out that while a Corps was stationary or nearly so as it was during that period, it might be possible for the Supply Columns and Sub-Parks to do the double duty of their own work and general transport for Engineers and other purposes, but should there at any time come a period when the Corps was either advancing or retiring, it would be quite impossible to cope with the ~~work~~ <sup>work</sup> as at such a time supply lorries would all be required for supplies and ammunition lorries for ammunition, consequently at a time when the Engineers would necessarily require more transport than ever, it could not be supplied at all.

It is a fairly easy proposition for anyone who has had to do with numbers of workmen, such as Engineers, to say that they must have transport in proportion to their numbers or the work cannot be done, and the men must be idle at a time when their work is of the utmost importance.

Since coming to the Anzac Corps in 1916 I have at several times mentioned this matter, and have stated that I consider the formation of such a Company would go a long way to solving our constant transport troubles.

The matter, I believe, was never put up to AIF, as it was thought that the Imperial authorities would not sanction any establishment in the AIF that did not exist in the Imperial Army.

In course of conversation with the S.M.T.O. Canadian Corps I now find that the Canadians have formed such a Company and he has kindly given me the establishment, a copy of which I attach.

By looking at my report on the M.T. situation of the Corps during recent operations, (copy attached), it will be seen how perilously near the limit we have been working, and anyone of several happenings would have, as far as can be seen, ~~would have~~ been disastrous. - such as wet weather, destruction of railways, (compelling us to draw supplies by M.T.) a slight further advance when M.T. would have had to be used for supplies etc. &c.

The usual demands for Engineer purposes and forward roads with a Corps covering the present area and of the present size, is 90 to 100 lorries. On the other hand the lorries available from an M.T. Company are, after deducting those constantly used for Postal, Ordnance, &c. 72. 35 of these have to be used for supplies if drawn by M.T. 32 lorries are required for ammunition (and this would be nearly enough for an operation of movement) leaving only three spares to supply casualties, and vehicles in shop - this last is nearly always 8 to 12.

It will at once be seen that if the M.T. have to do supplies and ammunition, they have not one vehicle for general transport or Engineers.

Under these circumstances I consider the A.I.F. should be requested to obtain sanction for, and form, a new M.T. Company on the lines of the Canadian one, on which the Engineers would have first call.

As sanction has been given the Canadians, and they have formed the Unit, I do not think it can be refused for the AIF and although it would not give a call what the Director of Transport had in mind, yet it would very materially help, and as it would belong to the Corps presumably we would get the use of the vehicles without begging.

The D.A.&Q.M.G. and the S.M.T.O. on the Canadian Corps both inform me that they (with this additional Company) had still been woefully short of transport. In how much worse a position has this Corps been?

The M.T. will, of course, always do its best, but there is a limit to the endurance of both vehicles and men. If this Company could be formed it would relieve the situation immensely.

May I request that this matter may be put before the Corps Commander so that he may consider the advisability of putting the matter up to the G.O.C. A.I.F.

22/8/1918.

Signed.

W. Tunbridge. Colonel.  
Colonel S.M.T.O. Aust. Corps.



In July 1917 the reorganisation of S.B.A.Cs was under consideration. The attached Appendix "A" is a copy of the Director of Transport's circular sent to Corps for G.O.Cs remarks in this connection.

I was consulted by Q. and the Corps Commander and reported that if the Corps were to get the assistance (foreshadowed by the Circular) of Petrol Coys, the new scheme would be much better than the one then in vogue. The Circular as I read it, promises formations doing preparations for an offensive, or carrying out such operations, more lorries than they would have had under the then existing Establishments.

This has not been the case. Take the operations starting on the 8th. of this month, for the 14 days prior to that date when all the preparatory work was being done there were 221 lorries less in the units belonging to the Corps than there would have been under the old conditions, and since the 8th. there have been 212 less daily.

According to the circular the Corps should have had more than this number of lorries lent to them for the whole of this period. Actually I had 40 lorries for three days of the preparation, and 20 lorries for seven days of the offensive.

Under the old system a large number of lorries used to be loaned from GHQ Parks, although we had so much more transport available.

I know that a certain number of road lorries have relieved us of a portion of the work that used to be done by Corps Transport, but this has only amounted to an average of 25 lorries per day. I have had a considerable number of vehicles on this work.

Taking 14 days before and 9 days since the operations commenced or 23 days in all, the 40 lorries I had for three days and the 20 I have had for 9 days averages 13 lorries a day. 13 plus 25 as the equivalent of what we might have been asked to do extra on roads equals 38.

