

AWM4

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

Tunnelling & Survey

Item number: 16/4/17

Title: 3rd Australian Tunnelling Company

July 1917



AWM4-16/4/17

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

WAR DIARY or INTELLIGENCE SUMMARY.

(Erase heading not required.)

3RD
AUSTRALIAN
TUNNELLING COY.

Army Form C. 2118.

No. 356
Date

Place	Date 1917	Hour	Summary of Events and Information	Remarks and references to Appendices
	July 1		<p>The Company worked over the LENS - LOOS Front areas. Strength of Company on 1st July 1917:- A.I.F. 20 Officers, 659 O.R's. B.E.F. 8 officers 11 ORs.</p> <p><u>WORK COMPLETED</u>:- Surveys of O.G. Shafts on N. side of LOOS CRASSIER. <u>WORK in PROGRESS</u>:- HILL 70:- Coy H.Q. off Bugs Alley, Novel Alley Tunnel (N.1c 75.40). Road Repairs from Fosse 11 to Fosse 16. Fosse 16 Water Supply Scheme. Listening from No.1 Shaft HILL 70 to Vendin Alley. At work on trenches, and shelters for Infantry. Work continued at the quarries. <u>CORRESPONDENCE R & I</u>:- G.B.201 from 1st Corps Ref. Appreciation of work of Company at raid at HILL 70 by 18th Infantry Brigade and others.</p>	Appendix 1.
	July 2		<p><u>WORK COMPLETED</u>:- Water Supply Scheme for CITE ST. PIERRE (Sheet 44a M.16b 9.9 and M.11d 3.4). Wells deepened and equipped with frames, windlassed etc. 2/100 gall. tanks were installed and revetted. Pipe columns laid down. At the quarries at LOOS, cleaned out Officers Quarters, and Dugouts for 3rd Aust. Tllg Coy personnel. <u>COMPANY ORDERS 412</u>:- No 6072, Spr WENTWORTH J.P. Died of Wounds accidentally inflicted 1-7-18.</p>	
	July 3		<p><u>WORK COMPLETED</u>:- Withdrew charge from No.1 Main Camerons. <u>WORK in PROGRESS</u>:- Coy H.Q. in Bugs Alley. Salvaging timber from O.G. shafts and galleries HILL 70. <u>CORRESPONDENCE R & I</u>:- Received from VI Div. G1 13/24/42 Ref. R.F.A. O.P. Posen Alley. <u>COMPANY ORDERS 413</u>:- 6 O.R's taken on strength as from 2-7-17.</p>	Appendix 2.
	July 4		<p><u>WORK in PROGRESS</u>:- Work on Road Reconstruction, and Dugout accomodation, LOOS Locality. H.Q. Dugouts Bugs Alley, and Salvage of O.B. and O.G. timber from HILL 70 mines. <u>COMPANY ORDERS 414</u>:- Lieut. A.L. KENNEDY allotted to No 2 Sect., 2/Lt J. DOW to No.1 Section. <u>CORRESPONDENCE R & I</u>:- VIDiv. Engineers E/198 Ref. Programme of Work.</p>	Appendix 3.

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3rd Tunnelling Coy
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3rd AUSTRALIAN TUNNELLING COY.
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Place	Date 1917	Hour	Summary of Events and Information	Remarks and references to Appendices
	July	5	<p><u>WORK in PROGRESS:-</u> As detailed on the 1st inst. Commenced Coy H.Q. Novel Alley.</p> <p><u>CORRESPONDENCE R & I:-</u> Received from C.E.1374/80 Ref. Priority List of Work.</p> <p>Notes and report of raid made by 2nd Durham L.I., 11th Essex Rgt., and 3rd Aust. Tllg Coy on evening of 28th June 1917.</p>	Appendix 4 " 5
	July	6	<p><u>WORK in PROGRESS:-</u> Driving Subway off Novel Alley (Sheet 44a M.1c 75.40). Worked at night only as trenches were obliterated by enemy shells. Btn H.Q. at the Quarry (M.6a 95.35). Dugouts at Meath Trench. R.F.A. Posts at Fosse 7. Mining at HILL 70, driving to connect Scotts and Camerons lateral. Listening and Salvaging. Reinforcing Section Cellars at LOOS Sinking new latrine pits and returning salvaged ammonal to H.Q. by G.S. Waggon.</p> <p><u>COMPANY ORDERS No 416:-</u> Lieut. H.W. BROWN was made acting O.C. No 2 Section.</p>	
	July	7	<p><u>WORK COMPLETED:-</u> On HILL 70 Dugouts off Bug Alley including Company H.Q. in O.G.1 (M.6b 60.40) and Platoon Dugouts (N.1a 00.15) and (N.1c 10.90) 50 cases Ammonal and 32 cases Blastine sent by G.S. Waggon on return journey to H.Q.</p> <p><u>WORK in PROGRESS:-</u> Driving Scotts and Camerons Laterals, and No 1 Deep Main. Cleaning all surplus spoil and bags from Camerons. Extensions to Dugouts at the quarries.</p> <p><u>CORRESPONDENCE R & I:-</u> Received from C.M.1123/2 and I. of M.2555, Ref. "Shafts on HILL 70".</p>	Sketch "A" " B Appendix 6
	July	8	<p><u>WORK in PROGRESS:-</u> R.F.A. Dugouts at Fosse 7. Charing Cross Putting in Light Railway Fosse 11 to CITE ST PIERRE ROAD. Work on HILL 70 at Embankment and cutting Nero Trench.</p> <p><u>CORRESPONDENCE R & I:-</u> Deppatched Report on enemy blow at HILL 70 on the 8th inst. Recd from 16th Division G.356/37 Ref. Spoils party. Coy Strength A.I.F. 21 Officers 658 O.R's. B.E.F. 72 O.R's.</p>	Appendix 7 " 8
	July	9	<p><u>WORK COMPLETED:-</u> At (M10c 50.50) Fosse 16 Water Supply Scheme. Laid main pipe line, cleaned well pit. Hauled girders as Head Cover over Machinery Room, carting and unloading Engine, and Pump. Placed reinforced concrete head cover over Engine Room. One 9000 gallon tank to be installed to complete the scheme. This work was carried out by the special investigation detachment. Special Investigation for VI Can. Inf. Bde at Hill 70 of Dugouts at M18c 66 and M 11b 55.45.</p>	

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WAR DIARY or INTELLIGENCE SUMMARY.

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3rd Tunnelling Coy.
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3rd AUSTRALIAN TUNNELLING COY.
Army Form C. 2118.
Date.....

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Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
	July	9	<p><u>WORK COMPLETED:-</u> (Continued) No enemy traps completed. Work at the Quarries and Rly Embkmt. The enemy exploded a mine at 11.20 a.m. 8-7-17. Two minor casualties.</p> <p><u>COMPANY ORDERS 419:-</u> No 5299 Spr COX J.B., 6827 Spt McALINDEN H.L., 5952 Spr ANDREWS G. Wounded 8-7-17.</p>	
	July	10	<p><u>WORK COMPLETED:-</u> Cleaned and renovated 7 cellars off Scotts Alley, Loos; also H.T.M.E. off North St. near Loos Crassier for new R.F.A. working party. No.1 Main Camerons completed chamber and charged with ammonal.</p> <p><u>WORK in PROGRESS:-</u> Dugouts Systems in Meath Trench, and R.F.A. O.P. in Posen Alley.</p> <p><u>COMPANY ORDER 420:-</u> No 1062 Sapper KIRWAN J.J. Wounded 9-7-17.</p>	
	July	11.	<p><u>WORK COMPLETED:-</u> Work of Special Investigation party on nights of 9th and 11th insts. Infantry covering party in O.G. trenches between Nash and Novel Alleys.</p> <p><u>WORK in PROGRESS:-</u> Subway at Novel Trench, Meath Dugouts, Road Repairs etc.</p> <p><u>COMPANY ORDERS 421:-</u> Appreciation for work in raid on 28-6-17, and regret at the loss of Major L.J.COULTER D.S.O. who was killed by a sniper's bullet on 28-6-17.</p> <p><u>CORRESPONDENCE R & I:-</u> Despatched A.M.0694, Ref.Dugout Explosions.</p>	Appendix 9
	July	12	<p><u>WORK COMPLETED:-</u> Mining at HILL 70. Camerons No 1 Main extended 70' and chambers cut. 8' x 6' x 6'6" and charged with 10,000 lbs of Ammonal and 100 lbs guncotton. Duplicate electrical leads, with two elect.detonators in G.C.Primers in priming charges of 20 lbs G.C. one kat instantaneous fuse to No 8 set, in G.C. primer, and priming charge 20 lbs G.C. Leads tested</p> <p><u>WORK in PROGRESS:-</u> Clearing and salvaging from xxxx Scotts and Camerons Mines Systems. Dugout construction and Road repairs.</p> <p><u>COMPANY ORDERS 422:-</u> No 1300 Sapr CASSIN W.F. Died of Wounds 11-7-17.</p>	
	July	13	<p><u>WORK in PROGRESS:-</u> O.P.'s for R.F.A. and H.A. off Posen Alley (G.24c 40.25). Meath Trench Dugouts and Btn H.Q. at H.25c 65.95. Bde Battle H.Q. off the quarries.</p>	

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3rd Australian Tunnelling Coy.
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Place	Date 1917.	Hour	Summary of Events and Information	Remarks and references to Appendices
	July	13	<p><u>WORK in PROGRESS:-</u> (Continued) Examination of Dugouts and cellars by the special Detachment at CITE ST. EDUARDE, N7a. Located one Dump containing 200 - 50 lb charges of Perditite. Proceeding with dugout for T.M. personnel, and Embrasures at the Chalk Pit. Cleaned up billets and cookhouses.</p> <p><u>CORRESPONDENCE R. & I.:-</u> Received from 6th Divn Operation Order 142/1, and amendment Ref. "14 Bis Group F.A."</p>	Appendix 10.
	July	14	<p><u>WORK COMPLETED:-</u> Covered and Camouflaged gunpits and magazine at Charing Cross. Cleaned out old flues to facilitate driving for Dugouts for R.F.A. At HILL 70 mines, grading and stripping. Work in progress as detailed above.</p> <p><u>COMPANY ORDERS 424:-</u> Lieut. R.E. TYLER Wounded by M.G. bullet 13-7-17.</p>	
	July	15	<p><u>WORK in PROGRESS:-</u> As detailed on the 12/13 insts. Coy Strength A.I.F. 21 Officers, 665 O.R.'s Attached B.E.F. 670 O.Rs.</p> <p><u>CORRESPONDENCE R. & I.:-</u> Received from 2nd Canadian Div. Operation Order Ref. Bde Reliefs night 16/17th July. Rec. from H.Q. 16th Inf Bde G.382/19, Ref. Listening Reports, also Capt. Hillman's report thereto.</p>	Appendix 11 " 12
	July	16	<p><u>WORK in PROGRESS:-</u> Erecting Elephant Irons at Gun Pits. Shell crater filled over repaired flue at FOSSE 7. Fosse 16 Water Scheme completed. Handed over to W.S.O. Canadian Corps. Clearing spoil from HILL 70 Mine system through Gordon Incline.</p> <p><u>COMPANY ORDER 426:-</u> Capt. A.J. HILLMAN transferred to No 4 Section. Lieut. G.T. CRAWSHAW to No 3 Section, Lieut. V.C. BENNETT to No 2 Section on 15-7-17.</p> <p>4420 Spr McLEAN H. Wounded 15-7-17.</p>	
	July	17	<p><u>WORK in PROGRESS:-</u> Railway Tunnel, HILL 70. Quarry Dugout and work as detailed as above.</p> <p><u>CORRESPONDENCE R. & I.:-</u> Received from 2nd Canadian Infantry Brigade. B.M. 667 Ref. Work Table. Rec. G.4/27 Ref. Work. G.1784 Ref Spoils Parties. C.M.1237/2 from C.of M. 1st Army, Ref.</p> <p>Appointment of Major Sanderson to be C.O. 3rd Australian Tunnelling Coy.</p> <p><u>COMPANY ORDERS 427:-</u> 7 O.R.'s taken on strength as from 16-7-17.</p>	Appendix 13 " 14 " 15

Army Form C. 2118.

Date.....

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INTELLIGENCE SUMMARY.

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Place	Date 1917	Hour	Summary of Events and Information	Remarks and references to Appendices
	July 18		<p><u>WORK COMPLETED:-</u> Repairs to "A" Main, Chalk Pit Gallery. Listening</p> <p><u>WORK in PROGRESS:-</u> opening up O.G. front line Dugouts; and special investigations.</p> <p>Hauling from Gordons Slant.</p> <p><u>COMPANY ORDERS 428:-</u> 4514 Spr WILSON G. Wounded on 16-7-17.</p> <p><u>CORRESPONDENCE R & I :-</u> Received VI Divn Operation Order, Reference Relief of VI Divn by 46th Divn on 25-7-17. Received from the C.E. Canadian Corps S/2/6: Reference Special Investigation Detachment.</p>	Appendix 16
	July 19		<p><u>WORK COMPLETED:-</u> O.P's for R.F.A. and H.A. off Posen Alley (G.24c 40.30). Work handed over to the 170th Tunnelling Coy., R.E. Stripping for underground railway HILL 70.</p> <p><u>CORRESPONDENCE R & I :-</u> Received G.32/717, Reference Special Investigation party.</p>	Sketch "C" Appendix 17
	July 20		<p><u>WORK in PROGRESS:-</u> Company H.Q. and Platoon Dugouts Meath Trench. Bde H.Q. at the Quarry. LOOS. R.F.A. Dugouts at Fosse 7. Bde Battle H.Q. Village Lines. Taking Signals and electric light cables through HILL 70 Mine System. Listening from N10 25.70 to Boyan 69 Vendin Alley. Commenced R.A.M.C. Dressing Station off Shaft in O.G. front line. Extending Dugouts at the Quarries. Tunnelling through Railway Embankment, HILL 70, broke through a brick wall. Cleaned and graded tunnel from flues at Fosse 7 on Lens-Bethune Road.</p> <p><u>COMPANY ORDERS 430:-</u> Of this date, under A.I.F. memo A.A.G., A.I.F. 44/288 Captain A.Sanderson MC. is appointed to command as from 11-7-17 and is promoted to the rank of Major as from 1-7-17. The following honours and awards were announced:- No 4250 Actg 2/Cpl BOCKSETTE W.F awarded Military Medal; No 3592 Sapper BURNS J. awarded the Military Medal.</p>	
	July 21		<p><u>WORK in PROGRESS:-</u> As detailed on the 20th inst.</p> <p><u>COMPANY ORDERS 431:-</u> No 5832 Sapper SKUES W.C.T. Wounded 19-7-17.</p> <p><u>CORRESPONDENCE R & I :-</u> Received from Controller of Mines 1278/2 Reference Electric Lighting. " " " " " 1282/2 " Gas in Mine Laterals at HILL 70.</p> <p style="text-align: center;">Recommendations for honours concerning</p> <div style="float: right;"> <p>4485 Sapper Thomas R.S. 2473 " Burris C.W. 4250 2/Cpl Bocksette W.F. 3592 A Sapper Burns J.</p> </div>	Appendix 18 " 19 Appendix 19a

D. D. & L., London E.C.
(10349) Wt W5300/P713 750,000 3/18 E 688 Forms/C2118/16

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3rd Tunnelling Coy
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3RD AUSTRALIAN TUNNELLING COY. Army Form C. 2118. No. <i>356</i> Date
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Place	Date <i>1917.</i>	Hour	Summary of Events and Information	Remarks and references to Appendices
	<i>July</i>	<i>22</i>	<p><u>WORK COMPLETED:-</u> Repairs to crumped entrance of Black Watch Main to HILL 70 Mine System. Connection to Advanced Btn Battle H.Q. Dugouts, and enlargement of dugout chambers. Gas Doors in Cameron Main Gallery, and Gordon Incline. At HILL 70 No 4 Mine D.D.L.I. opened up and cleared; also clearing lateral from Quarry. Opening 21 shaft for Signallers cables.</p> <p><u>WORK in PROGRESS:-</u> Other Work carried on as under the 20th inst.</p> <p><u>COMPANY ORDERS 432:-</u> Captain A. Sanderson, M.C. awarded the Bar to the M.C. Company Strength, A.I.F. 21 Officers 640 O.R.; B.E.F. 8 Officers, 7 O.R.</p>	<i>Sketch "D"</i>
	<i>July</i>	<i>23</i>	<p><u>WORK COMPLETED:-</u> Investigated enemy charge at N.1a 90.00 in captured galleries HILL 70. Charge untamped and salvaged.</p> <p><u>WORK in PROGRESS:-</u> Includes picking up the old Proto Dugout, and inclines with R.E. Sets, and extending for a R.A.M.C. R.A.P. Renovating and extending the Quarries dugout systems, and tunnelling through Railway Embankment. At work on Bde H.Q. dugouts and Dugout system at Fosse, Charing Cross. Salvaging O.G. Sets.</p> <p><u>COMPANY ORDERS 433:-</u> No 6640 Sapper PRICE R.J. Killed in Action 22-7-17.</p>	
	<i>July</i>	<i>24</i>	<p><u>WORK COMPLETED:-</u> Repairs to Crumped entrance to Railway Embankment Tunnel off Novel Alley. Encountering and cut through a brick wall (4' thick) in centre of embankment. At Hill 70 from Deep Deep Lateral at N.1a 45.95 broke through into enemy mine system, and captured 774' of his galleries. At work surveying, and salvaging from same.</p> <p><u>CORRESPONDENCE R & I :-</u> Received from Controller of Mines 1304/2 Reference Pamphlet S.S. 163, and Lecture.</p> <p><u>COMPANY ORDERS 434:-</u> 2 O.R's taken on Strength as from 23-7-17.</p>	<i>Appendix 20</i>
	<i>July</i>	<i>25</i>	<p><u>WORK COMPLETED:-</u> At Chalkpit (H.25d 15.95 Sheet 44a) for T.M. Btn Ammunition Chambers (3) completed, and dugouts for T.M. personnel. Repaired entrance to Mine Gallery. 12' crumped by Minenwerfer, also 3 entrances to chambers which were crumped by enemy T.M's.</p> <p><u>WORK in PROGRESS:-</u> Picking up O.G. Galleries, and clearing an enemy winze. Making trench at old Proto dugout. Dugout systems at the Quarries, and railway embankment tunnel.</p> <p><u>CORRESPONDENCE R & I :-</u> Rec. from Inspector of Mines 2641 Ref. Refresher course at Army Mine School. Report from C.O. to C of M. Ref. Investigation of enemy mining system at HILL 70.</p>	<i>Appendix 21</i> <i>" 21a</i>

