

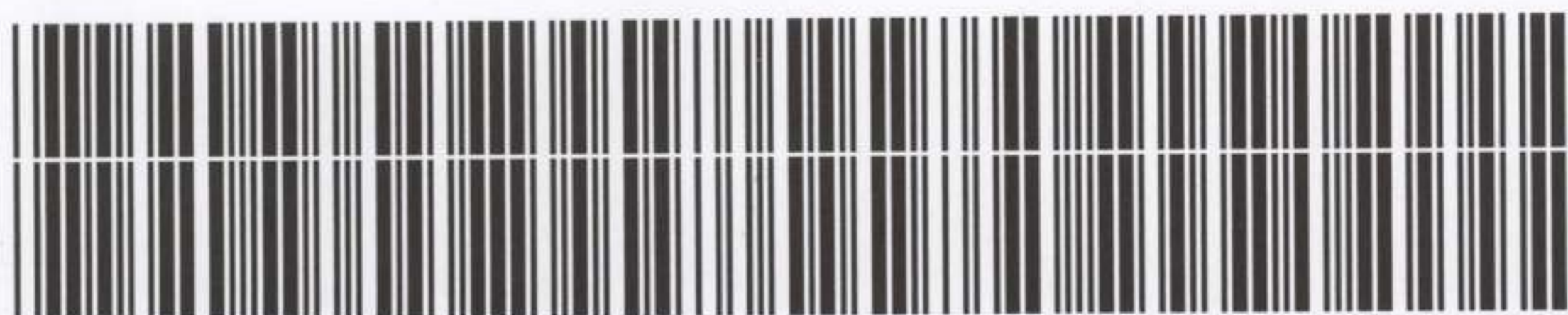
AWM4
Australian Imperial Force unit war diaries,
1914-18 War

Engineers

Item number: 14/40/3 Part 1

Title: D Field Troop and Bridging Train,
Australian Engineers

November 1917



AWM4-14/40/3PART1

CONFIDENTIAL.

ORIGINAL.
DUPLICATE.
TRIPLICATE.

Australian Imperial Force.

WAR DIARY

OF

"D" FIELD TROOP & BRIDGING TRAIN. AUST. ENGINEERS.

FOR

3RD PERIOD — FROM 1400 2ND NOV. 1917 TO 0930 12TH NOV. 1917.

Signature of Officer compiling _____

Signature of Officer Commanding _____

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.

OR
INTELLIGENCE SUMMARY.

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SHEET NO. 19.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
			<p>3rd Period from 1400 of 2nd Nov 1917 to 0930 12th Nov. 1917 & covering: <u>Water Development in BEERSHEBA</u></p>	
			<p>The work of this period consisted almost entirely of installing and operating machinery in wells, which were, with one exception, undemolished though preparations for their demolition had been made by the enemy. The presence of real & make-believe demolition arrangements called for considerable care, & the main difficulties encountered were those due to the extremely hot & dusty weather conditions, ^{which were not improved by the smell from carcases & corpses,} and the lack of suitable tools for mechanical work, most of those used at KHALASA and ASLUW having had to be left behind.</p>	
BEERSHEBA.	2/11/17		<p>O.C. unit reported to C.R.E. Desert Mounted Corps, & was instructed that the unit would be required to work at six (or more) wells. At three of these, work of installing machinery had already been commenced by 220th (Army Troops) Coy. R.E., a unit with a personnel establishment of about 240, and it was stated by C.R.E. Desert Mounted Corps, that it was required to accelerate the rate at which</p>	

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SHEET NO. 20.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA.	2/11/17		<p>The work was being done. Five of the wells were visited, and N.C.O's, regard being had to their several qualifications, allotted to them, and as the sappers, who had ridden from KHALASA on the wagons of B Echelon, Anzac Mtd. Div, rejoined, these were attached to the best advantage, and detachments thus organised.</p> <p>Evening of this day & morning & evening of 3/11/17. The area of the wells, that is, the low flat and mostly pebbly bed of the dry WADI. SABA, was subjected to enemy aerial bombing & machine gunning without any casualty in this unit.</p> <p>Plant used and conditions generally varied at the several wells and work at each of these will be best considered seriatim.</p> <p>Well No. 1. was surrounded by the buildings of a large grain mill, and, together with its small belt driven plunger pump, had shared in the damage caused by the demolition by explosives and burning of the mill and its plant, including an internal combustion engine of about 60 H.P. The well was about 20 ft. diameter and in</p>	