The Corps was still down from 174 to 184 per day for the whole period. This has meant that both men and vehicles have been given a much more severe strain than they should have been. Vehicles and men just in from 10 and 12 hours duty had frequently had to be immediately redetailed for another tour of night driving. At other times Drivers have reported in at 4a.m. and have had to be at railhead again at 8a.m. giving 4 hours for drawing petrol and oil, filling up and greasing, getting sleep, a meal, and generally attending to their vehicles.

This is working both men and machines too severely as at anytime even more urgent demands might have had to be met. All Officers NCOs and men have worked cheerfully and well, and only because of their willing endurance has the MT been able to stand the strain.

Fortunately the railheads have been so placed that it has been possible to draw supplies nearly entirely by H.T., but at any time we might have been called upon to draw by M.T., which would have taken anything up to another 250 lorries.

Everything possible has been done to keep the units efficient and able to cope with the very heavy demands.

All ordinary overhauls were stopped on the 10/8/18 and the work shops staffs were concentrated on ordinary and running repairs; see my Circular, Appendix "B".

Many demands have had to be cut out, but the principal work has been done by using every wheel that could turn all the time and frequently over 20 hours at one tour of duty.

We have been much too near our limit for safety in my opinion, if the last ounce is taken out of men and material the units cannot be expected to be ready for the emergency that may arise at any moment, consequently I considered it my duty to bring these particulars to your notice. The position when this Corps came to this Area in April last was even worse. Particulars can be furnished if necessary.

Frequently only 9 or 10 lorries were all that could be given for any work outside ammunition and supplies.

17/8/18.

Signed. W. Tunbridge. Col. S.M.T.O.  
Australian Corps.



29th July.1918.

B.G.G.S.

Australian Corps.

Reorganisation of Engineer Units.

I am strongly of the opinion that this reorganisation is needed, and in fact in March last I formulated a very similar scheme, in which however I omitted the Tunnellers and incorporated 1200 selected men from Infantry as "Sappers 2nd Class". I now agree in toto with the Canadian Scheme.

The figures of "required" and "available" if the Canadian Scheme were applied to the Australian Corps are approximately as follows :-

Required under Canadian Scheme for 1 Corps of 5 Divisions.

	<u>Officers.</u>	<u>Other Ranks.</u>
Corps Headquarters.C.E.	8.	23
5 Brigade Headquarters.	20	160
5 Bridging Transport Sections.	15	345
15 Battalions.	555	15015
	<hr/>	
Total Required.	598	15,543

Total available ( approximately).

	<u>Officers.</u>	<u>Other Ranks.</u>
Corps Headquarters ( including C.R.E. C.T.)	8	20
5 Hqrs Divl. Engineers.	15	65
15 Field Coys. (at Establishment)	105	3420
5 Pioneer Bns (At Establishment)	150	5000
3 Tunnelling Coys.	70	1650
	<hr/>	
Total.	348	10155
Estimated additional Officers in Field Coys and Pioneer Battalions.	50	
	<hr/>	
	398	10155

In addition to the above there must be many fit Officers in England awaiting passage, etc, I know there are about 20 for Engineers at Brightlingsea alone.

The adjustment of Training Depots in the U.K. consequential upon a reorganisation such as is now proposed will release more Officers and N.C.O.s for service in France.

P.T.O.

If the 5000 other ranks cannot be made up from General Reinforcements and reinforcements already allotted to Engineers and Pioneers, then I recommend that the scheme be initiated on a basis of 700 other ranks per Battalion instead of 1000- the working strength would have to be made up in the Field by " attached Infantry", as indeed it is at present.

Another way to do it would be to commence with a three company Battalion, but this would involve a recasting of the Battalions.

It is noted that no provision appears to be made for C.R.E. C.T. on C.E. Headquarters.

It may be that the Staff Officer, Lieut.Col or Major takes his place. I concur, if this is the intention, but in that event the S.O. should be a Lieut.Col, and a senior one at that.

(signed) C.H.Foott.

Brigadier-General.  
Chief Engineer. Australian Corps.

The following memorandum setting forth proposed changes in the organisations for the carrying out of Engineer Services, without which no operations, offensive or defensive, can be successfully carried out is submitted.

After three years' actual experience in the Field, under varying conditions, it is considered that the following proposals if adopted, will enable the Canadian Corps to undertake operations on a much more favourable basis and under conditions which will be much more certain of ensuring successful results. The questions are dealt with under the following headings:-

- (1) Engineer Battalions.
- (2) Corps Tramways Coys. C.E.
- (3) Signal Services, C.E.
- (4) Canadian Engineers Training Depot.