DD FORM 1, London B.C. 11/15
(10345) Wt W 3300/P 713 750,000 3/15 E 888 Forms/C2118/16

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3rd Tunnelling Coy.
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3RD AUSTRALIAN TUNNELLING COY.
Army Form C. 2118.
No.
Date 25/6

Place	Date 1917	Hour	Summary of Events and Information	Remarks and references to Appendices
	July	26	<p><u>WORK COMPLETED:-</u> Timbering "A" Incline at Proto R.A.M.C. Stn. Connection of Cameron Main with O.G. Gallery Systems.</p> <p><u>WORK in PROGRESS:-</u> As on the 20th inst.</p> <p><u>CORRESPONDENCE R & I:-</u> 1st Canadian Infantry Bde Operation Order 158 Ref. enemy mining system.</p>	Appendix 22
	July	27	<p><u>WORK COMPLETED:-</u> Blew Camouflet (maximum) 10000 lbs Ammonal from end of main, after tamping enemy galleries.</p> <p><u>WORK in PROGRESS:-</u> Hill 70 Mines, advancing No. 1 R.1 L.1 connection. Opening entrances to O.G. front line system, and galleries cleared through to Camerons (N.1a 43.87) Sheet 44a. Listening from (N.1a 25.70) to Chalk Pits (inclusive). Last sounds heard 29-7-17.</p> <p><u>CORRESPONDENCE R & I:-</u> Received from Controller of Mines 135/2 Reference Road Repairs. Mine Explosion report at Hill 70.</p>	Appendix 23 " 24
	July	28	<p><u>WORK COMPLETED:-</u> Special Detachment ran Signal cables and Electric light cables through advanced tunnels Hill 70 to O.G. l.</p> <p><u>WORK in PROGRESS:-</u> The re-timbering of Camerons Main and Lateral. Proto man constantly in the mine on account of Gas.</p> <p><u>COMPANY ORDERS 438:-</u> A.A.G., A.I.F. 151/27/44 Lieut H.W. BROWN to be Captain. 2/Lieutenants R.C.B. ASHCROFT and T. TAYLOR to be Lieutenants as from 22-7-17.</p> <p><u>CORRESPONDENCE R & I:-</u> Report from Lieut Grainger re Gas Casualties.</p> <p>C.M. 1352/2 Ref. Mining Operations at HILL 70. Army Commander's thanks.</p> <p>C.M. 1358/2 Ref. Leave Allotment.</p>	Appendix 25 " 25a " 25b
	July	29	<p><u>WORK COMPLETED:-</u> Bth H.Q. Dugouts off Meath Trench (Sheet 44a H.25c 65.95). Boring and flooring Dugouts.</p> <p><u>COMPANY ORDERS 439:-</u> No 6642 Sapper RYAN J.B. Wounded 27-7-17. No 4240 Spr HANSSON H.J.H. Slightly Wounded, Remained on Duty. 4 O.R.'s Slightly Gassed 28-7-17.</p> <p><u>Company Strength:-</u> A.I.F. 21 Officers, 639 O.R.'s. B.E.F. 8 Officers 5 O.R.'s.</p> <p><u>CORRESPONDENCE R & I:-</u> Received from C. of Mines 1372/2 and 1367/2 Ref. Special Investigation Detachment. Memo from Lt H. Russell to C.O. Ref. Electric cable.</p>	Appendix 26 " 27

3rd Tunnelling Coy.
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Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
	1917			
	July	30	<p><u>WORK COMPLETED:-</u> R.A.M.C. Aid Post in Camerons old Support line. Alteration and extension of old 3rd Aust. Tunn. Coy's Mine Rescue Station (Sheet 44a H.31c 50.25).</p> <p><u>WORK in PROGRESS:-</u> Fixing Bunks in Meath Dugouts. Salvaged all Ammonal from Chambers Hill 70. Gas still hanging in Tunnels. Cleaned up Camerons Shaft.</p> <p>Listening Salvaging and carrying.</p> <p><u>COMPANY ORDER 440:-</u> No 4506 Sapper WHITE F.H. Slightly Wounded 29-7-17.</p> <p><u>CORRESPONDENCE R & I:-</u> Received C.C. I.G. 140 Ref. new Enemy Gas.</p>	Sketch "E" Appendix 28
	July	31	<p><u>WORK COMPLETED:-</u> At the Quarry, Bde Battle H Q. Chambers off old Mine Gallery, and retimbered and regraded gallery (M.6a 90.30). Bunks and fittings installed with timber salvaged from old enemy galleries. All tools salvaged from O.B. Mines.</p> <p><u>WORK in PROGRESS:-</u> As detailed on the 20th inst. Advanced Crassier O.P., LOOS.</p> <p><u>CORRESPONDENCE R & I:-</u> Report on enemy mining system at "The Copse" (M.C. S.N. 1M. 6.3)</p>	Appendix 29
	July	1917.	<p><u>RESUME OF WORK FOR MONTH ENDED:-</u> Early in the month one section moved into LOOS from LIEVIN and engaged upon a programme of Dugout and O.P. construction which was completed within the month. At HILL 70 mining operations were continued, and certain important connections effected. The partially demolished system of galleries in the enemy's Sector was broken into. Charges were salvaged and the workings of doubtful value and possible risk to us were completely demolished by a maximum camouflet. Following this the Section was employed on the work of Dugout and O.P. construction and general consolidation of trench sectors in captured areas outlying HILL 70. Important water services were installed by the Special Detachment to the front lines at LOOS and ST. PIERRE from heavily watered shafts behind the immediate battle area.</p> <p><u>Added.</u> Report by Lt. Wallman on condition of Listening Galleries between Cameron & Kendin Alleys. Correspondence re return of Capt. J.O. McDell to the Unit. Report by Capt. A.C. Morris on work done at junction of Novel Alley & Railway Embankment. Notes on condition of front line. Important Point re Tunnel Defence etc.</p>	Appendix 30 31 32 33 34. 35 36 37 38

July 1917.

W. 15517—M. 141. 250,000. 356 L.S. & Co. Forms/W 3091/2.

Army Form W. 3091.

Cover for Documents.

Nature of Enclosures.

May 1917

June "

July "

Notes, or Letters written.

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War Diary
of
3rd Aust. Tunnelling Coy.
for
July 1917.

List of Appendices.

No.

Subject.

- 1 G.B. 201 from 1st Corps. Ref: Appreciation of work in Raid on Hill 70.
- 2 From 6th Div. G.I. 13/24/42. Ref: R.F.A. O.P. Posen Alley.
- 3 From 6th Div Engs. E/198 Ref: Programme of Work.
- 4 From C.E. 1374/50 Ref: Priority List of Work.
- 5 Notes & Reports on Raid made by 2nd Durham L.I. 3rd Aust. Tulp. Coy & others.
- 6 From C.M. 1123/2 + J of M. 2555. Ref: Shafts on Hill 70.
- 7 Report on enemy "Blow" on Hill 70 on 8th.
- 8 From 16th Div. G 356/37 Ref: Spoils Party.
- 9 A.M. 0694 Ref: Dugout Explosions.
- 10 6th Div Operation Order 142/1 Ref: "14 Div Group F.A."
- 11 From 2nd Can. Div. O.O. Ref: Brigade Reliefs. 16/17 July.
- 12 From H.Q. 16th Inf. Bde. G 382/19 Ref: Listening Reports & Capt. Hillman's Report.
- 13 From 2nd Can. Inf. Bde. B.M. 667 Ref: Work Table.
- 14 G. 4/27 Ref: Works: G. 1784 Ref: Spoils Parties. C.M. 1237/2 from C of M.
- 15 Appointment of Major Sanderson to be CO. 3rd Aust. Tulp. Coy.
- 16 6th Div. O.O. Ref: Relief of 6th Div. by 46th Div. on 25/7/17.
- 17 From C.E. Can. Corps 5/2/6. Ref: Special Investigation Detachment.
- 18 From C.M. 1278/2 Ref: Electric Lighting.
- 19 From C.M. 1282/2 Ref: Gas in Mine laterals at Hill 70.
- 19a Recommendations for Honours.
- 20 From C.M. 1304/2 Ref: Pamphlet S.S. 163 & Lecture.
- 21 From J of Mines 2641 Ref: Refresher Course at Army Mine School.
- 21a Report from C.O. to C of M. Ref: Investigation of enemy mining system at Hill 70.
- 22 1st Can. Inf. Bde. O.O. 150. Ref: Enemy Mining System.
- 23 From C of M. 137/2. Ref: Road Repairs.
- 24 Report on Mine Explosion on Hill 70.
- 25 Report from Lt. Grainger re Gas Casualties.
- 25a C.M. 1352/2 Ref: Mining Operations at Hill 70. Army Commander's thanks.
- 25b C.M. 1358/2 Ref: Leave Allotment.
- 26 C.M. 1372/2 + 1377/2 Ref: Special Investigation Detachment.
- 27 Memo from Lt. H. Russell to C.O. Ref: Electric Cable.
- 28 From C.C. 1 G. 150 Ref: New Enemy Gas.
- 29 Report on enemy mining system at The Copse & Plan.

Sketches.

- "A" O.G.I. Trench Dugouts. Sheet (44a. N 66. 60. 40)
 "B" Platoon Dugouts (" N 1a 00. 15)
 "C" O.P. for R.F.A. & H.A. Posen Alley (" N 1c 10. 90)
 "D" Brigade Battle Hd. Qs. Hill 70 (" G. 24c. 40. 30)
 "E" Dressing Station, Cameron Alley (" M 6a. 90. 30)
 (" H 31c. 42. 25)

Added. Appendices

30
31
32
33
34

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Appendix I.

O.C., 3rd Australian Tunn: Coy.R.E.

No. 201 (G.b.) 1st July, 1917.

With reference to your A.M.0636 of 29th June, forwarding report on the work of your Company during the raid at HILL 70 by 18th Inf. Bde., the Corps Commander would be glad if you will inform all ranks how much he appreciates the excellent work which they did during the raid. The work which demanded a high degree of courage and discipline for its efficient execution was thoroughly carried out with great coolness and in a systematic manner.

G.V. Hordern

Brigadier General,
General Staff, I Corps.



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Controller of Mines,
First Army.

I have read with great interest and admiration the report by O.C. 3rd Australian Tunnelling Company on the successful raid on the enemy's trenches at HILL 70, on 28.6.17.

The thorough nature of the work done by the party under Captain Sanderson reflects the highest credit on all concerned. This is one of the few instances recorded where adequate charges for wrecking enemy shafts have been employed by us, and should form a valuable precedent.

It is with the deepest regret that I learned of the death of Major Coulter on this occasion, though no mention is made of it in the report. Please communicate this to O.C. 3rd Australian Tunnelling Company.

G. H. Q.,
5/7/17.

(Sd) R.N. Harvey,
Brigadier General,
Inspector of Mines.

*Appendix. 1.*

C.M. / 1124 / 2.
First Army.

O.C., 3rd Aust.
Tun. Coy.

Would you please convey to all concerned these appreciative remarks by the Inspector of Mines on the successful results of the raid at HILL 70 on June 28th, and his sympathy at the loss sustained by the death of Major Coulter.

Your report on the operation was also submitted to the Army Commander, who has expressed his written appreciation of the "excellent work" performed by the 3rd Australian Tunnelling Coy. on this occasion.

Adv. First Army,
7th July, 1917.

R. Stokes

Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.



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SECRET.

C.E., I Corps.

6 Div
3rd Australian Tunneling Coy } Information

The following work is required on this front, and it would be of the greatest assistance if the 3rd Australian Tunneling Coy, could carry it out. I have consulted the O.C. and have ascertained what Spoils parties he will require, and these will be provided.

- (1). Some tunnelled dug-outs under the Slag-heap at FOSSE 7. These are very necessary to enable the guns there to keep in action.
- (2). Completion of some dug-outs in MEATH TRENCH, H.25.a.6.0. for use as a Company H.Q.
- (3). Provision of 2 Medium T.M. emplacements off an old incline about H.25.c.45.50. to deal with wire etc., at 14 BIS.
- (4). Provision of 2 Medium T.M. emplacements about FOREST TRENCH H.25.Central.
- (5). Provision of a Heavy T.M. emplacement near the Medium T.M. emplacements mentioned in (3) above.

It will, of course, not be possible to take on all these at once, but O.C. 3rd Australian Tunneling Coy says he could commence on (1) (2) and (3) at once if the necessary authority is given.

Lieut. Colonel, R.E.

3rd July, 1917.

C.R.E. 6th Division.

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APPENDIX 3

6th Divn. G.I.13/24/42. (6) 14

Officer Commanding,

3rd Australian Tunnelling Company.

With reference to I Corps No. 1/C.A./987 of today's date.

Please report at Headquarters 16th Infantry Brigade to discuss and arrange details with B.G.C. regarding the construction of the two artillery O.P.'s off POSEN ALLEY and the disposal of the spoil.

W. Beevor

Major,

General Staff.

N.B.

Appendix 3.

6th Divn. G.I.13/24/42.

✓ 3rd Australian Tunnelling Coy (for information)
6th Divisional Artillery.

Under instructions received from the Corps, work on the O.P. off POSEN ALLEY will now be commenced.

A spoil party of 2 N.C.O.'s and 50 O.R. (1 N.C.O. and 30 O.R. from the 6th Divisional Artillery and 1 N.C.O. and 20 O.R. from Heavy Artillery I Corps) will report to Headquarters 3rd Australian Tunnelling Coy, (L.25.d.8.3) on the 5th inst.

6th Division party will take rations with them for the 6th.



W. Beevor

Major,

General Staff.

N.B.

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APPENDIX 4. 15.



C.R.E., 6th Division.

Your No. E/198, dated 3/7/17.

1. The scheme for tunnelling for a Battery position under FOSSE 7 is not approved.
2. The following work will be carried out in order of preference by the 3rd Australian Tunnelling Coy., provided the necessary spoil parties are provided :-
 - (a) O.P's for R.A. in POSEN ALLEY.
 - (b) Company H.Q. Dug-outs - MEATH Trench.
 - (c) T.M. Emplacements - H.25.c.4.5.
 - (d) do FOREST Trench - H.25.c.
 - (e) Dug-outs for personnel as may be required in FOSSE 7.
 - (f) Heavy T.M. near H.25.c. 4.5.
3. Building Trench Mortar Emplacements is not normally work for Tunnelling Coys., and they are liable to be taken off this work if they are required elsewhere.

Sd. E. ATKINSON,

Brig. General,

Chief Engineer, I Corps.

5/7/17.

Copies to :-

C. of Mines.

O.C. 3rd Australian Tunn: Coy. ✓

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3rd Aust Lim. Coy6th Divn No.G.O.2/85.
=====

NOTES ON REPORT OF RAID BY ONE COMPANY OF 2/DURHAM L.I. AND ONE COMPANY OF THE 11/ESSEX REGT ON THE EVENING OF 28th JUNE 1917.

1. Everything possible had been done beforehand to attract the enemy's attention to our Divisional front, and particularly to that portion held by the 18th Infantry Brigade, and to induce him to anticipate an attack there. The intensity and promptness of his barrage, the strength in which his line was held, and the determined resistance which he offered prove that these efforts had been successful.

In view of this the Divisional Commander considers it a remarkably fine achievement of the 2nd Durham L.I. and 11th Essex Regt that they succeeded in forcing their way into the enemy's trenches and maintaining themselves there as long as they did.

2. The importance of the men being trained to use their rifles effectively on opportunity offering was again demonstrated, as it had also been in the raid by the 1st The Buffs on 24th June 1917. The retirement was successfully carried out under cover of rifle fire by rear guard parties against the enemy who immediately advanced across the top to occupy his front line.

3. The dummies attracted the enemy's artillery and had the effect of considerably reducing the intensity of his barrage on the front raided.

4. The necessity of penetrating to the enemy second line at least, in order to obtain any number of prisoners or to capture machine guns was again emphasised.

3rd July 1917.

M. B. Sewer Major.
General Staff.

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Report on raid carried out on the evening of 28th June by one Company 2nd Durham L.I. and one Company 11th Essex Regt (or equivalent).

Zero hour was at 7.10 p.m.

The day previous to the raid 1000 dummies were placed in the trenches.

Wire-cutting had been carried out on the Brigade front by 6" Hows, 4.5" Hows and Torpedoes.

There had been two dummy barrages on the two days previous to the raid; on neither occasion did the enemy do anything in the way of retaliation.

At Zero hour on the night of the operation however, the enemy put down his barrage practically at once. It appears as if the dummies and previous activity had succeeded in making him believe that something more serious than a raid was intended. The barrage put down was the heaviest I have seen in a raid, and lasted through the whole period our troops were in his trenches.

The enemy fought hard throughout.

2nd D.L.I. attacked on the right, and 11th Essex on the left. A party of the 3rd Australian Tunnelling Company went over with the 11th Essex Regt, and did good work in blowing in the entrance to the enemy's mining system.

2nd DURHAM L.I.

At Zero hour the raiders got well away with our barrage, and entered the German trenches immediately it lifted. No difficulty was experienced in getting through the wire. It appears that the left of the Company lost direction and went too far south. This was unfortunate, as the German strong point situated at N.1.a.85.80 which should have been dealt with, prevented the 2nd Durham L.I. from joining hands with the 11th Essex Regt. From the reports of 2 officers, at least 25 Germans were killed. Germans were soon to run into dug-outs situated at N.1.a.85.60. Two Stokes bombs were dropped into the dug-out, which was completely wrecked.

The German trench was in a very bad state of repair.

The German barrage came down about 25 yards in front of his own wire. I saw the 2nd D.L.I. move through this barrage to enter the German trench. It appears that the raiders were in the German trenches only about 30 minutes. They had a strong point on their right, and the strong point previously referred to on their left, and reinforcements were brought against them over the open. A number of these were soon to fall. This party fought till they ran short of bombs. At about 7.45 p.m. Captain FILLINGHAM ordered them to retire. This retirement was carried out in good order.

As regards bombs:- Every man of the party had 2 bombs; those were collected in dumps. The bombers had 10 bombs each, and rifle grenadiers 10 Rifle grenades each. The going was very heavy and rough, and it was thought better not to overload the men, but the amount taken over was not sufficient.