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SHEET No. 21.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA	3/11/17		<p>At a portable pumping set, consisting of a "Blackstone" oil engine + "Hayward + Tyler" pump was being installed by 220TH (A.T.) Coy. R.E.</p> <p>This set has the engine + pump connected by gearing on a cross shaft between the engine and pump, these being arranged horizontally on the same centre line, so that the set has considerable horizontal length + may only be lowered into a well of large diameter. It was carried in this case on a crazy frame of timber suspended by cordage from the surface, and the amount of movement in the foundation and consequent liability of valves failing to seat, was thought to be the cause of its very restricted output; all other possible sources of trouble, such as leaks in suction + glands, plunger packing, valve seats etc. were gone into by this unit, which took over at 1500, 2/11/17, plant being started at 2045, 2/11/17, without improvement, and since the yield of the well was very poor and the water very dirty, power pumping was abandoned forenoon of 4/11/17.</p> <p>2/Lieut. D. ATTWOOD became a casualty at this well 3/11/17 and was</p>	

5

No.

WAR DIARY

Army Form C. 2118.

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(Erase heading not required.)

SHEET No 22.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA	2/11/17.		<p>evacuated with badly damaged hand.</p> <p>Well 8a. was interesting as being the alleged old original BIR SABA, the well of Abraham, and its old stone casing deeply grooved with the wear of countless ropes used for drawing water by hand, had certainly existed for centuries. It was of about 9 ft. diameter and about 80 ft. deep and had apparently been used for some years as the main BEERSHEBA water supply, a three throw plunger pump still in working order existing in a pump shaft immediately alongside & a delivery main having been used to a drinking water fountain and stone roofed reservoir of about galls. serving stone horse watering troughs. The pump had been driven by a small "DEUTZ" oil engine, in masonry building, parts of the ignition gear of which had been removed by the enemy, and which the N. Z. Field troops, so it was said, had got to run, without however, giving sufficient power to operate the pump.</p> <p>A new horizontal "Blackstone" oil engine of about 8 H.P. was</p>	

No.

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SHEET NO. 23.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA.	2/11/17.		<p>being installed by 220TH (A.T.) Coy R.E. and this was got going and handed over to this unit at 2100 2/11/17. The plant was, from that time, kept going 24 hours a day, with exception of three short stops to take up belt & clean out engine, until 0600 12/11/17 when 220TH (A.T.) Coy. R.E. again took over plant running. Necessity for cleaning out engine arose from combination of three causes these being:</p> <p>a) heavy quality of oil used as fuel; b) oil grooves on piston being filled with deposit, perhaps done during test; and c) interference by least skilled member ^{of party} when alone on night relief, with oil feed gear.</p> <p>The pump though portable, was in very bad order and pumped much below its capacity. This was considerably improved by adjustment of surface gearing & repacking pump glands, but it was thought not advantageous to stop & refit pump leathers, so that output was made about 2000 gals. per hour.</p> <p>A lot of work was put into repair & upkeep of 4" pipe-line to reservoir, distant about 700' & troughs, most of this being</p>	

No

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SHEET No 24.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA	2/11/17		<p>exposed to much traffic and with very leaky and badly made screwed joints, and the presence of wires leading below engine-room floor, which was hollow, and into ground around well lining, and also of about 5 ton of badly deteriorated & so dangerous explosive, similar to gelignite and in cases marked "BAGDAD BAHN" (Bagdad Railway), which was placed in open ground adjacent pump house, made it necessary to exercise a lot of care, mainly in the direction of keeping wandering idiots at a safe distance.</p> <p>The whole of the work was done by CPL. FINCH and five sappers one of whom acted as cook & orderly.</p> <p>WELL 12a. was a well recently constructed for the purpose of watering locomotives of the AUSA railway & was situated inside a substantial stone pump house, still intact, adjacent the railway embankment. Water had been pumped by a Pulsometer supplied with steam by a locomotive outside, which was now a mass of wreckage due either to enemy demolition or our own bombing.</p>	

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SHEET NO 25.