#### ENGINEER BATTALIONS.

The organisation for carrying out Engineer work within a Division is considered to be very unsuitable and does not meet the conditions which have developed during this War. I consider that the whole system should be reorganised for the reasons given below:

1. The present work within a Division is carried out by:
  - (a) Three Field Coys., each an administratively complete Unit working under the C.R.E. Division for all purposes.
  - (b) One Pioneer Battalion under the CRE for work only.
  - (c) Infantry working parties.
2. As regards Field Companies, the bulk of the technical work required is carried out in the rear Divisional Areas and yet their most important work under normal circumstances is in assisting and supervising work on the trench systems. This work consists mostly of supervision of work of the following nature:
  - (a) Clearing and digging trenches.
  - (b) Revetting trenches, making fire-steps, laying trenchboards, making Infantry tracks, mule tracks &c.
  - (c) Erecting trench shelters, constructing small watering points, push tram lines, &c.
  - (d) Constructing surface Machine Gun and Trench Mortar Emplacements.
  - (e) Constructing O.Ps and Mined dugouts. Headquarters Trench Mortar and Machine Gun Emplacements.

Only a small portion of this work requires skilled technical labor, a large portion requires only skilled supervision, and in such case a large proportion of unskilled labor is required to enable the work to be carried out.

3. A Field Company consists of a Headquarters Section and four Sections, each of which is provided with its own transport and is able to be detached for temporary work. The transport of a Field Company is only sufficient to carry its own technical equipment. There are 139 Sappers in a Field Company at full strength. Of these 41 are practically permanently employed on duties incidental to an Engineer Unit, and none of them need necessarily be skilled mechanics. Of the 98 left it may be taken that 18 Sappers are detached for various technical duties, such as engine-drivers, electricians, &c. &c. A balance of 80 men is left, or 20 per section. Of this number it is likely that not more than 25% are employed at their particular trades. It is obvious that those units, as organised, are intended almost entirely for supervision. They can accomplish little without the necessary labor being attached.

4. The Pioneer Battalion with a Division is really "nobodys child". The only sound way of using it is by placing it under the CRE for work. They have done good work, especially where a portion of their Officers are Civil Engineers, but their main value lies in the fact that they are complete units and the men gradually become skilled in the work required. When they are broken up, having small parties detached to assist various units, they lose a great deal of their efficiency in getting a lot of work done quickly.

5. Working parties are provided as follows:
  - (a) By daily detail from troops in the front line, support line or Divisional Reserve.
  - (b) Permanent working parties taken from the Battalions attached to, and living with, the Field Coys. but remaining under their own Officers for discipline.

P.T.O.

306  
Daily working parties are very unsatisfactory. The men are changed daily and the Officers and men do not take much interest in their work. They necessarily come on the job without knowing anything about what they are required to do. This has to be explained to them and just as they are becoming useful their shift is up. They seldom, if ever, see a job completed. There is always great difficulty in getting working parties out on time, up to strength and at the place required and provided with the necessary tools and materials. This is due to the fact that before the transport, materials, the supervision and the labor can be brought together at the required place, at the required time, arrangements have to be made with several organisations. The work is naturally very distasteful to the men as it must be carried out under adverse circumstances of weather and hostile fire. While the Sappers are responsible for the quality of the work performed the Infantry Officers in charge of the working party must be responsible for the quantity of the work performed, and experience shews that the young Infantry Officers, under the circumstances denoted above, seldom produce the necessary results as regards the quantity of work completed. In fact there may be many reasons why the Officers may be inclined to sympathise with the men. It is safe to say that under these conditions the average man does not do 25% of the work he might fairly be expected to accomplish. His fighting efficiency is also considerably reduced for the work is very tiring. While it is considered that the use of fighting troops for trench work, except in cases of emergency, impairs the fighting value of the men, it is pointed out that this trench work is of equal importance to the actual fighting.

6. In every case where permanent Infantry working parties have been attached to Field Companies, a great deal of work has been accomplished rapidly and efficiently, and the men are much better satisfied. Arrangements are made smoothly and quickly as all arrangements for transport, materials, supervision and labor are under one control. There is an entire absence of friction. The men start a job and finish it - see what they are doing and take an interest in their work. It is considered that twice as much work is accomplished under these circumstances.

The disadvantage of this system is that it increases the discrepancy between the War Establishment and trench strength and that it interferes with the platoon organisation and development which, under present conditions, is the fighting unit. It also increases the difficulties of training.

7. From the above it will be seen that a Field Company as constituted at present is an uneconomical unit, being composed of highly trained men, and not having any labor with which to perform the required work, while Pioneer Battalions although excellent workers are considerably handicapped by the shortage of technically trained Officers and N.C.Os.

8. The experience gained in the various offensives undertaken by this Corps have brought out two facts:

- (a) The depth of the battle zone has increased tremendously.
- (b) In any offensive the work of the Engineers must be COMMUNICATIONS.

In the category of communications, I place buried cable and signal services, communication trenches, Infantry tracks, mule tracks, push tram lines, Corps tramways, metalled roads and plank roads.

