DEPARTMENT OF MINES
SOUTH AUSTRALIA

GEOLOGICAL SURVEY
ENGINEERING DIVISION

# AUSTRALIAN NATIONAL RAILWAYS
# TARCOOLA-ALICE SPRINGS RAILWAY
# GROUNDWATER COMPLETION REPORT - THIRD TENDER
# (MARLA SIDING - N.T. BORDER)

## PROGRESS REPORT NO. 8

by

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Rept.Bk.No. 77/4
G.S. No. 5833
Eng.Geol.No. 1976/29
DM. No. 329/75

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DEPARTMENT OF MINES
SOUTH AUSTRALIA

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## SUMMARY AND RECOMMENDATIONS

A total of 35 rotary and cable tool boreholes have been drilled to a cumulative depth of 1 519 m along the Third Tender (Marla Siding to the Northern Territory border) section of the Tarcoola - Alice Springs Railway. Of this number 14 were completed as production wells, and the remainder abandoned because of insufficient yield.

Tested yields of production wells vary between 0.75 l/sec and 1.9 l/sec (600-1 500 g.p.h.), and recommended pumping rates are 0.5 to 2.5 l/sec (400-2 000 g.p.h.). Water quality is mostly good to excellent, with three wells (B195, B196 and B198) yielding drinking quality supplies. The maximum spacing between production wells is 27 km.

Most drilling was carried out by rotary-percussion (down-hole hammer) techniques, with very satisfactory results. A cable tool rig was used in unconsolidated materials and for well testing.

No further drilling is recommended, but it is desirable that a sand screen be installed in B195, and possibly B196 and B198 as well, before pumping commences.

## INTRODUCTION

The following report summarizes the results of water boring along the proposed alignment of the Tarcoola-Alice Springs Railway between Marla Siding and the Northern Territory border, 390 to 562 km north from Tarcoola. This constitutes the Third Tender section of the railway, from about B180 km to B352 km. Boreholes have been given the number of the nearest kilometre peg, and where two holes are close together they have been given "a" and "b" suffixes (thus, B242 and B242a).

The required well spacing for this section was 30 km, with safe yields in excess of 1.25 l/sec (1 000 g.p.h.). This specification has generally been met, with the maximum well interval being 27 km. A Summary of Well Data is presented in Table I, and haul distances and yields are illustrated in line diagram form on Figure 3.

Drilling for this section commenced in May (with B203) and was completed in October, 1976. Holes B181, B185 and B195 were drilled in 1975-76 for the Second Tender section (Robin Rise to Marla Siding, A160 to B180 km). Most holes were drilled by rotary percussion, with the remainder (except for B185, which was fluid/rotary drilled) being put down by Cable Tool plant.

All successful wells were test pumped, using the plunger pump attached to the cable-tool rig. Preliminary estimates of yield from rotary holes were obtained by airlifting. Recommended pumping rates are given in Appendix C, and on Figure 3.

## HYDROGEOLOGY

Productive wells in this section draw upon unconfined aquifers in the Pre-Cambrian granite, Proterozoic siltstone and the Cadna-owie Formation (of lower Cretaceous age), as illustrated in the geological section (Figure 3).

The material loosely described as "granite" in this report may include a variety of acid plutonic and high-grade metamorphic rocks. Where this "granite" is sufficiently permeable to constitute an aquifer it is in a highly to completely weathered state. Some "granite" may in fact have been reworked by alluvial processes, and the distinction between completely weathered granite and alluvial sand and gravel derived from granite is not easily drawn.

Tested yields of up to 1.5 l/sec (1 200 g.p.h.) have been obtained from weathered granite and alluvium of granitic origin. Water quality is good, generally less than 1 500 mg/l Total Dissolved Solids (TDS).

Drilling of lineaments and dolerite dykes within the granites did not prove successful in this section, though these structures have yielded productive wells elsewhere in the North-West.

Between the Alberga and Tarcoonyinna Creek, and between about B239 and B215 km, Proterozoic siltstones with thin limestones and quartzites outcrop or are covered by a veneer of alluvium. In the vicinity of drainage lines these rocks, where cleaved and fractured, may yield up to 2 l/sec (1 600 g.p.h.) of fair to good quality water (1 000-3 500 mg/l T.D.S.).

At the southern end of the section, between about B210 km and B180 km, Great Artesian Basin type sediments occur beneath 1 to 4 m of alluvium. These include the Bulldog Shale and the Cadna-Owie Formation or their equivalents. The Cadna-Owie is here represented by a very silty fine sand, and though generally present beneath 10-20 m of highly coloured and altered Bulldog Shale (north of B190 km; south from here the shale thickens) it is in fact a water-table aquifer. Yields from individual wells are only moderate, 0.75 to 1.5 l/sec (600-1 200 g.p.h.), and there is a risk of hole collapse in these fine sands. Water quality is, however, excellent (less than 500 mg/l) and it is likely that this is derived from local recharge.

TABLE I

SUMMARY OF WELL DATA

| Bore No. | Depth (m) | S.W.L. (m) | Tested Yield (g.p.h.) | Approx. Quality (mg/l) | Status |
|---|---|---|---|---|---|
| B 185 | 40.0 | - | - | - | abandoned and backfilled |
| B 185 | 83.5 | - | - | - | " " " |
| B 195 | 30.0 | 12.5 | 1 000 | 125 | completed productive |
| B 196 | 27.0 | 12.0 | 1 200 | 299 | " " |
| B 198 | 28.0 | 11.8 | 950 | 435 | " " |
| B 203 | 37.0 | 17.5 | 600 | 385 | " " |
| B 215 | 40.0 | 19.5 | 20 | - | abandoned and backfilled |
| B 244 | 8.0 | - | - | - | " " " |
| B 224a | 58.0 | 23.4 | 500 | 1 234 | completed productive |
| B 237 | 40.0 | 23.3 | 1.500 | 7 903 | " " |
| B 240 | 64.0 | 10.8 | 1 500 | 15 833 | " " |
| B 241 | 36.0 | - | 100 | 12 000 | abandoned and backfilled |
| B 242 | 58.0 | 19.5 | 150 | - | " " " |
| B 242a | 40.0 | - | 20 | - | " " " |
| B 243 | 45.0 | - | 180 | 14 000 | " " " |
| B 243a | 50.0 | - | 80 | 1 200 | " " " |
| B 243b | 38.5 | 8.9 | 50 | 1 500 | " " " |
| B 265 | 58.0 | 37.2 | 1 500 | 2 211 | completed productive |
| B 275 | 64.0 | 23.3 | 1 000 | 3 478 | " " |
| B 277 | 52.0 | - | 10 | - | abandoned and backfilled |
| B 277a | 82.0 | 24.5 | 30 | - | " " " |
| B 278 | 52.0 | - | 50 | - | " " " |
| B 287 | 16.0 | - | - | - | " " " |
| B 289 | 50.0 | - | 10 | - | " " " |
| B 290 | 38.0 | - | 10 | - | " " " |
| B 295 | 40.0 | - | - | - | " " " |
| B 298 | 33.0 | 10.1 | 1 400 | 14 420 | completed productive |
| B 298a | 27.0 | 12.0 | 1 200 | 11 146 | " " |
| B 301 | 27.0 | - | 5 | 800 | abandoned and backfilled |
| B 305 | 38.0 | 25.0 | 80 | - | " " " |
| B 307 | 37.0 | 18.5 | 600 | 2 197 | completed productive |
| B 320 | 26.0 | 18.4 | 1 200 | 895 | " " |
| B 337 | 52.0 | - | 20 | - | abandoned and backfilled |
| B 347 | 52.0 | 19.5 | 900 | 765 | completed productive |
| B 349 | 52.0 | 13.2 | 150 | 900 | abandoned and backfilled |

## DRILLING METHODS

Both cable tool and rotary techniques were used in drilling the Third Tender section. The rotary rig was a truck-mounted Mayhew 1000, and all rotary holes except B185 were drilled by means of a high pressure down-hole hammer. This method proved particularly successful in the hard rock aquifers generally encountered in this section.

The Ruston 22W cable tool plant was used mainly in a follow-on capacity. Though much slower than the rotary rig, it is able to bore through unconsolidated materials which could jam or bury the down-hole hammer.

Productive holes were initially tested by airlifting to give a rough estimate of yield. Later, 6-hour discharge tests were carried out using the plunger pump mounted on the cable tool rig. The results of this testing, presented as Drawdown vs. Time Curves, are given in Appendix C.

A summary of drilling methods employed is presented in Table II.

TABLE II

DRILLING SUMMARY

| Bore No. | Commenced | Completed | Drilling Method |
|---|---|---|---|
| B 181 | 22.3.76 | 24.3.76 | Cable Tool |
| B 185 | 10.5.76 | 21.5.76 | Rotary, Fluid circulation |
| B 195 | 24.3.76 | 28.3.76 | Cable Tool (P.W.) |
| B 196 | 10.10.76 | 15.10.76 | " " (P.W.) |
| B 198 | 4.10.76 | 9.10.76 | " " (P.W.) |
| B 203 | 17.5.76 | 23.5.76 | " " (P.W.) |
| B 215 | 24.5.76 | 30.5.76 | " " |
| B 224 | 31.5.76 | 2.6.76 | " " |
| B 224a | 30.7.76 | 31.7.76 | Rotary-percussion (down-hole hammer) |
| B 237 | 28.7.76 | 29.7.76 | " " " " " (P.W.) |
| B 240 | 20.7.76 | 21.7.76 | " " " " " (P.W.) |
| B 241 | 22.7.76 | 22.7.76 | " " " " " |
| B 242 | 19.7.76 | 20.7.76 | " " " " " |
| B 242a | 21.7.76 | 21.7.76 | " " " " " |
| B 243 | 23.7.76 | 23.7.76 | " " " " " |
| B 243a | 23.7.76 | 24.7.76 | " " " " " |
| B 243b | 24.7.76 | 24.7.76 | " " " " " |
| B 265 | 26.6.76 | 27.6.76 | " " " " " (P.W.) |
| B 275 | 24.6.76 | 25.6.76 | " " " " " (P.W.) |
| B 276 | 11.6.76 | 12.6.76 | " " " " " |
| B 277a | 12.6.76 | 15.6.76 | " " " " " |
| B 278 | 10.6.76 | 10.6.76 | " " " " " |
| B 287 | 8.6.76 | 9.6.76 | " " " " " |
| B 289 | 15.6.76 | 17.6.76 | " " " " " |
| B 290 | 7.6.76 | 8.6.76 | " " " " " |
| B 295 | 7.6.76 | 7.6.76 | " " " " " |
| B 298 | 18.6.76 | 19.6.76 | " " " " " (P.W.) |
| B 298a | 17.6.76 | 18.6.76 | " " " " " (P.W.) |
| B 301 | 4.6.76 | 5.6.76 | " " " " " |
| B 305 | 21.6.76 | 22.6.76 | Rotary drilled to 34 m, completed September 1976 by Cable Tool (to 37 m) (P.W.) |
| B 320 | 3.6.76 | 3.6.76 | Rotary drilled to 26 m, completed September 1976 by Cable Tool (32 m) (P.W.) |
| B 337 | 2.6.76 | 2.6.76 | Rotary-percussion (down-hole-hammer) |
| B 347 | 31.5.76 | 1.6.76 | " " " " " (P.W.) |
| B 349 | 29.5.76 | 29.5.76 | " " " " " |

(P.W. indicates that the hole was completed as a production well.
All other holes were considered insufficiently productive, and were backfilled.

## WATER QUALITY

Most water is required for earthwork compaction, for which quality is not a consideration. Relatively small supplies of good quality water will be required for camp use during construction, and for a permanent maintenance depot and stock yards at Indulkana Creek (Chandler Siding). Water of intermediate quality (less than 5 000 mg/l T.D.S.) is required for concrete mixing.

Groundwater from wells B195, B196 and B198 is of good drinking quality - and as such is the first to be located on the entire line. Wells B203, B320 and B347 have acceptably low T.D.S. values, but high nitrate ion concentrations make these unsuitable for drinking. These holes, and B224a, B265, B275 and B307 are suitable for general camp purposes (washing, etc.), and could be readily brought down to drinking quality by desalination.

Extensive scout drilling failed to locate a permanent on-site supply for the Chandler Siding. At the present time the alternatives appear to be desalination of B240 (13600 mg/l T.D.S., 1 600 g.p.h.) or desalination of water piped 4 km from B237 (8 000 mg/l T.D.S., 1 600 g.p.h.). The raw water from B237 is of fair to marginal stock quality, and this well could be duplicated.

All wells except B237, B240, B298 and B298a are suitable for concrete water, and all existing bores and wells within 10 km of the line are also suitable for this purpose. Details on these existing bores are given in Appendix D.

A summary of water analyses for this section is given in Table III, and data sheets from full analyses are presented in Appendix B.

