

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

Engineers

Item number: 14/11/12

Title: Headquarters 5th Australian
Divisional Engineers

May 1917



AWM4-14/11/12

WAR DIARY

Army Form C. 2118.

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

INTELLIGENCE SUMMARY.

Sheet 1.

(Erase heading not required.)

HQrs 5th Aus. Div. Engrs.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
Fricourt X.27.b.3.9. Albert Combined Sheet	May 1 / 7		<p>C.R.E. Hqrd. at the "Dingle" X.27.b.3.9. (Albert Comined sheet) Lt-Col. Carey away on leave to U.K. Major H. Bachtold M.C., 14th. Field Coy. Acting C.R.E. Field Cos. located as follows: 8th. Field Coy., Fricourt Camp, 14th. Field Coy, Becourt Camp, 15th. Field Coy. Mamtez Brigade Camp. Cos. carrying on with general training work, both 8th. & 14th. having sections at Brickfield North of ALBERT where there is a fairly suitable place for Pontoon Work. 1 section of 15th. Coy. under Lieut. Oliver away at 5th. Army Sig. School, CONTAY on erection of huts etc. for school. May 2nd. D.H.Q. asked for report on Divisional Water Supply and how it would be affected by removal of pumping installation at Fricourt Farm and Bazentin Village. 8th. Field Coy. reported that removal would not impair either water supply or bathing facilities as both were only minor installations. Question of substituting G.S. Limbered wagons for R.E. limbered wagons has been satisfactorily dealt with in 5th. Army Routine Order 812.</p> <p>Friday, May, 4th.</p> <p>Divisional Athletic meeting held at Link Road, Fricourt and on Saturday 5th. Divl.</p> <p>May 5th horse shew held at TARA HILL.</p> <p>Lt-Col. Carey ret'd. from leave from U.K. and Maj. H. Bachtold resumed duties as O.C. 14th. Field Coy. Received chart shewing good effect of Drainage carried out at Cellar Farm Avenue, SAILLY.* last summer and autumn, while Division was with 2nd. Anzac Corps. Leave allotment for Divisional Engineers to be increased to 10 per week after 15th. inst. River SOMME inspected at BRAY with view to sending Field Cos. there for Pontoon Work. Suitable site found on West side of village; C.E. 1st. Anzac asked to approve but informed C.R.E. that he was unable to do so at present. Plans of Lt-Col. Carey's scheme for "Crossing A Shelled Area" forwarded to C.E. Corps and 5th. Aus. Div.*</p> <p>8. 11 a/m Sent wire to Field Cos. & Pioneer Bn. warning them to have arrangements made to move at short notice.</p> <p>2.15pm Received 5th. Aus. Div. Order No. 145 ordering move to VAULX - BEUGNATRE Area to relieve 2nd. Aus. Div. Field Cos. & Pioneers to be moved by C.R.E. under orders from C.E. 1st. Anzac. Lieut. Col. Carey with C.R.E., 2nd. Aus. Div. at VAULX during day.</p> <p>4.5 pm. Telegram received from C.R.E. stating that Field Cos. would leave Bazentin by</p>	<p>* appendix 1.</p> <p>* App. 2.</p>

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Sheet 2

(Erase heading not required.)

HQ^{rs} 5th Aus. Div. Engrs.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
Fricourt X.27.b.3.9. (Albert combined sheet)	8 May		decauville 8.45 a/m on 9th. inst. for VAULX and take over from 2nd. Div. Cos. on arrival. Pioneers to leave Bazentin 12 noon 9th. inst. Orders sent to Cos. & Pioneers re move to VAULX.	
VAULX C.26.d.3.6. (sheet 57c)	9		C.R.E. advanced Hdqrs. at VAULX C.26.d.3.6. Relieved C.R.E. 2nd. Aus. Div. [Field Cos. relieved 2nd. Div. Cos. by 12 noon as follows ; - 8th. Field Coy. relieved 5th. Fd. Coy. in Right Bde. Area with Headquarters at I.2 .c.4.3. 14th. Field Coy. relieved 7th. Field Coy. in Centre Brigade Area with Hdqrs. at H.12.a.5.6. 15th. Field Coy. relieved 6th. Field Coy. in Left Brigade Area with Hdqrs. at I.1.c.0.7. Nos. 1 & 2 Sections, 258 Tunnelling Coy. attached to C.R.E. for Deep Dugout work. R.E. Dumps taken over at following locations Vaulx South Dump I.1.b.8.6. Vaulx North Dump C.26.a.7.2. and small forward dump containing entanglement materials only on North side of NOREUIL. R.E. material obtained from 1st. Anzac Forward R.E. Dump - HUN DUMP - H.21.d.7.3. and brought forward to Divisional Dumps by Pontoon wagons obtainable from No. 7 Pontoon Park R.E. (10 obtainable daily) and also by Light Railly. (4 trucks obtainable daily). Work found necessary to put in hand at once was - wiring of FRONT LINE particularly in Centre Brigade Area. Communication to Front Line including Mule Decauville forward from VAULX, and Deep Dugouts along LONGATTE - NOREUIL - LAGNICOURT LINE, for various Headquarters and accommodation for troops. General type of dugout decided on as follows * Two 6' x 3' inclines at 45 deg., 40' apart, to give minimum of 20' cover, connected by 6' x 3' galleries; these intended to accommodate from 40 to 50 men standing crowded during enemy barrage or heavy shelling. Proposed to push Decauville forward from Vaulx to NOREUIL AND LAGNICOURT.	
		4.50 p/m	Telegram E.450 to 14th. Field Coy. re wiring exposed salient on Right of Centre Brigade Front *	* App.3.
		5 pm	Telegram E.451 to 15th. Field Coy. & 15th. Infty. Bde. strengthening of Strong Points on Left Brigade Left Front. Field Coy. found difficulty in finding strong points as shewn on map handed over. *	* App.4.
				* App.5.

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INTELLIGENCE SUMMARY.

Sheet 3

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HQrs 5th Aus. Div. Engrs.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
Vaulx C.26.d.c.6. (sheet 57c)	May 10		15th. Field Coy. instructed to put Lieut. Oliver on location of Decauville line from Vaulx to NOREUIL. Line to be kept clear of existing broad gauge formation so as to avoid interference of laying broadgauge when this was to be continued through VAULX. 5th. Pioneer Bn. instructed that they would lay line.	
		1.35 pm	Telegram E.461 sent to 5th. Pioneer Bn. with reference to obtaining Decauville * from Corps Light Railways. C.E. 1st. Anzac and Corps Workshops MAULTE notified that 300, 6' x 3' mining sets would be required daily for construction of deep dugouts. Work on dugouts commenced as follows :- 8th. Field Coy. and No.2 Sec. 258 Tg. Coy. 7 entrances on road C.24.d. 14th. Fd. Coy. Group of 3 dugouts South of NOREUIL. 15th. Field Coy. Group of 3 dugouts N.W. of NOREUIL on LONGATTE ROAD. 5th. Pioneer Bn. Dugouts for Artillery S.W. of LAGNICOURT. No.1 Section 258 Tunnelling Coy. Dugout for Dressing Station North of NOREUIL and also in railway embankment C.5.a.5.0.	* App.6.
		4.33 pm	Telegram G.U.1/a to Field Cos. & Pioneers with reference to Deep Dugouts on LONGATTE - NOREUIL - LAGNICOURT Road *	* App.7.
		5 pm	Telegram G.U.2/a to 5th. Pioneers re Dugouts for 2nd. Aus. Div. Gunners in LAGNICOURT Area *	* App.8.
		7.50 pm.	Telegram G.U.3/a to C.E. 1st. Anzac giving summary of deep dugout scheme for 5th. Divisional Area *	* App.9.
	11		During night 14th. Field Coy. erected 225 yds. double apron entanglement on Right of Centre Brigade Sector in U.29.b. and U.29.d. 5th. Pioneer Bn. at work on clearing communication trench C.10.b.1.0. to C.5.c. During day 200 yds. Decauville laid & 500 yds. formation cleared. 300 yds. line brought by C.L.R. from MARTINPUICH. Location of line following valley from VAULX to NOREUIL. Deep dugouts in all forward areas being pushed on by all units. Daily allotment of mining sets as follows:- Artillery & 5th. Pioneers, 80.	

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INTELLIGENCE SUMMARY.

Sheet 4.