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Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA	3/11/17		<p>A set of pumping machinery consisting of a 'Lister' petrol engine as already used at KHALASA and ASLUW, and an 'Islei' deep well pump was delivered by motor lorries at the well, at about 1200, 3/11/17. A party of about five sappers under 2/Cpl. LESLIE R. commenced work of installation and were pumping water at 0345, 4/11/17. Conditions were favourable here, there being iron girders present across top of well to support pump & a derrick available for handling the gear. However the plant had not previously been handled by any member of this unit and the time was considered good. This combination appears to be about ideal for the purpose of rapidly exploiting deep wells on service, the fact that the whole work of installation of pump is done from the surface making for rapidity and suitability for wells of even very small diameter. This is secured by using the rising main as casing and guides for the pump rods & as support for pump barrel; the main is therefore of considerable size (4" pipe for a 3" pump & rated capacity of 1000 gals. per hour.) & its weight is a disadvantage for transport</p>	APPENDIX No. 16a.

No.

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SHEET NO 26.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA	3/11/17		<p>in mobile operations, & considerable care & skill are necessary during erection to ensure proper relation between respective lengths of pump rods and rising main.</p> <p>It is thought that the design could be improved in the direction of reduction of weight by the use of lighter piping for rising main and lighter scantlings in pump frame and gearing & foundation girders, also for speed in erection, bolted or cottend flanged joints could be advantageously substituted for the existing screwed type. The total weight of installation including engine & running stores is now about 3 tons, suitable for a well up to 120' deep.</p> <p>Well 12b. was also a new well, of small diameter, situated just outside the pump house of 12a. A Lister & Isler set was installed here also, unloading being commenced at 1000 and water being pumped at 2000. 5/11/17; improved time under rather less favourable conditions than at 12a, being due to the men being now acquainted with the gear. The plant at these two wells now consisted of two Lister & Isler sets, running faster than rated speed, by use of larger driving pulleys, and by speeding up engine; and</p>	
	5/11/17			

WAR DIARY

Army Form C. 2118.

or
INTELLIGENCE SUMMARY.

(Erase heading not required.)

SHEET NO 27.

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Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA	5/11/17		<p>delivering between them about 2,600 gals. per hour. and a cumbersome & heavy pump made by the Egyptian State Railways, driven by a Blackstone oil engine and erected by 220th (A.T.) Coy R.E. and delivering about 1,400 gals per hour. The total output was thus about 4,000 gals. per hour by direct measurement, from a depth of ^{about} 90 ft. and so was the principal source of the water supply at BEERSHEBA. Delivery was into canvas reservoirs erected and maintained by 2nd. Field Squadron. A.E.</p> <p>Well 8b. was a very old well, adjacent to 8a with overhead masonry structure carrying a native sakia or horse-worked chain bucket pump and furnished with stone reservoir of about 7000 gals. capacity. It was required here to instal pumping machinery with as little interruption as possible of the working of the sakia, so that every possible drop of water could be made available to the troops, & the Isler pump again showed to advantage from this point of view. It was possible to proceed with the erection</p>	

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SHEET. NO. 28.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA.	3/11/17		<p>of the pump framing on top of the crazy mud-wall structure, which supported the top chain wheel of the sarkia, the whole being stiffened & supported by sand-bag work. The hoisting of the heavy pump frame parts up on to this structure without any derrick or similar gear, did not make for rapid installation, unloading being commenced at about 1130, 3/11/17 and water being pumped at 0750. 4/11/17. Here again, the men engaged, Sgt. McCLELLAND and seven sappers, had not handled the gear before and the time was considered satisfactory. It was found necessary to stop working of the sarkia about 0030, 4/11/17 in order to lower pump barrel & rising main into well. The later pump was speeded up by use of 12" instead of 10" driving pulley on engine, & delivered about 1250 gals. per hour, this being full yield of well with water level below that reached by buckets of sarkia, working of which, was therefore not required. Working of the pump was interrupted by pump rods coming loose, morning of 7/11/17; these were reconnected.</p>	
	7/11/17			