TABLE III

SUMMARY OF WATER ANALYSES

| Bore No. | Approx. Salinity mg/l | pH | Analysis Type | Suitability | Remarks |
|---|---|---|---|---|---|
| B 195 | 115 | 7.4 | Lc | D,C,E,S, | No full analyses to date, |
| B 195 | 125 | 7.4 | Lc | | should be drinking quality. |
| B 196 | 299 | 7.8 | F | D,C,ES, | Drinking quality. |
| B 198 | 435 | 7.9 | F | D,C,E,S, | Nitrate (43 mg/l), approaching limit. |
| B 203 | 385 | 8.0 | F | DD,C,E,S | Excess nitrate (72 mg/l) |
| B 224a | 1 234 | 7.6 | F | DD,C,E,S | Sampled during drilling - not pumped. |
| B 237 | 7 903 | 7.3 | F | E,S, | Sampled during drilling |
| B 237 | 7 719 | 7.3 | F | | Sampled during test pumping |
| B 240 | 15 833 | 7.4 | F | E | During drilling |
| B 240 | 13 195 | 7.3 | F | | During pumping |
| B 241 | 12 000 | - | Fc | | During drilling - hole abandoned. |
| B 243a | 14 000 | - | Fc | | During drilling - hole abandoned. |
| B 243a | 1 200 | - | Fc | | During drilling - hole abandoned. |
| B 243b | 1 500 | - | Fc | | During drilling - hole abandoned. |
| B 265 | 2 211 | 8.3 | F | DD,C,E,S | During drilling |
| B 265 | 2 078 | 8.1 | F | | During pumping |
| B 275 | 3 478 | 8.0 | F | DD,C,E,S | During drilling |
| B 275 | 3 340 | 8.0 | F | | During pumping |
| B 298 | 11 497 | 7.7 | F | E | During drilling |
| B 298 | 14 420 | 7.6 | F | E | During pumping |
| B 298a | 11 146 | 8.6 | F | E | During drilling |
| B 301 | 800 | - | Fc | - | During drilling - hole abandoned |
| B 307 | 2 197 | 8.0 | F | DDMC,E,S | During pumping |
| B 320 | 1 050 | - | Fc | | During drilling |
| B 320 | 895 | 8.1 | F | DD,C,E,S | Excess nitrate (95 mg/l) |
| B 347 | 1 100 | - | Fc | | During drilling |
| B 347 | 765 | 7.6 | F | DD,C,E,S, | Excess nitrate (139 mg/l) |
| B 349 | 900 | - | Fc | - | During drilling - hole abandoned. |

Analysis Type

Lc - Total Dissolved Solids (T.D.S.) results based on laboratory conductivity readings, and subject to small errors.

Fc - based on conductivity readings in the field, and may be subject to large errors.

F - Full analysis, T.D.S. results accurate.

Suitability

D - Drinking Water quality; suitable for all uses (less than 500 mg/l T.D.S., nitrate below 45 mg/l).

DD - Good camp quality water, but not suitable for drinking without desalination.

C - Suitable for concrete (less than 500 mg/l).

E - Stock quality water (less than 10 000 mg/l; good stock quality water is less than 7 000).

## FURTHER WORK

No further drilling is recommended, but if the contractor requires it, advice on hole duplication and additional holes can be obtained from the Engineering Division of the Mines Department.

The installation of a sand screen in well B195 is, however, recommended. This hole, in silty fine sand, is uncased below 20 m and liable to collapse. It is likely that screening would permit the present recommended pumping rate of 0.5 l/sec (400 g.p.h.) to be increased. Alternatively, or additionally, wells B196 and B198 could be similarly equipped.

ACKNOWLEDGEMENTS

I would like to record my thanks to Senior Drillers W.J. Boyd and L.A. Hausler and their crews the efficient manner in which they carried out the drilling for this section, despite the handicap of operations in remote areas.

GHMcN:FdeA
20/1/77

G.H. McNALLY
GEOLOGIST

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# APPENDIX A

# BOREHOLE LOGS

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

HOLE NO. B181

UNIT/STATE NO. 5643000WW00017

SERIAL NO:

FOLDER NO.

LOCATION OR CO-ORDS:

SEC. HD. OUT OF

EL Surface 296.6 m

EL ref. point Datum

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W NO |
|---|---|---|---|---|---|
| dry | | | | | |

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 2 | Red-brown clayey coarse/medium SAND with shale fragments to 5 mm. | | | | | |
| | | | 2 | 12 | Light brown, yellow-brown and dirty yellow clayey c.m. SAND, with white, purple and orange fragments of shale. Very clayey, grading to sandy clay, 4-6 m. | Bulldog Shale | Lower Cretaceous | | | |
| | | | | | 8-10 m clay content decreasing to 40-50%. | | | | | |
| | | | 12 | 22 | Light red-brown m.f. sandy CLAY, with traces of coarse sand (shale fragments to 3 mm). Sand content about 30%, increasing with depth. | | | | | |

5
10
15

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 100 m south-west of B180-700 km. Abandoned, non-productive.

| | |
|---|---|
| DRILL TYPE C.T. | LOGGED BY: GHM & N |
| CIRCULATION: | DATE: 4.5.76 |
| START: 22.3.76 | TRACED BY: |
| FINISH: 24.3.76 | DATE: |
| SHEET 1 OF 2 | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B181

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 12 | 22 | Sandy CLAY, as above, becoming red-brown (14-20 m) and light yellow-brown (20-22 m) | Cadna - Owie Formation | Lower Cretaceous Bulldog Shale | | | |
| 20 | | | 22 | 30 | Light brown, yellow-brown and off-white clayey m.f. SAND (70% sand, 30% clay). Traces of coarse sand-size shale and quartz granules. Coarse sand absent, clay content increasing, 24-28 m. | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | 30 | 40 | Yellow-brown, becoming grey-brown sandy CLAY (sand content 10%). Traces of fine gravel. Fragments of stiff clay or weathered shale present, 36-40 m. | | | | | |
| 35 | | | | | | | | | | |
| 40 | | | | | END OF HOLE, 40.0 m | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

# BORE LOG

HOLE NO B185

UNIT/STATE NO: 5643 — 14

SERIAL NO:

FOLDER NO.

LOCATION OR CO-ORDS:

SEC. HD. OUT OF

EL Surface 309.4 m

EL ref. point Datum

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| dry | | | | | |

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 2 | Red-brown fine gravelly SILT (80% silts remainder quartz and limonite pebbles to 5 mm). | | | | | |
| | | | 2 | 8 | Chocolate-brown to white clayey quartz medium/fine SAND. | | Pleistocene | | | |
| | | | 8 | 38 | White, red, brown chocolate, buff and yellow indurated CLAY (completely weathered and altered shale).<br>8-10 m ferruginous, with limonite (?) pebbles and Mn staining.<br>10-12 m pallid zone of laterite profile (white and yellow clay, partly silicified)<br>12-16 m white, off-white, yellow and red brown clay. | | Bulldog Shale Lower Cretaceous | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 75 m north-east of B185.00 km peg. Abandoned, non-productive.

| | |
|---|---|
| DRILL TYPE Rot. | LOGGED BY: P.C.S. |
| CIRCULATION: Fluid | DATE: |
| START: 10.5.75 | TRACED BY: |
| FINISH: 21.5.75 | DATE: |
| SHEET 1 OF 4 | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO B185

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 8 | 38 | CLAY, as above. Predominantly white silicified kaolinitic clay, 16-18 m. 18-30 m, white kaolinitic clay (90-95%). | Bulldog Shale | Lower Cretaceous | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | 30-38 m mottled white/yellow clay, yellow (limonitic ?) proportion increasing with depth. | | | | | |
| 35 | | | | | | | | | | |
| | | | 38 | 70 | Yellow clayey fine to medium quartz SAND. Clay present as matrix and as interbeds. | | | | | |
| 40 | | | | | | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B185

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 38 | 70 | Clayey SAND, as above<br>38-40 m, medium sand (70%), clay (30%).<br>40-52 m, as above, becoming weakly cemented. | Cadna - Owie Formation | Lower Cretaceous | | | |
| 45 | | | | | | | | | | |
| 50 | | | | | 52-54 m, 80% sand, 20% white and yellow clay | | | | | |
| | | | | | 54/56 m, interbeds of clay. | | | | | |
| 55 | | | | | 56-58m, purple-brown fragments. | | | | | |
| | | | | | 58-60m, mottled yellow/white, with clay bands (some red-brown). | | | | | |
| 60 | | | | | 60-66 m, white and red-brown clay bands becoming more frequent. | | | | | |
| 65 | | | | | | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B185

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 65 | | | 58 | 70 | Clayey SAND, as above<br>66-69 m, fine quartz sand with yellow, off-white, pink and red-brown clay matrix. | Cadna - Owie Formation | Lower Cretaceous | | | |
| 70 | | | 70 | 71.5 | Off white to yellow CLAY. | | | | | |
| | | | 71.5 | 83.5 | White, off-white, yellow, pale mauve fine quartz SANDSTONE with white, yellow and red-brown clay interbeds. | | | | | |
| 75 | | | | | | | | | | |
| 80 | | | | | END OF HOLE, 83.5 m. | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT: TARCOOLA – ALICE SPRINGS RAILWAY

# BORE LOG

HOLE NO. B195
UNIT/STATE NO: 5643 — 16
SERIAL NO:
FOLDER NO.

LOCATION OR CO-ORDS:

SEC. HD. OUT OF

EL Surface 320.0 m
EL ref. point Datum

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 16 | 12.5 | 1000g.p.h. (1.25 l/sec) | plunger pump, 400 mins | 115-125 (pH 7.4) | |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE |
|---|---|---|---|---|---|
| | | | 0 | 4 | Red-brown slightly clayey coarse/medium/fine quartz SAND. Becoming lighter red-brown, 2-4 m. |
| | | | 4 | 15 | Light red-brown, pink and light brown coarse SAND with 5-10% clay. Sand consists of brick-red, orange and white shale chips (highly altered Bulldog Shale). Clay content increasing with depth, shale fragments up to 3-4 mm. |

UNIT: Bulldog Shale
AGE: Lower Cretaceous
CASING: Pleistocene; 150mm steel casing 0-20.15m
WATERS CUT
WATER LEVEL

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 100 m north of B195.300 km. Completed productive

DRILL TYPE C.T.
CIRCULATION:
START: 25.3.76
FINISH: 28.3.76

LOGGED BY GHMcN
DATE: 4.5.76
TRACED BY:
DATE:

SHEET 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B195

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 15 | 16 | Dirty yellow fine sandy SILT. | Cadna - Owie Formation | Lower Cretaceous | | | |
| | | | 16 | 21 | Yellow medium/fine SAND with traces of silt and coarse sand. | | | | | |
| 20 | | | 21 | 22 | White fine sandy CLAY. | | | | | |
| | | | 22 | 24 | Dirty yellow (mustard colour) fine sandy silt. | | | | | |
| | | | 24 | 30 | Yellow-brown coarse/medium/fine SAND mostly quartz. Slightly silty (5%), with a few chips of fine sandstone. | | | | | |
| 25 | | | | | 28-30 m. No coarse sand, fines 1-2%/ | | | | | |
| 30 | | | | | END OF HOLE, 30.0 m. | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

LOCATION OR CO-ORDS:

SEC. HD. OUT OF

EL Surface 320.0 m

EL ref. point Datum

HOLE NO. B196

UNIT/STATE NO: 5643 — 18

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 16 | 12 | 1.5 l/sec (1200 g.p.h.) | plunger pump 360 mins. | 299 (pH 7.8) | |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 6 | Red-brown/purple heavily altered SILTSTONE and fine SANDSTONE with chert and silcrete. Sample consists of angular sand-size grains to 2 mm, with occasional chips to 15 mm. | | | 150mm Steel casing → 0 - 24.9m | | |
| | | | 6 | 14 | White waxy kaolinised SILTSTONE with occasional red-brown ferruginous streaks. No silcrete or chert. | | Bulldog Shale Lower Cretaceous | | | |
| | | | 14 | 18 | White kaolinitic SILTSTONE as above with up to 25% fine quartz sand. | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 200 m west of B196.00 km peg. Completed productive.

| | |
|---|---|
| DRILL TYPE C.T. | LOGGED BY: GHM&N |
| CIRCULATION: | DATE: |
| START: 10.10.76 | TRACED BY: |
| FINISH: 15.10.76 | DATE: |

SHEET.... 1 OF .. 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B196

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 14 | 18 | White kaolinitic SILTSTONE and sand, as above. | Cadna-Owie Formation | Bulldog Shale Lower Cretaceous | | | |
| | | | 18 | 27 | Light red-brown (or dark pink) silty fine quartz SAND with thin partings (10% of sample) of white siltstone. | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| | | | | | END OF HOLE, 27.0 m. | | | | | |

PROJECT: PARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. CUT OF

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

EL Surface 320.0 m

EL ref. point Datum

HOLE NO. B198

UNIT/STATE NO: 5643 — 19

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 14 | 11.8 | 950 g.p.h. (1.2 l/sec.) | plunger pump, 360 mins. | 435 (pH 7.9) | |

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 4 | Light brown clayey coarse/medium SAND. Grains are rounded to angular silcrete, chert, ironstone and rock fragments to 3 mm. | | Pleistocene | 150mm Steel casing 0-28.6m | | |
| 5 | | | 4 | 12 | Red-brown/purple/white heavily ferruginised and altered SILTSTONE and fine sandstone, with chert and milky quartz. | | | | | |
| 10 | | | 12 | 15 | SILTSTONE, as above, becoming whiter and stronger. | | Bulldog Shale Lower Cretaceous | | | |
| 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 2 km west of B198.00 km, south side of Stuart Highway. Completed productive

DRILL TYPE C.T. LOGGED BY: GHMcN

CIRCULATION: DATE:

START: 4.10.76 TRACED BY:

FINISH: 9.10.76 DATE:

SHEET 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B198

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 15 | 18 | White, occasionally purple, kaolinised SILTSTONE and fine sandstone. | Cadna-Owie Formation / Bulldog Shale | Lower Cretaceous | | | |
| | | | 18 | 28 | Light brown silty fine quartz SAND, some grains silica-cemented, silt content 20-40%. generally decreasing with depth; traces only of coarse sand. | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| | | | | | END OF HOLE, 28.0 m | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. OUT OF

EL Surface 332.2 m

EL ref. point Datum

HOLE NO. B203

UNIT/STATE NO: 5643 — 20

SERIAL NO 41/76

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 20 | 17.5 | 0.75 l/sec (600g.p.h.) | plunger pump 480 mins. | 385 (pH 8.9) | AMDEL |

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | 0 | 2 | Red-brown silty medium/fine SAND | Cadna-Owie Fm | L. Cretaceous | 150 mm Steel casing 0-29 m | | |
| | | | 2 | 12 | Off-white/cream/light brown highly to completely weathered SILTSTONE (30% angular siltstone grit to 5 mm in silty clay matrix). | | Bulldog Shale | | | |
| 10 | | | 12 | 16 | Dirty yellow (mustard colour) sandy (10%) and silty CLAY | | | | | |
| 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 100 m on bearing 191° from B203.300 km.