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HQ¹⁵ 5th Aus. Div' Engrs.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
VAULX C.26.d.3.6. (sheet 57c)	May			
	11		<p>8th. Field Coy. & No.2 Section 258 Tunnelling Coy., 100. 14th. Fd. Coy. and No.1 Sec. 258 Tunnelling Coy. 80. 15th. Field Co. & 40. <u>Total 300.</u></p>	
	12		<p>14th. Field Coy. working on improvement of 3 wells in NOREUIL. Location of Units as follows :- 8th. Field Coy. I.2.c.4.3. 14th. Field Coy. H.12.a.5.6. 15th. Field Coy. I.1.b.5.5. 5th. Pioneers. H.6.c.2.9.</p> <p>14th. Field Coy. sent up large quantity of wiring material to Right of Centre Brigade Area U.29.d. but owing to heavy shelling 14th. Brigade decided it was not practicable to put out entanglements.</p> <p>Wired C.E. 1st. Anzac for twenty 400 gall. tanks, each of these is for one deep dugout and it is intended to construct self contained strong point around each dugout. Further Strong Points in LAGNICOURT Line sited at C.24.b.9.3., C.18.d.4.9., C.18.a.0.4. and C.17.b.8.8.; construction of these is being put in hand.</p> <p>8th. Field Coy. relieved 504 Field Coy. R.E. in Right Brigade Sector. and 15th. Field Coy. relieved by 503rd. Field Coy. R.E. on the 5th. Corps taking over Left Brigade Sector. from 1st. Anzac Corps.</p>	
	13		<p>8th. Field Coy. moved Coy. Hdqrs. & 2 sections to LAGNICOURT C.29.d. 0.5. Units working as follows;- 8th. Field Coy. with 8th. Infy. Bde. in RIGHT BRIGADE SECTOR, construction of strong points and wiring of support line put in hand immediately also wiring along whole length of front line in this sector. Deep dugouts in area being continued. No.2 section 258 Tunnelling Coy. working on deep dugouts in this sector with 8th. Field Coy. 14th. FIELD COY. with 14th. INFY. BDE. in LEFT BRIGADE SECTOR Work in hand being-strengthening of wire on FRONT LINE; Water supply NOREUIL; & Deep Dugouts in NOREUIL AREA, No.1 section, 258 TUNNELLING COY. being attached to 14th. FIELD COY. for this purpose; 15th. FIELD COY. being RESERVE COY. with 15th. Infy.</p>	<p>* App. 10.</p> <p>Sgt.</p>

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INTELLIGENCE SUMMARY.

Sheet 5

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Hq's 5th Aus. Div. Engrs.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
VAULX C.26.d. 3.6. (sheet 57c)	May 13		Brigade. Coy. moved to FAVREUIL.H.16. central. Work in hand being the location of VAULX - NOREUIL Decauville, Deep dugouts in NOREUIL Area. [5th. Pioneer Bn. maintenance of communication trenches, laying decauville to NOREUIL and salving line for same from rear areas, deep dugouts for gunners in LAGNICOURT AREA. No.1 section 258 TUNNELLING COY. forwarded report on examination of enemy mines in VRAUCOURT*	* App.11.
	14/ 20		<p>Period of steady work for Field Cos. & Pioneer Bn. 8th. & 14th. Cos. being with their Brigades in Forward Areas; 15th. Coy. with 15th. Infty. Bde. in RESERVE AREA working on DEFENCE LINES and 5th. PIONEERS on construction of VAULX - NOREUIL Decauville and Deep Dugouts for 2nd. Divisional Artillery in LAGNICOURT AREA.</p> <p>Tuesday May, 15th. Lt-Col. Carey went to 1st. ANZAC CORPS HEADQUARTERS as Acting Chief Engineer, Major H. BACHTOLD being away on leave to U.K., Major H. GREENWAY took over as A/C.R.E.</p> <p>WEDNESDAY, May 16th. 2/Lts. K.M. BRYDON & E.V. CLARK reported from reinforcements & were posted to 14th. & 15th. Field Cos. respectively.</p> <p>On night of 15th./16th. Lieut. GREEN, 14th. Field Coy. and party of sappers erected 220 yds. of entanglement on North Eastern Corner of LEFT BRIGADE SECTOR U.29.b.83.75 to U.23.d.65.00 and on following nights this was strengthened, <i>thus</i>, giving fairly good protection to a dangerously exposed portion of the line.</p> <p>VAULX NOREUIL Decauville at end of this period had been laid to C.16.b.6+8+ and sufficient salved line on hand for an extension to about 1 mile beyond QUEANT in case of forward move. Total length of line is now 3700 yds., This has all been salved from back areas and laid by 5th. Pioneer Battalion at rate of 550 yds. per day, maximum laid in one day being 800 yds. Working parties very often working under shell fire as VAULX NOREUIL valley is under direct observation of hostile balloons. On 18th. the first deep dugout at C.29.a.0.9. was completed and several others are nearing completion.</p> <p>Roads throughout this area are good, wheel transport has been kept down within reasonable limits and minor repairs only have had to be effected. Crater in VAULX C.26.c.75.85 has been filled and topped with brick by 15th. Field Coy. and road running East from Crater past Advanced D.H.Q. C.26.d.3.6. has been drained and</p>	

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INTELLIGENCE SUMMARY.

Sheet 6

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HQrs 5th Aus. Div. Engrs.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
Vaulx C.26.d.3.6. (sheet 57c)	May 14		improved for 300 yds. by same Coy. Road repairs in LAGNICOURT have been carried out by 8th. Field Coy., track has been made around crater C.24.a.3.3. and road repaired from this crater to C.23.b.8.5.	
	18	9 pm	Received 5th. Aus. Div. order No.150 with reference to relief by 20th. Div. Para 7 :- "C.R.E. will arrange reliefs of FIELD COS. & PIONEERS direct with C.R.E. 20th. Division. Field Cos. will be quartered with their Brigade Groups after relief. Pioneers will move to BANCOURT."	
	20	11 a/m	Issued 5th.Aus.Div.Engr. Order No.5 with reference to reliefs of Field Cos. & Pioneers by Field Cos. & Pioneers of 20th. Division. Pioneers have taken over operation of VAULX NOREUIL decauville.	* App.12.
	21		15th. Field Coy. relieved in RESERVE SECTOR by 84th. Field Coy.R.E. 20th.Divn. Relief completed by 6 pm. 15th. Field Co. remaining in billets at H.16.central. Decauville Railhead now at C.16.b.8.9. SIDING laid to advanced Dressing Station C.20.d.2.5. and arrangements completed for evacuation of wounded by Decauville. All 9 lb. rails have been replaced by 16 lb., and line now in fit condition for use of Petrol Tractors. Total length of line now available :- on dumps alongline 7000 yds., laid 3700 yds., total 10,700 yds. all of which has been salvaged from back areas and brought forward by 5th. Pioneer Battalion. Work on all deep dugouts being continued. C.10.a.7.1. completed during day.	
	22		Sample of CORKSCREW CHEVAUX DE FRISE constructed by 14th. Field Coy. sent to 1st. ANZAC*CORPS SCHOOL under orders from CORPS. 8th. & 14th. Field Cos. still with their Brigades in RIGHT & LEFT FORWARD SECTORS respectively. 8th.Coy, working mainly on wiring FRONT & SUPPORT LINES & Deep dugouts in LAGNICOURT AREA. 14th.Coy. wiring FRONT LINE, Deep dugouts in NOREUIL AREA and water supply NOREUIL.	
	23		Location of Units as follows :- 8th.Field Coy. C.29.d.0.5.; 14th. Fd.Co. H.12.a.5.6.; 15th. Fd.Co. H.16.central; 84th.Field Co.R.E. H.16.central; 5th. Pioneer Battalion H.6.b.2.9. Decauville railhead advanced to C.17.a.2.9. Switch put in connecting to VAULX -	

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INTELLIGENCE SUMMARY.

Sheet 7.