The main problem is to follow up a successful advance with all speed. The advance is delayed owing to the impossibility of getting Field and Heavy guns forward and of ensuring the daily supply of an enormous tonnage of ammunition which is daily expended. In the recent operations at PASSCHENDALE our Artillery alone expended over 2,000 tons of ammunition daily. When to that is added the amount of supplies, trench munitions, S.A.A., water, R.E.Stores, road plank, road metal, railway material &c. which must be got forward to assist an advance, it will be seen that the tonnage involved is enormous.

If the work is not carried out the offensive must cease, for the Infantry cannot advance under present circumstances, except at a prohibitive cost, beyond the line on which they can be effectively supported by or counter-battery guns.

Under existing arrangements the Chief Engineer has to depend for his labor upon working parties detailed from the Infantry, and relieved frequently. During the recent operations 56 units were employed on essential road work in a short space of time. For the reasons given ~~below~~ above the work is being attempted under circumstances which lead to great inefficiency. Fighting troops are not detailed particularly for this work. It is stated that they cannot be spared. If the necessary communications

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are not provided further operations cannot be undertaken until they are available, except at a prohibitive cost. In consequence the line which may not be in an advantageous position, may have to be held for a longer period and heavy casualties may be incurred among the fighting troops, both in maintaining their position and carrying out reliefs and getting in their supplies. It is considered that in all probability the casualties incurred on this account are in excess of the number of men which would be involved in the provision of constant troops for the carrying out of the work on legitimate Engineering lines.

All of this work has to be carried out in the battle zone. Only Class "A" men can do it. Men from Labor Companies are most inefficient on account of their physical disabilities, the lack of N.C.O. supervision in their Companies and the consequent lack of discipline which renders their whole organisation unsuitable for work in forward areas under adverse conditions of weather and hostile fire.

The only Engineer unit that is organised for properly carrying out a job by itself is a Tunnelling Company, as the skilled supervision, technical labor, ordinary labor and a reasonable amount of transport are combined in one unit.

9. Under existing conditions, whenever the situation necessitates, a large programme of work being undertaken at short notice, Army Headquarters generally deem it necessary to issue orders that from 100 to 200 Infantry must be permanently attached to each Field Company to ensure the work being carried out expeditiously. This procedure is not favorably looked upon by Battalion Commanders as it interferes with training and the Platoon organisation - or by the infantry men who lose chances of promotion in their own units - or by the Field Company Commander as his Headquarters and available transport is only large enough to handle his own Company. But there is no doubt the amount of work accomplished is very largely increased.

10. For the above reasons it is considered that the time has arrived for the formation of Engineer Battalions. It is considered that by taking the three Field Companies and the Pioneer Battalion with each Division, the nucleus of three Engineer Battalions per Division could be obtained. Each succeeding experience in endeavouring to facilitate an advance emphasises the defects of the existing system. Under all circumstances it is considered that the main problem of the Engineers will be the provision of the necessary communications with the necessary speed. The results which, in my opinion, will be obtained in getting work quickly carried out and in freeing the Infantry for training and in maintaining their fighting efficiency, would justify the formation of three Engineer Battalions per Division.

The formation of these Engineer Battalions is recommended by the First Army Commander, the Chief Engineer, First Army, and the Engineer-in-Chief. The Imperial Authorities are unable at present to consider similar action, owing to the question of man power.

It is strongly recommended that the formation of these Battalions, upon detailed establishments to be prepared by the Chief Engineer, Canadian Corps, be proceeded with immediately.

The total additional personnel in other ranks to be provided to complete the proposal is 3,170. The reorganisation can be proceeded with on a good working basis if 1,310 other ranks are provided - the balance of 1,860 other ranks to be provided as reinforcements become available.

It will be necessary for arrangements to be made for the return to the Canadian Corps of the 2nd. and 3rd. Tunnelling Companies C.E. who have not been with the Corps for the past twenty months.

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SUMMARY OF REQUIREMENTS.

	<u>Officers</u>	<u>O.R.</u>	<u>Off.</u>	<u>O.R.</u>
12 Engineer Battalions.	30	985	360	11820
<u>AVAILABLE IN FRANCE.</u>				
12 Field Companies.	108	2496		
3 Tunnelling Companies.	66	1590		
4 Pioneer Battalions.	120	3940		
	<u>294</u>	<u>8026.</u>		
<u>AVAILABLE IN ENGLAND.</u>				
3 Field Companies.	<u>27</u>	<u>624</u>		
TOTAL AVAILABLE.	321	8650	321	8650
DEFICIENCIES.			<u>39</u>	<u>3170</u>

To meet deficiencies in Officers - 39.