DRILL TYPE C.T. LOGGED BY GMcN

CIRCULATION: DATE: 14.10.76

START: 17.5.76 TRACED BY:

FINISH: 23.5.76 DATE:

SHEET... 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

HOLE NO. B203
UNIT/STATE NO:

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY **BORE LOG**

CONTINUATION SHEET

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 12 | 16 | Dirty yellow sandy CLAY, as above. | | | | | |
| | | | 16 | 20 | Offwhite coarse sandy and silty CLAY. Sand consists of angular quartz grains, 25% of sample. | | | | | |
| 20 | | | 20 | 24 | Orange-brown silty and coarse sandy (5-10% of each) medium/fine quartz SAND. | | | | | |
| | | | 24 | 30 | Medium brown SAND, as above, with traces (1-2%) only of silt. | Cadna-Owie Formation | Lower Cretaceous | | | |
| 25 | | | | | | | | | | |
| 30 | | | 30 | 34 | Medium brown clean medium/coarse quartz SAND (max. size 2 mm.) with 10% fine sand. | | | | | |
| | | | 34 | 36 | SAND, as above, less coarse and more fine. | | | | | |
| 35 | | | 36 | 37 | Pink-brown weathered SILTSTONE and fine SANDSTONE (possibly onto Proterozoic) | | | | | |
| | | | | | END OF HOLE, 37.0 m | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT: TARCOOLA – ALICE SPRINGS RAILWAY

# BORE LOG

HOLE NO. B215
UNIT/STATE NO: 5643 – 21
SERIAL NO: 42/76
FOLDER NO.

LOCATION OR CO-ORDS:

SEC. HD. OUT OF

EL Surface 353.6
EL ref. point Datum

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 26 | 19.5 | 20 g.p.h. | driller's estimate | | |

| HOLE Dia. | DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5 | | | 0 | 5 | Red-brown silty and clayey quartz SAND with 5% fine gravel. | | Pleistocene | | | |
| | 10 | | | 5 | 40 | Red-brown becoming grey-brown gritty and clayey highly weathered SILTSTONE. Grit fraction consists of angular siltstone fragments to 3-4 mm in clay/silt sludge. | | Upper Proterozoic | | | |
| | 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS: Located about 200 m south-west of B215.200 km. Abandoned and backfilled.

DRILL TYPE C.T.
CIRCULATION: –
START: 24.5.76
FINISH: 30.5.76

LOGGED BY: GMcN
DATE: 14.10.76
TRACED BY:
DATE:

SHEET 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B215

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5 | 40 | Highly weathered SILTSTONE, as above. | | Upper Proterozoic | | | |

END OF HOLE 40.0 m

SHEET 2 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Cut of

EL Surface 367.3 m

EL ref. point Datum

HOLE NO. B224

UNIT/STATE NO: 5543 — 24

SERIAL NO: 43/76

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W NO |
|---|---|---|---|---|---|
| dry | | | | | |

| HOLE Dia. | DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | 2 | Red-brown silty fine SAND. | | Upper Proterozoic | | | |
| | | | | 2 | 4 | Off-white completely weathered SILTSTONE | | | | | |
| | | | | 4 | 8 | Grey-brown moderately weathered SILTSTONE. | | | | | |
| | | | | | | END OF HOLE, 8.0 m | | | | | |

5
10
15

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Abandoned and re-drilled by rotary-percussion, completed as B224a.

DRILL TYPE C.T.
LOGGED BY
CIRCULATION:—
DATE: 14.10.76
START: 31.5.76
TRACED BY:
FINISH: 2.6.76
DATE:
SHEET 1 OF 1

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of Hds

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

EL Surface 367.3 m
EL ref. point Datum

HOLE NO. B224a
UNIT/STATE NO: 5543 ~ 25
SERIAL NO:
FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 27<br>35.50<br>36.80 | 23.40 | 500 g.p.h.<br>(0.63 l/<br>sec.) | air lifted | 1234<br>(pH 7.6) | |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | Dark red-brown silty SAND with abundant siltstone fragments. | | | 150mm Casing | | |
| | | | 1 | 4 | Light grey-green moderately weathered SILTSTONE, stained red-brown on fracture surfaces. | | | | | |
| 5 | | | 4 | 12 | Light grey-green SILTSTONE, slightly weathered | | Upper Proterozoic | | | |
| 10 | | | 12 | 26 | Light blue-grey SILTSTONE, fresh to slightly weathered | | | | | |
| 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 250 m west from B224.00 km peg, about 25 m west of B224. Completed productive.

DRILL TYPE Rot. LOGGED BY GHMcN
CIRCULATION: AIR DATE:
START: 30.7.76 TRACED BY:
FINISH: 31.7.76 DATE:
SHEET 1 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B224a

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 12 | 26 | Fresh to slightly weathered SILTSTONE, as above. | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | 26 | 31 | Purple-brown SILTSTONE, moderately weathered. | | | | | |
| 30 | | | 31 | 40 | SILTSTONE, as above, light blue-grey. | Upper Proterozoic | | | | |
| 35 | | | | | | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B224a

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 40 | 58 | Dark blue-grey fresh SILTSTONE | | Upper Proterozoic | | | |
| 45 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 55 | | | | | | | | | | |
| | | | | | END OF HOLE, 58.0 m. | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 374.9 m

EL ref. point Datum

HOLE NO. B237

UNIT/STATE NO: 5543 ~ 26

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 25.8<br>27<br>29<br>33 | 23.2 | 2000 g.p.h<br>(2.5 l/<br>sec. ) | air lifted | 7909<br>(pH 7.3)<br>7719<br>(pH 7.3) | |

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | Red-brown c.m.f. gravelly SAND. | | Pleistocene | 150mm steel casing 0-6.3m | | |
| | | | 1 | 3 | Light brown to off-white sandy and silty c.m.f. gravel. | | | | | |
| | | | 3 | 14 | Light grey-brown highly to completely weathered SILTSTONE (sample consists of 5-40% gravel size siltstone fragments in soft dry silt matrix). | | Upper Proterozoic | | | |
| | | | 14 | 22 | SILTSTONE, as above, light grey-green. | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 100 m west of B237 km peg. Completed productive.

DRILL TYPE ROT. LOGGED BY: GM. cM

CIRCULATION: AIR DATE: 29.7.76

START: 28.7.76 TRACED BY:

FINISH: 29.7.76 DATE:

SHEET 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B237
UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 14 | 22 | SILTSTONE, as above (sample rather more gravelly, angular siltstone fragments to 20 mm). | | | | | |
| | | | 22 | 24 | Light blue-grey moderately weathered SILTSTONE. | | | | | |
| | | | 24 | 30 | SILTSTONE, as above, dark grey-green. | | Upper Proterozoic | | | |
| | | | 30 | 32 | SILTSTONE, as above, dark blue-grey. | | | | | |
| | | | 32 | 36 | Dark blue-grey slightly weathered SILTSTONE with dark grey fresh QUARTZITE (chips of siltstone to quartzite, 60:40) Pink vein quartz present. | | | | | |
| | | | 36 | 40 | Dark blue-grey fresh to slightly weathered SILTSTONE with thin bands of quartzite (5-10% of chips). | | | | | |
| | | | | | END OF HOLE, 40.0 m. | | | | | |

SHEET 2 OF 2

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY.

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

HOLE NO. B240

UNIT/STATE NO: 5544 ~ 77

SERIAL NO:

FOLDER NO.

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 382.8 m

EL ref. point Datum

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 44<br>56<br>58 | 10.8 | 2800 g.p.h. (3.5 l/sec)<br>1500 g.p.h. (1.9 l/sec) | airlifted<br>plunger pumped, 360 mins | 15833<br>13195 (pH 7.3) | |

| DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE |
|---|---|---|
| 0 | 3.5 | Red-brown silty and gravelly (20%, to 50 mm, mostly 2-10 mm) SAND |
| 3.5 | 6 | Off-white very silty and sandy m.f. GRAVEL (mostly subrounded silcrete, max. 20 mm). |
| 6 | 10 | White with pink mottling completely weathered GRANITE (sample consists of soft very silty sand, with a little gravel). |
| 10 | 12 | Pinkish grey completely weathered GRANITE (or, micaceous silty m.f. sand). |
| 10 | 44 | Light to dark grey-green completely weathered GRANITE (sample consists of very silty, highly micaceous m.f. sand with up to 20% weathered granite fragments). |

UNIT: Precambrian
AGE: Pleistocene
CASING: 150 mm Steel casing 0 - 13.7 m
WATERS CUT
WATER LEVEL

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 100 m east from B240.300 km and diamond drill hole DH2, north bank of Indulkana Creek. Completed productive.

DRILL TYPE ROT. LOGGED BY GH cm

CIRCULATION: AIR DATE 21.7.76

START: 20.7.76 TRACED BY:

FINISH: 21.7.76 DATE:

SHEET 1 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B240

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10 | 44 | Grey-green completely weathered GRANITE, as above. | | | | | |
| | | | | | 18-26 m silty coarse sand and gravel size chips. | | | | | |

Precambrian.

SHEET 2 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B240

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 10 | 44 | Grey-green completely weathered GRANITE, as above. | | | | | |
| 45 | | | | | | | | | | |
| 50 | | | 44 | 58 | Light to dark grey moderately weathered GRANITE (sample is coarse sand and angular gravel size chips). | | Precambrian | | | |
| 55 | | | | | | | | | | |
| | | | 58 | 64 | Dark grey fresh fine grained very micaceous GRANITE (chips to 20 mm). | | | | | |
| 60 | | | | | | | | | | |
| | | | | | END OF HOLE, 64.0 m | | | | | |

SHEET 3 OF 3

PROJECT: [illegible]

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

HOLE NO. B241
UNIT/STATE NO: 5544 ~ 78
SERIAL NO:
FOLDER NO.

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 383.4 m
EL ref. point Datum

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W NO |
|---|---|---|---|---|---|
| 26 | - | 100 g.p.h. (0.13l/sec.) | driller's opinion | 12000 (approx.) | tested on site |

| HOLE Dia / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | Red-brown silty m.f. SAND | | Pleistocene | | | |
| | | | 1 | 3 | SAND, as above, weakly cemented and becoming lighter red-brown with depth. | | | | | |
| | | | 3 | 10 | White completely weathered GRANITE (sample consists of soft silty to very silty kaolinitic sand, with up to 5% angular quartz chips). | | | | | |
| | | | 10 | 22 | GRANITE, as above, mottled cream-yellow to white. | | Precambrian | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS: Located about 150 m east of B240.600 km. Abandoned and backfilled.

DRILL TYPE ROT. LOGGED BY: G C
CIRCULATION: AIR DATE: 22.7.76
START 22.7.76 TRACED BY:
FINISH 22.7.76 DATE:
SHEET 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B241

UNIT/STATE NO.:

| HOLE Dia / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 10 | 22 | Completely weathered GRANITE, as above. | | Precambrian | | | |
| 20 | | | | | 20-22 m mottled grey/white. | | | | | |
| | | | 22 | 36 | Medium grey highly weathered GRANITE (sample consists of finely micaceous silty and gravelly sand. Chips of fresh fine grained very micaceous granite towards base of hole). | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |
| | | | | | End of Hole, 36.0 m. | | | | | |

SHEET 2 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT: MARCOOLA – ALICE SPRINGS RAILWAY

# BORE LOG

HOLE NO. B242
UNIT/STATE NO: 5544 – 79
SERIAL NO:
FOLDER NO.

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 381.0 m
EL ref. point Datum

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W NO |
|---|---|---|---|---|---|
| 28<br>39 | 19.50 | 150 g.p.h.<br>(0.2 l/sec) | airlifted | not tested<br>(saline) | |

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | Red-brown SAND, traces gravel, few gypsum crystals. | | Pleistocene | | | |
| | | | 1 | 3 | Pink gravelly SANDwith 5% gypsum crystals. | | | | | |
| | | | 3 | 4 | White gravelly SAND with quartzite fragments and gypsum aggregates. | | | | | |
| | | | 4 | 14 | Soft white completely weathered GRANITE (or very micaceous coarse/medium/fine silty sand). | | Precambrian | | | |
| | | | 14 | 16 | Completely weathered GRANITE, as above, with 10-20 % coarse white mica flakes. | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS: Located about 700 m east from B341.800 km. Abandoned and backfilled.