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H.Q. 5th Aus. Div. Engrs.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
Vaulx C.26.d.3-6- (sheet 57c)	May 23	-	MORY Line at VAULX. Siding put in at VAULX SOUTH DUMP. Deep dugouts completed at C.23.a.4.4; C.17.d.7.0. and C.23.b.3.9.	
	24		8th. Fd.Coy. relieved in RIGHT BRIGADE SECTOR by 96th. Field Coy.R.E. and moved to BANCOURT H.36.a.0.9. 5th. Pioneer Bn. relieved by 11th. DURHAM LIGHT INFANTRY and moved to LIGNY-THILLOY N.7.a.8.6. 14th. Fd.Co. remained in LEFT FORWRD SECTOR. Double apron fence around N.E. Corner U.29.b.7.9. to U.29.b.6.5. 84th. Field Coy.R.E. working in RESERVE BRIGADE SECTOR. Continued work on deep dugouts in NOREUIL AREA, CORPS MAIN DEFENCE LINES (VAULX, MORCHIES & BEUGNY - YTRES); removed a charge of 25 kilos amonal from well in VRACOURT.	
	25		14th. Field Co. relieved by 83rd. Field Coy.R.E. in LEFT BRIGADE SECTOR at H.12.a.5.6. and moved to H.30.b.5.5. R.E. FIELD COS. and PIONEER BATTALION of 20th. Division working under direction of C.R.E.	
BANCOURT H.35.c.5.5 (sheet 57c)	26	10am	C.R.E. relieved by C.R.E. 20th. Div. and moved to H.35.c.5.5. Full works report made out for period 10/5/17 to 25/5/17 * Also detailed list of Deep dugouts completed and under construction in Divisional Area * Major H. BACHTOLD M.C. returned from leave to U.K. and relieved MAJOR H. GREENWAY as A/C.R.E. 8th. Field Coy. instructed to take charge of work moving baths from FREMICOURT to new site opposite PUMPING STATION on BAPAUME BEAULENCOURT ROAD. 15th. Field Coy. taken over from 148 A.T. Coy.R.E. work of erecting baths at BAPAUME SUCURIE.	* APP.13 * App.14.
	27		Lieut.T.A.L. Farr, left for England on transfer to 17th. Field Coy. Location of units as follows :- C.R.E. H.35.c.5.5., 8th. Fd.Coy. H.36.a.0.9., 14th. Field Coy. H.30.b.5.5., 15th. Field Coy. H.16. central.	
	28		5th. AUS. DIV. GEN. STAFF MEMO. 146 issued with reference to work to be put in hand on CORPS SECOND LINE (VILLERS AU FLOS, BANCOURT BANCOURT - BIEFVILLERS DEFENCE LINE)	

WAR DIARY

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INTELLIGENCE SUMMARY.

Sheet 8

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H.Qrs 5th Aus. Div. Engrs.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BANCOURT H.35.0.55. (sheet 57c)	May 28		Field Cos. affiliated to their respective Brigade Groups for supervision purposes. RIGHT SECTOR 14th. FIELD COY. 0.15.a.1.5. - 1.31.a.3.2. CENTRE SECTOR H.36.a.9.9. - H.22.a.6.0. LEFT SECTOR H.22.c.6.0. - H.13. central. C.R.E. issued memo 14/69/2 on CORPS 2nd. LINE DEFENCES.*	* App.15
	29		Cos. carrying on with Routine Training Work with lectures & c. on MARCH DISCIPLINE	
	30		Cos. working on respective sectors on CORPS 2nd. DEFENCE LINE. 1 Off. & Sgt. of each Coy. attended lecture at D.H.Q. 9.15 a/m by A.D.V.S. on GROOMING & STABLE MANAGEMENT.	
	31		1 Off. & Sgt. of each coy. attended lectures by A.D.V.S. on WATERING & FEEDING. Work on VILLERS AU FLOS, BANCOURT - BIEFVILLERS DEFENCE LINE continued. Received notification from Division that Sgt. S. HOWLETT, 14th. Field Coy. has been awarded MILITARY MEDAL. Recommendation and notification of award attached *	*App.16.
<p>Strength of Divisional Engineers 1/5/17 22 Officers 669 O.R. " " " " 31/5/17 22 " 663 "</p>				

J. H. H. H. H.
Major,
for A/C.R.E.
5th. Aus. Division.

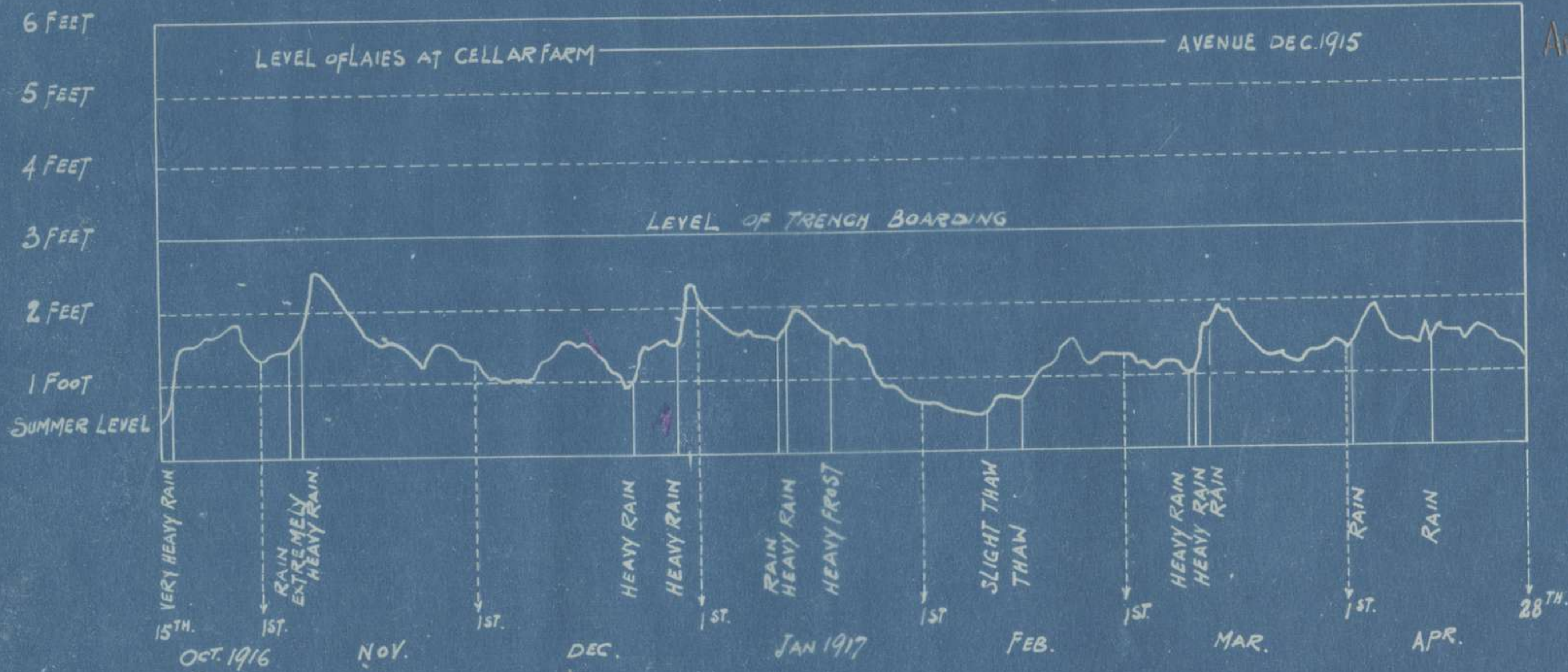


CHART SHEWING LEVEL OF RIVER LAIES AT CELLAR FM. AVE.
FOR WINTER 1916-17 AS COMPARED WITH THAT OF WINTER 1915-16. THE EFFECT
OF DRAINAGE WORK CARRIED OUT IN SUMMER AND AUTUMN 1916 IS EVIDENT.

DIAGRAM of "SHELLED AREA" CROSSING.

APPENDIX 2.