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- 2 -

Estimated casualties:-

- 1 Officer killed.
- 16 O.R. wounded.
- 12 O.R. missing believed killed.

No living were left in the trench.

11th ESSEX REGT.

Went over in three parties, "A" "B" and "C". Having a short distance to go, they did not leave their trenches until Zero plus 2½ minutes. All preliminary arrangements went without a hitch.

Party "A" met with little opposition, and took objective. Later it was continually attacked, and suffered heavy casualties. Party "B" encountered stiff opposition, but succeeded in making a block, which was held until the pre-arranged time for withdrawal. Party "C" met with no opposition, the block in the German trench where it was to enter, having been taken by Party "A" who drove the defenders into a dug-out, from which they refused to emerge. After entering the German trench, the raiders were fighting the whole time they were there. The left squad of Party "B" was attacked continually, the enemy bombing from behind a traverse. It became so weak, that assistance had to be sent from party "A" who were in turn reinforced from our post in the old German line. The arrangements for reinforcements and replenishment of bombs worked well. Five of our dead were left in the German front line, as on our withdrawal the enemy at once advanced across the top to reoccupy their trench, and a stiff rifle fight ensued between his and our rearguard.

I consider the performance of the 11th Essex Regt a particularly good one. From about Zero plus 30, to the time they withdrew at Zero plus 60, they were continually attacked, and had great difficulty in keeping the enemy out of his trench. This was achieved mostly by rifle fire.

The casualties in 11th Essex were severe; the exact number is not yet known. Two officers are known to have been killed and one wounded.

3rd AUSTRALIAN TUNNELLING COMPANY.

Under Captain SANDERSON, M.C. entered the enemy trench after party "C" of the 11th Essex Regt. They effectively destroyed three mine shafts. They also blew in two dugouts with mobile charges; two dead Boches were seen in one and one in another. It was found impossible to examine the lower workings, owing to a bombing squad of the 11th Essex Regt, having already bombed the entrances, and they were found full of smoke. Capt. Sanderson saw Germans firing at our men from a dugout; these were driven in, and a mobile charge sealed the dugout.

Casualties inflicted by snipers behind the German front line. I regret to report that Major L.J. COULTER D.S.O. and his Orderly were shot by one of these.

This part of the raid was a complete success so far as demolition was concerned.

There is one prisoner as a result of the raid. ✓

With regard to the dead Boches reported by two officers of the 2nd D.L.I. I think this is quite possible, as this regiment has been suffering continuously and severely for the last ten days of its tour in the trenches. I consider, that taking into consideration, the weakness of this Battalion and what it has been through, that its advance and entry into the German line was in every way most satisfactory.

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The smoke barrage put up opposite 47 was let off a minute before Zero in error. Although this gave the enemy an extra minute in which to look round, the wind took the smoke over the area of the operation, and absolutely concealed everything from view for about 20 minutes.

Boiling oil was successfully projected on to enemy strong point about N.1.a.50.55.

Both units reports the artillery barrage as perfect.

The wire was no obstacle.

Thirteen Machine Guns searched the enemy's trenches in rear of the area to be raided; about 63,000 rounds were fired and I am inclined to think that if it had not been for this fire, our men would have had great difficulty in holding on.

The enemy was alert and very aggressive.

Our Stokes Mortars did good work in thickening the Artillery barrage (which was of course weak), and in protecting the flanks of the raiders.

The arrangements made by Lieut-Colonel IRVINE., D.S.O. Commanding, 2nd Durham L.I. and Major MANGER, Commanding 11th Essex Regt appear to have worked without a hitch.

29/6/17.

(sd) R.J.BRIDGFORD. Brig:Gen:
Comdg, 18th Infy Brigade.



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Controller of Mines,
First Army.

2555
I. of M.

A serious accident has occurred to a man who accidentally fell down a mine shaft, which belonged to a Mine System connected with a Dugout System.

such
Please issue/orders as may be necessary to safeguard occupants of dugouts, who may be strangers in the area, and unaware of the existence of mine shafts in the vicinity.

All shafts of disused Mining Sectors should be closed up.

G. H. Q.,
5/7/17.

(Sd) R.N. Harvey,
Brigadier General,
Inspector of Mines.

- 2 -

O.C., 3rd Aust. Tun. Coy.

C.M./1123/2.
First Army.

For your information and necessary action.

Please see that old vertical mining shafts, liable to be a source of danger to the Infantry, are adequately protected, in your present Sector.

Adv. First Army,
7th July, 1917.

R. N. Harvey
Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.

[Signature]

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(FOR BRITISH MINE, USE OTHER SIDE).

SECRET.

Appendix 7

MINE EXPLOSION REPORT (ENEMY).

^{1st} ARMY.

^{1st} CORPS.

^{6th} DIVISION.

^{3rd} Australian TUNNELLING COMPANY R.E. SECTOR Hill 70

DATE July 8th 1917 TIME 11-20 A.M.

Location of Blow	N. 1. a. 38. 83.
Nature of Ground	Hard chalk
Probable depth of Charge	50 feet
Probable object of Mine	To damage British Front Line.
Underground damage	Nil. (a few tons of Loose Chalk shaken down in 100M, 200. LIRI. and Seaforth Main Gallery)
Surface Effects	Crater about 60' feet diameter x 30 ft deep Lip of crater covered 40 yards of New British Front Line (O.S.I.).
Dimensions of Crater (if any)	60' dia. x 30' deep.
Infantry action regarding Crater: (Particularly stating whether any new positions occupied appear adequately protected underground.)	Nil.
Gas Effects Underground	Nil.
Casualties:—Underground	2 Slight Casualties from falling chalk
Surface	Nil.
General Remarks	The entrance to the gallery from which this charge was blown is in front of British Front Line, probably in Old Enemy Support Line (Natal Trench) or between that trench and present British front Line. It is likely that the enemy occupies other galleries between Natal Trench and our Hill 70 Mining system, as we have not found entrances from his old front line (O.S.I.) to some of his galleries which are known from Listening results to exist.

(Sketch attached).

Date

9th July. 1917

Signed

Alex Sanderson
Capt.
3rd Australian Tunnelling Coy.

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SECRET.

(FOR ENEMY MINE, USE OTHER SIDE).

Army Form W3376.

MINE EXPLOSION REPORT (BRITISH).

ARMY. CORPS. DIVISION.
TUNNELLING COMPANY R.E. SECTOR
DATE TIME

Location and depth of Charge	
Nature of Ground	
Details of Charge: (Size, class of explosive, form of packing and primers used)	
Tamping: (Lengths of Solid and Air Spaces)	
Reasons and Authority for Mine	
Effects of Explosion:	
Dimensions of Crater	
Underground effects	
Estimated H.R.R.	
Surface effects	
Gas Conditions	
If against enemy gallery, estimated distance	
Infantry action regarding Crater: (Particularly stating whether any new positions occupied appear adequately protected underground)	
General Remarks	

(Sketch attached):

Date

Signed

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Appendix 8.

O.O. 1/The Buffs
 8/Bedfords
 1/K.S.L.I.
 2/Y. & L.
 16th T.M. Batty
 W 6. T.M. Batty
 3rd Australian Tunn. Co. ✓

H. Q.
10TH INFANTRY BDE.
No. 5356/37
Date

-
1. The following Spoils Party will be found by the Battalion holding the RIGHT SUB-SECTION from their Reserve Company commencing 10-0pm 9th instant for work under 3rd Australian Tunnelling Company R.E. on the Company Headquarters in MEATH TRENCH and the Trench Mortar Emplacement in CHALK PIT WOOD :-

3 shifts of 8 men each: each shift working for 8 hours.

2. Rendezvous Company Headquarters G.30.d.5.9. at JUNCTION of CHALK PIT ALLEY & RESERVE TRENCH.
3. In case of alarm, parties will immediately proceed to rejoin their Companies.

R. B. Heslie

Captain.

8/7/17.

Brigade Major, 16th Infantry Brigade.

R.B.

Copy
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The Controller of Mines,
Advanced First Army/

Re explosions of enemy traps in dugouts entered from Ahead Trench at M 30 to 30.50 on 360 SW 1.

The enemy left this trench at 9.30 p.m., on the 24th June. The first explosion occurred at 8.30 p.m., on 26th June, 41 hours later, completely wrecking the entrance to a dugout. Six explosions occurred in dugout entrances afterwards, at intervals up to 10.30 a.m., on 28th June, or 85 hours after the enemy had retreated.

Between 8 a.m., & 9.30 a.m., on the 28th June, Lieut. Russel with a party of sappers examined the dugouts in this trench and found an explosive charge in the back of one entrance, behind the timbers about half way down the stairway. It appeared to be a charge of about 60 lbs. weight. The Company Commander in the trench was warned and Brigade advised. The charge exploded at 10.30 a.m., one hour later, and destroyed the dugout. In the other entrance to the same dugout one case, about 60 lbs. weight, of explosive resembling Trinitroanisol was found at the foot of the stairway, but there was no appearance of any charge having been hidden in the entrance.

The charges were doubtless exploded by a time device, probably of the copper wire in acid bath type.

These dugouts are situated outside the area allotted to my Company for investigation, otherwise the examination would have been made earlier.

The examination was undertaken at the urgent request of the C.R.E., 46th Division after some explosions had occurred.

Alex Sanderson
Captain.

11/7/17.

Acting O.C., 3rd Australian Tunnelling Company.

MB

✓

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Appendix 10.

SECRET.O.O.142/1.

The following amendment will be made to 6th Division O.O.142 dated 13/7/17:-

Para: 7. To read as follows:-

"The Artillery of the 14 BIS GROUP and one H.T.M. in the part of the front being taken over by the 1st Canadian Division will not at present be relieved.

With the exception of one H.T.M. all Trench Mortars will be relieved under arrangements to be made direct by C.R.A.s concerned

13th July 1917.

[Signature]
Captain.
General Staff.

✓

SECRET.

O.O.142/2.

In continuation of 6th Division O.O.No.142 of to-day's date:-

1. The boundary, in the forward area, between the I Corps and the Canadian Corps after the completion of relief will be:-

BOYAU 61 (exclusive to Canadian Corps) - G.23.c.7.1.
- G.25.b.0.7.

The boundary in the back area will be notified later.

2. The command of the part of the front relieved will pass to G.O.C., 1st Canadian Division at 12 noon on the 16th July. At that hour 6th Division Headquarters will close at BRAQUEMONT and open at CHATEAU DES PRES.

3. The 18th Infantry Brigade (less Battalion at HESDIGNEUL and M.G. Company at FOUQUIERES) will be withdrawn on relief to the area MINGOVAL-VILLERS CHATEL-CAMBLIGNEUL-BAUCOURT-HERMIN.

[Signature]
Lieut-Colonel.
General Staff.

13th July 1917.

To recipients of O.O.No.142.

[Initials]

✓

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Data etc

SECRET.

Copy No....28....

2ND. CANADIAN DIVISION OPERATION ORDER NO. 131.

15th July 1917.

1. On night July 16th/17th the following reliefs will take place :-
 - (i) 5th Canadian Infantry Brigade from Reserve will relieve 4th Canadian Infantry Brigade in LAURENT Section.
 - (ii) 4th Canadian Infantry Brigade from LAURENT Section will relieve 6th Canadian Infantry Brigade in LENS Section.

Details to be arranged direct between G.O's.C., Brigades concerned.
2. Relief of machine guns will be carried out on night July 17th/18th.
3. 6th Canadian Infantry Brigade on relief will come into Reserve and will be billeted as follows :-

1 Battalion	...	BULLY GRENAY.
2 Battalions	...	FOSSE 10.
1 Battalion)		
M.G.Company)	...	BOUVIGNY and BOUVIGNY
T.M.Battery)		WOOD Huts.
4. On night July 17th/18th, 5th Canadian Infantry Brigade will take over from 2nd Canadian Infantry Brigade (Headquarters LES BREBIS) portion of line between present Northern Boundary and new Northern Boundary. (Vide G.S. 1596/317 dated 13/7/1917).
 Details to be arranged direct between G.O's.C., Brigades concerned.

AW. Steiner
Major for Lieut. Colonel,
General Staff,
2nd. Canadian Division.

Issued at 10.00 a.m.

P. T. O.



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Distribution.

- Copy. No. 1. Office Copy.
2. War Diary.
3. General Staff.
4. A.A.&C.M.G.
5. 4th Canadian Infantry Brigade.
6. 5th Canadian Infantry Brigade.
7. 6th Canadian Infantry Brigade.
8. 2nd C.D.A.
9. 46th D.A.
10. C.R.E.
11. 2nd Canadian Pioneer Battalion.
12. D.M.G.O.
13. Signals.
14. 14th Canadian M.G. Company.
15. D.G.O.
16. A.D.M.S.
17. Canadian Corps.)
18. Canadian Corps.)
19. C.C.R.A.)
20. C.C.H.A.)
21. C.C.M.G.O.) for
22. 63rd H.A.G.) information.
23. 1st Canadian Division.)
24. 3rd Canadian Division.)
25. 6th Division.)
26. 16th Squadron R.F.C.)
27. 170th Tunnelling Company.)
28. 3rd Australian Tunnelling Coy.)

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Secret

H. Q.,	
16TH INFANTRY BDE.	
No.	5382/19
Date	

P.C. 3rd Australian Tunneling Coy.

P.C. 1st R.S.L.I. reports that sounds of mining have been heard from a dugout in his support line between BORDAUX 63+64. Taken alone this might be attributed to the work being done in MEATH TRENCH but there is a further suspicious circumstance.

There is a large accumulation of newly dug chalk behind POSEN crater which is said to be taken there by night on rollers from a point about 200 (?) yards south of POSEN CRATER. Would you kindly have the matter investigated as soon as conveniently possible?

W. S. W. R. J. S.

15. VII. 17

Andy 16th Inf Bde

Capt Hillman

O.C. No 4 Section.

I would like you to personally investigate this matter please. A good deal of chalk has accumulated opposite the Chalk Pit salient lately and the enemy may intend to try and straighten out his line at this point. On several occasions recently the Infantry have reported hearing suspicious sounds and although it is quite likely the noises came from within our own lines I would like them to be definitely traced, so that the Infantry may be perfectly assured that there is no danger. Lt Allen sent listeners to this part of the line yesterday and he vaguely reports that "the sounds were caused by men working in the trench above". Surely, if the Infantry were working in the trench above the dugout they would have accounted for the sounds themselves. Will you please attend to this as soon as possible and afterwards call and see the G.O.C. 16th Inf Bde. 17th Alex Sanderson, Col O.C. 3rd Aust 2nd Con

D. G. 336

3rd Australian Tunnelling Coy.

I investigated this report this morning & I find that there is no evidence that the enemy is mining here. The sounds are accounted for by work in neighboring dug-outs and our own trenches.

Further, Listening Galleries L. G. 26. & L. G. 27. on the left of Bagan 63, which are driven forward from the FRONT line afford ample protection. These galleries are patrolled by our listeners daily.

The chalk spoil dump is not yet any larger than would be accounted for by the construction of dug-outs. It is situated about 50 yds South of Rosen Crater.

I have seen G.O.C. 16th I.B. and he is satisfied with the result of the investigation.

J. Millman Capt

16-7-17.



L.H. 34

Appendix 13.

3rd Australian
Tunnelling Coy.

18-7-17

Owing to a relief
being carried on tonight
the Work Party "D" and
the 10-00 PM shift of
Parties E-F & G will not
report for work.

This is in accordance
with Brigade Instructions.

Work Party schedule
now in force will be handed
over to relieving Battalion
of the 3rd Can. Inf. Bde.

18/7.

Miller
Capt. Day
10th Bn.

VNB

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Headquarters,
2nd Canadian Infantry Brigade
17th July, 1917.

5th Canadian Infantry Battalion, (Western Cavalry)
7th Canadian Infantry Battalion, (British Columbia)
10th Canadian Infantry Battalion,
2nd Canadian Trench Mortar Battery,
D.F.M.O., 1st Canadian Division,
3rd Australian Tunnelling Company.

Herewith please find Work Table, 2nd
Canadian Infantry Brigade, which will come into
force tonight, 17th July, 1917.

Please acknowledge receipt.



J. J. Macgregor

Major,
Brigade Major,
2nd Canadian Infantry Brigade.

118.

WORK TABLE
2ND CANADIAN INFANTRY BRIGADE.

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Party No.	Unit	No. of men	Work	Rendezvous	Guides	Time of Reporting	Remarks.
A.	7th C.I.Bn.	200	Carrying T.M. Ammunition	AS per arrangement made with Div. T.M. Officer, (Capt. DEAN)	-	-	Night 17th/18th only.
B.	7th C.I.Bn.	2 H.C.Os) 30 men)	Carrying Stokes Ammunition	Church, LOOS	Officer of 2nd C.T.M. Bty	9.30 p.m.	Night 17th/18th only.
C.	5th C.I.Bn.	75 men, in shifts of 25 each.	Spoil from Bde Headquarters	QUARRY, (M 6 d 90.30)	Representative of 3rd Australian Tunn. Coy.	shifts 1st, 10 p.m. 2nd, 6 a.m. 3rd, 2 p.m.	Nightly, commencing 17th/18th; to be handed over to relieving Bn. Each night an extra 10 men will be supplied for carrying to work from 10 p.m. till daylight.
D.	10th C.I.Bn.	30 men,	Carrying.	CRUCIFIX Dump (G 35 b 80.95)	Ditto.	10. p.m.	Nightly. Work till daylight.
E.	10th C.I.Bn.	24 men, in shifts of 8 each.	Spoil Party	Coy Hq. dugouts (H 25 a 60.00)	Ditto.	shifts	These three parties have three shifts each, changing at hours stated.
F.	10th C.I.Bn.	36 men, in shifts of 12 each.	do.	Coy Hq. dugouts (H 25 c 50.70)	Ditto.	1st, 10 p.m. 2nd, 6 a.m.	These parties will be taken over by 3rd C.I. Brigade, on relief.
G.	10th C.I.Bn.	30 men, in shifts of 10 each.	do.	T.M. Hq. dugouts (H 25 b 20.00)	Ditto.	3rd, 2 p.m.	

APPENDIX 14

33.

SECRET

1st Canadian Division.
17th July, 1917.



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3rd Australian Tunnelling Coy.
2nd Canadian Infantry Brigade.
3rd Canadian Infantry Brigade.
1st Canadian Divl. Artillery.
1st Canadian Divl. Engineers.
C. E. Canadian Corps.