DRILL TYPE Rot. LOGGED BY: GIL cl.
CIRCULATION: Air DATE 21.6.76
START: 19.7.76 TRACED BY:
FINISH: 20.7.76 DATE:
SHEET 1 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B242

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 14 | 16 | Micaceous completely weathered GRANITE, as above. | | | | | |
| | | | 16 | 20 | White and yellow completely weathered GRANITE (soft silty sand, mostly coarse, with abundant fine white mica). | | | | | |
| 20 | | | 20 | 46 | Completely weathered GRANITE, as above, white to off-white. | | Precambrian | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |
| 40 | | | | | | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO B242

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 20 | 46 | Completely weathered GRANITE, as above. | | | | | |
| 45 | | | 46 | 58 | Very light grey fresh fine grained micaceous GRANITE (sample consists mostly of coarse sand size, with up to 20% of angular fresh granite chips) | | Precambrian | | | |
| 50 | | | | | | | | | | |
| 55 | | | | | END OF HOLE, 58.0 m | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT: TARCOOLA – ALICE SPRINGS RAILWAY.

# BORE LOG

HOLE NO. B242a

UNIT/STATE NO: 5544 ~ 80

SERIAL NO:

FOLDER NO.

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 381.6 m

EL ref. point Datum

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 20 | – | 20 g.p.h. | driller's opinion | not tested | |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT / AGE / CASING / WATERS CUT / WATER LEVEL |
|---|---|---|---|---|---|---|
| | | | 0 | 1 | Red-brown silty fine/medium SAND. | |
| | | | 1 | 3 | Light red-brown weakly cemented coarse/ medium/fine SAND. | Pleistocene |
| | | | 3 | 40 | White completely weathered GRANITE (sample consists of soft white kaolinitic silty sand, with abundant 1 mm flakes of white mica). | Precambrian |

5
10
15

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 500 m east of B242.00 km peg
Abandoned and backfilled.

DRILL TYPE ROT. LOGGED BY:
CIRCULATION: AIR DATE: 23.7.76
START: 21.7.76 TRACED BY:
FINISH: 21.7.76 DATE:
SHEET 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B242a

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | + | 3 | 40 | Completely weathered white GRANITE, as above. | | Precambrian | | | |
| 20 | | + | | | | | | | | |
| 25 | | + | | | | | | | | |
| 30 | | + | | | | | | | | |
| 35 | | + | | | | | | | | |
| 40 | | + | | | END OF HOLE, 40.0 m | | | | | |

SHEET 1 OF 1

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 385.6 m

EL ref. point Datum

HOLE NO. B243

UNIT/STATE NO: 5544 ~ 81

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 24-28 | — | 180 g.p.h. (0.2 l/sec.) | air lifted | 14000 (approx) | |

| HOLE Dia | DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | 2 | Red-brown silty medium/fine SAND, Weakly cemented, 1-2 m. | | Pleistocene | | | |
| | | | | 2 | 5 | Pink-brown c.m.f. SAND, weakly cemented. Traces of fine gravel. | | | | | |
| | 5 | | | 5 | 12 | Off-white completely weathered GRANITE (sample consists of soft kaolinitic very micaceous coarse/ medium sand). | | Precambrian | | | |
| | 10 | | | 12 | 16 | White completely weathered GRANITE (or, soft white micaceous sandy silt). | | | | | |
| | 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 600 m east of B243.300 km, west bank of unnamed creek. Abandoned and backfilled.

| | |
|---|---|
| DRILL TYPE ROT. | LOGGED BY: GHMcN |
| CIRCULATION: AIR | DATE: 23.7.76 |
| START: 23,7,76 | TRACED BY: |
| FINISH: 23.7.76 | DATE: |
| SHEET 1 OF 3 | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B243

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12 | 16 | Completely weathered GRANITE, as above. | | | | | |
| | | | 16 | 24 | White, becoming dirty yellow, completely weathered granite (or, soft very micaceous kaolinitic coarse/ medium sand). | | | | | |
| | | | 24 | 32 | Dirty yellow completely weathered GRANITE, as above with chips of fresh granite. | | Precambrian | | | |
| | | | 32 | 38 | Olive-grey highly to moderately weathered GRANITE. | | | | | |
| | | | 38 | 45 | Dark grey fresh to slightly weathered GRANITE. | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B243

UNIT/STATE NO:

| HOLE Dia / DEPTH m | COPE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | + + + + | 38 | 45 | Fresh to slightly weathered GRANITE, as above. | | Precambrian | | | |
| 45 | | | | | END OF HOLE, 45.0 m. | | | | | |

SHEET 3 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA- ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 385.6 m

EL ref. point Datum

HOLE NO. B243a

UNIT/STATE NO: 5544 ~ 82

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 27.5 - 28.4 | - | 80 g.p.h. (0.1 l/sec.) | airlifted | 1200 | tested on site |

| HOLE Dia. / DEPTH m / CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|
| | | 0 | 1 | Red-brown silty m.f. SAND. | | Pleistocene | | | |
| | | 1 | 2.5 | Red-brown, becoming white with depth, cemented SAND. | | | | | |
| | | 2.5. | 6 | White highly weathered GRANITE (sample consists of sandy gravel size fragments, as above). | | | | | |
| | | 6 | 24 | Light grey slightly to moderately weathered GRANITE (sandy gravel size fragments, as above). | | Precambrian | | | |

5

10

15

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS: Located about 800 m east of B243.700 km and about 20 m south of Roadside Bore, east side of unnamed creek. Abandoned and backfilled.

DRILL TYPE ROT. LOGGED BY: GHMcN

CIRCULATION AIR DATE: 24.7.76

START: 23.7.76 TRACED BY:

FINISH: 23.7.76 DATE:

SHEET 1 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B243a

UNIT/STATE NO:

| HOLE Dia / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6 | 24 | Slightly to moderately weathered GRANITE, as above. 15–19 m larger fragments (to 25 mm) of fresh granite. | | | | | |
| | | | 24 | 28 | Light grey to light grey-green highly weathered GRANITE. | | Precambrian | | | |
| | | | 28 | 50 | Light to dark grey, slightly weathered to fresh, fine grained GRANITE. | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B243a

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 28 | 50 | Slightly weathered to fresh GRANITE, as above. | | Precambrian | | | |
| 45 | | | | | | | | | | |
| 50 | | | | | END OF HOLE, 50.0 m. | | | | | |

SHEET 3 OF 3

B243b

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 385.6 m

EL ref. point Datum

HOLE NO. ~~B243b~~

UNIT/STATE NO: 5544 ~ 83

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 13 | 8.90 | 50 g.p.h. (0.063 l/sec) | driller's opinion | 1500 | tested on site |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 2 | Red-brown silty c.m.f. SAND, becoming weakly cemented with depth. | | | | | |
| | | | 2 | 6 | White to pink-white completely weathered GRANITE (sample consists of white gravelly sand). | | | | | |
| | | | 6 | 8 | GRANITE, as above, light brown. | | | | | |
| | | | 8 | 22 | GRANITE, as above, off-white to fawn. | | Precambrian | | | |

5
10
15

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 200 m south of Roadside Bore and B243a. Abandoned and backfilled.

| | |
|---|---|
| DRILL TYPE Rot. | LOGGED BY: GHMcN |
| CIRCULATION: Air | DATE: 27.7.76 |
| START: 24.7.76 | TRACED BY: |
| FINISH: 24.7.76 | DATE: |

SHEET 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. 3243b

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 8 | 22 | Completely weathered GRANITE, as above. | | | | | |
| 20 | | | 22 | 38.5 | Light grey moderately weathered GRANITE (sample consists of gravelly sand size fragments). | | Precambrian | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | onto fresh granite at 38.5 m. | | | | | |
| | | | | | END OF HOLE, 38.5 m | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA – ALICE SPRINGS RAILWAY
LOCATION OR CO-ORDS:
SEC. HD. Out of
EL Surface 384.1 m
EL ref. point Datum

HOLE NO. B265
UNIT/STATE NO: 5544 ~ 84
SERIAL NO:
FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 40-42<br>44<br>50-51.5 | 37.2 | 2400 g.p.h. (3l/sec)<br>1500 g.p.h. (1.9l/sec) | airlifted<br>plunger pumped, 360 mins | 2211 (pH 8.3)<br>2078 (pH 8.1) | |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE |
|---|---|---|---|---|---|
| | | | 0 | 1 | Loose red-brown silty c.m.f. SAND. |
| | | | 1 | 2 | Light red-brown sandy and silty angular m.f. silcrete GRAVEL. |
| | | | 2 | 3 | Light purple - brown cemented SAND. |
| | | | 3 | 4 | Ditto, dark purple - brown. |
| | | | 4 | 12 | Light red-brown gravelly and very silty m.f. SAND, weakly cemented. |
| | | | 12 | 14 | Light brown to dirty yellow very silty c.m.f. SAND. |

UNIT: Tertiary - Quaternary
AGE
CASING: 150 mm Steel casing 0 - 25.7 m
WATERS CUT
WATER LEVEL

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 200 m east of B265.00 km. peg.
Completed productive.

DRILL TYPE Rot.
CIRCULATION: AIR
START: 26.6.76
FINISH: 26.6.76
LOGGED BY: GHMcN
DATE: 27.6.76
TRACED BY:
DATE:

SHEET 1 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO B265

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 12 | 24 | Silty SAND, as above. | | Tertiary - Quaternary | | | |
| 20 | | | 24 | 40 | Light grey-green highly weathered SILTSTONE with thin bands of quartzite (cuttings 5-10°/o angular rock fragments in powdery silt matrix). | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | about 31 m - milky quartz vein. | | Upper Proterozoic | | | |
| 35 | | | | | | | | | | |
| 40 | | | | | | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B265

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 40 | 54 | Dark grey-green fine to medium grained QUARTZITE with thin bands of siltstone. | | Upper Proterozoic | | | |
| 45 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| | | | 54 | 58 | Dark grey slightly weathered SILTSTONE, with white quartz veins and thin bands of quartzite. | | | | | |
| 55 | | | | | | | | | | |
| | | | | | END OF HOLE, 58.0 m | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA – ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 370.3 m

EL ref. point Datum

HOLE NO. B275

UNIT/STATE NO: 5544 ~ 85

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 25.0<br>30 to 31<br>31.5 to 32<br>45 to 46 | 23.3 | 720 g.p.h.<br>(0.9 l/sec.)<br>1000<br>(1.25 l/sec.) | air lifted<br><br>plunger pump,<br>360 sec. | 3478<br>(pH 8.0)<br>3340<br>(pH 8.0) | |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | Red-brown m.f. SAND, weakly cemented. | | | | | |
| | | | 1 | 5 | Dark pink calcareous silty and sandy fine GRAVEL (gravel fragments are lime-cemented sand nodules.) Weakly cemented. | | Pleistocene | 150 mm Steel casing 0-6.3m | | |
| 5 | | | 5 | 30 | Yellowish grey-green, grading with depth to light grey, highly weathered SILTSTONE (or, m.f. gravelly silt). | | Upper Proterozoic | | | |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS: Located about 150 m west of B275.200 km. Completed. productive.

| | |
|---|---|
| DRILL TYPE ROT. | LOGGED BY: GHMcN |
| CIRCULATION: AIR | DATE: 28.6.76 |
| START: 24.6.76 | TRACED BY: |
| FINISH: 25.6.76 | DATE: |

SHEET 1 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B275

UNIT/STATE NO:

| HOLE Dia DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5 | 30 | Highly weathered SILTSTONE, as above. | | Upper Proterozoic | | | |
| | | | 30 | 46 | Dark grey slightly to moderately weathered SILTSTONE. | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B275

UNIT/STATE NO:

| HOLE Dia DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 30 | 46 | Slightly to moderately weathered SILTSTONE, as above | | | | | |
| 45 | | | 46 | 64 | Blue-grey fresh SILTSTONE. | | Upper Proterozoic | | | |
| 50 | | | | | | | | | | |
| 55 | | | | | | | | | | |
| 60 | | | | | | | | | | |

END OF HOLE , 64.0 m

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY.
LOCATION OR CO-ORDS:
SEC. HD. Out of
EL Surface / EL ref. point 371.9 m
Datum

HOLE NO. B277
UNIT/STATE NO: 5544 ~ 86
SERIAL NO:
FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 35 | - | 10 g.p.h. | driller's opinion | not tested | |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | 0 | 6 | Light and dark red-brown clean c.m.f. quartz SAND. | | Pleistocene | | | |
| | | | 6 | 10.5 | Light brown fine gravelly c.m.f. SAND. Gravel includes weathered granite chips to 5-6 mm. | | | | | |
| 10 | | | 10.5 | 14 | Light grey-green slightly weathered SILTSTONE. | | Upper Proterozoic | | | |
| | | | 14 | 18 | Yellowish grey-green moderately to highly weathered SILTSTONE. | | | | | |
| 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 80 m W of B277.300 km. Abandoned and backfilled.