Appendix N^o 2

Appendix 2

10

197

10

TYPE PLAN

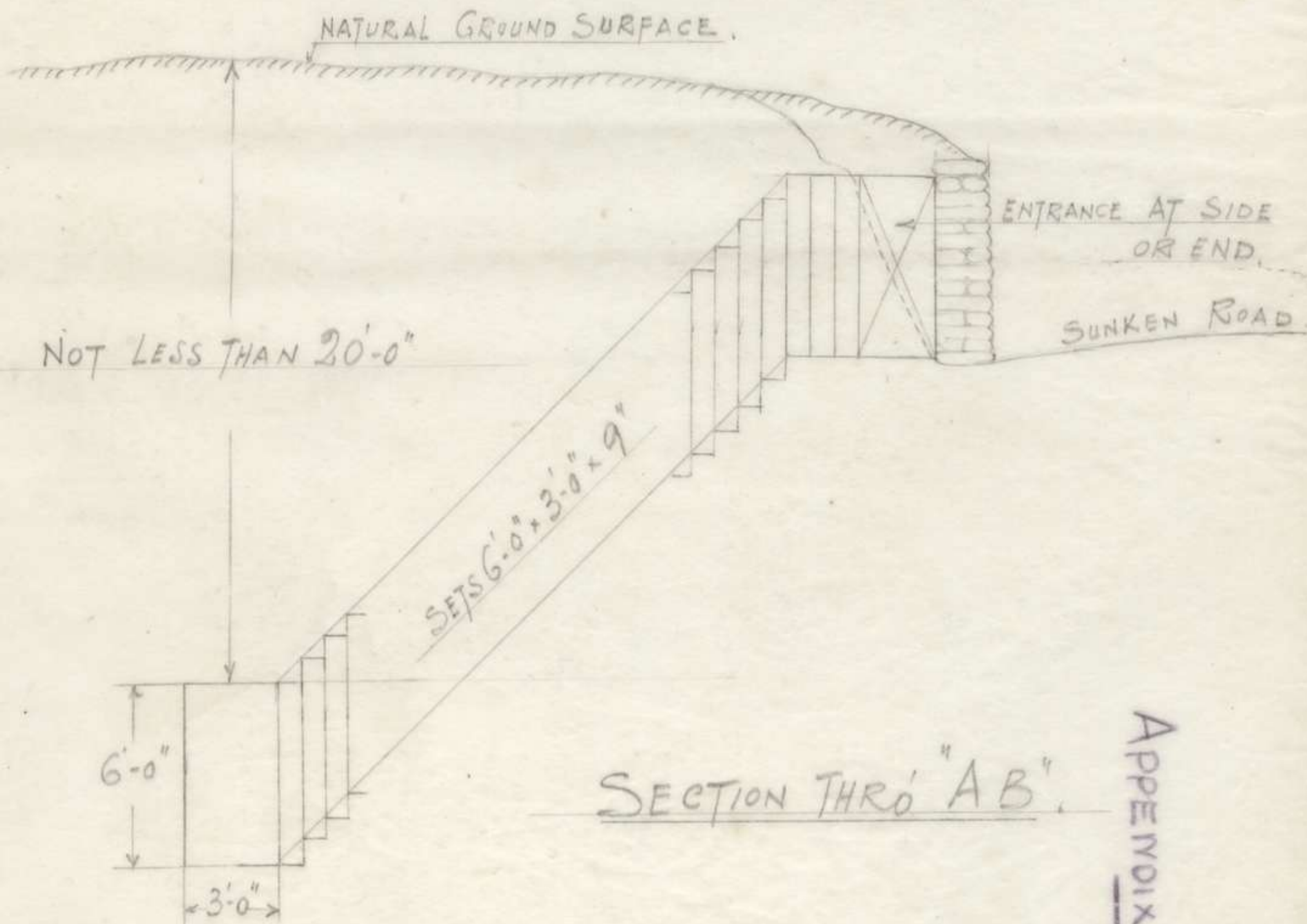
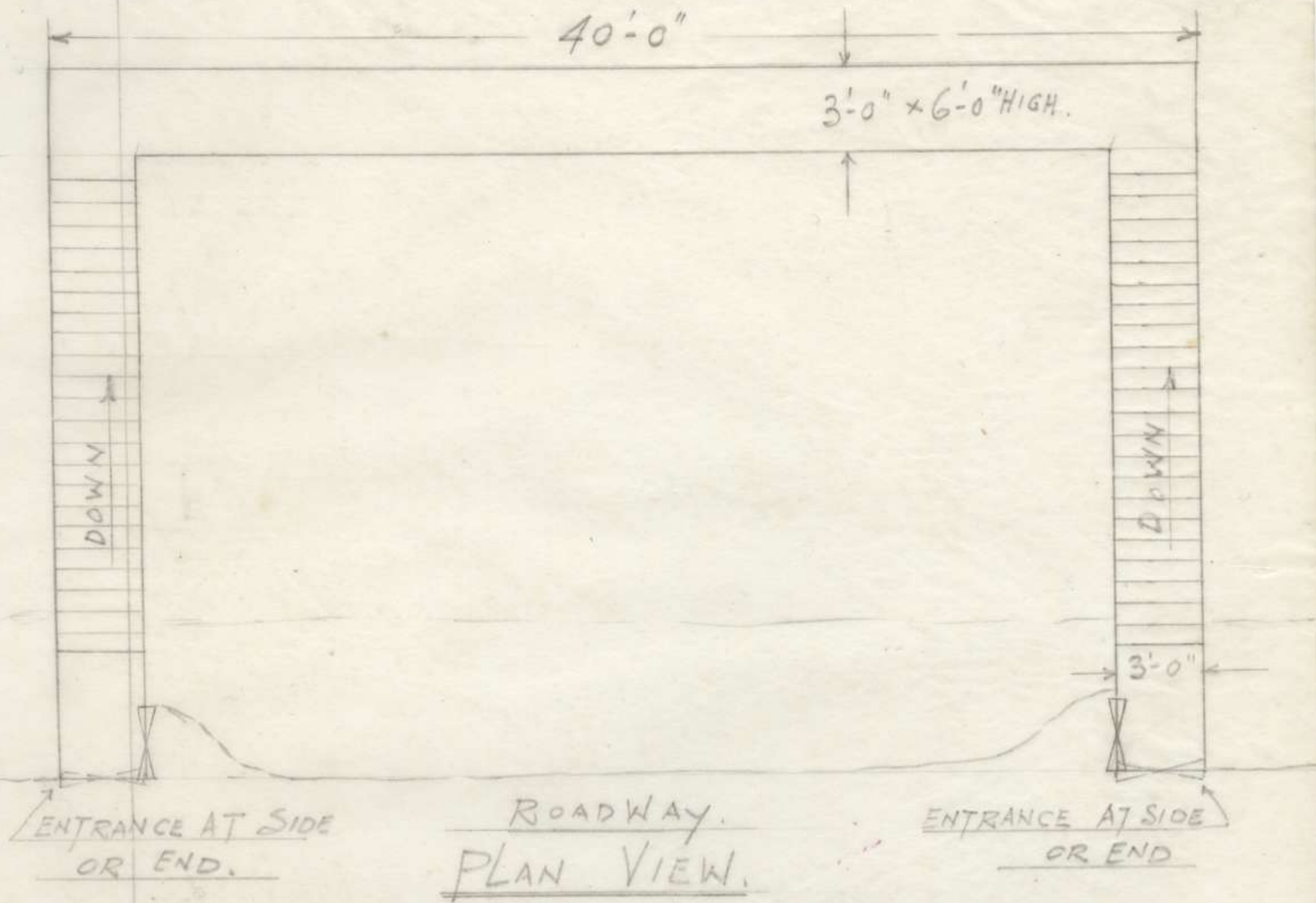
Appendix No.

APPENDIX

11

OF DEEP DUGOUTS IN LAGNICOURT-NOREUIL AREA.

SCALE 1/72. (USE GO SCALE.)



SECTION THRO' "A B".

APPENDIX
11

RCDIG1009566

Army Form O. 2121
(in pads of 100).
No of Message

From	CR. I.		
Place			
Time	5.00 p.m.		
The above may be forwarded as now corrected.		(Z)	Sgd A. B. CAREY.
Censor.		Signature of Addressor or person authorised to telegraph in his name.	

"A" Form.

Army Form C. 2121.

MESSAGES AND SIGNALS.

No. of Message

Prefix	Code	m.	Words	Charge	This message is on a/c of: Service. (Signature of "Franking Officer.")	Recd. at	m.
Office of Origin and Service Instructions.			Sent			Date	
			At			From	
			To			By	
			By				

TO

5 Pioneers

APPENDIX 6.

Sender's Number.	Day of Month	In reply to Number	AAA
* E 461	10		

Few trees	offers	one	while	16
found	Decauville	from	BRUGNY	also
stacks	of	Saus	lyria	along
CL.R.	BADAUME	to	MARTINPVIER	AAA
You	Supply	loading	parties	Few trees
supplies	trains	to	take	loading
partly	to	work	and	bring
back	Decauville	AAA.	Please	arrange
all	details.	with	Operating	Officers
CL.R.	and	commence	bringing	rail
up	for the with.			

From	C.R.E. 5 th	Ans Div
Place		
Time	1.35 pm	

The above may be forwarded as now corrected.

(Z)

Sq? A.B. CAREY.

Censor.

Signature of Addressor or person authorised to telegraph in his name.

* This line should be erased if not required.

(6691) Wt. W5148-M701. 50000. 8/16 Sir J. C. & S. E292.

"A" Form.
MESSAGES AND SIGNALS.

Army Form C. 2121.

No. of Message _____

Prefix _____	Code _____	m.	Words	Charge	This message is on a/c of: Service. (Signature of "Franking Officer.")	Reed. at _____ m.
Office of Origin and Service Instructions.			Sent			Date _____
			At _____ m.			From _____
			To _____			By _____

TO	8 th Field Coy		
	14 " "	5 Pioneers	APPENDIX 7.
	15 " "		

Sender's Number.	Day of Month	In reply to Number	
* GU 1/a	10		AAA

Deep dugouts are to be provided on the LONGATTE - NOREUIL - LAGNICOURT ROAD AAA. Field Coys will select sites and arrange for construction of these in their respective areas AAA. In selecting sites preference is to be given to sites where high banks exist which will save labour and to which M.C. positions. Every dugout entrance should have one M.C. or L.C. position prepared as close as possible to the entrance AAA. 5th Pioneers will put in hand five Deep Dug Outs for the Artillery Group near LAGNICOURT in consultation with Group Commander.

From	CRS.		
Place			
Time	4.33 pm		

The above may be forwarded as now corrected.

(Z)

Sgd. A.B. CADEY.

Censor.

Signature of Addressor or person authorised to telegraph in his name.