Officers at CE Reinforcement Depot, France.	9
Candidates for Commissions from France.	20
Applications for Commissions from suitable candidates.	22
T O T A L .	<u>51</u>

Battalions with a strength of 830, other ranks could be formed in the first instance and would require:-

830 x 12	...	...	...	..	9960
Available.	....	...	...	..	8650
					<u>1310</u>
TO BE PROVIDED.	...	...	...	...	<u>1310</u>
Balance to be provided as reinforcements become available.	...	...		..	1860
					<u>1860</u>
			T O T A L		3170 O.Rs.
					<u>3170 O.Rs.</u>

... ..



CHIEF ENGINEER.

HEADQUARTERS OF CORPS.

D e t a i l .	Officers.	Warrant Off.	Staff Sgts. & Sergeants.	Rank & File.	T o t a l .	Riding Horses	Motor Car.	Box Car 15-cwt	Box Car.	Motor Cycles	R e m a r k s
Chief Engineer (Brig.Genl) (a)	1				1	2	1				(a) Acts as technical adviser on Engineer matters and administers Canadian Engineers.
Staff Officer to Chief Eng. (b) (Lieut.Col. or Major).	1				1	1					(b) Graded for pay as D.A.A.G. (c) One for Admin. work and one for Stores & Transport.
Staff Captains. (c)	2				2	2		1			(d) One each for Tranways, Roads, Water Supply and Defences.
Field Engineers (Major) (d)	4				4				2	2(i)	(e) To be attached as required for Temp. duty. To have Acting rank of Capt. whilst so employed.
Assist. Field Engineers. (e)	(e)									(e)	To be provided with Motor cycles w/ s-cars.
Engineer Clerk. (f)		1			1						(f) Graded as Superintending Clerk.
Draughtsmen. (g)			2	2	4						(g) Batmen for Asst.Fld Engrs will be provided from the unit from which the Officer is drawn and will return to unit w/ the Officer.
Clerks. (h)			2	2	4						(h) Ranks of Draughtsmen and Clerks may be 2 Staff Sgts & 2 Cpls at discretion of the CE.
					(j)						(i) With Side cars.
Orderlies.				3	3					1	(j) To be attached as required for temp.duty. To be employed under Field Engineers. Whilst so employed to be granted acting rank up to S/Sgt with pay at discretion of the C.E.
				1	1	1					
				9	9						To be provided with bicycles.
T O T A L S .	8	1	4	18	31	6	1	1	2	3	

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APPENDIX 94

HEADQUARTERS BRIGADE. CANADIAN ENGINEERS.

(11) Transport )

1000

DETAIL . . .	HORSES.				Remarks .
	Vehicles.	Drivers	Draughts.	H.D.	
<u>1st Line.</u>					
Motor Cars.	1	1(a)	-	-	(a) Provided by C.E., M.T.Coy., C.A.S.C.
Box Car. (15 cwt)	1	1(a)	-	-	
Motor Cycles.	1				
Bicycles (Intercommunication.)	3				
<u>TRAIN .</u>					
Wagon, G.S. for baggage.	1	1(b)	-	2	(b) Provided by Divisional Train.
Wagon, Limbered, G.S. for Supplies.	1	1(b)	-	2	
<u>TOTAL .</u>	8	4	-	4	

APPENDIX I 95

(ii) TRANSPORT.

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Detail.	Vehicles	Drivers	Draught.	Horses.		Remarks.
				H.D.	Pack.	
<u>1st. Line.</u> Headquarters.						
Travelling Kitchen.	1	1	1	2		
Carts Cooks.	1	1	1			
Motor Cycles.	1					
Bicycles.	4					
<u>2 Sections.</u>						
Motor Cycles.	2					
Carts, Tool RE.	2	2	4			
Wagons, Limbered G.S.	2	2	4			
Wagons G.S.	2	4	8			
Drivers for Pack Animals.		4			4	
Bicycles.	4					
	19	14	17	2	4	
<u>TRAIN.</u> Wagon, G.S. for Supplies.	1	1(a)		2		(a) Provided by Divisional train.

APPENDIX

1

BRIDGING TRANSPORT SECTION. (Attached Headquarters Brigade C.E.).

306

(ii) Personnel and Horses.

D E T A I L .	P E R S O N N E L .					H O R S E S				R E M A R K S .	
	Officers	W.O.	S/Sgts & Sergeants	Rank & File	TOTAL.	Riding	Draught	H.D.	TOTAL.		Motor Cycles.
Captain (Commanding).	1				1	2			2		
Subalterns.	1				1	2			2		
Company Sergeant Major.	1				1	1			1		
Company Q.M.Sergeant.	1				1	1			1		
Sergeants.	1		1		1	1			1		
Shoeing & Carriage Smith.	1		1		1	1			1		
Shoeing Smith.	1		1		1	1			1		
Saddler.	1		1		1	1			1		
Tailor.	1		1		1	1			1		
Shoemaker.	1		1		1	1			1		
Corporals.				2	2	1			1		
Second Corporals.				2	2	1			1		
Sappers.				18	18	1			1		
Drivers (For Vehicles).				29	29		54	4	58		
Drivers (For Spare Draught Horses)				3	3		6		6		
Drivers (Spare).				3	3						
Batmen.				4	4						
T o t a l .	3	1	3	65	72	10	60	4	74	1	1

APPENDIX

BRIDGING TRANSPORT SECTION. ( Attached Headquarters Brigade C.E. )

306

( 11 ) T r a n s p o r t .