DRILL TYPE Rot.
CIRCULATION: Air
START: 11.6.76
FINISH: 12.6.76

LOGGED BY: GHNcN
DATE: 12.6.76
TRACED BY:
DATE:

SHEET 1 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B277

UNIT/STATE NO:

| HOLE Dia DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 14 | 18 | Yellowish grey-green SILTSTONE, as above. | | | | | |
| | | | 18 | 32 | Light grey-green, becoming darker grey with depth, slightly weathered SILTSTONE. | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | U. Proterozoic | | | |
| | | | 32 | 52 | Dark grey fresh SILTSTONE. | | | | | |
| 35 | | | | | | | | | | |
| 40 | | | | | | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B277

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 32 | 52 | Dark grey SILTSTONE, as above. | | U. Proterozoic | | | |
| 45 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| | | | | | END OF HOLE, 52.0 m. | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 365.8 m

EL ref. point Datum

HOLE NO. B277a

UNIT/STATE NO: 5544 ~ 87

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 24.5<br>31<br>33 | 24.5 | 30 g.p.h. | driller's opinion | not tested | |

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 2 | Loose red-brown silty medium/fine SAND, traces only of coarse. | | Pleistocene | | | |
| | | | 2 | 5 | SAND, as above, slightly calcareous and weakly cemented. | | | | | |
| 5 | | | 5 | 18 | Light grey-green, becoming darker with depth, highly weathered SILTSTONE. Yellowish at top. | | Upper Proterozoic | | | |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 100 m east of B276.800 km, north side of Alberga River. Abandoned and backfilled.

| | |
|---|---|
| DRILL TYPE ROT. | LOGGED BY: GH:cN |
| CIRCULATION: AIR | DATE: 26.6.76 |
| START: 12.6.76 | TRACED BY: |
| FINISH: 15.6.76 | DATE: |

SHEET 1 OF 4

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B277a

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5 | 18 | Highly weathered SILTSTONE, as above. | | | | | |
| | | | 18 | 82 | Dark blue-grey fresh SILTSTONE. | | U. Proterozoic | | | |

15 20 25 30 35 40

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B277a

UNIT/STATE NO:

| HOLE Dia DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 18 | 82 | Fresh SILTSTONE, as above. | | U. Proterozoic | | | |
| 45 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 55 | | | | | | | | | | |
| 60 | | | | | | | | | | |
| 65 | | | | | | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B277a

UNIT/STATE NO:

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 65 | | | 18 | 82 | Fresh SILTSTONE, as above. | | U. Proterozoic | | | |
| 70 | | | | | | | | | | |
| 75 | | | | | | | | | | |
| 80 | | | | | | | | | | |
| | | | | | END OF HOLE, 82.0 m. | | | | | |

SHEET 4 OF 4

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 367.3 m

EL ref. point Datum

HOLE NO. B278

UNIT/STATE NO: 5544 ~ 88

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 33-34 | | 50 g.p.h. | driller's opinion | not tested | |

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | | 0 | 6 | Dark red-brown, becoming lighter with depth, c.m.f. quartz SAND, weakly cemented. | | Pleistocene | | | |
| 10 | | | 6 | 36 | Light grey-green moderately weathered SILTSTONE. | | Upper Proterozoic | | | |
| 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 100 m W of B278.350 Km. Abandoned and backfilled due to poor yeild.

| | |
|---|---|
| DRILL TYPE ROT. | LOGGED BY GHM:cN |
| CIRCULATION: AIR | DATE: 12.6.76 |
| START: 10.6.76 | TRACED BY: |
| FINISH: 10.6.76 | DATE: |
| SHEET 1 OF 3 | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. 3278

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6 | 36 | Grey-green SILTSTONE, as above. | | U. Proterozoic | | | |
| | | | 36 | 52 | Dark grey fresh SILTSTONE. | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B278

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 36 | 52 | Dark grey SILTSTONE, as above | | U. Proterozoic | | | |
| 45 | | | | | | | | | | |
| 50 | | | | | END OF HOLE, 52.0 m. | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Outof

EL Surface 380.3 m

EL ref. point Datum

HOLE NB287

UNIT/STATE NO: 5544 ~ 89

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| dry | | | | | |

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | Red-brown clean c.m.f. quartz SAND. | | | | | |
| | | | 1 | 3 | Pink silty c.m.f. quartz SAND. | | | | | |
| 5 | | | 3 | 10 | Light grey gravelly SAND, as above (moderately weathered granite?). | | Pleistocene? | | | |
| 10 | | | 10 | 16 | Light grey and pink fine grained GRANITE, fresh to slightly weathered (sample mostly m.f. sand size). | | Precambrian | | | |
| 15 | | | | | END OF HOLE, 16.0 m | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 60 m NW of B286.500 km peg. Abandoned dry after downhole hammer jammed.

| | |
|---|---|
| DRILL TYPE Rot. | LOGGED BY GHMcN |
| CIRCULATION: Air | DATE 9.6.76 |
| START: 8.6.76 | TRACED BY: |
| FINISH: 9.6.76 | DATE: |
| SHEET 1 OF 1 | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA – ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 388.6 m

EL ref. point Datum

HOLE NO. B289

UNIT/STATE NO: 5544 ~ 90

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 25.00<br>32.30<br>43.60 | 28.00 | 10 g.p.h. | driller's opinion | not tested | |

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | Red-brown SAND with ~~clacrete~~ calcrete nodules to 10mm. | | | | | |
| | | | 1 | 6 | Dark grey to black medium grained (2-3 mm) DOLERITE. Highly weathered orange and white (calcrete) streaked along joints. | | | | | |
| 5 | | | 6 | 12 | Slightly to moderately weathered DOLERITE. | | Precambrian | | | |
| 10 | | | 12 | 43 | Dark grey to black fresh DOLERITE. | | | | | |
| 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 1.4 km east of B289 km peg, 1.2 km along track NE from Utah Bore, adjacent to ballast site. abandoned and backfilled.

| | |
|---|---|
| DRILL TYPE Rot. | LOGGED BY: GHMcN |
| CIRCULATION: Air | DATE: 17.6.76 |
| START: 15.6.76 | TRACED BY: |
| FINISH: 17.6.76 | DATE: |
| SHEET 1 OF 3 | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B289

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 12 | 43 | Fresh DOLERITE, as above. | | Precambrian | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |
| 40 | | | | | | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B289

UNIT/STATE NO:

| HOLE Dia DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 12 | 43 | Fresh DOLERITE, as above. | | | | | |
| | | | 43 | 50 | Dark grey, reddish and bright green (epidotized?) in places, GRANITE with smoky QUARTZ. Granite is medium grained, with abundant fine mica. | | Precambrian | | | |
| 45 | | | | | | | | | | |
| 50 | | | | | END OF HOLE, 50.0 m | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 387.1

EL ref. point Datum

HOLE NO. B290

UNIT/STATE NO. 5544 ~ 91

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 22 | 34.4 (end of drilling) | seepage (10-20 g.p.h) | driller's opinion | not tested | |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | Red-brown clean m/f. SAND. | | Recent? | | | |
| | | | 1 | 3 | Red-brown uniform medium SAND. | | | | | |
| | | | 3 | 20 | Highly weathered brownish light grey GRANITE (gravelly m.f. sand, with angular chips of fine to medium grained micaceous granite up to 10 mm). | | Precambrian | | | |

5 10 15

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 150 m southwest of B290.000 km peg. Abandoned and backfilled/

| | |
|---|---|
| DRILL TYPE Rot. | LOGGED BY: GHMcN |
| CIRCULATION: Air | DATE: 8.6.76 |
| START: 7.6.76 | TRACED BY: |
| FINISH: 8.6.76 | DATE: |
| SHEET... | OF 2 |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B290

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 3 | 20 | Highly weathered GRANITE, as above. | | | | | |
| 20 | | | 20 | 38 | Slightly weathered light grey GRANITE (sample mainly fine sand and silt size, few chips to 10 mm of fine to medium micaceous granite). | | | | | |
| 25 | | | | | 26–38 m cuttings faintly moist ("humid") | | Precambrian | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |
| | | | | | END OF HOLE, 38.0 m | | | | | |

SHEET 2 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 394.7 m

EL ref. point Datum

HOLE NO. B295

UNIT/STATE NO: 5544 ~ 91

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO |
|---|---|---|---|---|---|
| dry | | | | | |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | 0 | 8 | Red-brown, becoming pink-brown clean c.m.f. quartz SAND, weakly cemented. | | | | | |
| | | | | | 2-6 m as above, with a little fine gravel, dark pink. | | Pleistocene | | | |
| 5 | | | | | 6-8 m as above, light brown. | | | | | |
| | | | 8 | 20 | Highly to completely weathered grey-brown becoming dark grey GRANITE (c.m.f. sand with abundant fine gravel and fine mica). | | | | | |
| 10 | | | | | | | Precambrian | | | |
| 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 60 m NW of B294.500 km peg. Abandoned and backfilled.

DRILL TYPE Rot. LOGGED BY: GHMcN

CIRCULATION: AIR DATE: 7.6.76

START: 7.6.76 TRACED BY:

FINISH: 7.6.76 DATE:

SHEET 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B295

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 8 | 20 | Highly weathered GRANITE, as above. | | | | | |
| 20 | | | 20 | 40 | Fresh to slightly weathered light grey GRANITE. | | | | | |
| | | | | | 32-34 m fine to meium grained pink and grey granite. | | Precambrian | | | |
| 40 | | | | | END OF HOLE 40.0m | | | | | |

SHEET... 2 ... OF ... 2 ...

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA – ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface Ca. 380 m

EL ref. point Datum

HOLE NO. B298

UNIT/STATE NO: 5544 ~ 93

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W NO |
|---|---|---|---|---|---|
| 26.0 to 28.0 | 10.1 | 1200 g.p.h. (1.5 l/sec)<br>1400 g.p.h. (1.75 l/sec) | air lifted<br>plunger pump, 360 mins. | 11497 (pH 7.7)<br>14420 (pH 7.6) | |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE |
|---|---|---|---|---|---|
| | | | 0 | 2 | Red-brown silty coarse/medium/fine SAND. |
| | | | 2 | 3 | Dark pink SAND, as above, calcareous. Nodules of calcrete to 30 mm, 5 °/o. |
| | | | 3 | 9 | Pinkish light brown silty c.m.f. SAND with 20-30°/o of m.f. gravel. Weakly to strongly Fe and Si cemented, Ca coated fragments. |
| | | | 9 | 12 | Light grey completely weathered GRANITE (micaceous sand with angular granite fragments). |
| | | | 12 | 15 | Dark brown completely weathered GRANITE, as above. |

UNIT: Tertiary - Quaternary / Precambrian
AGE:
CASING: 150mm Steel Casing 0 - 13m
WATERS CUT:
WATER LEVEL:

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS: Located 3.7 km west from B297.600 km, along fence (see sketch map). Completed productive.

| | |
|---|---|
| DRILL TYPE ROT. | LOGGED BY GHN:cN |
| CIRCULATION: AIR | DATE: 19.6.76 |
| START: 18.6.76 | TRACED BY: |
| FINISH: 19.6.76 | DATE: |
| SHEET 1 OF 2 | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B298

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 15 | 26 | Dark grey-green completely weathered fine grained GRANITE (or very micaceous silty sand with 5°/o fine angular gravel). | | Precambrian | 125mm Steel casing 12 - 32m | | |
| | | | | | GRANITE, as above but less fines in sample, gravel up to 10°/o. | | | | | |
| | | | 28 | 33 | Completely weathered GRANITE, as above, with fragments of fresh grey, yellow-green and dark pink granite to 50 mm. | | | | | |
| | | | | | END OF HOLE, 33.0 m. | | | | | |

SHEET 2 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface Ca. 380 m.

EL ref. point Datum

HOLE NO. B298a

UNIT/STATE NO: 5544~94

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO |
|---|---|---|---|---|---|
| 13.5 to 16.5 | 11.5 | 750 g.p.h. (1 l/sec.)<br>120 g.p.h. (1.5 l/sec) | air lifted<br>plunger pump, 360 mins. | 11146 (pH 8.0) | |

| DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE |
|---|---|---|
| 0 | 1 | Red-brown silty m.f. SAND with 10°/o white calcrete nodules. |
| 1 | 3 | Light grey silty coarse SAND and lime GRAVEL (nodular calcrete). |
| 3 | 6 | Light pinkish brown weakly cemented silty SAND with fragments of silcrete and ferricrete. Calcareous top 1 m. |
| 6 | 10 | Very light brown (buff) slightly silty coarse/medium/fine SAND with 5-10°/o fine gravel and silcrete chips. |
| 10 | 12 | Mid brown coarse quartz SAND with about 10°/o fine gravel. |
| 12 | 14 | White and brown silicified coarse SAND and GRAVEL. |
| 14 | 16 | Clean yellow quartz SAND and GRAVEL, unsilicified. Few fresh granite chips. |

UNIT: Tertiary - Quaternary
AGE:
CASING: 150 mm Steel casing 0 - 12.7m
WATERS CUT:
WATER LEVEL:

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 2 kn. south of B298 (see sketch map). Completed productive.

DRILL TYPE Rot. LOGGED BY: GHMcN
CIRCULATION Air DATE: 18.6.76
START: 17.6.76 TRACED BY:
FINISH: 18.6.76 DATE:
SHEET 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B298a

UNIT/STATE NO:

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 14 | 16 | SAND and GRAVEL, as above. | | | | | |
| | | | 16 | 24 | Weathered GRANITE. Sample consists of angular quartz and fresh granite fragments, of coarse sand and gravel size. | | Precambrian | | | |
| | | | | | END OF HOLE, 27.0 m. | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT: TARCOOLA – ALICE SPRINGS RAILWAY

# BORE LOG

HOLE NO. B301
UNIT/STATE NO: 5545 ~13
SERIAL NO:
FOLDER NO.

LOCATION OR CO-ORDS:
SEC. HD. Out of
EL Surface 400.8 m
EL ref. point Datum

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W NO. |
|---|---|---|---|---|---|
| 27 | – | 5 g.p.h. | driller's opinion | 800 | tested on site |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | 0 | 1 | Red-brown slightly silty c.m.f. SAND. | | Pleistocene | | | |
| | | | 1 | 3 | Dark pink fine gravelly c.m. SAND, with quartz and granite fragments. | | | | | |
| | | | 3 | 16 | Moderately weathered yellow GRANITE, becoming greyish yellow with depth (gravelly micaceous sand, with subangular granite and quartz chips up to 20% of sample). | | Precambrian | | | |
| 5 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 100 m SW of B301.500 km peg. Abandoned and backfilled due to poor yield.