* This line should be erased if not required.

(6691) Wt. W5148-M701. 50000. 8/16 Sir J. C. & S. E292.

"A" Form.

Army Form C. 2121.

MESSAGES AND SIGNALS.

No. of Message _____

Prefix _____	Code _____	m.	Words	Charge	This message is on a/c of: _____ Service. _____	Recd. at _____ m.
Office of Origin and Service Instructions.			Sent			Date _____
			At _____ m.			From _____
			To _____			By _____
			By _____		(Signature of "Franking Officer.")	

TO

5th PIONEERS

APPENDIX 8

Sender's Number.	Day of Month	In reply to Number	
* GU 2/A	10		AAA

CRA. representative will phone you
 Kindly for to. morrow to select
 Exact sites Gunner dugouts AAA
 Gunners are drawing 100 mining
 Sets to night and will be
 responsible for delivery at site.
 AAA Please arrange to start
 work on all five if
 possible to. morrow night at dusk
 so as to be below
 ground at dawn AAA Please
 Send wagons to Pioneer Siding
 to night and draw 50 mining Sets
 and deliver to Engineer Dump North end of
 VAUX C26 a 72. AAA CRA will always draw Sets
 for Gunner dugouts and will supply some labour.
 AAA Acknowledged by wire

From	Chl. 5 th Aus Div
Place	
Time	5.0 pm

The above may be forwarded as now corrected.

(Z) Sqd. AB. CAREY

Censor.

Signature of Addressor or person authorised to telegraph in his name.

* This line should be erased if not required.

"A" Form.
MESSAGES AND SIGNALS.

Army Form C. 2121.

No. of Message _____

Prefix _____	Code _____ m.	Words _____	Charge _____	This message is on a/c of: _____ Service. _____	Recd. at _____ m.
Office of Origin and Service Instructions.		Sent _____			Date _____
		At _____ m.			From _____
		To _____			By _____
		By _____		(Signature of "Franking Officer.")	By _____

TO

CE. 1st ANZAC.

APPENDIX 9.

Sender's Number.

Day of Month

In reply to Number

* GU 3/a

10

A A A

Deep	dug out	Schisms	as	under
Twelve	along	LACNICOURT -	NOREUIL -	LONGATTE
Road	• AAA	Five	for	Artillery
S.W.	LACNICOURT	AAA	One	Brigade
Hq's	C5.2	AAA	One	Stretchers
Beavers	C10.2	AAA	One	Right
Brigade	HQ's	AAA	Two	C4d42
approach	for	M.G.s	AAA	All
will	have	two	Entrances	and
forty	feet	of	three	foot
fallen	with	twenty	feet	of
head	cover	AAA	All	Entrances
will	have	M.G.	or	L.G.
positions	at	mouth	AAA	Further
details	and	Suggestions	will	follow
later	after	Survey.		

From	CE. 5 th Aus Div.		
Place			
Time	7.50 pm		

The above may be forwarded as now corrected.

(Z) Sqd. A.B. CAREY

Censor.

Signature of Addressor or person authorised to telegraph in his name.

* This line should be erased if not required.

(6691) Wt. W5148-M701. 50000. 8/16 Sir J. C. & S. E292.

SECRETC.R.E. ORDER N° 4

1. 8th FIELD Coy will relieve 504 FIELD Coy in Right Brigade Sector D10a 58 to C6c 53 on May 12th. Arrangements for relief to be made direct between O.C.'s Companies.
2. 15 FIELD Coy will be relieved by 503rd FIELD Coy on night of MAY 12th. Arrangements to be made direct between O.C.'s Companies.
3. New inter Corps boundary after transfer of Left Brigade will be as follows:-
From old boundary C13c 70. along and including SUMNER ROAD to C8c 91. to C8d 32 thence along the valley to where it crosses the LONGATTE-NOREUIL ROAD at C9b 16. thence along the valley to where it crosses the Railway Embankment at C5a 05. to U29c 40. to U29a 77. to U28c 80.

Issued to 8 F Co
14 F Co
15 F Co
S Pioneer Bn.

11.5.17.

J. Mansell
Adj Sth Div Supt

APPENDIX 10

APPENDIX 11.

ENEMY MINES.

A small mine has been taken out of the undestroyed portion of a cellar at VRAUCOURT C.26.a.1.2.

The beds consisted of one bore and one insulated conductor the detonator had exploded but owing to damp had not exploded the charge.

The charge consisted of a broken wood box containing about six packets of Donarit in two kilo packets.

A mine has been taken out about 60 yards beyond the above mentioned mine, situated equidistant between an underground water cistern and a house cellar; the charge was found at the bottom of a vertical shaft about 8 feet below surface. The detonator had exploded but owing to damp had not exploded the charge. The charge consisted of twenty 1. Kilo packets of Donarit. Cleaning out this well has been started and is proceeding; owing to foul air at bottom some difficulty is found by men working; a fire at bottom has been found to assist clarifying the air.

APPENDIX 11

WAR DIARY.

WORKS REPORT 10/5/17 - 18/5/17.

MAP- SHEET 575 FRANCE.

(1) ADVANCE LINE.

- (a) Double Apron Defence erected from U.29.b.70.25. to U.29.b.75.05. also from U.29.d.7.8. to U.29.d.8.7.
 * Total length 225 yds.
 50 yds. double apron fence on right of Right Brigade Front.
 40 yds. " " " " left of " " Front.
 300 yds. Trip Wire on Left of Right Brigade Front.
 220 yds. single apron fence erected from U.29.b.83.75 to U.23.d.65.00.
 Right Brigade Sector 50% completed with D.A. & Trip wires in addition.

TRENCHES DUG.

- (b) Strong Point U.28.c.9.2. and U.28.central.

(c) Miscellaneous.

- (1) 12' x 5' splinter proof for listening set at D.13.c.1.9.
 (2) Communication trench from C.10.b.1.0. to C.5.c. cleared and maintained.

(2) SUPPORT LINE.

- (a) Wire placed in front of strongpoints C.11.d.5.3. C.17.b.6.9., C.17.b.9.7., ~~C.18.a.1.2.~~ C.18.a.1.2., C.18.c.4.8., C.24.b.9.3., D.19.c.2.3. making continuous double apron along whole length of support line.
 (b) Trenches.
 S.Ps. constructed at D.19.c.2.3., C.11.d.5.2., C.17.b.6.9., C.24.b.9.3., C.18.c.4.8., C.18.a.1.2., C.17.b.8.7.

CORPS MAIN LINES.

LAGNICOURT - NOREUIL Line.

Deep Dugouts. C.24.d.5.9. completed. 7 entrances.
 gallery of 240 ft.
 C.17.d.7.0.
 C.23.b.3.9.
 C.16.b.3.3.
 C.10.a.7.2.
 C.9.d.8.6.

VAULX - MORCHIES Line.

Dugouts completed in S.Ps. at C.28.c.3.7.
 C.21.c.5.3.
 C.21.c.0.4.
 C.20.d.8.4.
 C.20.b.1.4.

S.P. completed C.12.c.6.7.

VAULX INNER DEFENCE LINE

S.Ps. I.2.b.8.4., C.26.d.1.0., C.26.b.5.0., C.26.a.8.8.,
 C.19.d.8.3., completed.

C.26.a.3.7. dugout completed.

Double Apron Entanglement between I.2.b.8.4. and C.26.d.1.0.

APPENDIX 13

97

Miscellaneous.

Dressing Station C.20.d.2.8. Two shelters completed.

Deep dugout C.5.a.1.4. commenced.

NOREUIL Water Supply, hand driven Chain ELICE Pump
installed at well C.10.d.1.1.VAULX.

Crater C.26.c.7.8. filled.

VAUL - NOREUIL Decauville.

Pegged to C.11.c.9.3.

Line laid to C.16.a.8.7.

*8000' line laid*DEEP DUGOUTS, under construction.

C.29.d.2.4.,

C.29.a.5.1. ,

C.29.a.3.4.

C.15.d.1.9.

Headquarters 5th. Australian Divisional Engineers.

WORKS REPORT 19/5/17 - 25/5/17.1. ADVANCE LINE.

(a) 100 yds. double apron fence erected between C.18.b.9.6. and D.13.c.4.7.

600 yds. double apron strengthened and completed from D.13.c.4.7. towards Right Flank.

100 yds. low wire entanglement 12' wide in C.12.a.

100 yds. apron fence erected at D.13.a.0.0.

Double apron fence erected from U.29.b.7.9. to U.29.b.6.5.

At C.6.c.0.4. entanglements strengthened across railway and alarm trip wires erected.

(c) Miscellaneous..

Melbourne Avenue and Sydney Avenue cleaned and maintained.

2. Support Line.

(a) 80 yds. double apron fence erected at C.11.d.5.6.