1. Arrangements have been made for the 3rd Australian Tunnelling Company to undertake the following work for the 1st Canadian Division.

- (a). The completion of an Advanced Brigade Headquarters at the QUARRY (M.5.a.).
- (b). The completion of a Company Headquarters in MEATH TRENCH (H.25.c.6.9½.).
- (c). The Construction of Dugouts, off MEATH TRENCH in CHALK PIT WOOD, which have already been started.
- (d). The Construction of Ammunition Stores and Shelters for the Trench Mortar personnel in the CHALK PIT (H.25.Central).
- (e). Open up old German Dugouts in the Right Section for Battalion Headquarters.

2. For the above work Brigades will find Spoil and Carrying Parties as follows:-

2nd Canadian Inf Brigade. (Right Section).

For (a).

Spoil Party.

3 Eight Hour Reliefs of 25 men, to report at 2.00 p.m., 10.00 p.m. and 6.00 a.m. daily at the QUARRY.

Carrying Party.

10 men each night to meet the Tunnellers at the QUARRY at M.6.a.9.3., at 10.00 p.m.

For (e).

Such assistance as is required by the O.C. 3rd Australian Tunnelling Coy.

3rd Canadian Inf Brigade. (Left Section).

For (b).

Spoil Party.

3 Eight Hour Reliefs of 8 men, to report at 2.00 p.m., 10.00 p.m. and 6.00 a.m. daily, at H.25.c.6.9½.

For (c).

Spoil Party.

3 Eight Hour Reliefs of 12 men, to report at 2.00 p.m., 10.00 p.m. and 6.00 a.m. daily, at H.25.c.5.8.

For (d).

Spoil Party.

3 Eight Hour Reliefs of 8 men, to report at 2.00 p.m., 10.00 p.m. and 6.00 a.m. daily at the CHALK PIT (H.25.Central).

Carrying Party for above Workings.

24 men nightly to meet a guide from the
Tunnelling Coy at CRUCIFIX DUMP (G.35.b.7.9). at
10.00 p.m.

3. Please acknowledge.

R. H. Keasley

Lieut-Colonel.
General Staff.
1st Canadian Division.

Adv. Brigade Hqrs. for 3rd C. Inf Bde.
at G. 28. Central -

Spoil party 12 per shift 6 am. 2 pm. 10 pm.
Carrying party nightly of 20 men 10 pm.

Aid posts:- Cameron 2nd C. Inf Bde

Spoil party 6 men. 6 am. 2 pm. 10 pm.

Seaport

Spoil party 15 men 6 am. 2 pm. 10 pm.

W.B.

G.1784.

Headquarters,
3rd Canadian Infantry Brigade.
17th July, 1917.

13th Battalion.
3rd Australian Tunnelling Coy.
1st Canadian Division (for information.)

The following working parties will be required
to commence at 10 p.m. tomorrow night.

The O.C. 3rd Australian Tunnelling Coy. has
telephoned that he will get in personal touch tomorrow
morning July 18th with the O.C. Royal Highlanders of Canada
to arrange the rendezvous for parties and guides.

PARTY	WORK			TIME	
A	MEATH TRENCH Coy. H.Qrs.	3 shifts	8 men	2 p.m. 10 p.m. 6 a.m.	Total 24 O.R.
B	MEATH TRENCH Dugouts.	3 shifts	12 men	2 p.m. 10 p.m. 6 a.m.	Total 36 O.R.
C	CHALK PIT T.M.Emplacements.	3 shifts	8 men	2 p.m. 10 p.m. 6 a.m.	Total 24 O.R.
D	CARRYING PARTY	---	24 men	10 p.m. nightly	Rendezvous G.35.b.7.9. (LOOS VILLAGE)

Note - The above figures do not include N.C.O's who will
be detailed in their proper proportion.

Paul Williams
Major,
Brigade Major,
3rd Canadian Infantry Brigade.

V.N.B.

APPENDIX 15 36.

A.A.G., A.I.F./44/288.

I-of-M./2531.

AUSTRALIAN IMPERIAL FORCE.

Headquarters, A.I.F.
Attached 1st Anzac Corps.
11.7.1917.

Inspector of Mines,
General Headquarters.

Approval has been given for the appointment of Captain A. SANDERSON, 3rd Australian Tunnelling Company A.E. to command that Company vice Major L.J.COULTER, killed in action, and for Captain SANDERSON to be promoted Major from 1.7.1917. Notification of this appointment and promotion will appear in A.I.F. Orders at an early date.

(Sd.) C.R.E.Jennings.

Capt. D.A.A.G.
for Colonel,
D.A.G. A.I.F.

Controller of Mines,
First Army.

For your information and retention, with reference to your C.M./1091/2 dated 3.7.17.

G. H. Q.
16/7/17.

W. E. Buckingham
Major RE.
for Brigadier General,
Inspector of Mines.

O.C.

3rd Australian Tunnelling Company

For information.

R. S. The
Lt Col. R. E.
Controller of Mines
First Army

17/7/17

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S E C R E T

Canadian Corps.
C.E. S/2/6

1st Canadian Division,
2nd Canadian Division,
3rd Canadian Division,
Controller of Mines, First Army,
3rd Australian Tunnelling Co. A.E.,
172nd Tunnelling Co. R.E.,

A party of 4 Officers and 36 O.R. of the :-

3rd Australian Tunnelling Coy. A.E.,
170th Tunnelling Co. R.E. (party lent by I Corps).
172nd Tunnelling Co. R.E.

has been detailed as a special investigation detachment for the examination of enemy dugouts in your Divisional area.

It will be their duty to look for, remove or destroy any traps or delay action mines left in enemy dugouts, under buildings, cross-roads, embankments, etc. and to give immediate warning to Brigades concerned, of any dangers of this character discovered. Also to generally investigate the question of forward accommodation in cellars and dugouts.

Reports on the results of any significant operations must also be rendered in due course by the O. i/c Investigation Detachment, through O. C. Company -

- (1) to me
- (2) to Controller of Mines, First Army.

The Investigation Party will commonly be employed on other work until actually required and it is, therefore, desirable to establish close connection between Brigades and Os. i/c Detachments, in case of any emergency calls.

The Os. i/c Investigation Parties will get in touch with the respective Divisional H.Q. forthwith.

Bettune Lindsay

Brigadier-General,
Chief Engineer, Canadian Corps.

18.7.17

VMB
✓

2ND. CANADIAN DIVISION.

G. 32/ 7/7

19th. July 1917.

4th. Canadian I. Bde.
 5th. Canadian I. Bde.
 6th. Canadian I. Bde.
 170 (T) Company R. E.
 3rd Australian T. Coy. A.E. ✓
 C.R.E., 2nd Cdn. Divn for
 C.E., Cdn. Corps.) information.

1. Special investigation detachments for searching for booby traps and to generally investigate the question of forward accommodation in cellars and dugouts, will be found for LENS and LAURENT Sections, by the 170 (T) Company R. E. and 3rd. Australian (T) Company A. E. respectively, the latter Company being responsible for the whole of the LAURENT Section instead of only as far South as the LENS - GRUNAY Railway as heretofore.

2. Brigadier Generals Commanding Brigades will apply direct to Tunnelling Companies when they require their assistance. The 170 (T) Company R. E. requires six hours notice: their Headquarters are at NOUVEUX les MINES.

Colliver
 Capt. for —

Major G. S.
 for Lieut. Colonel G. S.
 2nd. Canadian Division.

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2ND. CANADIAN DIVISION.
G. 32/717. 806
22nd. July 1917.

4th. Canadian I. Bde.
5th. Canadian I. Bde.
6th. Canadian I. Bde.
170th (T) Company R. E.
3rd Australian T. Coy. A.E. ✓
C.R.E., 2nd. Cdn. Divn.) for
C.E., Cdn. Corps.) information.

Reference this office G.32/717 dated 19/7/17.

The 170th (T) Company R. E. will be responsible for carrying out the duties enumerated in the above quoted letter on the whole of the Sector held by the 2nd. Canadian Division.

Chas. Steiner

Major G. S.
for Lieut. Colonel G. S.
2nd. Canadian Division.

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"A" Form.
MESSAGES AND SIGNALS.

Appendix 17.
Army Form C.2121
(in pads of 100).
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.....m.			From.....
		To.....			By.....
		By.....			

TO { 3 A T Coy A E

Sender's Number.	Day of Month.	In reply to Number.	AAA
* E 1274.	22		

Reference	CR 8/2/6 of	18/7/17 and	
your	G 32/4/7 aaaa	Investigation	
Photograph	for 2nd Cdn	Don will	
be	supplied by	170	Coy
RE	aaa	3rd	Aust
provide	parties for	1st	Cdn
Don as addressed	2nd Cdn	Don as	
Repeated	Don	Army	CRE
2nd	Cdn	Don &	Aust
Don	Coy	RE	aaa

From	C.E. Cdn Corps		
Place			
Time			

The above may be forwarded as now corrected.

(Z)

Censor.

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

* This line should be erased if not required.

750,000. W 2186—M509. H. W. & V., Ltd. 6/16.

SECRET.

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C.M. / 1278 / 2.
First Army.

O. C.,

Aust. Elec. & Mech. Coy.
^{M.}

Would you please take up the question, as soon as possible, of the work involved in lighting the following places from the Loos Station, on the front of the 3rd Aust. Tun. Coy. :-

- (1). Solent Tunnel in Loos Crassier.
- (2). Battalion Headquarters to be constructed at head of Black Watch incline.
- (3). Brigade Headquarters in the Quarry (M.C.A.9.3.).
- (4). Dressing Station off Seaforth Alley, near Black Watch incline.
- (5). Battalion Headquarters to be made about 200 feet from Gordon incline.

Requirements can be explained in detail by O.C. No. 3 Australian Tunnelling Coy.

This service is urgently required by Canadian Corps and I recommend it.

A report by you on this programme is required by Inspector of Mines before he can give authority for the work.

Adv. First Army,
21st Jly, 1917.

R. E. S.

Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.

O.C.
3rd Australian Mining Company

For your information

21/7/17

R. E. S.
M. W. R.
C. A. M.

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APPENDIX 19

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Appendix 19.

S E C R E T .C.M./1282/2.
First Army.O. C.,
3rd Aust. Tun. Coy.

Reference utilisation of intermediate lateral between Gordon and Black Watch Inclines, for temporary accomodation of Infantry, please take all necessary precautions to prevent any possibility of Gas formed by a blow in the region ^{of a} to the left of No. 1 Shaft filtering into this working.

The main lateral should be stopped by two gas doors or by a dam of clay tamping.

Adv. First Army,
21st July, 1917.

R. Stiles
Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.

W.B. ✓

C.M./1304/2.
First Army.

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~~O.C., 170th Coy., R.E.~~
~~O.C., 172nd Coy., R.E.~~
~~O.C., 182nd Coy., R.E.~~
O.C., 3rd Aust. Tun. Coy. ✓

All Officers who can be spared should attend this meeting. Also the N.C.O's of the Special Investigation Party.

It is particularly desirable that Officers should be prepared to ask any questions, bearing on the paper or on the pamphlet S.S.163 lately issued, which will enable us to profit as much as possible from Major Hutchinson's experiences.

R. Stokes

Adv. First Army,
24th July, 1917.

Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.

13.

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ENEMY TRAPS & DELAY ACTION MINES.


Some notes on "Experiences of a Tunnelling Company in Searching for Enemy Mines in Evacuated Areas", will be read by Major L.C. HUTCHISON, M.C., R.E., O.C., 174th Coy., R.E., Third Army, at the First Army Mine School, HOUGHIN, (36.3.2.15.c.3.8), on Saturday, 28/7/17, at 3-30 p.m.

General Sir E.S. HORNE K.C.B., Army Commander, has kindly promised to preside and it is hoped that Major Gen. G.M. HEATH, C.B., D.S.O., C.E. First Army, and Brig. Gen. R.N. HARVEY, C.M.G., D.S.O., Inspector of Mines will also be present.

Major Hutchison's Company, operating on the old Fifth Army front during the Spring, gained wide practical experience of enemy methods and practices in areas either voluntarily evacuated or where, before a forced retirement, the enemy had time to provide for traps and delay-action mines.

Major Hutchison expresses the hope that Officers will not hesitate to ask him questions freely, in the general discussion after his brief paper.

25.7.17.


Controller of Mines,
First Army.

I.-of-M.
2641.

Controller of Mines,
First Army.

Officers and men attending a Refreshing Course at the Mine Rescue Schools may sometimes be found no longer qualified to hold their Certificates, either from want of knowledge, or from mental or physical deficiencies.

If such Officers and men belong to Companies which have been transferred to the Army in which they are found inefficient, within a period of 6 months of the Refreshing Course, the question of the withdrawal of their Certificates will be referred to Inspector of Mines. Lt.Col. Dale Logan will then be detailed to hold a special enquiry.

G. H. Q.,
25/7/17.

(Sd) R.N. Harvey,
Brigadier General,
Inspector of Mines.

- 2 -

O.C., 3rd Aust. Tun. Coy.

C.M./1346/2.
First Army.

For information.

M.P.

Adv. First Army,
27th July, 1917.

R. Stokes

Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.

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Controller of Mines)
1st. Army.)
Chief Engineer)
1st. Canadian Corps.)
General Staff)
1st. Canadian Division.)

APPENDIX 21a

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Office Copy.

I have to confirm my verbal report that at 8 a.m. of yesterday we broke into the enemy mining system at Hill 70 and captured 774 feet of enemy mine galleries.

As soon as the entry was effected the system was explored, at the same time, all necessary precautions were taken to prevent the enemy from forcing his way into our galleries.

The captured galleries were then surveyed. The location is shown on the attached plan.

The history of recent mining operations at this point is interesting. The capture of the enemy's trenches to the West of Hill 70, during the April offensive, necessitated the carrying of the new British front line across "No man's land" and over the defensive mining system which the enemy had constructed below and forward of his front line.

Before being driven out from that portion of his trenches, immediately behind our newly advanced positions, the enemy destroyed all entrances to his mining system. So well was this work done that an exhaustive investigation failed to discover where an ~~entry~~ entrance had existed.

Systematic listening in the forward fighting points of our deep deep system had been established and it was carefully carried on, in order to find out whether the enemy had access to his mine galleries under our new front line. During the latter part of May and in June the enemy was heard working, intermittently, in the region of his old front line between Nash Alley and our new front line. This was considered to be possibly the work of recovering some of the entrances, which he had destroyed, leading to his mine galleries.

During the nights of June the 24th, 25th, 26th. & 27th, walking was heard in the enemy galleries between the points marked B & C on plan. The G.S. 6th. Division and 18th. Infantry Brigade were advised and after consultation with the Acting Controller of Mines, permission was obtained for a party of the 3rd. Australian Tunnelling Company to accompany the Infantry on the 28th. June in a raid on the enemy for the purpose of destroying the entrances, which were known to exist, to his mining system.

During the raid three shafts were destroyed including the one marked "A" on plan. Electric leads found in the shaft were cut at "A" but it was impossible, owing to the smoke in the gallery from bombs thrown by the Infantry, to explore the system to any extent. No. 1. D.D. Main was then pushed out to a point which was considered from our listening results to be close to the enemy's galleries and a large charge (10,000 lbs. of Ammonal) put into position there. Whilst this work was in progress the enemy was heard at night working in the vicinity of "A" (on plan) probably attempting to repair the entrance to his galleries.

Then on July 8th. the enemy fired a mine making a crater where indicated on plan. A small amount of work has subsequently been heard going on in the vicinity of "A" during night and an Infantry patrol on the night of the 22nd. inst. engaged an enemy bombing post at this point (See Summary of Intelligence, 1st. Canadian Division 23/7/17). On the morning of the 24th. inst. No. 1. D.D.R.2. L.1. gallery, which we were pushing forward to protect the new front line, connected with the enemy system, as shown on plan, at a point which, from our listening results, we expected would be very close to an enemy lateral gallery.

The exploration of the enemy galleries showed that the ~~en~~ enemy mine blown on 8/7/17 had not been tamped and a few cases of explosives were still at point marked "E" on plan. The leads had been taken right through the lateral to the entrance at "A" and were the same as those cut at that point during the raid on 28/6/17. Evidently the enemy had "picked up" sufficient of the shaft to

allow

358 Allow him to join the leads and fire the partly charged mine. It also appeared as though preparations had been made to put in charges at points marked "H" & "F" on plan.

The whole of the galleries are close timbered, the inside measurements of the sets being 5'6" by 3'3". The levels shown on the plan are the approximate heights in feet above ordnance datum.

To ensure the safety of our front line and the galleries behind, the gallery between points marked "L" & "K" is being tamped, after which the charge at "B" will be blown in order to destroy any enemy galleries which may possibly exist at a higher level.

The exploration of the enemy system also proved that the attempts he had made to carry out offensive mining operations had been exactly in accordance with what we had judged at the time from the listening results and that we had badly smashed him on each occasion.

Alex. Henderson
Major.