DRILL TYPE Rot. LOGGED BY: CHMcN
CIRCULATION: Air DATE: 9.6.76
START: 4.6.76 TRACED BY:
FINISH: 5.6.76 DATE:
SHEET 1 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B301

UNIT/STATE NO:

| HOLE DIA / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | 3 | 16 | Moderately weathered GRANITE, as above, | | | | | |
| | | + | 16 | 50 | Fresh light grey fine to medium grained GRANITE, with fresh clear quartz fragments. | | Precambrian | | | |

SHEET 2 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

CONTINUATION SHEET

HOLE NO. B301

UNIT/STATE NO:

PROJECT:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | + | 16 | 50 | Fresh GRANITE, as above. | | Precambrian | | | |
| 45 | | + | | | | | | | | |
| 50 | | | | | END OF HOLE, 50.0 m. | | | | | |

SHEET 2 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 402.3 m

EL ref. point Datum

HOLE NO. B305

UNIT/STATE NO: 5545 ~ 14

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 25<br>27<br>35 | 25.0 | about 80 g.p.h. (0.1 /sec.) | driller's opinion | not tested | |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | 0 | 1 | Loose red-brown silty SAND. | | Tertiary - Quaternary | | | |
| | | | 1 | 2 | Dark pink silty SAND, slightly calcareous and gravelly. | | | | | |
| | | | 2 | 3 | Pink-brown fine gravelly SAND. | | | | | |
| | | | 3 | 14 | Light brown m.f. gravelly very silty m.f. SAND, silt content increasing with depth. Gravel is angular pink and grey silcrete, up to 15 mm, 5-20% of sample and decreasing proportion with depth. | | | | | |
| 5 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| | | | 14 | 38 | Light grey fresh to slightly weathered GRANITE. | | | | | |
| 15 | | + | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 200 m east of B305.350 km. Abandoned and backfilled.

DRILL TYPE Rot. LOGGED BY: GHMcN

CIRCULATION AIR DATE: 26.6.76

START: 21.6.76 TRACED BY:

FINISH: 22.6.76 DATE:

SHEET 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B305

UNIT/STATE NO:

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 14 | 38 | Fresh to slightly weathered GRANITE, as above. | | Precambrian | | | |
| | | | | | END OF HOLE, 38.0 m | | | | | |

SHEET 2 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 405.4 m
EL ref. point Datum

HOLE NO. B307
UNIT/STATE NO: 5545 — 15
SERIAL NO:
FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 20 | 18.5 | 600 g.p.h. (0.75 l/sec) | plunger pump, 360 mins. | 2197 (pH 8.0) | |

| HOLE Dia. DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | 0 | 1 | Red-brown slightly silty c.m.f. SAND | | | | | |
| | | | 1 | 2 | Ditto, lighter red-brown, gravelly and calcareous. | | | | | |
| | | | 2 | 3 | Dark pink silty and fine sandy fine GRAVEL with coarse SAND. | | | | | |
| | | | 3 | 5 | Light re-brown silty and sandy m.f. silcrete GRAVEL (to 20 mm). | | | | | |
| 5 | | | 5 | 16 | Light red-brown very silty m.f. SAND with 5% silcrete gravel (to 25 mm). | | Tertiary - Quaternary? | 150 mm Steel Casing 0 - 33.5m | | |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located about 150 m north-east of B307 km peg. Drilled to 24 m by rotary-percussion, completed productive by cable tool rig.

| | |
|---|---|
| DRILL TYPE ROT/CT | LOGGED BY: GHMcN |
| CIRCULATION: AIR | DATE: 26.6.76 |
| START: 22.6.76 | TRACED BY: |
| FINISH: " | DATE: |

SHEET 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B307

UNIT/STATE NO:

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 | | | 5 | 16 | Silty SAND, as above. | | | | | |
| | | | 16 | 20 | Dark brown gravelly c.m.f. SAND. | | | | | |
| 20 | | | 20 | 24 | Ditto, medium brown. | | | | | |
| | | | 24 | 37 | NO SAMPLES - hole completed by cable tool rig. | | Tertiary - Quaternary ? | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |
| | | | | | END OF HOLE, 37.0 m | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 422.1 m
EL ref. point Datum

HOLE NO. B320
UNIT/STATE NO: 5545~16
SERIAL NO:
FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 20-26 | 18.4 | 1200 g.p.h. (1.5 l/sec.) | air lifted, later plunger pumped for 360 mins. | 1050 (28m) (approx.) 895 (pH 8.1) | Tested on site AMDEL |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | 0 | 3 | Red-brown silty coarse/medium/fine quartz SAND with a few grains of clear quartz (1-2 mm). Weakly cemented. | | | | | |
| | | | 3 | 8 | Purplish red-brown (or dark pink) fine gravelly m.f. SAND, mostly quartz. Weakly cemented, traces only of silt. | | | | | |
| 5 | | | 8 | 18 | Dirty yellow to light brown m.f. gravelly, very silty m.f. SAND (traces only of coarse sand). | | Tertiary - Quaternary | 150mm Steel casing 0 - 31.7m | | |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 100 m NE of B320.00 km peg. Completed by Cable tool rig, and deepened from 26 to 32 m.

DRILL TYPE Rot/ct | LOGGED BY GHMcN
CIRCULATION: Air | DATE: 3.6.76
START: 3.6.76 | TRACED BY:
FINISH: 3.6.76 | DATE:
SHEET 1 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B320

UNIT/STATE NO:

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 8 | 18 | Dirty yellow SAND, as above. | | | | | |
| | | | 18 | 26 | Yellowish light brown fine GRAVEL and coarse SAND with traces of fines. Quartz and granite fragments, subrounded to subangular. | | Tertiary - Quaternary | | | |
| | | | | | END OF HOLE, 32.0m | | | | | |

SHEET 2 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 451.1 m

EL ref. point Datum

HOLE NO. ~~B337~~

UNIT/STATE NO. 5545 ~ 17

SERIAL NO:

FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W NO |
|---|---|---|---|---|---|
| 12.3<br>19.2 | seepages only | 20 g.p.h.<br>(0.03 l/sec) | drillers opinion | not tested | |

| HOLE Dia. | DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | | 0 | 3 | Red-brown silty c.m.f. SAND with traces of fine gravel. Weakly cemented. | | Pleistocene | | | |
| | | | | | | 2-3 m lighter red-brown, no silt. | | | | | |
| | | | | 3 | 50 | Light to dark grey weathered fine grained very micaceous GRANITE.<br>3-12 M CUTTINGS DRY. | | Precambrian | | | |
| | 5 | | | | | | | | | | |
| | 10 | | | | | 12-42 m cuttings wet. | | | | | |
| | 15 | | | | | | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 100 m E of B336.800 km. Abandoned and backfilled.

DRILL TYPE Rot. LOGGED BY GHmcN

CIRCULATION: Air DATE: 4.6.76

START: 2.6.76 TRACED BY:

FINISH: 2.6.76 DATE:

SHEET 1 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B337

UNIT/STATE NO:

| HOLE Dia / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 3 | 50 | Wheathered GRANITE, as above. | | Precambrian | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B337
UNIT/STATE NO:

| HOLE Dia / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 3 | 50 | Weathered GRANITE, as above. | | Precambrian | | | |
| | | | | | 42–44 m greenish dark grey, completely weathered, dry. | | | | | |
| | | | | | 44–46 m purplish light grey, completely weathered dry. | | | | | |
| 45 | | | | | 46–50 m cuttings wet | | | | | |
| 50 | | | 50 | 52 | Light grey completely weathered GRANITE (or gravelly m.f. sand) | | | | | |
| | | | | | END OF HOLE, 52 m. | | | | | |

SHEET 2 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface
EL ref. point 461.8 m Datum

HOLE NO. B347
UNIT/STATE NO: 5545 ~ 18
SERIAL NO:
FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO. |
|---|---|---|---|---|---|
| 28<br>31<br>47 | 19.5 | 100 g.p.h.<br>(1.25 l/sec)<br>900 g.p.h.<br>(1.1 l/sec) | airlifted<br><br>plunger pump<br>360 mins | 1050-1100<br><br>765<br>(pH 7.6) | Tested on on site<br><br>AMDEL |

| HOLE Dia / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | 0 | 6 | Red-brown slightly silty c.m.f. quartz SAND, with traces of fine gravel. Weakly cemented. | | | | | |
| | | | | | 2-4 m purplish red-brown | | | | | |
| | | | | | 4-6m light purple-brown (or dard pink), with chips of weathered granite to 20 mm. | | | | | |
| 5 | | | 6 | 10 | Dark pink fine gravelly (to 6 mm) medium/fine SAND. | | | | | |
| 10 | | | 10 | 14 | Dirty yellow fine gravelly m.f. SAND, becoming very silty with depth. | | | | | |
| | | | 14 | 19 | Dirty yellow fine gravelly and sandy SILT, slightly moist ("humid"). | | | | | |
| 15 | | | | | | | | | | |

Tertiary - Quaternary
150mm Steel casing 0 - 19.3 m

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS Located 80 m E of B346.800 km. Abandoned and backfilled

DRILL TYPE Rot. LOGGED BY GHN:cN
CIRCULATION: Air DATE:
START: ~~31.5.76~~ TRACED BY:
FINISH: DATE:

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B347

UNIT/STATE NO.

| HOLE Dia / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 14 | 19 | Sandy SILT, as above.<br>16-19 medium brown colour. | | | | | |
| | | | 19 | 30 | Light grey, higly micaceous silty m.f. SAND, with 5°/o subrounded to subangular quartz and schist fragments to 4-5 mm. Gravel fraction increasing to 20°/o by 16-18 m. | | Tertiary - Quaternary | | | |
| | | | | | 26-28 m cuttings damp | | | | | |
| | | | | | 28-52m cuttings wet | | | | | |
| | | | 30 | 38 | Greyish red-brown medium-grained very micaceous GRANITE, highly to completely weathered to coarse sand and fine gravel size. | | Precambrian | | | |
| | | | 38 | 52 | Light to dark grey fine grained bery micaceous GRANITE. Fresh to slightly weathered | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

# BORE LOG

CONTINUATION SHEET

HOLE NO. 5347

UNIT/STATE NO:

| HOLE Dia / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 38 | 52 | Fresh GRANITE, as above. | | Precambrian | | | |
| 45 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| | | | | | END OF HOLE, 52 m. | | | | | |

SHEET 2 OF 2

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

# BORE LOG

PROJECT: TARCOOLA - ALICE SPRINGS RAILWAY

LOCATION OR CO-ORDS:

SEC. HD. Out of

EL Surface 461.8 m
EL ref. point Datum

HOLE NO. B349
UNIT/STATE NO: 5545 ~ 19
SERIAL NO:
FOLDER NO.

| DEPTH TO WATER CUT (m) | DEPTH TO STANDING WATER (m) | SUPPLY *m³/day | SUPPLY Method of test | TOTAL DISSOLVED SOLIDS milligrammes/litre | TOTAL DISSOLVED SOLIDS Analysis W. NO |
|---|---|---|---|---|---|
| 31.0 m | 13.2 | 150 g.p.h. (0.2 l/sec) | driller's opinion | 900 | Tested on site |

| HOLE Dia. / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | 0 | 0.5 | Red-brown silty medium/fine SAND. | | | | | |
| | | | 0.5 | 52 | Light to dark grey fine grained (less than 1 mm) GRANITE. | | Precambrian | | | |
| | | | | | 8-10 m medium grained red and dark grey chips (pegmatite veins?) | | | | | |

*NOTE: 1000 gals./hr. = 110 m³/day

REMARKS: Located 100 m E of B348.600 km peg. Numerous dolerite dykes at surface between here and B349.000 km. Bore abandoned and backfilled because of poor yield.

DRILL TYPE Rot.
CIRCULATION: Air
START 29.5.76
FINISH 29.5.76

LOGGED BY: GHMcN
DATE: 29.5.76
TRACED BY:
DATE:

SHEET 1 OF 3

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B3...

UNIT/STATE NO

| HOLE Dia / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 45 | | | 0.5 | 52 | Fine grained GRANITE, as above. | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | 30-32 m cuttings damp | | Precambrian | | | |
| | | | | | 32-52 cuttings wet | | | | | |
| 35 | | | | | 36-38 dolerite dyke, about 1 m thick. | | | | | |

DEPARTMENT OF MINES — SOUTH AUSTRALIA
ENGINEERING DIVISION

PROJECT:

# BORE LOG

CONTINUATION SHEET

HOLE NO. B349

UNIT/STATE NO:

| HOLE Dia / DEPTH m | CORE | GRAPHIC LOG | DEPTH (m) from | DEPTH (m) to | GEOLOGICAL DESCRIPTION OF SAMPLE | UNIT | AGE | CASING | WATERS CUT | WATER LEVEL |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | | 0.5 | 52 | Fine grained GRANITE, as above. | | Precambrian | | | |
| 45 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| | | | | | END OF HOLE, 52.0 m. | | | | | |

# APPENDIX B

# WATER ANALYSES

Results of full AMDEL analyses (for Ca, Mg, Na, K, $HCO_3$, $SO_4$, Cl and $NO_3$ ions) have been omitted from this copy of the report.

Original computer printouts are on file at Department of Mines, Head Office, Adelaide, for consultation if required.