160 yds. " " " " from C.18.c.3.8. to C.18.a.2.1.

Total double apron fence erected on support line 1480 yds.

STRONG POINTS for LAGNICOURT - BULLECOURT SWITCH have been sited at C.11.d.1.8., C.11.a.9.1., C.11.a.85.45.,

C.11.a.7.9., C.5.c.5.2., C.5.c.4.8. and C.5.a.6.4.

Traffic trench on LAGNICOURT - NOREUIL Road from C.17.c.5.3. to C.17.c.0.6. completed

3. Corps Main Lines(1) LAGNICOURT - NOREUIL LINE

The following Deep Dugouts have been completed :-

C.23.a.4.4. 2 entrances 40' gallery.

C.17.d.7.0. 2 " 40' "

C.23.b.3.9. 2 " 40' gallery.

C.29.a.5.1. 2 " 40' "

C.29.a.3.4. 2 " 40' "

C.10.a.7.1. 2 " 40' "

Following Deep Dugouts nearing completion :-

C.30.a.5.5., C.29.d.2.4., C.29.a.0.9., C.16.b.1.5., C.15.d.1.8., C.9.d.8.6. and C.5.a.1.5.

(2) VAULX MORCHIES LINE

Dugouts completed in STRONG POINTS at C.28.a.0.0., C.27.b.6.8., and C.27.b.0.7.

Following Strong Points being extended to 100 yds. in length :- C.20.b.1.4., C.20.a.9.6., C.20.a.7.9., C.14.c.3.4., C.13.d.7.9., C.13.d.1.8., C.13.c.6.7.

4. Miscellaneous.

(1) Dressins Station C.20.d.2.8., 2 elephant shelters completed, Deep Dugout continued.

(2) ROADS. Crater at LAGNICOURT C.23.b.8.5. detoured. Mined Culvert C.23.b.9.4. filled.

Road from VAULX to Dressing Station C.20.d.2.8. being repaired.

5. VAULX NOREUIL DECAUVILLE.

Line laid to C.17.a.2.9. Fit condition to take tractors to NOREUIL. Sidings put in at VAULX NORTH R.E. Dump C.26.a.7.2., Dressing Station C.20.d.2.8. and NOREUIL. Total length of rails now available on dumps along line 7000 yds., laid 3700 yds., total 10.700 yds.

Headquarters, 5th. Australian Divisional Engineers.PARTICULARS OF DEEP DUGOUTS IN 5th. DIVISIONAL AREA.

Location.	No. of Entrances.	Length of gallery.	Remarks.
C.23.b.3.9.	J 2	40 ft.	Nearing completion. Completed 23.5.17
C.17.d.7.0.	I 2	40 ft.	" " Completed 23.5.17.
C.17.d.7.5.	K 4	80 ft.	Commenced 20/5/17. Inclines completed Drives in progress
C.24.d.5.9.	H 7	240 ft.	Completed 19/5/17. ✓
C.30.a.5.5.	F 4	80 ft.	Commenced 19/5/17. Inclines completed Drives in progress
C.29.d.2.4.	A 2	40 ft.	Nearing completion. Work on drive continued
C.29.a.5.1.	B 2	40 ft.	Completed 20/5/17. ✓
C.29.a.3.4.	C 2.	40 ft.	----do----- ✓
C.29.a.0.9.	D 2.	40 ft.	Nearing completion. Completed 19.5.17.
C.28.b.9.9.	E 2.	40 ft.	----do----- Drive continued. 16' to break through
C.23.a.4.4.	G 2.	40 ft.	Commenced 19/5/17. Completed 23.5.17.
C.16.b.3.3.	L 6.	120 ft.	Nearing Completion. All inclines Completed Drives 25% complete
C.10.a.7.1.	O 2.	40 ft.	--- do----- Completed 21.5.17.
C.15.d.2.9.	M 2.	40 ft.	----do----- Drive broken through.
C.9.d.8.6.	N 6.	120 ft.	----- do ----- Drive broken through in each place.
C.5.a.1.5.	P 2.	40 ft.	----- do ----- Inclines complete Drives commenced.
C.17.d.2.0.	2.	40 ft.	Work in progress on Inclines.

Headquarters, 5th. Australian Divisional Engineers.

8th. Field Coy.
14th. do
15th. do
5th. Pioneer Bn.
"G"
File.
✓ War Diary.

APPENDIX 15

CORPS 2nd. LINE DEFENCES.

(1) All Fire Trenches will be dug with 30' Fire Bays and Traverses 18' by 9' with rear angles rounded off. Width of trench at top 5' Sides battered at 4/1 slope. Trenches in the first instance are not to be dug deeper than 3' and no fire steps will be provided.

(2) If new wire has to be erected it will consist of two rows of double apron fence 40' centres. Where possible Boche wire will be used and the equivalent of the above entanglement erected.

(3) Cover for supports and ~~supporting points~~ will, if possible, be sited behind the crest line and about 250 yds. in rear of the front line.

(4) Strong Points should be dug for a garrison of one platoon.

(5) Care is to be taken to make the trenches as inconspicuous as possible.

14/69/2
28/5/17.

H. B. T. Old Major,
A/C.R.E.
5th. Aus. Division.

APPENDIX 15

CONFIDENTIAL.

O.C.,
14th. Field Co.

I wish to bring to your notice the work of No. 61.
Sgt. HOWLETT, S. on night of May 15th./16th.

In LEFT BRIGADE SECTOR east of BULLECOURT on night
of May 15th./16th. No. 61. Sgt. HOWLETT Stanley, 14th. Field Co.
Engineers, showed conspicuous coolness and determination when
wiring on exposed portion of front line in LEFT BRIGADE SECTOR.

On proceeding up the Sap from the bombing post in
U.23.d.6.0. to commence wiring, Sgt. HOWLETT who was leading
his party, encountered an unwounded German and captured him.
Although under heavy fire from both bombs and rifles at close
range, Sgt. HOWLETT kept his men together and it was largely
due to his coolness and determination that the work was
successfully completed.

VAULX - VRAUCOURT.
17/5/17.

(Signed) E.O.K. GREEN, Lieut.,
No. 4 Section,
14th. Field Company .

Appendix 16

RCDIG1009566

Notes on Mule Haulage by Decauville.

Track ; - Should be of the following cross sections ; -

The essential points as regards this are ; -

- (1) There should be a good crown in centre of track.
- (2) That the mule track should be at least 6" below rail level; preferably 1' as shown.
- (3) That mule track* should be as close as possible to rails but not closer than dimensions shown.
- (4) That whole should be well drained. Where ground is soft and weather does not permit of proper hardening it is advisable to use corduroy from the start; the mule track will only cut up and require it later. Wired corduroy mats or old mining timber taken from old ruined dugouts are most suitable for this purpose.
- (5) The earth ballast is, as a rule, sufficient for the Decauville rails (axle loads not exceeding 15 cwt.)
- (6) Where earth is too soft to support Decauville rails it is advisable to re-sleeper with mining or *other timber with 2' spacing - timber laid parallel to the rails has proved almost valueless.
- (7) Curves should have a super elevation of 3" at least on outside rail especially where mules are pulling against curve.

TRUCKS. (8) These should be well greased - iron bearings have been most unsatisfactory - hard wood bearings are in every way better.

- (9) The side hooks for tow rope require to be such that tow rope can be easily unhooked by train man - accidents have occurred through the truck overrunning tow rope on a down grade which had the rope been slipped off quickly would not have happened.

(10) Towage from centre of truck should be avoided. The best arrangement has been the side pull from the 2nd. truck. Couplings require special attention.

- (11) TOW ROPE. Should be at least 15' long.

(12) TRAINS. These were run in batches of 3 trips each, 2 mules with drivers hauling the 3 trucks. 2 mules could take up to 4 tons on grades of 1 in 40. The longest relay for mules was from Ginchy to Pioneer Junction, i.e. 3 miles. 6 empty trucks could be brought back by 2 mules. Trains were usually sent out together, i.e. 15 trucks with 10 mules - each batch of 3 following closely behind each other. They can then give mutual assistance in case of derailments.

(13) Traffic. Signal men were stationed at various loops and sidings. This was found necessary - otherwise trains met in between and caused confusion and delay.

(14) Maintenance. In very wet weather such as was experienced in March & April 1917 - one Coy. can maintain 2½ miles of line - in good weather one Coy. should maintain 5 or 6 miles quite easily.

Sgd. H.G. Carter, Lt-Col.
O.C. 5th. Pioneer Battrn.

MULE DECAUVILLE.

Reference 5th. Pioneer's notes of 6/5/17;-

Para 1: The best of drainage is essential. For this reason the crown in the centre of the track is necessary. A slight hollow under each rail between each pair of sleepers to allow all the water which falls in the centre of the ~~drain~~ ^{track} to get out, and a good slope, say 1 in 10 down to the edge of the ~~two~~ side drains which should have a sectional area of about 2 sq.ft. each.