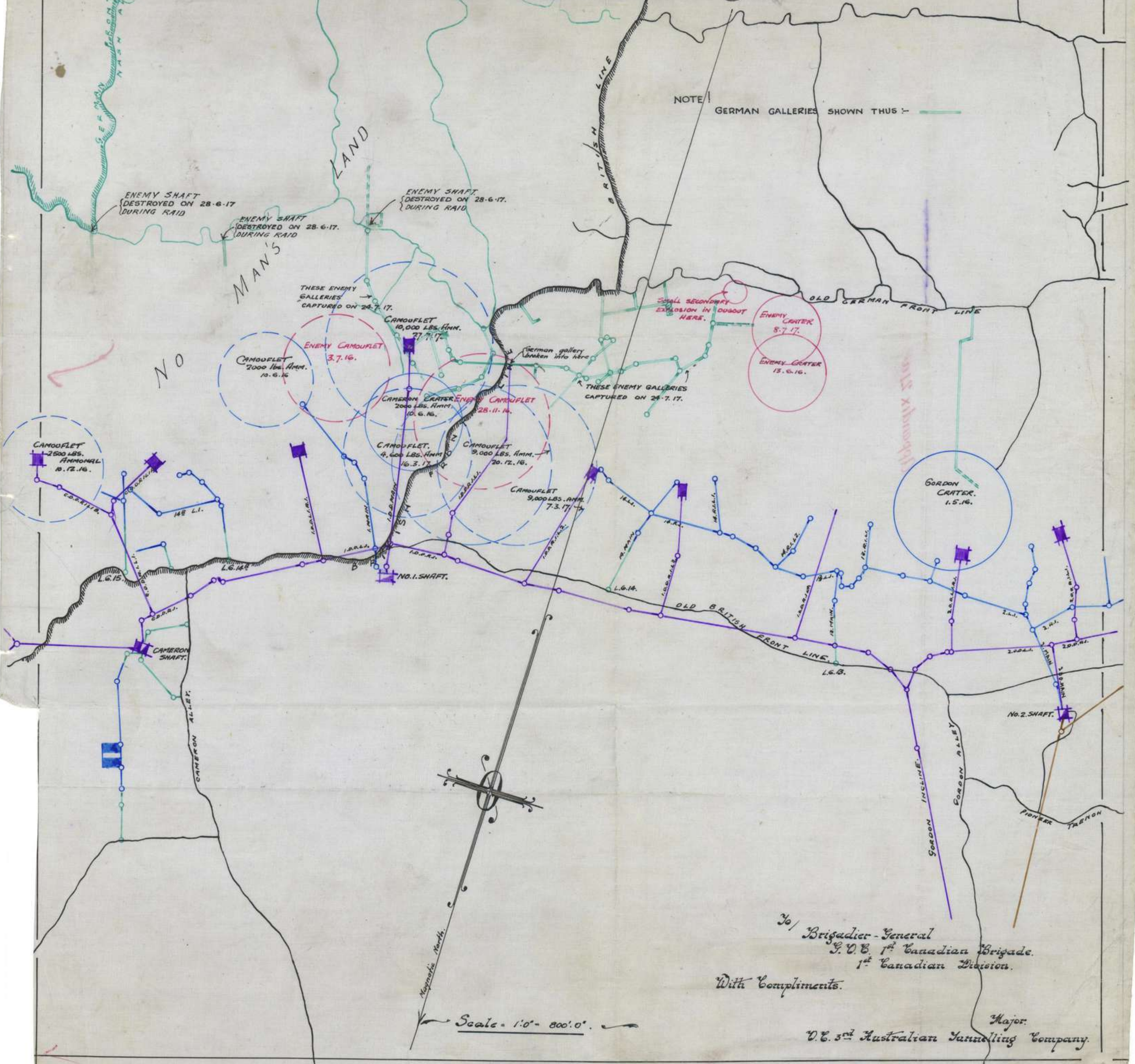
35/7/17

G.C. 3rd. Australian Tunnelling Company.

✓

"Hill 70"

PLAN SHOWING ENEMY SHAFT ENTRANCES DESTROYED ON 28-6-1917, & GALLERIES CAPTURED ON 24-7-1917 BY THE 3RD AUSTRALIAN TUNNELLING COMPANY ATTACHED 1ST CANADIAN CORPS.



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SECRET.....

Copy No. 13.

1ST. CANADIAN INFANTRY BRIGADE.OPERATION ORDER NO. 158.

July 26th. 1917.

1. INFORMATION. The enemy are suspected to be renewing their activity in their old mining galleries under our front line and under "No Man's Land" in the northern part of square N.1.a.
2. To destroy these galleries the 3rd. Australian Tunnelling Coy. will blow a camouflat at approximately N.1.a.6.9. on a day and at a time to be notified separately.
3. The 1st. Canadian Infantry Battalion will clear all front line trenches between junction of NATAL TRENCH and new front line at approximately N.1.a.5.6. to CAMERON ALLEY at H.31.c.6.2. by 20 minutes before Zero Hour. The garrison of these trenches will again be sent forward when the situation permits and after a consultation with the officer representing the 3rd. Australian Tunnelling Coy.
4. The 3rd. Australian Tunnelling Coy. will please get in touch with the 1st. Canadian Infantry Battalion at their Headquarters M.6.a.7.4. and ensure that no men are left in the old galleries or anywhere in the danger zone at Zero Hour.
5. The St. Johns Group will put down a concentration on Area "C", N.1.a.87.60. to H.31.c.87.90. from Zero Hour to Zero Hour plus 3 minutes, with a view to destroying any of the enemy who may be in the open.
6. SYNCHRONIZATION OF WATCHES. Watches will be synchronized at 10.00 p.m. on 26th. and 3.00 a.m. on 27th. inst.
7. ACKNOWLEDGE. ✓

John Guhart
Brigade Major,
1st. Canadian Infantry Brigade.

P.T.O.

Issued through signals at 1.00 p.m.

- Copy No. 1. 1st. Canadian Battalion.
2. 2nd. Canadian Battalion.
3. 3rd. Canadian Battalion.
4. 4th. Canadian Battalion.
5. 1st. Canadian M. G. Coy.
6. 1st. Canadian T. M. Bty. (will notify att. Btys.)
7. 2nd. Canadian Inf. Bde.
8. 3rd. Canadian Inf. Bde.
9. 6th. Canadian Inf. Bde.
10. 138th. Infantry Brigade.
11. 1st. Canadian Division .
12. No. 2 sec. Divl. Sig. Coy.
13. 3rd. Australian Tunnelling Coy.
14. 107th. Pioneers.
15. St. Johns Group Artillery.
16. Liaison Officer.
17. G. O. C.
18. Brigade Major.
19. Staff Captain "Q".
20. Staff Captain "I".
21. Orderly Officer.
22. A. D. M. S.
23 - 25. War Diary.

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Ref. 940-8.

SECRET.

1st. Canadian Infantry Brigade,
July 26th. 1917.

To Recipients O.O. 158.

ZERO HOUR.

Referring to our Operation Order No. 158.

The Zero Hour will be 5.00 a.m. July 27th. 1917.

Acknowledge.

Brigade Major,
1st. Canadian Infantry Brigade.

Thompson

S E C R E T .

APPENDIX 23. 52.

C.M. / 135 / 12.
First Army.

O.C., 3rd Aust. Tun. Coy.

In the event of an advance on the front of the Canadian Corps, 2 (two) Sections of your Company will be held in immediate readiness for emergency road repair and construction work. A map is sent herewith indicating the roads, marked in red, for which you will be held responsible.

The magnitude of the work to be done is, of course, at present quite problematical, but preliminary arrangements must be made and conditions studied as closely as possible in advance.

Probable requirements of working parties and materials, under assumed conditions, must be estimated so that the Corps can make early provision. It is probable that a large quantity of road material will be available in forward areas.

Commencement of work will be ordered by C.E. Canadian Corps. O's. C. Tunnelling Companies will be required, however, to take full responsibility for the methods and execution of the work, estimating requirements of men, transport and materials and suggesting to the Corps how these provisions may best be made.

I will visit you in a day or two with Major Smith, Canadian Corps Roads Officer, and go into the question of labour requirements and best dumps for stores, with as much detail as is possible at the present time.

Adv. First Army,
27th July, 1917.

R. Stokes
Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.

W.D.

SECRET.

Army Form W3376.

FOR ENEMY MINE, USE OTHER SIDE).

MINE EXPLOSION REPORT (BRITISH).

1st ARMY. 1st Canadian CORPS. 1st Canadian DIVISION.

3rd Australian TUNNELLING COMPANY R.E. SECTOR Hill 70.

DATE July 27th 1917. TIME 4.58 a.m.

Location and depth of Charge	Nla 52.96 on sheet 36c SW1.
Nature of Ground	Hard Chalk
Details of Charge: (Size, class of explosive, form of packing and primers used)	200/50lb cases of ammonal (10,000 lbs). Duplicate electric leads with 2 electric detonators in gunnettes primers on each, in priming charges (4) of 20 lbs gunnettes. One instantaneous fuse to No 8 detonator in 4 lb. Primer & priming charge of 20 lbs gunnettes.
Tamping: (Lengths of Solid and Air Spaces)	In old Enemy gallery 150 feet of solid tamping (by 1 gchett) No 1 D.D. M. 60 feet of tamping (chalk in bags) 20 feet air space then 20 feet tamping then 20 ft air space then 20 ft tamping.
Reasons and Authority for Mine	To destroy enemy galleries Controller of Mines, 1 st Army.
Effects of Explosion:	Maximum Camouflet
Dimensions of Crater	—
Underground effects	About 1000 bags of chalk debris in 100 RILLI.
Estimated H.R.R.	Old enemy gallery at Nla 48.34 crumpled to entrance. A small amount of chalk has fallen in other galleries.
Surface effects	75 feet Parapet shaken into front line trench for length of about 100 feet near camouflet.
Gas Conditions	At 10 a.m. gas in N. 1 RILLI and Old Enemy Galleries.
If against enemy gallery, estimated distance	Enemy galleries between chamber from where charge was placed and surface.
Infantry action regarding Crater: (Particularly stating whether any new positions occupied appear adequately protected underground)	
General Remarks	The explosion shook the surface very much but did not form a crater. At 1 a.m. two enemy picks were working at a point about 150 feet East of the charge. The camouflet was blown to ensure the safety of our front line. All dugouts in the vicinity of the "blow" were closed up and the Battalion informed that they must not be occupied until passed by the Tunnelling Officer as before.

(Sketch attached).

Date 27-7-17.

Signed

Alex. Sanders
Major

SECRET.

(FOR BRITISH MINE, USE OTHER SIDE).

MINE EXPLOSION REPORT (ENEMY).

ARMY.

CORPS.

DIVISION.

TUNNELLING COMPANY R.E. SECTOR

DATE

TIME

Location of Blow

Nature of Ground

Probable depth of Charge

Probable object of Mine

Underground damage

Surface Effects

Dimensions of Crater (if any)

Infantry action regarding Crater:

(Particularly stating whether any
new positions occupied appear
adequately protected under-
ground.)

Gas Effects Underground

Casualties :—Underground

Surface

General Remarks

(Sketch attached).

Date

Signed

remain at rest. I left the trenches
at 9.30 am. 28th when I was relieved by
Capt. Langdon

28/7/17

W. W. Granger Lt

Appendix 25.

Appendix 25

The O.C.
3rd Australian Tunnelling Co

Following on my report re men
gassed on the 27th inst - 356
At 1 pm on the 27th I was informed

that 2 men viz -

1230 Sapper Keaven C.

4422 " McLean J.D.

had been gassed about
2 hours previously, by gas shells, while pro-
ceeding to trenches. I found the men resting, but
apparently not badly affected, but com-
plaining of headache and giddiness. I
ordered them to remain at rest. Captain
Hillman and myself administered Ox-
ygen to them from "Novita" apparatus at
2.30 pm -

at 1.45 pm two more men viz -

5844 Sapper Jamieson H.

5813 " Quintrell P.

reported to me that after lunch
they had vomited but were otherwise not af-
fected. They volunteered to go to their
work but before arriving there, they again
vomited and returned to their dugouts.

Oxygen was administered to
the 4 men at 8 pm²⁷ and at 6.30 am on
the 28th. and orders given that the men should

APPENDIX

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Secret & Confidential

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C.M./1352/2.
First Army.

O.C., 3rd Aust. Tun. Coy.

The Army Commander has seen the report on your mining operations at HILL 70, which have ended with the capture of the enemy lateral and the destruction of his workings by the well estimated camouflet of yesterday morning.

The Army Commander has asked the Chief Engineer to express his thanks and congratulations to your company on their work. He considers that the skill and courage with which the work was carried out has saved a somewhat dangerous position.

R.E.

Adv. First Army,
28th July, 1917.

Lieut.- Colonel, R.E.,
Controller of Mines,
First Army.



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S E C R E T .

APPENDIX 256.B
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C.M./1358/2.
First Army.

O.C., 3rd Aust. Tun. Coy.


Since the withdrawal of the 253rd Coy., R.E. from the First Army, leaving only seven companies for the whole area, the work of Tunnelling Companies has become very exacting and strenuous. The leave allotment is now satisfactory, but companies are necessarily working at high pressure to keep pace with the growing demands upon their services.

The weakening of our strength in Tunnelling Companies has been the inevitable result of an even greater strain on Tunnelling personnel in the North. In the Fifth Army, the casualties have been over 20 Officers and 300 Other Ranks since June 4th.

To meet this serious strain, Tunnelling Companies in the Southern Armies have been thinned out and it is certain that the consequent strain, necessarily falling upon all ranks, is fully recognised and will be relieved when conditions allow.

Adv. First Army,
28th July, 1917.

R. Stokes
Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.



G.M./1372/2.
First Army.

O.C., 170th Coy., R.E.
O.C., 3rd Aust. Tun. Coy.
O.C., 182nd Coy., R.E.
O.C., 172nd Coy., R.E.

By arrangement with Chief Engineer Canadian Corps, Divisions are being notified that the following instructions will be observed by all Investigation Parties. It is of great importance that methods and signs should be standardised.

(A). All Officers and men of Special Investigation Parties are to wear upon both sleeves a strip of Red Cloth, about 1" wide, running longitudinally from shoulder to cuff, for purpose of ready identification. (~~Cloth will be provided through Controller of Mines.~~)

(B). Each Dugout or Cellar passed by first examination as free of traps - though not necessarily free of delay action mines, requiring a long search - will be marked with ^{full} ~~a green~~ circle, about 4" in diameter, under the word "EXAMINED". The date of examination and the number of the Tunnelling Company must be given. These Dugouts and Cellars should be numbered and a log kept ~~if possible~~.

(C). If a trap is found which is not removed, or if there are suspicious indications of a delay-action mine, not actually discovered, a red circle should be shown and the warning written in red.

"MINED - DANGEROUS".

(Special fish-tail signs are being made by Chief Engineer Canadian Corps with this inscription, for use where practicable.)

(D). When a thorough examination has been made and there is no reason to suspect delay-action mines or where the circumstances

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the circumstances of capture render the probability insignificant, the sign will be

"CONSIDERED SAFE"

in green chalk or by sign boards which are being provided.

Please let me know promptly if any of these instructions conflict with orders received from your Division.

Adv. First Army,
29th July, 1917.

R. Stokes

Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.

M.

✓

C.M./1367/2.
First Army.

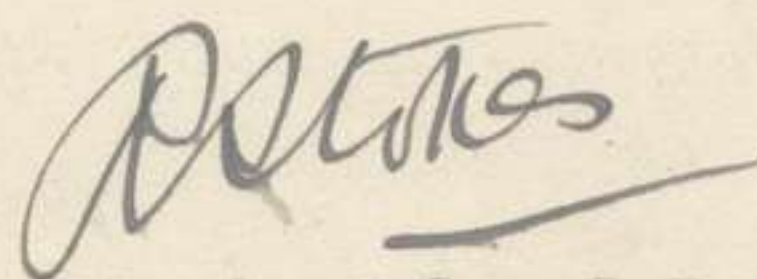
~~O.C., 170th Coy., R.E.~~
~~O.C., 172nd Coy., R.E.~~
~~O.C., 3rd Aust. Tun. Coy.~~
~~O.C., 182nd Coy., R.E.~~

With reference to the tools and stores required by Special Investigation Parties, the following special articles are essential to have in reserve :-

- (1). Ample Electric Torches.
 (To be obtained from Parks. I will also send you, ~~as soon as possible~~, a special issue of 10 Torches and 50 refills, for early needs.)
- (2). Life Lines.
- (3). Salvus Sets.
- (4). Wire Cutters.
- (5). Chalk. (Indent on Stationery Services. A small stock will be issued for immediate needs.)
- (6). Light German Picks, as illustrated in sketch herewith.*
 These are recommended and I am trying to obtain a supply. Light Hardy Picks or Entrenching Tools can be used.

Light boards marked "CONSIDERED SAFE" and "MINED. DANGEROUS". are being made by Canadian Corps and will be available when or if required.

Adv. First Army,
29th July, 1917.


 Lieut.-Colonel, R.E.,
 Controller of Mines,
 First Army.

W.P.

* Specimen sent in lieu of sketch.

✓

Appendix 27.

O.B.

3rd Australian Tunneling Coy

Mr. A Charles late Surveyor to the Lens Coal Mining Concession, who is now employed at the Grand Bureau des Mines Brucy - informed me recently that an Electric Cable runs from near Pont à Vendin along the Railway Line in a S.W. and Westerly direction through Fosse 8th to the intersection of the Railway with the Lens La Bassée Road - ~~He~~ (N. 1. d. 90. 50.) thence Northwards under Lens La Bassée Road to Puits 14 bis. = This information may be useful to 2 Canadian Division

H Russell

29/7/17

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Canadian Corps.
I.G. 140
29th July 1917.

1st Canadian Division.

Information is urgently required regarding the new gas used by the Germans, and the means adopted by them to safeguard their own troops against its effects.

Simultaneously with the use of a new gas the Germans have always issued to their troops a pamphlet giving the effects of the gas and stating what precautions should be taken.

Will you please issue instructions that particular care is taken in searching for any documents of this nature, and also in searching for any new types of gas masks.

Both documents and masks should be forwarded immediately to this office.

(Sgd.) W. R. BERTRAM,
Major, G.S.
for B.G., G.S.
Canadian Corps.

-2-

1st Canadian Division.

1st Canadian Inf. Brigade.
2nd Canadian Inf. Brigade.
3rd Canadian Inf. Brigade.
1st Canadian Divl. Engineers.
3rd Australian Tunnelling Co. ✓



Passed for your information. Please send any such documents or masks to this office for transmission to Corps, H.Q.

July 30th 1917

T.S. Murray
Lieut. Colonel,
General Staff,
1st Canadian Division.

M.B.F.

356.

And plan with this

Report on Enemy Mining System at "The Copse"
3008.W.I.M.G.C.

The information gathered from surveys of the German Mining galleries defending the enemy old front line opposite "the Copse" shows a series of inclined listening galleries sunk from sapheads, front line and communication trenches.

In some cases these galleries reach slightly below the level of our deepest system at "the Copse" (D.D. Level) but the majority are only deep and shallow levels. Many of the galleries are very erratic in their courses and seem to have been constructed without close regard to the objectives. The ends of the deepest galleries are several feet below the high water level of last winter.

The whole of the spoil from these galleries, with the exception of shaft No. 30, has been carried by hand from the faces and tipped over the parapets and paradises of the trenches.

Shaft 30 described below shows the best attempt at anything like systematic mining.

The progress made in the construction of the galleries seems to have been slow, the fastest rate being about three feet in 24 hours. In most of the galleries air has been forced to the faces through six inch galvanised iron pipes with flexible canvas ~~bands~~ from hand-power blowers of the Keith-Blackman type placed in chambers close to the shaft entrances.