# APPENDIX C

## PREDICTED DRAWDOWN VS. TIME

COMPILED: GHM&N

DRAWN: GHM&N

CKD.

DEPARTMENT OF MINES—SOUTH AUSTRALIA

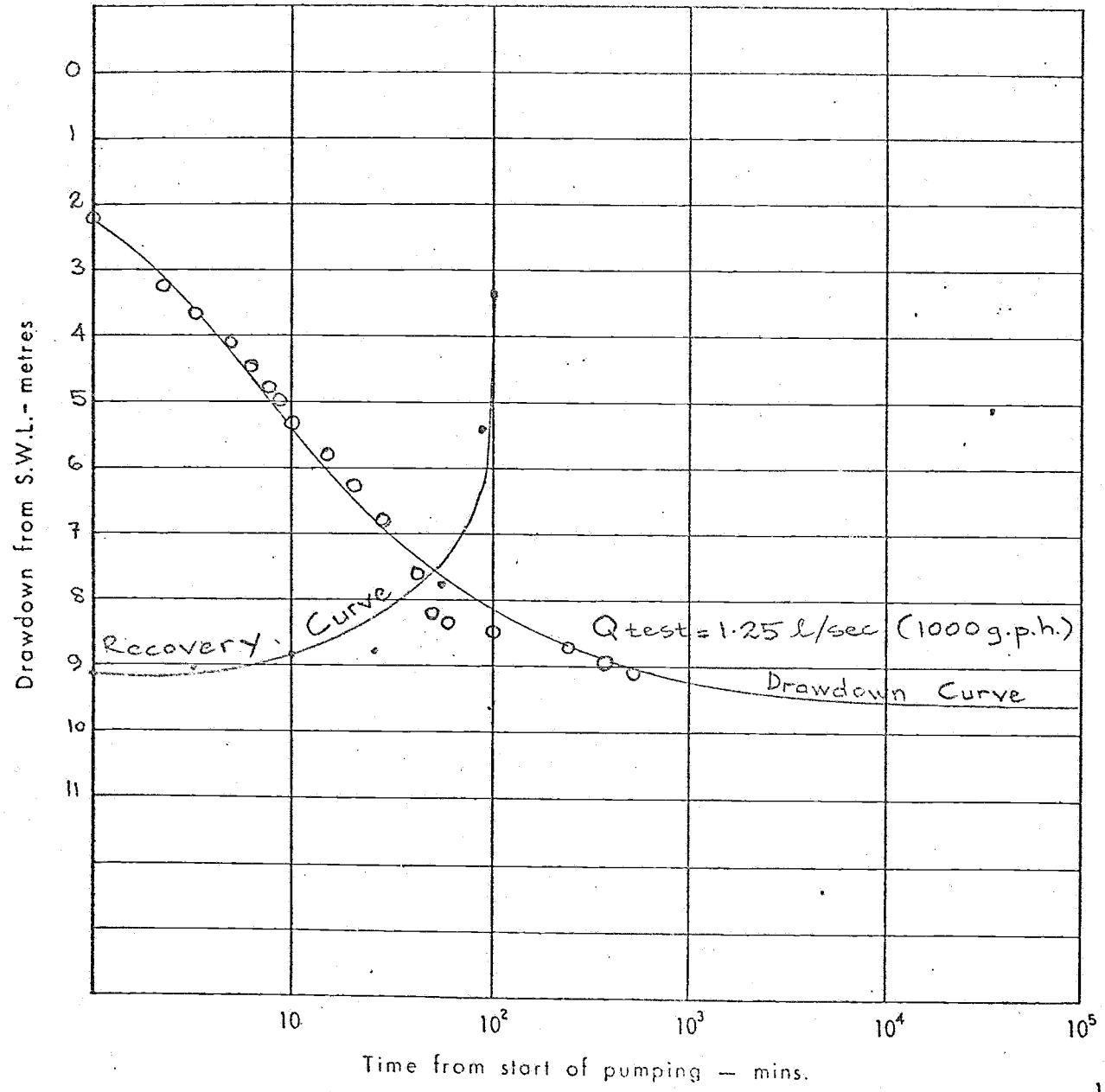
DRAWDOWN vs TIME

Well B195

SCALE.

DATE: 4.11.76

PLAN NUMBER




Unit No.:

Well No.: B195

Location:

Total Depth: 30·0 (m)

Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| 150mm | 0 | 13·94 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| 150mm | 13·94 | 20·15 |

Recommended Discharge Rate

(Q) 0·50 litres/sec.

Salinity: 125 mg/l

Standing Water Level (S.W.L.)

12·5 m

Suggested Pump Intake Depth

25 m

Available Drawdown = Pump Intake Depth — S.W.L.= 12·5 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

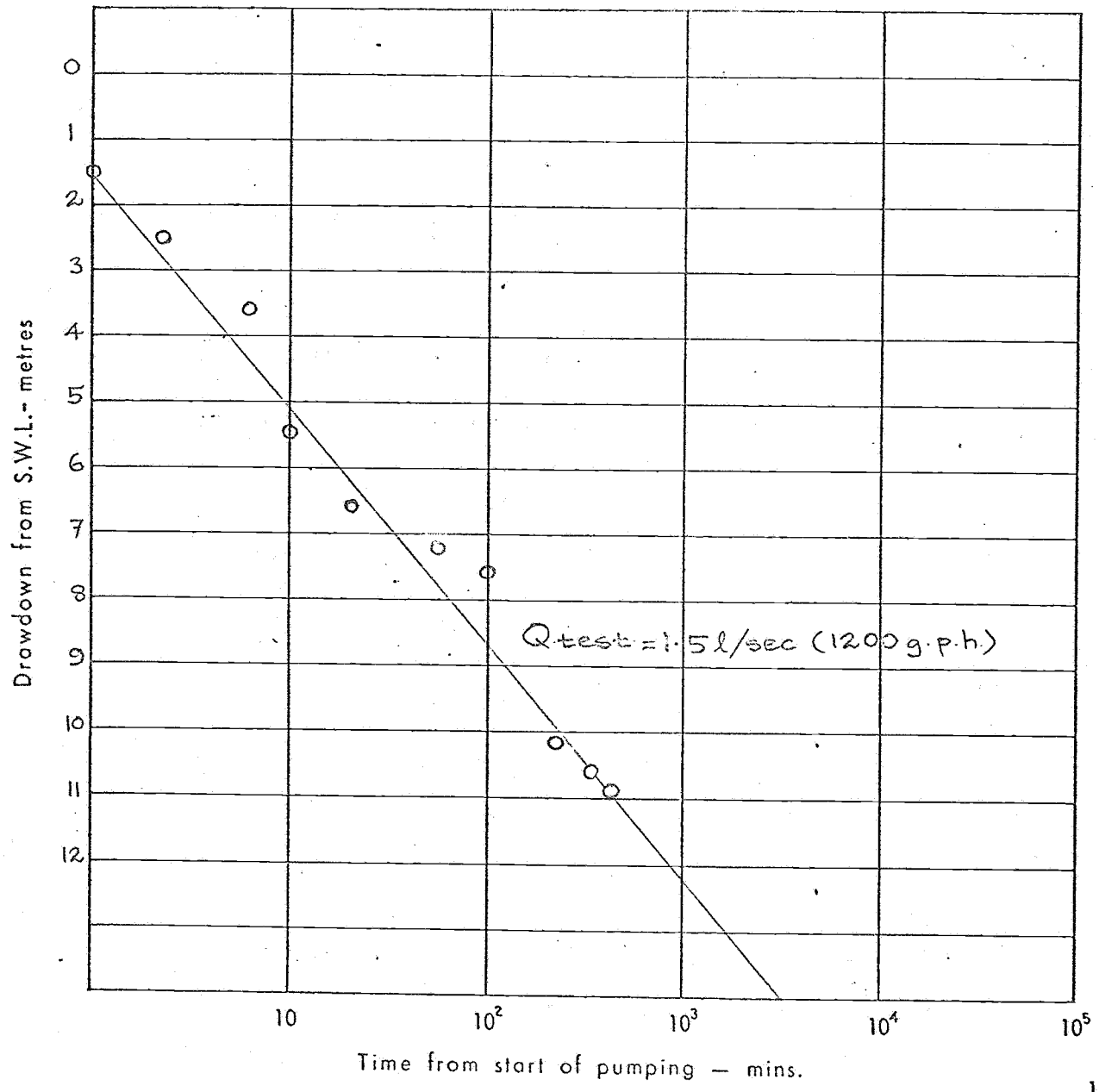
COMPILED: GHMcN

DRN: GMc | CKD.

DEPARTMENT OF MINES—SOUTH AUSTRALIA

DRAW DOWN vs TIME

Well B196




Unit No.:

Well No.: B196

Location:

Total Depth: 27·0 (m)

Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| 150mm | 0 | 16·9 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| | 16·9 | 24·9 |

Recommended Discharge Rate (Q) 0·75 litres/sec.

Salinity: mg/l

Standing Water Level (S.W.L.) 12·0 m

Suggested Pump Intake Depth 24 m

Available Drawdown = Pump Intake Depth — S.W.L.= 12 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

SCALE:

DATE: 4·11·76

PLAN NUMBER:

DRAWN: GHMcN

CKD.

DEPARTMENT OF MINES – SOUTH AUSTRALIA

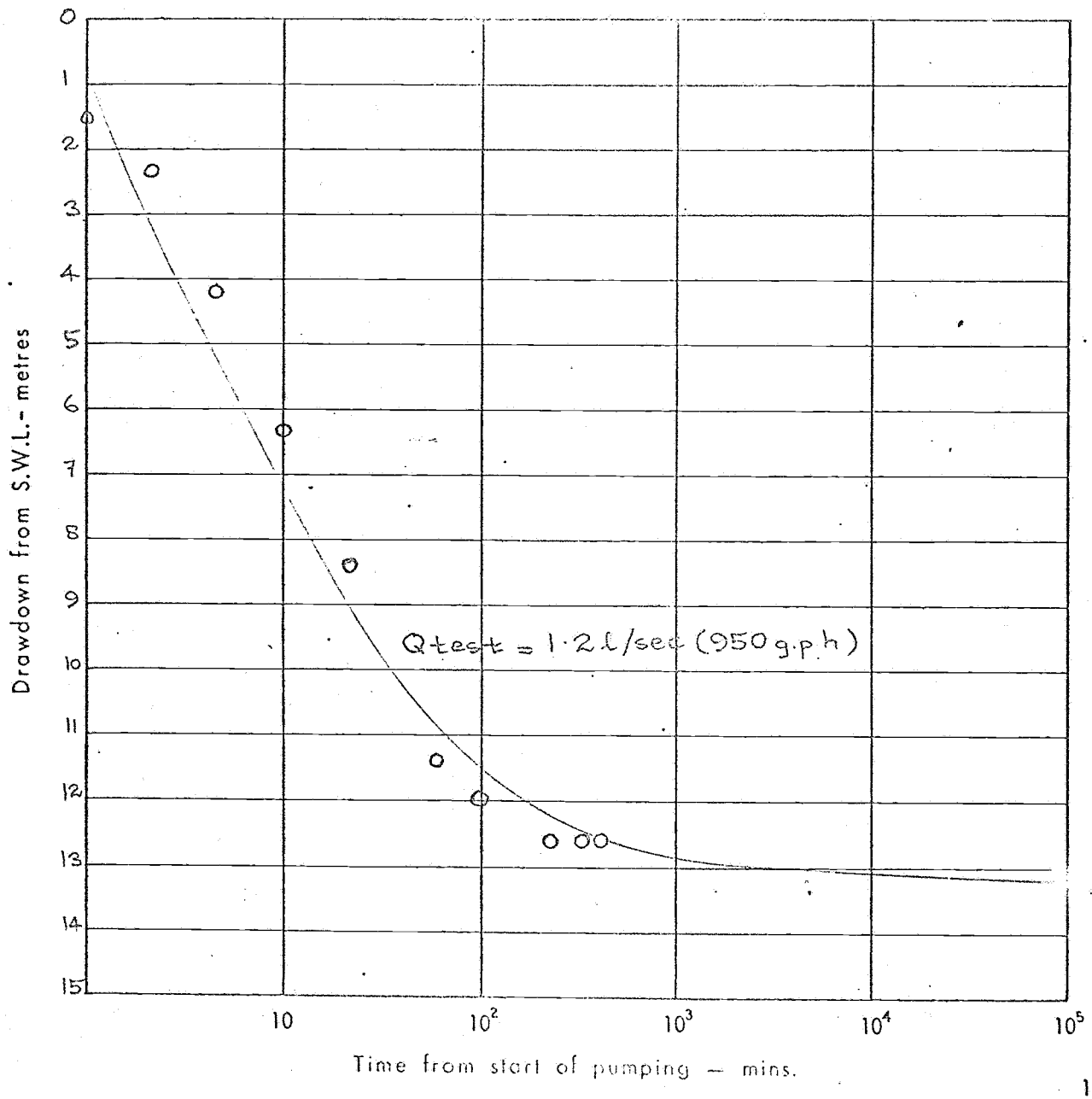
DRAWDOWN vs TIME

Well B193

SCALE

DATE 4.11.76

PLAN NUMBER




Unit No.:

Well No.: B198

Location:

Total Depth: 28·0 (m)

Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| 150mm | 0 | 16·6 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| 150mm | 16·6 | 28·6 |

Recommended Discharge Rate (Q) 0·75 litres/sec.