No

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SHEET NO 29

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA	2/11/17		<p>and lock-nuts tightened, without any further similar trouble here or elsewhere. The gear supplied for withdrawing any rods from the delivery main, should they have become detached, could be greatly improved by providing a centring guide to ensure the rod engaging with the nut on retractor.</p> <p>No. 5 Well was situated about a mile to the south of the general well area and was being exploited by means of a whip in use by 2nd Field Squadron, and it would have been possible to continue the use of this during whole time of installation of an Isler Rister set which was commenced by SGT. McCLELLAND. N., Cpl ROBERTSON. A.C., and about</p>	
	5/11/17		<p>five sappers about 1450 5/11/17, and completed about 0600 6/11/17 considerable delay being caused by the fact that both foundation girders had been supplied of the one hand instead of left and right and that consequently one of them had had to be holed afresh for the holding down bolts of the pump frames. Some trouble was caused by some mis-carriage of the orders of C.R.E. D. W. Mtd. Corps,</p>	

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SHEET NO 30.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA	5/11/17		<p>whereby the working of the whip was not continued during the installation of the power pumping plant. The engine was much speeded up here so that the main pump shaft turned over at 52 R.P.M. giving a flow of 1400 gals. per hour by direct measurement, instead of at the rated speed & capacity of 36 R.P.M. & 1000 gals. per hour, respectively. This was about as much as the engine would stand and demanded careful engine running, but did not appear to worry the pump, the foundations of which were secured only by well packed sand bags. Depth pumped is believed to have been something over 75 ft.</p> <p>Well 7a. situated at eastern edge of town area, was fitted with a small centrifugal pump, salvaged from ASLLW, and a Lister petrol engine. It was not expected that the pump would lift to the head required, (about 30'), but the work was gone on with by orders of C.R.E., D.M.C.. Every effort was made to help the pump by speeding up to the limit, and by sinking the engine & so improving the</p>	

OR
INTELLIGENCE SUMMARY.

(Erase heading not required.)

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Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA.	5/11/17		belt drive, the general arrangement being similar to that at KALASA previously illustrated, and good work was done by Sgt. ^C GLAYDON. ES. 2 nd Cpl. NICHOLSON. PC & party from about 1400 5/11/17 to 1200 6/11/17; the result was, however, as expected, and in the failure to secure a pump of suitable design, attempts to exploit the well mechanically were abandoned.	
	6/11/17		The following refers to the work in BEERSHEBA generally:- This unit took over work of distribution of water from the above wells still working, viz: 12a, 12b, 8a, 8b, and 5, on moving out of 2 nd Field Squadron.	
	7/11/17		1 st Field Squadron move into BEERSHEBA and move out again. GC. unit ordered to take over water supply for BEERSHEBA.	
	8/11/17		Lieut. MATTHEWS and party of Camel Field Troop commences to assist in erection and maintenance of troughs at 12a and 12b. No. 5. well with plant and personnel handed over on loan to C.E. XX Corps.	

WAR DIARY

Army Form C. 2118.

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SHEET NO. 32.

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Date _____
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Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
BEERSHEBA.	9/11/17.		Preparing for departure from BEERSHEBA; collecting all loose gear and packing at No 1. well. Watering demands decreasing considerably.	
	10/11/17		Much difficulty in settling question of how much material should be taken from BEERSHEBA and in securing transport.	
	11/11/17		Wells 8a. and 12a. handed over at 1200 to 220 th (A.T.) Coy. R.E.	
	12/11/17		Six G.S. wagons of German Divisional Train were attached and loaded with the Huster Isler set from well 8b, together with technical equipment and five canvas troughs with G.S. pumps and necessary hose, also petrol + other running stores; whole unit marching out at 0930 under orders to move under own arrangements to cross roads N. of GAZA. The weather conditions at BEERSHEBA, with severe heat and dust were extremely trying. The men were quartered in various rough and extremely dirty buildings at the sites of the respective wells. Supply conditions were good + fresh meat was available as a ration 9/11/17. The grain mill contained large quantities of partially burnt meal + some of this was used for making cakes + damper.	
	8/11/17			

13

WAR DIARY

OF

"D" FIELD TROOP & BRIDGING TRAIN. AUST. ENGRS.

FOR

3RD. PERIOD - NOVEMBER. 1917.

LIST OF APPENDICES.

No.

Subject.

16 a. BLUE-PRINT: ISLER PUMP.
(Original only supplied).