Para. 2: This is not an essential, though it is very desirable. In a very steep cutting and particularly in summer when a lot of wet weather is not to be expected, the mule track might be made on the side of the cutting even 2' above the rail level. The crowning of the rail omitted and the track made to drain across the rail between the sleepers. In this case a good table drain should be provided outside the mule track, and special care should be taken in maintenance to clear mud and water off the mule track in the line.

Para 4. The Decauville on which these notes were written was run for at least a week without any corduroy whatever. Corduroy was then placed at first in the bad sections only. With bad weather and a badly shelled area a large percentage of corduroy mule track is very desirable and eases the work on the mules, but it is not essential except in a few specially bad patches. A mule track 2' wide is ample. In some cases two mining timbers were used longitudinally spaced about 2" apart and held together by 3 or 4 small battens. These answered quite well. If timber is scarce sandbags filled with dry earth answer as a temporary expedient.

Para 6. This note refers to longitudinal timbers of a section of 4" x 1" only. 7" or 9" planks would probably have proved satisfactory, even on the worst ground, and would be more economical of timber than with sleepers. These 4" longitudinals were also used in very sloppy places.

Para 8. For mule haulage and very hastily laid lines one of the great problems is to cut down the weight of the rolling stock. Workshops at a considerable distance behind the line are very apt to add a lot of unnecessary iron fittings to trucks and to make the trucks larger than is necessary. Trucks for this purpose should be as light as possible and as simple as possible, subject to their being capable of carrying a load weighing $1\frac{1}{2}$ tons.

Para 9. The side hooks should be stubby and have the point slightly turned downwards. If this is done and the steel wire tow rope has a thimble properly spliced on the end then the tow rope will drop off directly the truck begins to run.

Para 10. Side hooks very often not being available towage from centre of truck has to be resorted to, and is quite practicable particularly if tow rope of not less than 15' is used. Side hook system is however very much the best.

Para 12. This note is written on several weeks experience of the very worst conditions imaginable as regards weather and ground broken up by shell fire. Normally one mule will haul 3 trucks and a second mule is desirable on grades steeper than 1 in 40 with 3 loaded trucks. This 2nd. mule can be a relay mule which only works on the steep grades. Perhaps 25% of the whole line in ordinary undulating country. In fairly flat country one mule should take the 3 trucks the whole way. The sending out of trains in batches of 15 to 18 trucks is absolutely essential with sidings at half mile intervals and capable of holding 20 trucks apiece. This is the only method ~~of~~ ^{by} which sufficient traffic can be got for the line.

Mutual assistance in case of derailment is, of course, also a strong point.

Para 14. The question of maintenance is very largely dependent on whether the line is originally made during wet or dry weather and whether the ground is largely cut about by shell fire. Ground untouched by shell fire and properly formed before being used will stand quite a lot of mule traffic with very little maintenance. Para 14 of the 5th. Pioneers is also written on the experience of the very worst conditions. le

Reference attached traffic schedule owing to the tactical situation in front this decauville was never pushed to its fullest capacity. It is estimated that with 70 to 80 mules and about 100 trucks a capacity of 200 tons per day could have been put over the line during daylight hours. The traffic returns shown were completed at least 95% during day. Practically nothing was run at night.

Lieut.Col. R.E.,
C.R.E.,
5th. Aus. Division..

6/5/17.

GINCHY - BEAULENCOURT RAILWAY.