The following are notes of the examination of the enemy shafts shown on accompanying plan:-

SHAFT NO. 2

Listening Gallery, not of much importance in view of its distance from the British system. Commences from a communication trench about 50' behind front line and reaches a deep level.

The latest date marked on the sets of this gallery is 10/11/16 but it was afterwards advanced 84 feet. Close timbered with sets 5' x 8'6" of 8" x 8" & 10" x 8" timber, each of the sets being vertical and dropped about eight inches below preceding set, to form steps. Type of set is similar to R.E., casing wedged on sill.

SHAFT NO. 3.

Listening gallery sunk from saphead S.E. of British No. 4 Mine. Only 83 feet long and to shallow level. No dates marked on sets of this gallery. Our listening reports do not record enemy work in this direction, so that the gallery was probably constructed prior to our galleries opposite to it. The gallery is close timbered similarly to No. 2 described above.

SHAFT NO. 4.

This is a more important gallery than the two abovementioned. The end is below the British D.D. System and about 40 feet in front of our No. 4 Main gallery. According to our listening reports this gallery was last worked on 13/4/17, but as the dates are not marked on the sets no comparison can be made. The direction of enemy working given by our listeners (90° E of South and 60' distant) was good. The gallery is close timbered with sets similarly to No. 2.

SHAFT NO. 5.

As the entrance to this shaft had been cramped, a connection was made to No. 6 Shaft. This gallery is shallow.

Our listeners had reported mining in this direction on 15/3/17 and the last date on the timber in this gallery is 17/3/17. Gallery is close timbered with sets as in No. 2 Shaft.

SHAFT NO. 6.

Much the same as No. 5, except that it is a little deeper. It appears to be an older gallery than No. 5. The forward part

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part of the gallery has been crumped. It may be assumed that the two enemy "blows" of 5/7/16 and 9/8/16 were from mines sprung from this gallery.

SHAFT NO.7.

Commences about 40 feet behind the enemy front line and proceeds fairly regularly as regards direction and dip to below the recent winter water level. No dates were marked on the sets of this gallery, but it was reported by our listeners as being worked on 7/4/17 and again on 12/4/17. It is a few feet lower and only 50 feet from one of the fighting points of our deep deep system.

Timbered as in Shaft No.8.

SHAFT NO.8.

Entrance 100 feet from the front line in a communication trench. Direction and dip fairly even to six feet below winter water level, where the gallery appears to end. Work in this gallery was not reported by our listeners probably on account of the distance from our listening posts. It is timbered as in No.3 Shaft.

SHAFT NO.9.

Commences from enemy front line and reaches a deep level where branches are dog-legged off on each side. The faces in this gallery are in close proximity to our workings.

The left hand gallery of the fork is chambered. Timbered as in No.2 Shaft.

SHAFT 10 & 11.

These galleries are entered from the one shaft and branch right and left near the surface. Each gallery branches right and left at a deep level close to the British workings, the nearest point being 13 feet vertically and 80 feet horizontally from one of our galleries. These galleries appeared to be very old. The main inclines were probably put in before the British Deep Deep system. They had not been worked recently. Air was supplied through a 6" galvanised iron pipe with flexible canvas *bends* to the faces from a hand blower in chamber near the entrance. No dates were obtained from the timbering, but it may be assumed that the enemy mines ^{which} were blown on 23/5/16 and 30/5/16 were sprung from the ends of these main inclines.

SHAFT NO.12.

Commences from a communication trench ~~200~~ 150 feet from behind the front line and reaches a deep deep level at a distance almost immediately below the entrance to 10 & 11 shaft. Up to date of capture this shaft was of small importance, owing to its distance from the British workings. The entrance is hidden below the floor of the communication trench. The chamber had been blown in. No information was obtained in regard to the date of construction.

SHAFT NO.13.

This shaft is entered from the front line and proceeds very steeply to a deep level. From this point the workings are all level. No dates of working have been obtained from this gallery, but the enemy "blow" of 23/5/16 was evidently sprung from the left hand foremost gallery. An old crumped impassable gallery crosses the junction of the three foremost branch galleries, but it is uncertain where it originally came from. This listening gallery is deeper than the adjacent galleries of the British system, but the last worked deep deep British gallery was advancing towards these enemy workings.

SHAFT NO.14.

This shaft has a front line entrance with galleries covering a considerable front in the deep system. Two long laterals branch from the main gallery. The level of the extreme end of the main is 30' above the bottom of the near by British deep deep gallery, but horizontally very close. No dates were obtained from this working. Our listeners last reported mining sounds in this direction on 29/1/17. The positions of these sounds are identical with the

356 the right hand lateral.

SHAFT NO. 15.

A most erratic system of galleries partly under "Harrison Grater". The right hand gallery reaches a deep deep level, below that of winter water level, but generally it is a deep system.

The original entrance to these galleries had been crumped and another entrance of reinforced concrete construction opened out.

No sounds of recent working were reported in this direction by our listeners and no dates have been obtained from these workings.

SHAFT NO. 16.

This listening gallery is evidently of recent construction. Commencing from the enemy sap running along the LENS-BETHUNE Road, this gallery reaches a position horizontally 80' within the British deep deep system, but well above it as regards level. The winze which is at the extreme end of the gallery, had been crumped (evidently from a British "blow") and recently repaired. One date was obtained on the timber in this gallery, at the top of the winze--13/1/17. No other dates have been recorded.

SHAFT NO. 17.

Another recently driven listening gallery. No dates were found on the timbers, but listeners reported sounds in this direction on 17/1/17. Their positions coincide exactly with that of this gallery. Entered from the front line trench it slopes away in a south-westerly direction to a depth of 18'6"; from there it turns in a chamber under the trench in a northerly direction towards the British system. This gallery is on a shallow level, and owing to its distance away was not of much importance.

SHAFT NO. 18.

This gallery also crosses over portion of the British deep deep system, but on a much higher level. It is evidently an old gallery, and it may be assumed that the two enemy "blows" of the 3/3/16 and 22/6/16 were sprung from this Main. Both the Main and the lateral were being extended on 2/12/16. Our listeners last reported sounds in the direction of the main gallery on the same date as given on the timber set near the face.

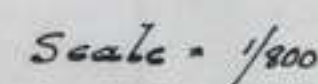
SHAFT NO. 19.

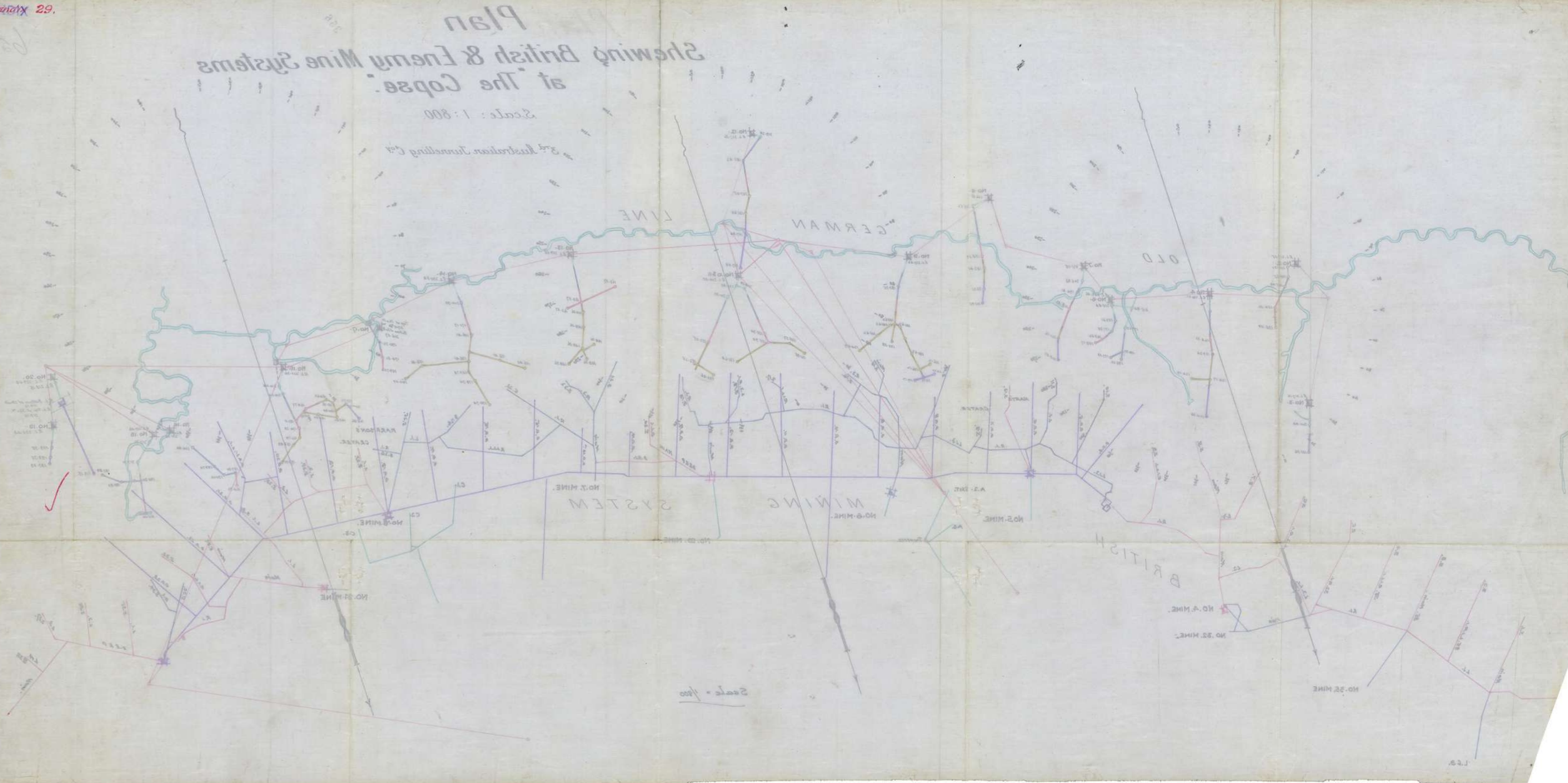
This shaft was begun about the beginning of August 1916 and was last worked on 9/10/16. This gallery is very shallow, about 76' long, and some considerable distance from the British workings, consequently not of much importance.

SHAFT NO. 20.

This shaft is of a more elaborate design than the others. It is approached from the support line by 222 an inclined gallery which enters a large heavily timbered compartment or shaft head, having a cover of about 15 feet of chalk above the timber. The shaft is vertical for 100 feet below the floor of the shaft-head. It is of two compartments (haulage & ladder way) each 6ft x 4ft built of 9"x 3" timbers. The ladder way compartment has stagings at 25ft, 50ft & 75ft below the collar set, at each of which a chamber 12' x 6' x 4' has been cut and close timbered. In the haulage compartment the truck runs on two 5/8" steel guide ropes. There were no rails in the gallery below which was close timbered with 9"x 3" timber set 6' x 3'4" in the clear for a distance of 120 feet on the level. Apparently the truck which had wide wheels was pushed by hand along the timbered floor of the gallery. Air was supplied, as in the case of the other galleries, through a 6" dia 28 gauge galvanised iron pipe from a hand blower in the shaft head. A geared winch was used for hauling the truck without balance weight. No dates were marked on the timbers but our listeners repeatedly reported sounds in the direction of this gallery, the last occasion being on 12/4/17. The timbering of this shaft is very good. There are signs of the entrance having been bombed, probably by British raiding parties.

3rd Australian Tunnelling Coy





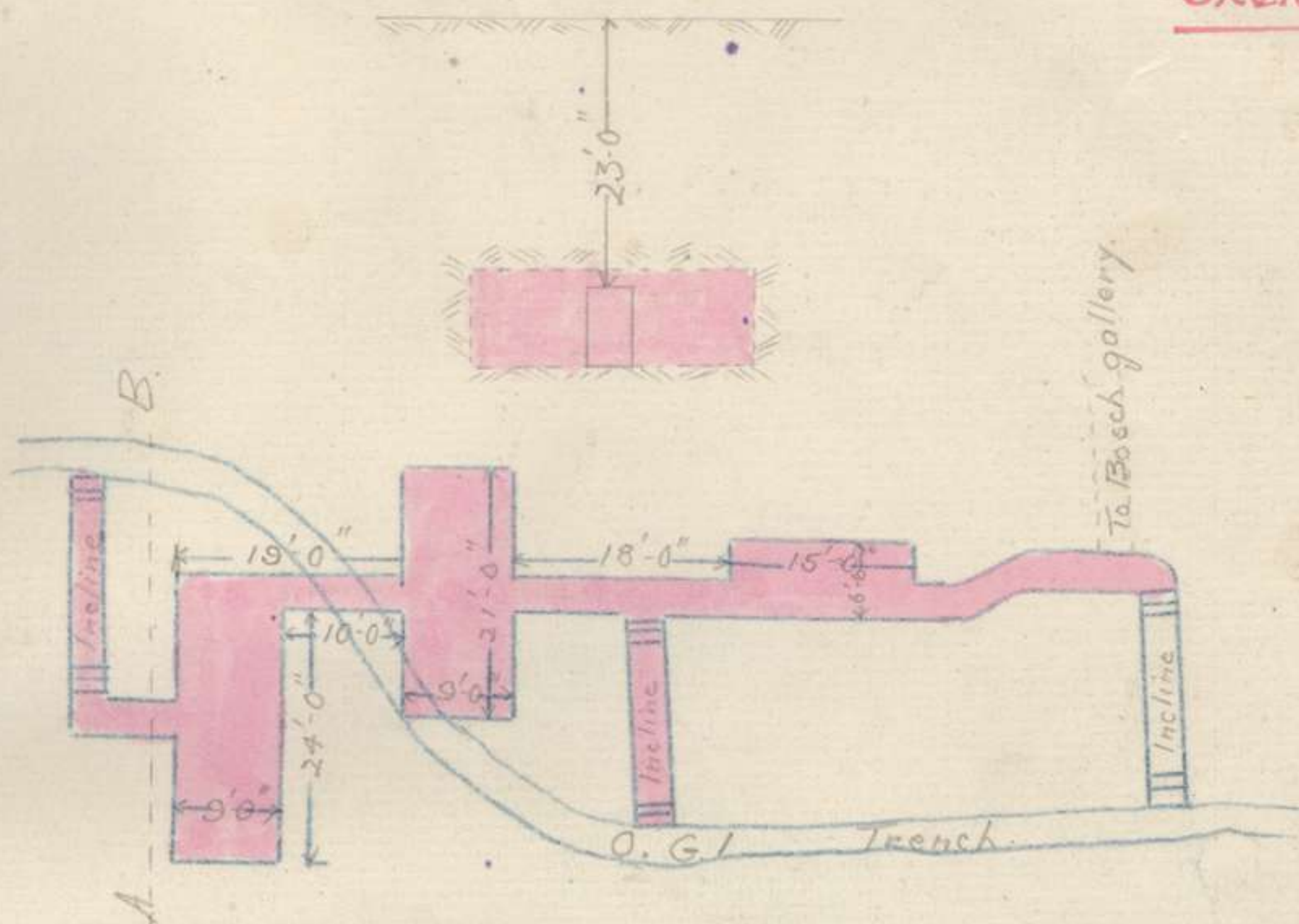
66

Location O.G. Trench Sheet 44 Map Reference Nsb. 60-70

Cover 23 feet Chalk feet Clay. Sleeping capacity men.

Scale 1 inch = 20 feet.

Sketch "A"



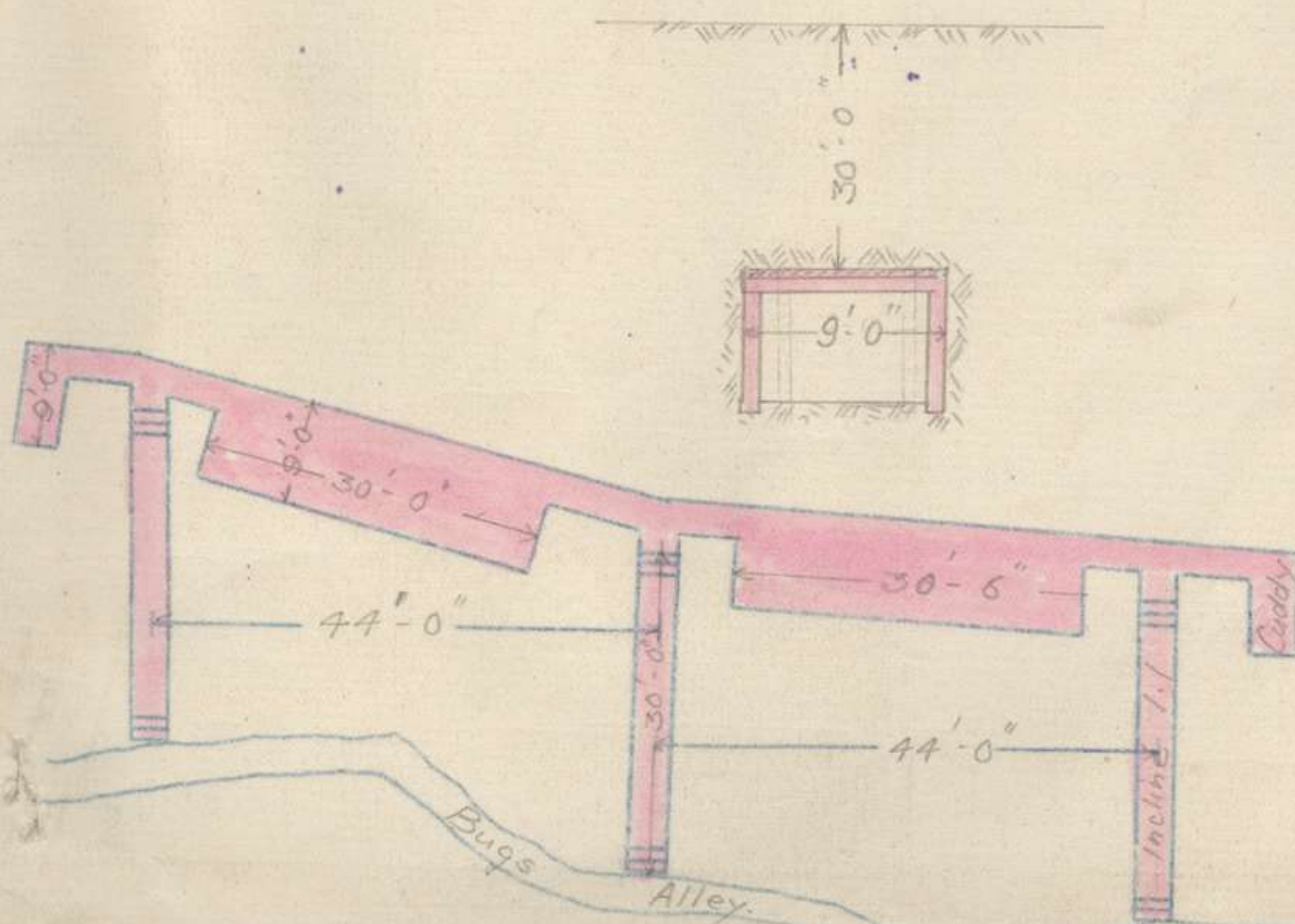
Report No. _____ For Accom. Troops

Location Bugs Alley Sheet 44^A Map Reference Nic 00-157 Nic 10-90

Cover 30 feet Chalk _____ feet Clay _____ Sleeping capacity _____ men.