D E T A I L .	Vehicles.	Drivers.	HORSES.		R E M A R K S .
			Draught	H.D.	
<u>1st LINE.</u>					
Wagons (Pontoon)	(a) 6	18	36	-	(a) Carrying 6 Pontoon and Superstructure.
(Trestle)	(b) 3	9	18	-	(b) Carrying 6 Trestles and Superstructure.
(G.S. for technical stores and baggage)	1	2	-	4	(c) Provided by Divisional Train.
Drivers for spare Draught Horses.	-	3	6	-	
<b>T O T A L</b>	10	32	60	4	
<u>TRAIN.</u>					
Wagon, G.S. for supplies.	(c) 1	1	-	2	

APPENDIX

Note :- The above Bridging equipment will enable 3 x 75 feet of medium bridge to be constructed.

HEADQUARTERS, BRIGADE, CANADIAN ENGINEERS.

(i) Personnel & Horses.

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D e t a i l	Officers	W.Os.	S/Sgts & Sgts.	Rank and File.	TOTAL.	H o r s e s .					Motor Car.	Box Car 15-cwt	Motor cycle.	Bicycles.	R e m a r k s
						Riding.	Draught	PACK.	TOTAL.	H.D.					
Commander - (Colonel)	1	-	-	-	1	2	-	-	-	2	-	-	-	-	(a) One for Administration work and one for Stores and Transport.
<u>STAFF.</u>															
Brigade Major.	1	-	-	-	1	2	-	-	-	2	-	-	-	-	(b) NCOs posted from units will retain their rank and be held supernumerary to their Units. Includes one Motor Cyclist.
Staff Captain.	2a	-	-	-	2	4	-	-	-	4	1	-	-	-	
Engineer Clerk.	-	1	-	-	1	-	-	-	-	-	-	-	-	-	
Clerks.	-	-	1	-	1	-	-	-	-	-	-	-	-	-	
Draughtsmen.	-	-	1	-	1	-	-	-	-	-	-	-	-	-	
Signallers.	-	-	1	9d	10	-	-	-	-	-	-	-	-	-	(c) Staff Sergeant.
Store Accountant.	-	-	1	-	1c	1	-	-	-	-	-	-	-	-	(d) Includes one Corporal.
Orderlies.	-	-	-	4b	4	-	-	-	-	-	-	1	3	-	
Storemen.	-	-	-	2	2	-	-	-	-	-	-	-	-	-	
Batmen.	-	-	-	2	2	-	-	-	-	-	-	-	-	-	
Cooks.	-	-	-	2	2	-	-	-	-	-	-	-	-	-	
<u>ATTACHED.</u>															
C.A.V.C.	1	-	1	-	2	2	-	-	-	2	-	-	-	-	
Drivers A.S.C. (M.T.)	-	-	-	2	2	-	-	-	-	-	-	-	-	-	
Drivers A.S.C. (H.T.)	-	-	-	2	2	-	-	-	4	4	-	-	-	-	
TOTAL (Excluding attached).	4	1	4	27	36	8	-	-	-	8	1	1	1	3	
TOTAL (Including attached).	5	1	5	31	42	10	-	-	4	10	1	1	1	3	

APPENDIX

BATTALION HEADQUARTERS.  
(ii) TRANSPORT.