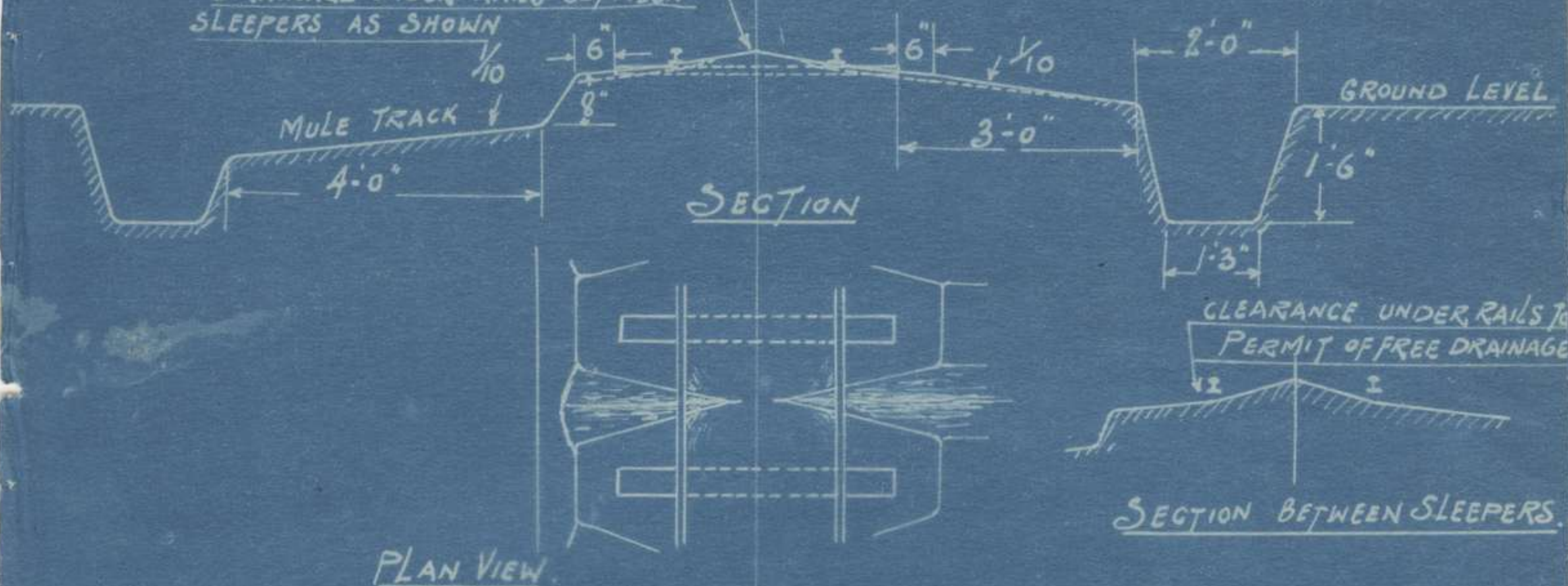
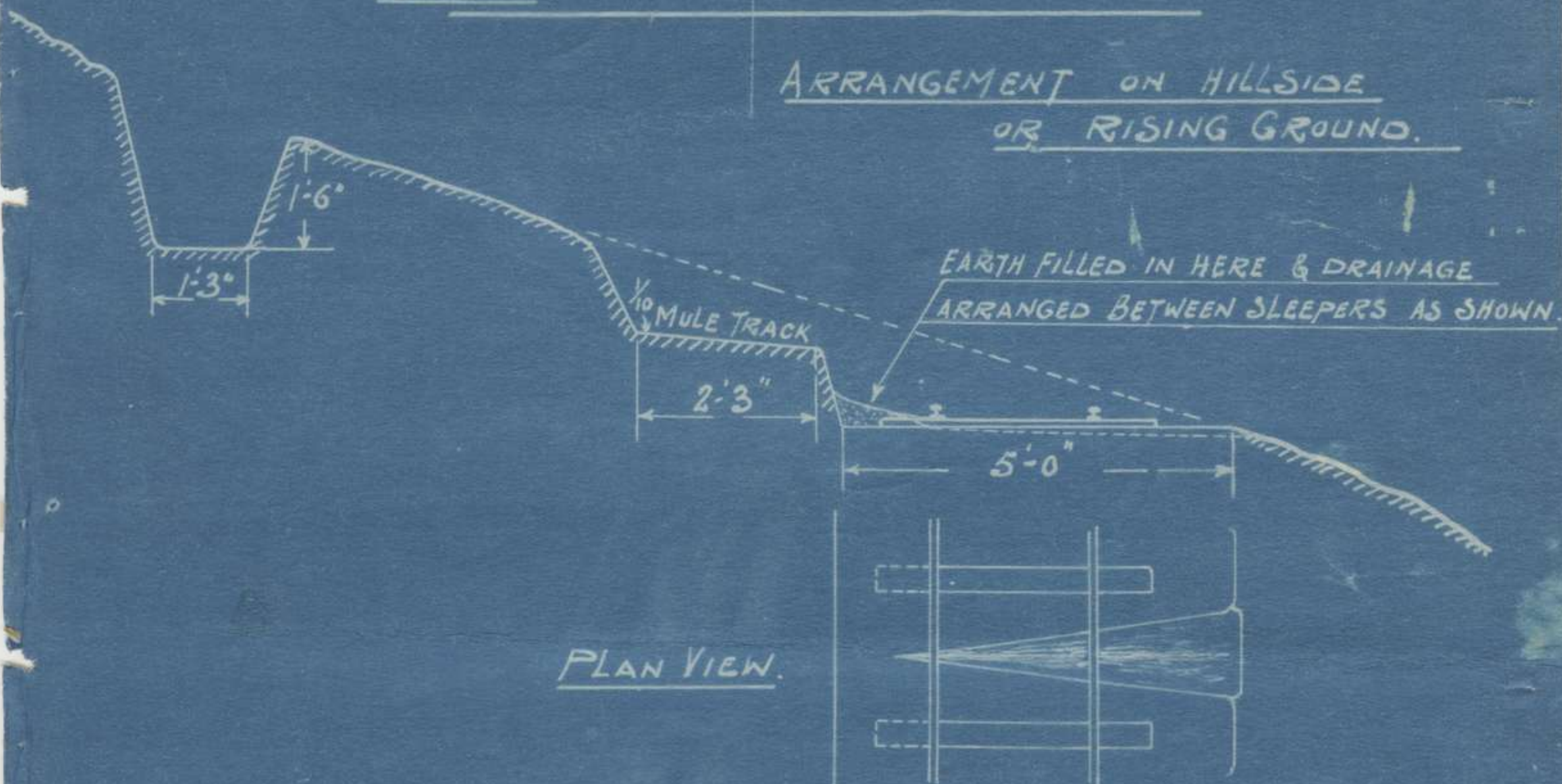
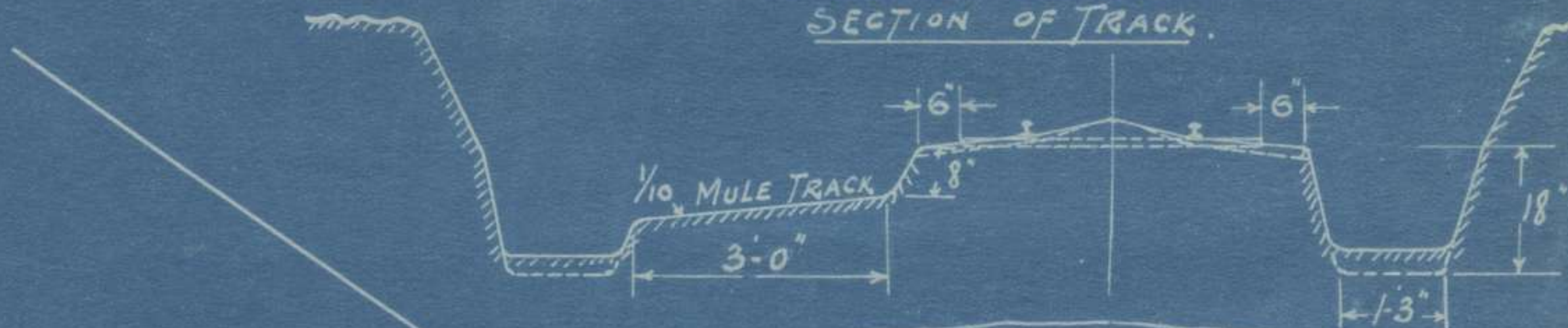
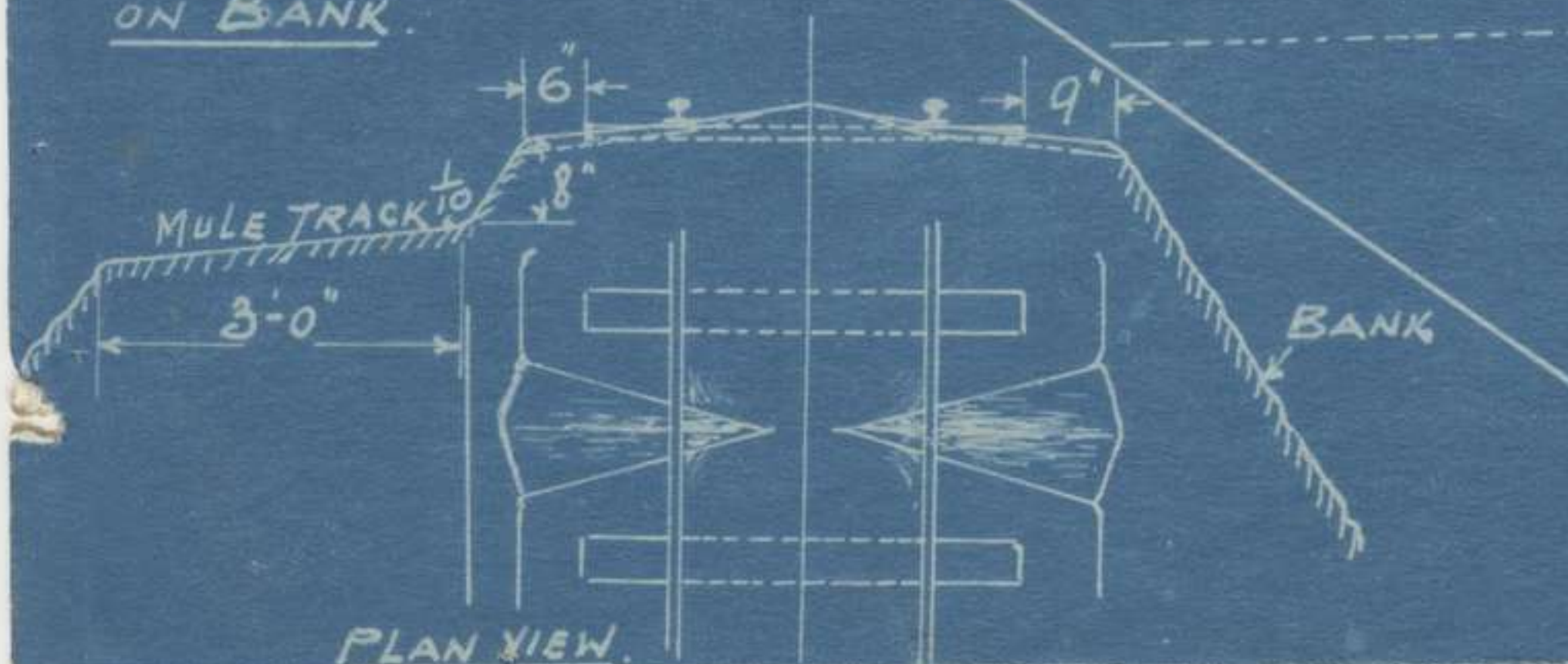
Date	No. of Trains	No. of trucks	Tons hauled.	Ton miles.	TRUCKS In service.	Under Repair.	Remarks.
Mar. 24			63				No. of mules available averaged 30 daily.
25	no record.						
26			54				
27	no record.						
28	13	63	50	200	29	5	
29	10	58	77	279	30	7	
30	10	56	81	321	41	7	
31	11	64	94	327	41	7	
Apr. 1	11	66	89	326	44	7	
2	11	69	101	429	43	8	
3	11	89	119	445	46	7	
4	12	73	100	381	54	9	(to accomplish this (drivers at Ginchy (did 4 trips there & (back working over (12 hours per day. Low ton haulage due (to short hauls. Fine day.
5	11	73	99	325	56	5	
6	13	92	119	390	59	2	
7	15	98	129	382	59	2	
8	16	108	129	324	59	2	Extra mules obtained (from C.R.A.
							<u>MAINTENANCE ON RAILWAY STOPPED.</u>
10	15	78	99	334	59	2	-do-
9	16	108	133	453	59	2	
11	12	87	109	297	59	2	
12	10	66	89	310	59	2	
13	12	72	94	276	59	2	Very fine day. (72 trucks of amm ⁿ . from Pioneer Jnctn. All amm ⁿ . cleared.
14	12	124	141	413	59	2	
15	no record, no material.						
16	7	76	76	192	59	2	No stuff from Ginchy
17	6	56	56	136	59	2	do.
18	Haulage stopped. All mules returned.						

Sgd. Chas. H. Heesham Capt.
 Adj. 5th. Pioneer Battalion.
 O.R. 1/260, 7/5/17.

TRACK FOR MULE HAULAGE. SCALE $\frac{1}{30}$ EXCEPT

EARTH CROWNED BETWEEN RAILS.
DRAINAGE UNDER RAILS BETWEEN
SLEEPERS AS SHOWN

WHERE OTHERWISE MARKED.

ARRANGEMENT ON HILLSIDE
OR RISING GROUND.IN WAY OF SHALLOW CUTTING THRO' RIDGE.
SECTION OF TRACK.ARRANGEMENT OF TRACK
ON BANK.SECTION THRO' RIDGE.
SCALE $\frac{1}{60}$

C.R.E.
5TH AUS. DIV. ENGRS

13.5.17