Scale 1 inch = 20 feet.

Sketch "B"



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3rd Australian Tunnelling Coy.

APPENDIX

67.

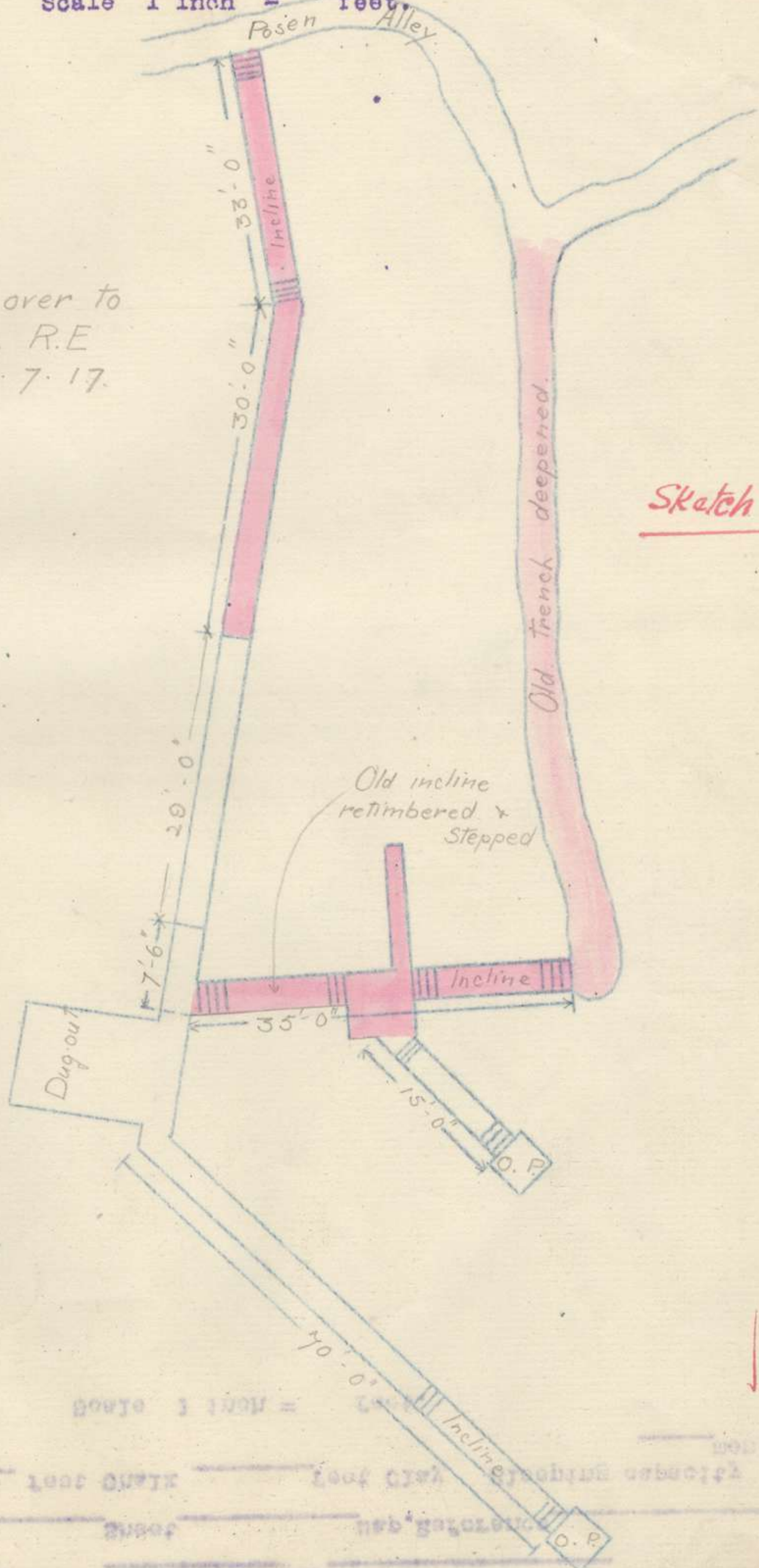
Dugout No. _____ For O.P.'s

Location Posen Alley Sheet 44^A Map Reference G24c 40-27

Cover 30 feet Chalk _____ feet Clay. Sleeping capacity _____ men.

Scale 1 inch = feet.

Work handed over to
170th Tun. Coy. R.E.
on. 19.7.17.



Sketch "C"

Tunnelling Coy.

Support No. _____ For _____

Location _____ Sheet _____ Map Reference _____

Cover _____ feet Chalk _____ feet Clay _____ Sleeping capacity _____ men.

Scale 1 inch = _____ feet.



Scale 1 inch = _____ feet.

Cover _____ feet Chalk _____ feet Clay _____ Sleeping capacity _____ men.

Location _____ Sheet _____ Map Reference _____

Support No. _____ For _____

Tunnelling Coy.

APPENDIX 68.

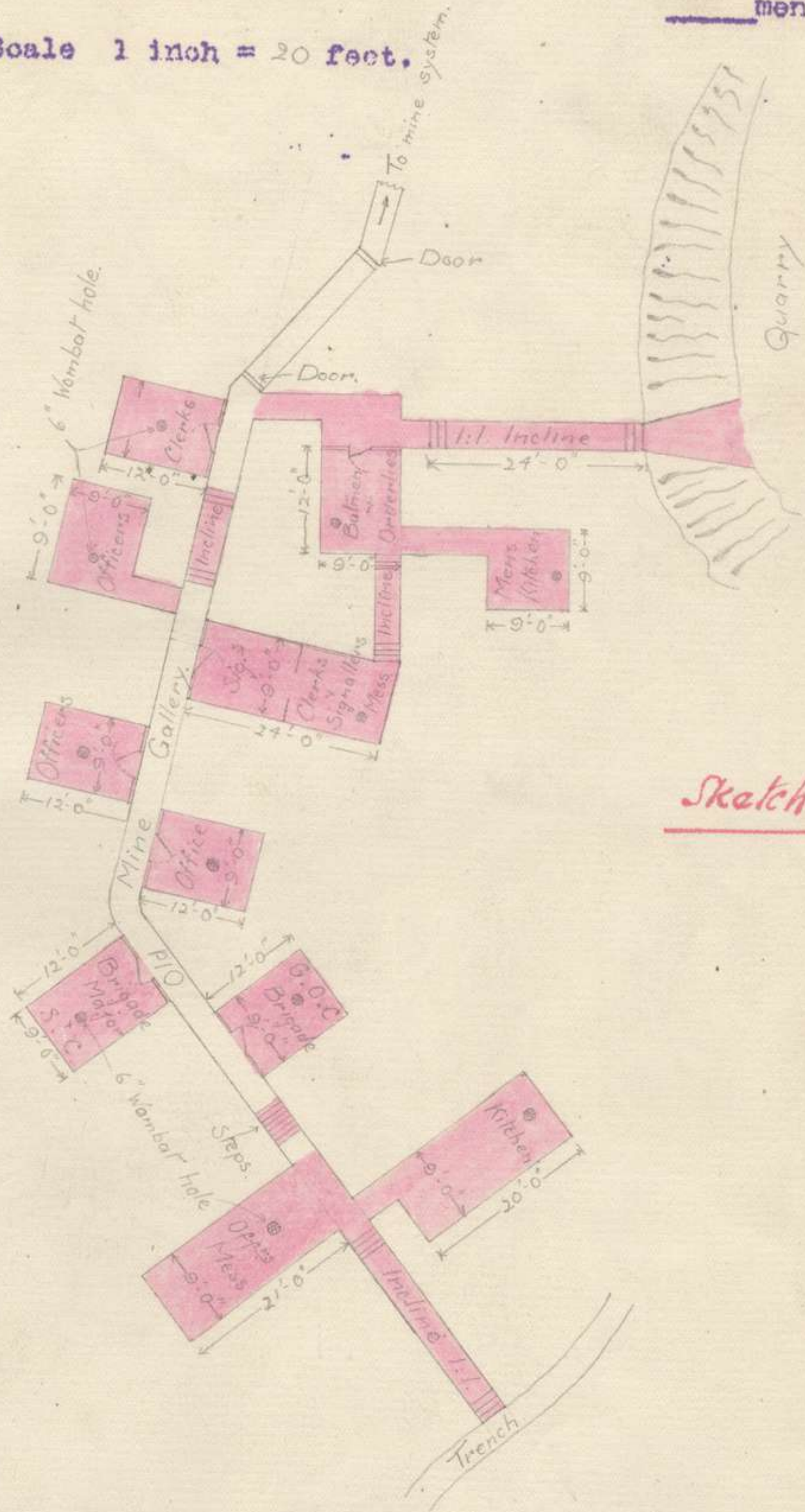
3rd Australian Tunnelling Coy.

Dugout No. _____ For Brigade Battle H.Q.

Location Hill 70 Sheet 44 Map Reference M60 90-30

Cover 27 feet Chalk _____ feet Clay _____ Sleeping capacity _____ men.

Scale 1 inch = 20 feet.



Sketch 'D'



Scale 1 inch = 20 feet.

Cover _____ feet Chalk _____ feet Clay _____ Sleeping capacity _____ men.

Location _____ Sheet _____ Map Reference _____

Dugout No. _____ For _____

3rd Australian Tunnelling Coy.

Turnmelling Coy.

Dugout No.

For

Location

Sheet

Map Reference

Cover

feet Chalk

feet Clay.

Sleeping capacity

men.

Scale 1 inch = feet.



C. H. H. H.

Location

Sheet

Map Reference

Cover

feet Chalk

feet Clay.

Sleeping capacity

men.

Scale 1 inch = feet.

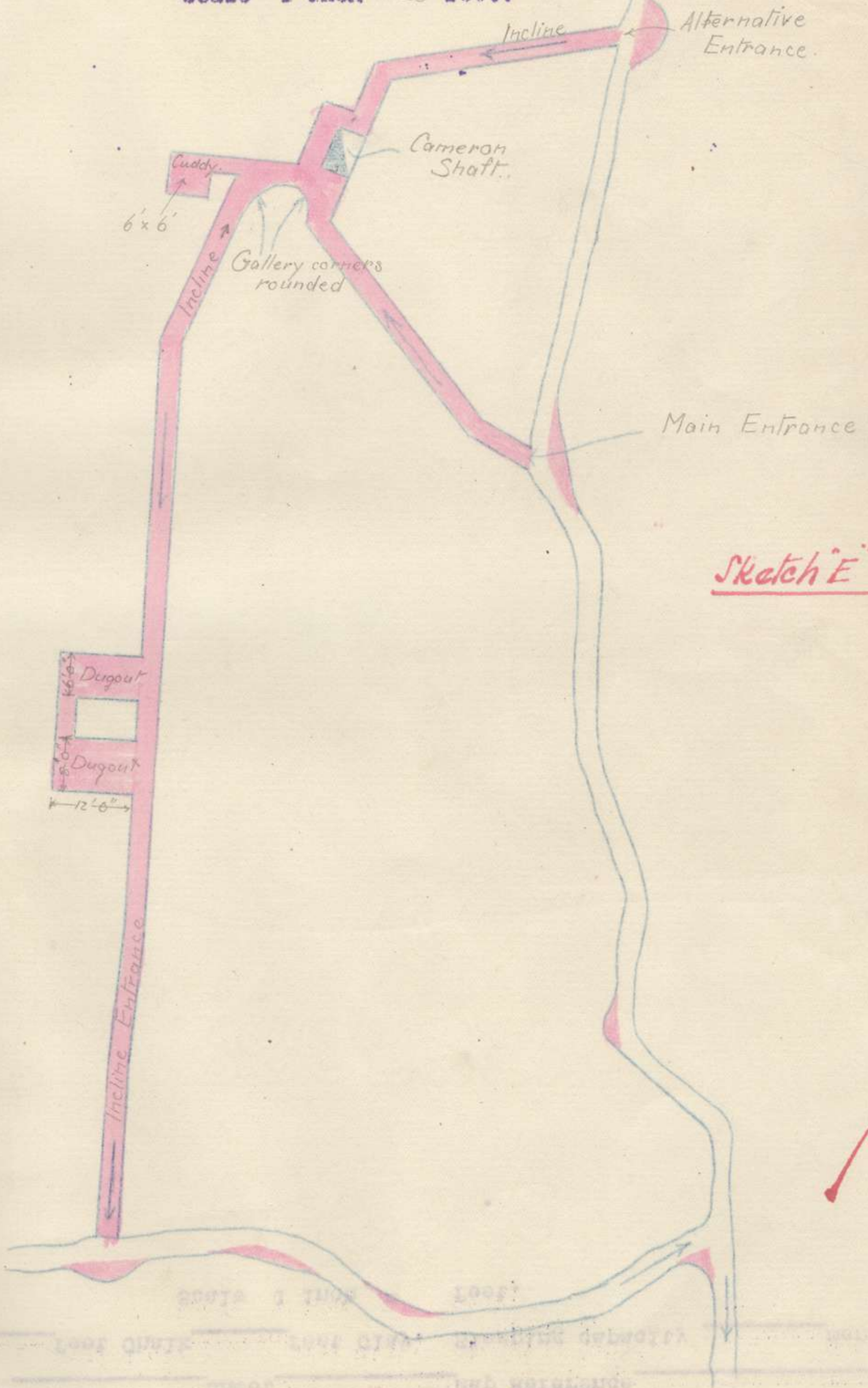
356

Dugout No. _____ For Dressing Station

Location Cameron Alley Sheet 44^A Map Reference H 31 c 42-25

Cover 20 feet Chalk _____ feet Clay _____ Sleeping capacity _____ men.

Scale 1 inch = 20 feet.

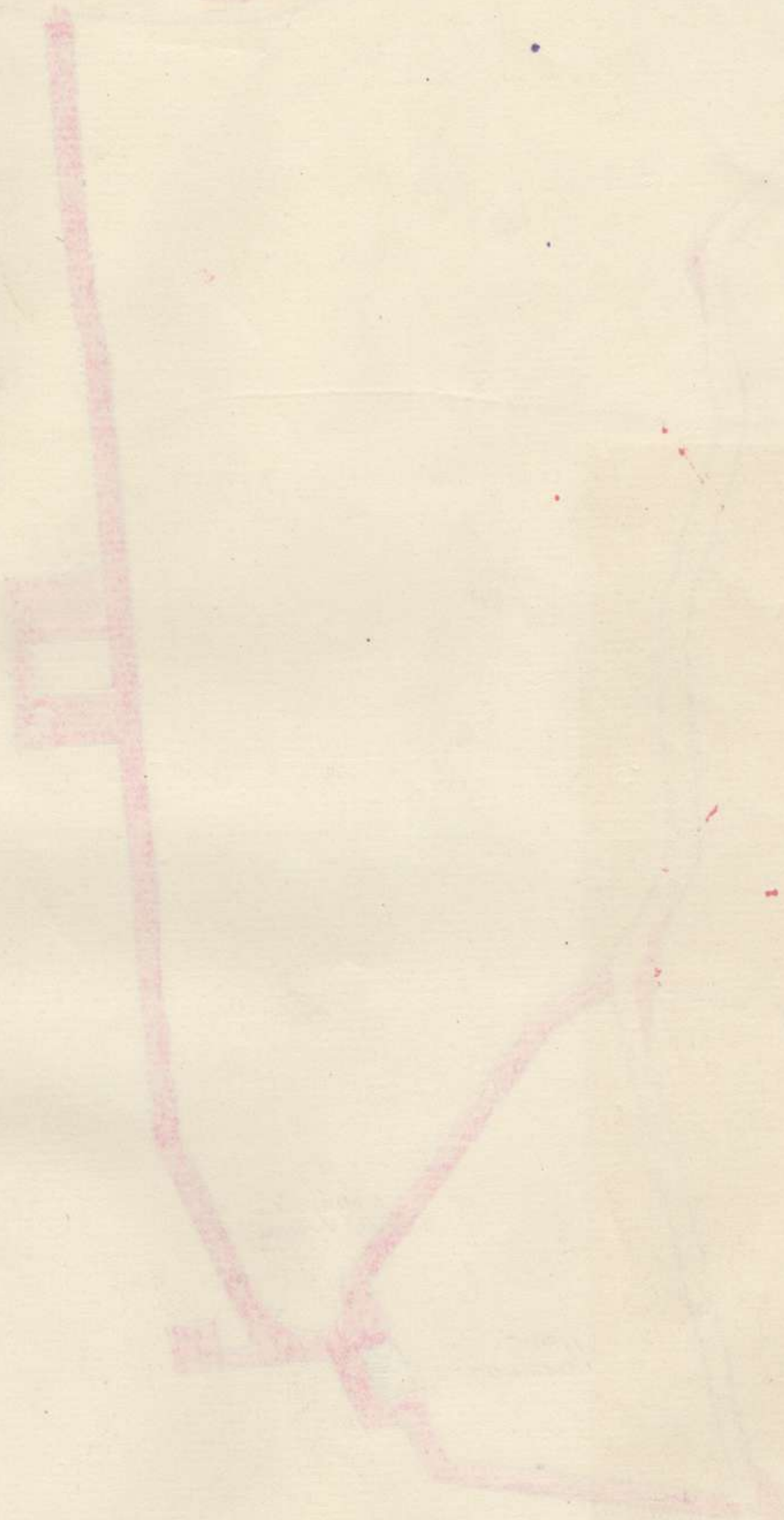


Tunnelling Coy.
Dugout No. _____ For _____

Location _____ Sheet _____ Map Reference _____

Cover _____ feet Chalk _____ feet Clay. Sleeping capacity _____ men.