D e t a i l .	Vehicles	Drivers	H o r s e s .			R e m a r k s .
			Draught	H.D.	Pack.	
<u>1st. Line.</u>						
<u>HEADQUARTERS.</u>						
Box Car 15 cwt.	1	2(a)	-	-	-	(a) Provided by CE (MT) Coy C.A.S.C.
Box Car Light.	2	4(a)	-	-	-	(b) Medical Officer's Orderly.
Lorries, 3 ton.	8	16(a)	-	-	-	(c) Provided by Divisional Train.
Cart (Maltese for Med. Eqpt)	1	1(b)	1	-	-	
Officers Mess.	1	1	1	-	-	
Water.	2	2	4	-	-	
Wagon, G.S. for technical stores.	1	2	4	-	-	
Drivers for Spare & D. Horses.	-	4	8	-	-	
Bicycles (for inter-communication.)	3	-	-	-	-	
Motor Cycles.	1	-	-	-	-	
	20	32	18	-	-	
<u>4 Companies.</u>						
Carts, tool R.E.	8	8	16	-	-	
Wagons, limbered GS (for tech. St)	8	8	16	-	-	
Wagons, G.S. for Tech. Stores & material	8	16	32	-	-	
Travelling kitchens.	4	4	8	8	-	
Carts, Cooks.	4	4	4	-	-	
Motor Cycles.	12	-	-	-	-	
Bicycles for inter-communication	32	-	-	-	-	
Drivers for Pack Animals.	-	16	-	-	16	
TOTAL.	76	56	68	8	16	
<u>TOTAL BATTALION.</u>						
	96	88	86	8	16	
<u>TRAIN.</u>						
<u>HEADQUARTERS.</u>						
Wagon, G.S. (for baggage).	1	1(c)	-	2	-	
(for supplies)	1	1(c)	-	2	-	
<u>4 COMPANIES.</u>						
Wagon, G.S. for supplies.	4	4(c)	-	8	-	
TOTAL TRAIN TRANSPORT.	6	6	-	12	-	

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APPENDIX

100

A BATTALION - CANADIAN ENGINEERS.

(i) Personnel and Horses.

101

D E T A I L .	Ofprs.	PERSONNEL.				HORSES.					Box Car 15-cwt.	Box Car Light.	Motor Cycles	Bicycles.	R E M A R K S .
		W.Os.	S/Sgts & Sgts.	Rank & File	TOTAL.	Riding	Draught.	H.D.	Pack Horses.	TOTAL.					
Lieut-Colonel (Commanding).	1	-	-	-	1	2	-	-	-	2	-	-	-	-	(a) At AG's Office at the Base.
Major (Second-in-Command)	1	-	-	-	1	2	-	-	-	2	-	-	-	-	(b) Includes 2 for Medical Officer.
Adjutant (Captain)	1	-	-	-	1	2	-	-	-	2	-	-	-	-	(c) Warrant Officer Class II
Officer i/c Stores & Transport Quartermaster.	1(d)	-	-	-	1	1	-	-	-	1	1	2	-	-	(d) To be Captain.
Regimental Sergt.Major.	1	1	-	-	1	1	-	-	-	1	-	-	-	-	(e) Includes 1 Cpl & 1 L/Cpl.
Regimental Q.M.Sergeant.	1	1	-	-	1	1	-	-	-	1	-	-	-	-	
Orderly Room Sergeant.	1	-	1	-	1	-	-	-	-	-	-	-	-	-	
Engineer Clerk.	1	1c	-	-	1	-	-	-	-	-	-	-	-	-	
Sergeant.	1	-	1	-	1	-	-	-	-	-	-	-	-	-	
Draughtsmen.	1	-	2	-	2	-	-	-	-	-	-	-	-	-	
Signallers.	1	-	-	8e	8	-	-	-	-	-	-	-	-	-	
Sergeant Cook.	1	-	1	-	1	-	-	-	-	-	-	-	-	-	
Orderly Room Clerk.	1	-	1	-	1	-	-	-	-	-	-	-	-	-	
Cook.	1	-	1	-	1	-	-	-	-	-	-	-	-	-	
Transport Sergeant.	1	-	1	-	1	1	-	-	-	1	-	-	-	-	
Transport Corporal.	1	-	1	-	1	1	-	-	-	1	-	-	-	-	
Wheelwrights.	1	-	2	-	2	-	-	-	-	-	-	-	-	-	
Sergeant Shoemaker.	1	-	1	-	1	-	-	-	-	-	-	-	-	-	
Saddlers.	1	-	1	-	1	-	-	-	-	-	-	-	-	-	
FARRIER Sergeant.	1	-	1	-	1	1	-	-	-	1	-	-	-	-	
Shoeing & Carriage Smith.	1	-	1	-	1	1	-	-	-	1	-	-	-	-	
Corporal (For Sanitary duty)	1	-	1	-	1	-	-	-	-	-	-	-	-	-	
Shoeing Smiths.	1	-	2	-	2	-	-	-	-	-	-	-	-	-	
Drivers for 1st.Line Transpt For Vehicles.	1	-	-	6	6	-	10	-	-	10	-	-	-	-	
For Spare Animals.	1	-	-	4	4	-	8	-	-	8	-	-	-	-	
Batmen.	1	-	-	10	10	-	-	-	-	-	-	-	-	-	
Stretcher Bearers.	1	-	-	16	16	-	-	-	-	-	-	-	-	-	
Military Police.	1	-	1	4	5	-	-	-	-	-	-	-	-	-	
Trumpeter.	1	-	-	1	1	1	-	-	-	-	-	-	-	-	
Orderlies.	1	-	-	6	b6	-	-	-	-	-	-	1	3	-	
<b>T O T A L</b>	<b>5</b>	<b>3</b>	<b>11</b>	<b>63</b>	<b>82</b>	<b>15</b>	<b>18</b>	<b>-</b>	<b>-</b>	<b>33</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>3</b>	
<b>ATTACHED.</b>															
C.A.M.C.(including personnel for water duties).	1	-	1	4	6	2	-	-	-	2	-	-	-	-	(f) Provided by CE (MT) Coy C.A.S.C.
C.A.P.C.	1	-	-	-	1	1	-	-	-	1	-	-	-	-	
C.O.C. Armourer Sergeant.	1	-	1	-	1	-	-	-	-	-	-	-	-	-	(g) Provided by Divl.Train.
Drivers A.S.C. (Motor Transpt (Train " )	1	-	-	22	f22	-	-	-	-	-	-	-	-	-	
	1	-	-	2	g2	-	-	4	-	4	-	-	-	-	
<b>T O T A L</b>	<b>2</b>	<b>-</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
Total H.Q. (including attd)	7	3	13	67	90	18	18	-	-	36	1	2	1	3	
H.Q.(excluding attached)	5	3	11	63	82	15	18	-	-	35	1	2	1	3	
Headquarters, (attached).	2	-	2	4	8	3	-	-	-	3	-	-	-	-	
Four (4) Companies.	32	4	24	896	956	24	68	8	16	116	-	-	12	32	
Four Coys (attd)A.S.C.DVrs.	-	-	-	-	g4	-	-	8	-	8	-	-	-	-	
Total Battln (excluding attd).	37	7	35	959	1033	39	86	8	16	149	1	2	13	35	
Total Battln (including attd)	39	7	37	963	1046	42	86	8	16	152	1	2	13	35.	





(i) Personnel and Horses.

Detail.	PERSONNEL.				HORSES.					Motor Cycles	Bicycles	Remarks.	
	W.O.	S/Sgts and Sergeants.	Rank & File	TOTAL.	Riding.	Draught.	H.D.	Pack.	TOTAL.				
Major (Commanding).	1			1	1				1			(a) Acts as Company Adjutant and Quartermaster	
Captains (Sect. Comdrs.)	2			2	2				2				
Subalterns.	4			4								(b) Includes 12 paid L/Cpls.	
Subaltern (Asst. to O.C.)	1			1	1				1				
Company Sergt.-Major.		1		1	1				1				
Company Q.M. Sergeant.			1	1	1				1				
Sergeants.			3	3									
Corporals.			9	9	1				1				
2nd. Corporals.			9	9									
Sappers.			178	178	178(b)								
Tailor.			1	1									
Shoemaker.			1	1									
Drivers, 1st. Line Transport.													
For Vehicles.			10	10		17	2		19				
For Pack Animals.			4	4				4	4				
Signallers.			4	4									
Buglers.			1	1							1		
Batmen.			7	7									
<b>T O T A L . . .</b>	<b>8</b>	<b>1</b>	<b>6</b>	<b>224</b>	<b>239</b>	<b>6</b>	<b>17</b>	<b>2</b>	<b>4</b>	<b>29</b>	<b>3</b>	<b>8</b>	
<b>HEADQUARTERS.</b>													
Major (Commanding).	1			1	1					1			
Subaltern (Asst. to O.C.).	1			1	1					1			
Company Sergeant Major.		1		1	1					1			
Company Q.M. Sergeant.			1	1	1					1			
Sergeants.			1	1	1					1			
Corporals.			1	1	1					1			
2nd. Corporals.			1	1	1					1			
Sappers.			8	8	8					1			
Drivers, 1st. Line Transport.			2	2	2		1	2		3			
Tailor.			1	1	1								
Shoemaker.			1	1	1								
Signallers.			4	4	4								
Bugler.			1	1	1							1	
Batmen.			3	3	3								
<b>T O T A L . . .</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>22</b>	<b>27</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>-</b>	<b>7</b>	<b>1</b>	<b>4</b>	
<b>SECTION.</b>													
Section Commander (Captain)	1			1	1	1				1			
Subalterns.	2			2	2					1			
Sergeants.			2	2	2								
Corporals.			4	4	4								
2nd. Corporals.			4	4	4								
Sappers.			85	85	85							2	
Drivers, 1st. Line Transport.													
For Vehicles.			4	4	4		8			8			
For Pack Animals.			2	2	2				2	2			
Batmen.			2	2	2								
<b>T O T A L . . . . .</b>	<b>3</b>	<b>-</b>	<b>2</b>	<b>101</b>	<b>106</b>	<b>1</b>	<b>8</b>	<b>-</b>	<b>2</b>	<b>11</b>	<b>1</b>	<b>2</b>	