Scale 1 inch = _____ feet.



Scale 1 inch = _____ feet.
Cover _____ feet Chalk _____ feet Clay. Sleeping capacity _____ men.
Dugout No. _____ For _____

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The O.C.
3rd Aust Tunneling Coy

I beg to report as follows on
the condition of the Listening
Galleries between Cameron Alley
& Vendon Alley.

- L. G. 5 - Blocked up, entrance crumpled
- 5D - open to bottom of incline - air
bad.
- 15A - Entrance crumpled.
- 15B - good condition
- 15C - do.
- H - do.
- K - do.
- L - Entrance crumpled & blocked up.
- 16 - good
- 17 - good condition
- 18 - do.
- 20 - Contains lot of rubbish & wants cleaning
out.

- 30
- L. G. 21 - good condition
 - " 22 - do.
 - " 23 - Boyan filled with stone and entrance
of gallery blocked.
 - " 24 - Blocked up.
 - " 25 - good condition
 - " 26 - do.
 - " 27 - do.
 - " 28 - Blocked up with rubbish & much from trench
 - " 31A - good condition

Russian Saps from New Trench is crumpled
in & blocked up.

Many of the numbers on the
entrances to the Listening Galleries
have disappeared making them
difficult to locate exactly.

H.D. Wallman
Lt.



O.C.
3rd Australian
Tunnelling Coy

Forwarded

Rates
will be
C of M

8/7/17

Appendix x 31

C.M. 11438.12.
First Army.

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Inspector of Mines, 2699

General Headquarters.

Forwarded and recommended
please.

It would be of great assistance to the 3rd Aust. Tun. Coy. if Lt. McARDELL could be returned, as he was one of their most efficient officers.

Althos

5 8 17.
Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.

*C of M
First Army*

Have asked

for Lt J.O.O. McARDELL to be sent out to rejoin his unit, the

3rd Aust. Tun. Company, as

Appendix 31

The Controller of Mines
1st Army.



I understand that Lt. J. O. O. McARDELL has been discharged from hospital in England, marked "fit for General Service" and ordered to report at Perham Downs Camp.

Lt. McARDELL commanded No. 4 Section of this Coy. for 8½ months and is a good officer.

Can a request be made, through the A.A.G., A.I.F., that he be returned to this unit at an early date, please.

3. 8. 17.

Alex. Sanderson
Major.
O.C. 3rd Australian Tunnelling Coy.

[Faint, illegible handwriting on a piece of paper pasted onto the top right of the page.]

[Faint, illegible handwriting on a piece of paper pasted onto the bottom left of the page.]

as early as possible.

R. H. Q.

B. G.

7-8-17.

2107/2.

1st July

[Circular stamp: CONTROLLER OF MINES]



APPENDIX

The O.C.,

3rd Aus.Tun.Company/

I wish to submit the following report on the work being done at junction of Novel Alley & Railway embankment, Map Ref. N1C 4 7.5.

Work was commenced here on night of 1st July when the trench was deepened to allow of traffic.

No work was done on 2nd & 3rd owing to it being impossible to reach the tunnel in the bright light of the moon. Work was resumed on the 4th.

On the night of 5th inst, work was ~~interrupted~~ interrupted by an enemy patrol reaching the lines unobserved by covering party and all men standing to.

No work was done on the night of 6th inst.

On 7th work was carried on & one set put in place. On 8th inst work was interrupted again by enemy barrage. The night of 9th work was resumed and one set put in place. Work can be carried on only during the hours of darkness--approximately 3 to 4 hours.

The trench from junction of Nero & Novel up to Railway embankment is in a bad condition owing to the continual enemy bombardments.

The approximate width of the embankment is 50' and allowing for continuous working it will take 5 weeks to complete the tunnel.

Working in the day-time is out of the question, as no party of men could be taken up with the trench in its present condition without making it apparent to the enemy that work was being done at the embankment.

Night work is greatly hampered by the fact that, no lights can be used and the men must work in absolute darkness, and all timber & stores must be taken up under cover of night.

The trench from Nero to Railway is subjected to continual bombardment, both day & night, & I am of the opinion that this trench can never be kept in order so long as the enemy trench mortars are allowed to range on it.

A. C. Morris

Captain,

10/7/17.

O.C. No.3 Section.3rd Aus.Tun.Coy.

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Copy Confidential

Notes to CE

Appendix 33

72.

HULLUCH TUNNEL SYSTEM.

file Covered Com.

1917

July

SOUTHERN TUNNEL (Forward) POST.

Large men's dug-outs.

Two hidden "shell hole" exits behind front line.

By day - Exits to be camouflaged. Sentry at top of one of the exits with periscope commanding approach to both.

By night - exits used as communications to crater posts &c.

Sentries on both exits.

GREEN CURVE POST.

Men's dug-out.

One-exit Green curve.

Day and night, Sentries in Green Curve.

NORTHERN TUNNEL (Forward) POST.

Large men's dug-out for Lewis and Machine Gunners.

Two hidden "shell hole" exits behind front line.

No.1. exit is excellent-M.G.E. commanding "No man's land" to the N.

No.2. at present manned by L.G. Team.

By day - Both exits to be camouflaged. Sentry at top of No.1. with periscope

By night - Exits used by bombers &c as communications to crater posts &c. Sentries on both exits.

STRAW ALLEY POST.

Men's dug-out.

Two-exits to old support trench near Straw Alley.

Day and night - Sentries in support trench.

BOMBERS DUGOUT.

To accommodate crater bombers by day. The forward dug-out being reserved entirely for the Machine and Lewis Gunners, who otherwise have to sleep in the passages &c leading to the exits. (a dangerous practice)

GOY. H.Q. DUG-OUTS &c.

Three dug-outs off Northern Tunnel near Z shaft.

M.T.M. EMPLACEMENTS.

Off Southern Tunnel near old support line, with dug-out for storing bombs, also off Z shaft, the shaft being used as bomb store.

These to be camouflaged and gas curtains securely dropped when not in use.

(Sentries over emplacements or bomb stores?).

MINE RESCUE STATION.

Near junction of Northern and Southern Tunnel

WELL LOOP & WATER TANKS.

Near junction of Northern and Southern Tunnels.
 Policed by Infantry.
 Tanks filled by 253 Co.R.E.

HAY ALLEY SHAFT.

One exit to Hay Alley.
 Secret M.G.E. for defence in case of enemy assault.
 Mounted M.G. mechanically elevated to firing position at
 very short notice.
 Another exit to old dump which could be used as M.G.E. in
 case of emergency, makes excellent sentry post.
~~Exits to be camouflaged by day.~~
 M.G. Dug-out alongside.
 Exits to be camouflaged by day.
 This emplacement commands ground both N.&S. of Hay Alley.
 Sentry in direct signal communication with dug-out day and
 night.

ISINGLASS.O.P.

Tunnel connection to this O.P. and O.P. dug-out off Hay
 Alley shaft in course of construction.

RESERVE SHAFT.

communicates with Reserve Trench.
 Day and night, sentry.

ADVANCED BATTALION BATTLE H.Q. DUG-OUTS.

Off Hulluch Tunnel near bottom of Reserve shaft.
 Consisting of group of three dug-outs for officers and
 group of two dug-outs for servants &c.

WINGS WAY SHAFT.

To Wings Way.
 Day and night, sentry.

WINGS WAY WEST SHAFT.

To Wings Way.
 Day and night, sentry (or gas curtains closed)

DUMP DRIVE & DUMP SHAFT.

Gives exit to Hay Dump and Hay Alley.
 Day and night sentry.

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ST. ELIE & QUARRIES TUNNEL SYSTEM.

STONE STREET POST.

Men's dug-outs.
Exit to STONE ST., behind front line.
Emergency "shell hole" exit behind "P" dump.
Day and night - Sentries in front line & Stone St. corner.
Emergency exit camouflaged.

SUPPORT LINE.

Men's dug-out.
Two-exits to SUPPORT line.
Day and Night - Sentries in Support Line.

DUDLEY DUMP.

Men's dug-outs.
Shell-hole exit to dump (for machine gun)
by Day - Camouflaged, Sentry at top with periscope.
by night - Sentry on top.

"K" POST.

Mens dug-out.
Small Officers dug-out.
Exit to "K" dump trench. (commanding position)
Emergency exit to back of "K" dump.
Day & night, sentries in "K"-dump trench.
Emergency exit camouflaged:-

DEVON DUMP POST.

Men's dug-out.
Exit to dump trench (commanding position)
Day and night, Sentries in Devon Dump trench.
(In case of emergency, access to this trench could
be obtained through the mine system and Devon Shaft)

LANCER SAP POST (or St. GEORGES TUNNEL EAST)

Men's dug-out.
Exit to Saps.
Day and Night, sentries in Saps.

ST. GEORGES TUNNEL WEST - SAP POST

Mens dug-out.
Exit to Saps.
Emergency Exit to dump.
Rifle Grenade Post, "shell hole" exit about 70 yards back.
Day and Night sentries at Sap exit.
Emergency exit and Rifle Grenade Post camouflaged.
(The latter is being used as a M.T.M.E. at present).

QUARRY BAY POST.

Two exits to Quarry Bay Trench.
Day and Night, sentries in Quarry Bay.

ST GEORGES TRENCH.

Several men's dug-outs connected to St Georges Tunnel and having exits to St Georges Trench.
Day and Night, sentries in St Georges Trench.

COY.H.Q. DUDLEY TUNNEL.

Two dug-outs near junction of "K" and Stone St Tunnels.

COY.H.Q. QUARRY BAY.

Two dug-outs between Quarry Bay exits.

M.T.M. EMPLACEMENTS.

Off "K" Tunnel near old support line, with dug-out for bomb-store.
Off old /Chapel Alley Mine shaft, with mine shaft for bomb store.
Off Rifle Grenade Post in St Georges Tunnel West.
All these to be camouflaged and gas curtains securely dropped when not in use.

H.T.M. EMPLACEMENT. (under construction)

Off Devon Tunnel.
Bomb stores and firing Recesses off the Tunnel.
Elevating blocks for hauling bombs from stores up to emplacement.

FREUND DUMP.

Sometimes used as for O.P. or M.G.E.
Freund shaft exit.
Connection with dug-outs having two exits to surface. (O.P. or M.G. dug-outs).

WARDENS DUG-OUT.

In St Georges Tunnel used by Tunnel Wardens.

253. COY., OFFICERS DUG-OUTS

In Wings Way shaft and St Georges Tunnel

MINE RESCUE STATION.

In X cut near junction of St Elie and St Georges Tunnels.

P.T.O.

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WELL LOOP & TANKS.

In X cut.

Policed by Infantry.

Tanks filled by 253 Coy., R.E.

BATTLE BATTALION H.Q.

In Xcut.

ENGINE HOUSE & MECHANICS DUG-OUTS & STORES.

At bottom of Wings Way shaft and St Georges Tunnel.

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IMPORTANT POINTS RE TUNNEL DEFENCE &c.

GAS CURTAINS.

At least two good gas curtains in every exit.

All gas curtains tested at least once every 24 hours. If faulty, they should be repaired AT ONCE.

All sentries instructed to lower all gas curtains in event of gas attack.

In all exits where there is no gas sentry on duty, the gas curtains must be kept CLOSED

Signal wires etc must pass through small openings behind gas curtains frames, otherwise they prevent the curtain from fitting closely against the frame.

ALARMS.

All sentry posts must communicate with the post dug-out by electric bell. Where these are not available or are out of order, a "knocker" alarm worked by pulling a wire at the sentry post should at once be fixed up. Anyone can fix some arrangement like this up.

No sentry should have to leave his post to alarm the garrison in the dug-out.

All electric bells and other alarm signal arrangements should be tested at least once every 12 hours by a responsible officer.

A typed list of signals should be posted up at every sentry post and carefully explained to every sentry before he goes on duty.

LOOP-HOLED TRAVERSES.

All forward exits are traversed at the bottom.

Loop-holes are provided through the traverses by means of which entrance to the exits from above can easily be prevented by a single rifle.

Men should be previously detailed to man these loopholes at once in case of alarm, thus preventing any chance of an exit being "rushed" by the enemy.

A reserve supply of S.A.A. should be kept at each loophole.

CAMOUFLAGE.

Every effort should be made to conceal all exits as much as possible at all times.

Every exit not in use should be thoroughly camouflaged, particularly all shell hole exits and trench mortar emplacements.

Sentries should not expose themselves by day but should use camouflaged periscopes.

CLEANLINESS & HEALTH.

No latrines in tunnels.

Garrison of dug-outs to keep them clear of all empty tins etc.,

All nuisances to be traced and the culprits severely dealt with.

No fires on any account.

P.T.O.

Cleanliness & health)contd)

Chloride of lime should not be used as a disinfectant in confined places as this ~~unders~~ certain conditions gives off chlorine and also CO₂. which is a poisonous gas.

Creosole in small quantities is the best disinfectant for Tunnel use.

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APPENDIX

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80.2564.
I. of M.

Controller of Mines,

First Army.

From a report rendered by the C.R.E. 19th Division on the Operations connected with the taking of the MESSINES RIDGE, the following remark is taken :-

" When Tunnelling Companies are employed on the construction of deep dug-outs for command posts on a Divisional front, daily progress reports should be furnished to the Division. It is most necessary that the Division should have prompt information of any probable delay in the completion of an essential part of the scheme of preparations."

I do not know on what grounds this remark was made, for it is my experience that the Tunnelling Company Commander is usually in the closest touch with the Divisional Staff, as to the progress of all work which he has in hand for the Division.

As there seems to have been some lack of touch in this instance, will you please point out to all Commanding Officers in your Army that the Division, in whose area they are working, must be kept fully informed of their progress, if necessary by daily intercourse, even though their work consists merely of making dugouts and no mining work is in hand.

This is specially the case when the work is in connection with future operations.

G. H. Q.,
7/7/17.(Sd) R.N. Harvey,
Brigadier General,
Inspector of Mines.

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O.C.,

3rd Aust Tunn
Coy., R.E.
-----C.M. / 1152 / 2.
First Army.

For information and compliance, please.

Adv. First Army,
9th July, 1917.R. Notes
(Sd) Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.

C.M./1380/2.
First Army.

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O.C., 10th Aust. Inf. Coy., ~~10th~~

For information and retention.

The timber question is particularly important.

Although there are large quantities to be salvaged, the consumption of timber must be economised by all possible means - by chambering in strong chalk where possible ; by use of expanded metal lagging and by taking all reasonable chances in the sparing use of sets and frames.

Adv. First Army,

31/7/17.

R. S. L. T. O.

Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.

Controller of Mines,

First Army.

It is probable that considerable demands will be made during the Autumn, Winter and early Spring, for Dugouts and Subways.

The following points will arise in the course of their construction :-

1. Timber.
2. Drainage.
3. Lighting.

1. Timber is certain to be scarce, and every effort must therefore be made to economise in this material, both in the design adopted and by selection of the site, from the point of view of most favourable geological conditions.

In the Chalk country it is frequently possible to save in timbering, by sinking to greater depths than is absolutely necessary for protection.

A number of light boring plants are now available for testing the geological conditions below the surface, and more have been ordered.

An expert is available to give instruction in the use of these.

2. The importance of grading Subways and Dugout systems cannot be exaggerated. Multiplication of pumping points leads to extravagance in labour, which is never willingly found by the Infantry, even if they are the occupants.

A large amount of underground accommodation has been rendered useless simply by neglect of pumping, which is in many cases primarily due to labour required for pumping, consequent on faulty survey.

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3. A very large proportion of the Army have now experienced the comforts of Electric Light in Subways and Dugouts. Demands for this sort of light are certain to increase. Resources are limited.

In order to make our plant afford the greatest amount of benefit, the layout of Dugouts and Subways should be always considered with this point in view.

G. H. Q.,

29/7/17.

(Sd) R.N. Harvey,
Brigadier General,
Inspector of Mines.

SECRET.

Together with Roads Officer, Canadian Corps, I visited 172nd Coy., R.E., 182nd Coy., R.E., and 3rd Australian Tun. Coy., yesterday and agreed upon the following preparatory arrangements for forward road work to be undertaken in case of any big advance, subject to your approval, please.

The aim of work would be to provide the earliest possible communication for guns and heavy transport, with speed of work in view rather than permanency.

TUNNELLING COMPANY PERSONNEL.

Two sections to be made immediately available by each Company. (In case of 182nd Coy., 2 sections less Investigation Party of 2 Officers and 18 men if required on their special duties). Men to work two 8 hour daylight shifts.

WORKING PARTIES.

An Infantry Battalion for each company to be billeted well forward and to be self contained for administration and discipline. These men to work two 8 hour shifts or 3 short shifts (daylight only) according to their condition and other duties, and distance from work.

BILLETS.

sections
The 172nd Coy. / and their Working Party to billet at
LA COULOTTE.

The 192nd Coy. in SALONNE, unless better position found.

3rd Australian Coy. in MAROC, unless better position found.

POSITIONS OF DUMPS.

172nd Coy's. Dump at LA COULOTTE.

182nd Coy's. Dump at RAILWAY CROSSING (H.16.a.5.3).

3rd Aust. Coy's. Dump at TRAVERSE KEEF (N.S.A.S.O.).

Stores

STORES and TOOLS.

The following tools ~~and~~ will be found and reserved, if possible, by the Corps Roads Officer for immediate despatch to each company dump when required :-

Picks	100
Shovels	200
Scrapers.	100
Wheelbarrows	50 (doubtful if all available).
Hammers (10 lbs). . .	10
Hammers (7 lbs). . .	40
Augers	5 (if available).
Crowbars.	5
Hammers	10
Crosscut Saws	10
Felling Axes.	10
Hand Axes	10
Cordage ($\frac{3}{4}$ Diam.) ..	2 coils.

TRANSPORT.

Transport is too directly governed by unknown road requirements and the best points for standings too much affected by shelling conditions to allow definite arrangements at present.

It is recognised that standings should be well forward and first line transport be provided if possible, (on a detachment basis.) Tip Carts are to be provided for each company, if possible(15 per company).

Adv. First Army,
31st July, 1917.

Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.

O.C., 3rd Aust. Tun. Coy.

For your information, further to my C.M./1351/2,
dated 27.7.17.

31st July, 1917.

R. Stokes

Lieut.-Colonel, R.E.,
Controller of Mines,
First Army.