Salinity: mg/l

Standing Water Level (S.W.L.) 11·8 m

Suggested Pump Intake Depth 26 m

Available Drawdown = Pump Intake Depth – S.W.L.= 16 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

DRAWN [illegible] CHKD. McN

DEPARTMENT OF MINES – SOUTH AUSTRALIA

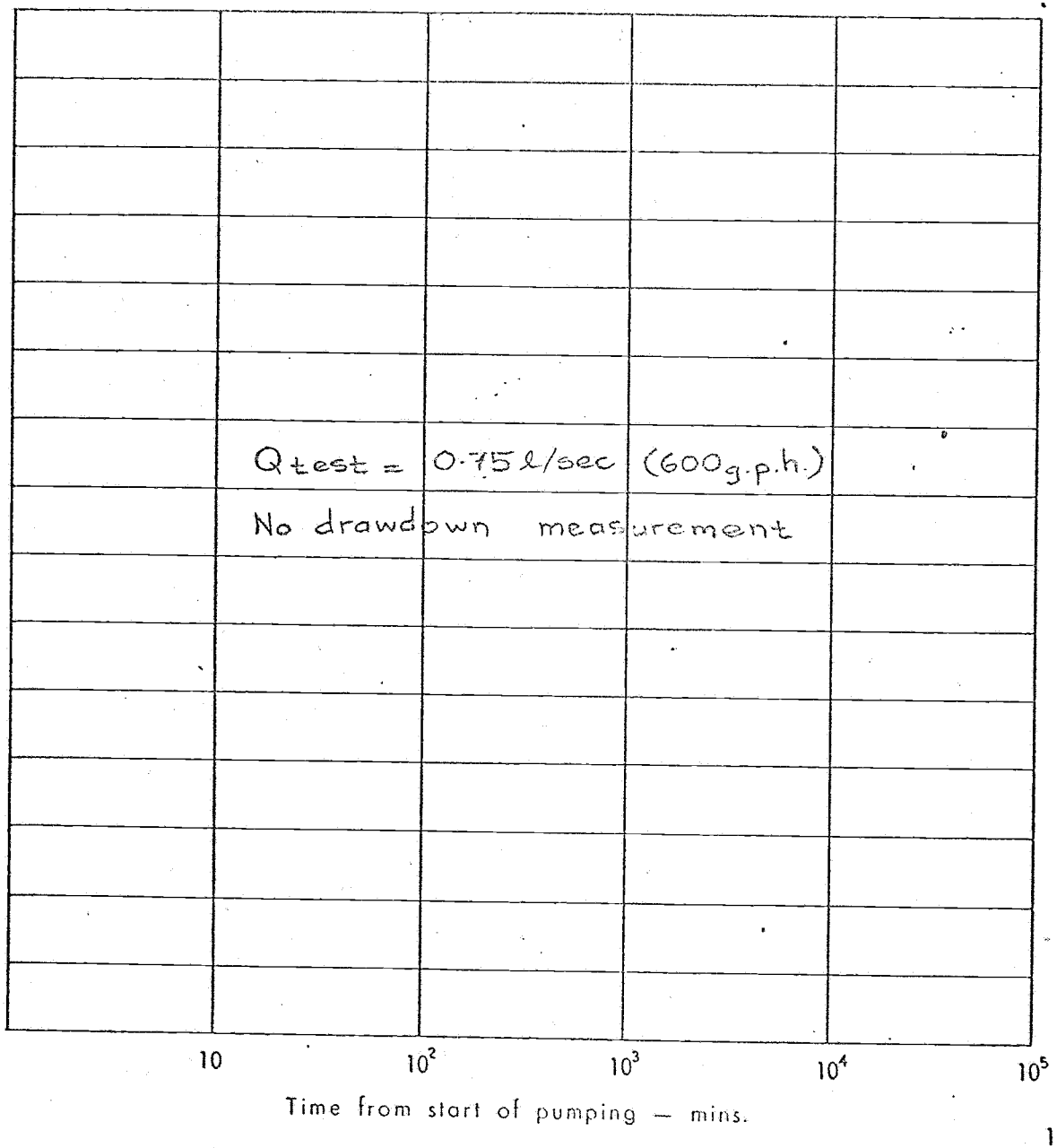
DRAWDOWN vs TIME

Well B203

SCALE.

DATE: 4-11-76

PLAN NUMBER




Unit No.:

Well No.: B203

Location:

Total Depth: 37·0 (m)

Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| 150 mm | 0 | 20 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| 150 mm | 20 | 29 |

Recommended Discharge Rate (Q) 0·5 litres/sec.

Salinity: mg/l

Standing Water Level (S.W.L.) 17·5 m

Suggested Pump Intake Depth 30 m

Available Drawdown = Pump Intake Depth – S.W.L. = 12·5 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

DRAWN: G.H.McN

CKD.

DEPARTMENT OF MINES—SOUTH AUSTRALIA

DRAWDOWN vs TIME

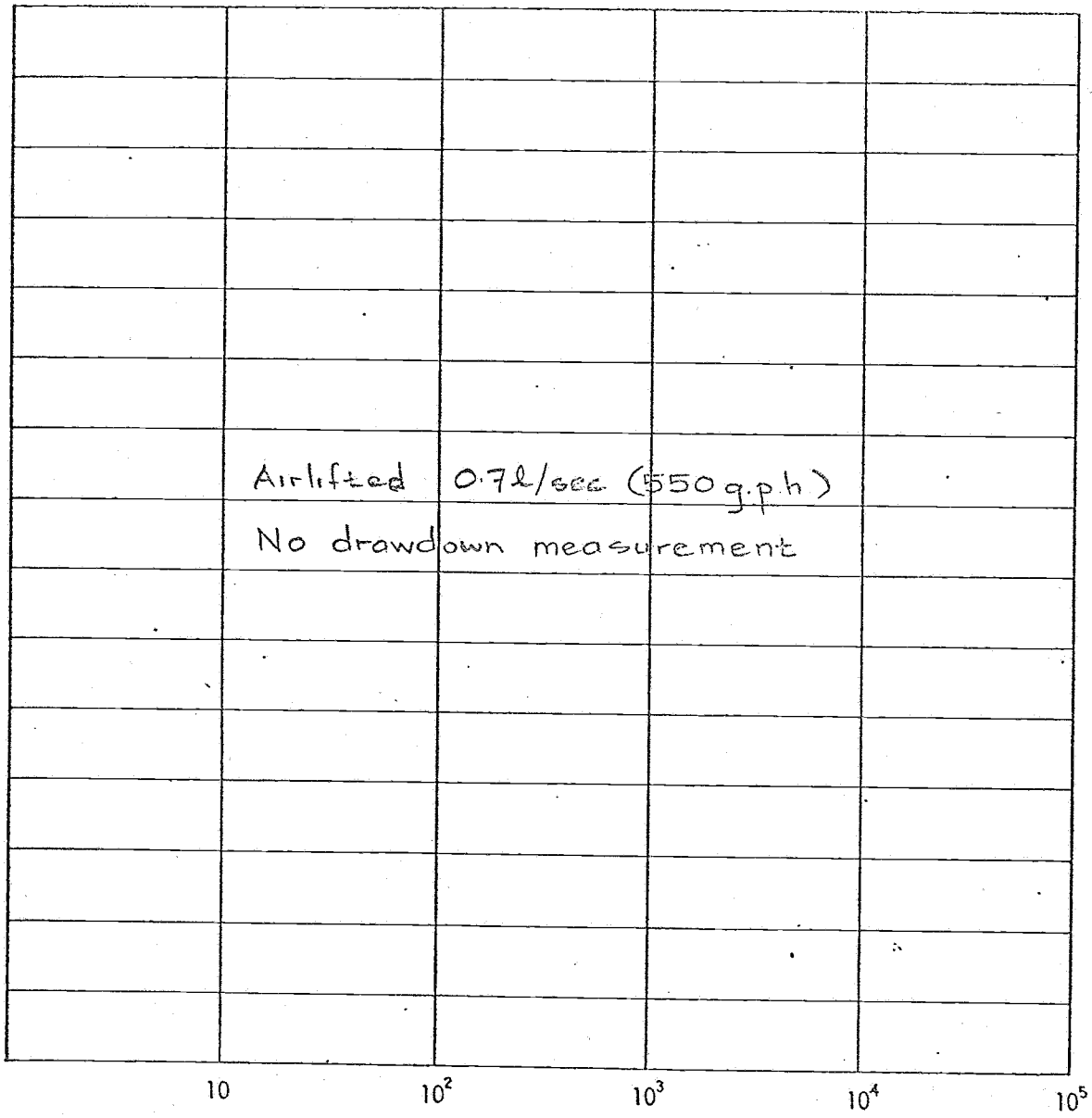
Well B224a

SCALE:

DATE: 4.11.76

PLAN NUMBER

Drawdown from S.W.L. - metres




Time from start of pumping — mins.

Unit No.:

Well No.: B224a

Location:

Total Depth: 58.0 (m)

Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| 150mm | 0 | 3.0 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|

Recommended Discharge Rate (Q) 0.5 litres/sec.

Salinity: mg/l

Standing Water Level (S.W.L.) 23.4 m

Suggested Pump Intake Depth 40 m

Available Drawdown = Pump Intake Depth — S.W.L.= 17 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

DRAWN D. GH McN

CKD.

DEPARTMENT OF MINES – SOUTH AUSTRALIA

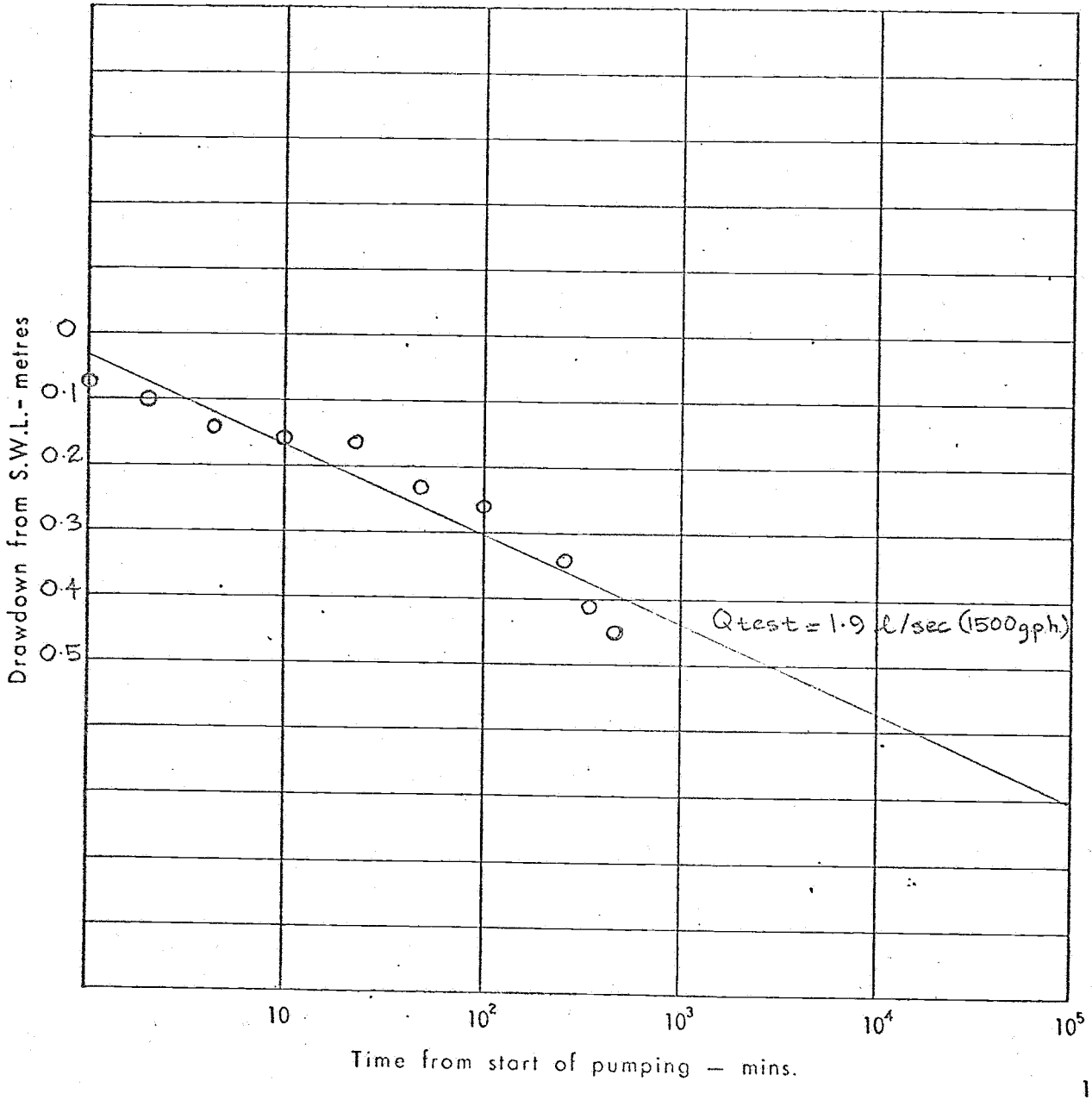
DRAWDOWN vs TIME

Well B237

SCALE:

DATE: 4-11-76

PLAN NUMBER




Unit No.:

Well No.: B237

Location:

Total Depth: 40.0 (m)

Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| 150 mm | 0 | 6.3 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| nil | | |

Recommended Discharge Rate (Q) 2.5 litres/sec.

Salinity: mg/l

Standing Water Level (S.W.L.) 23.2 m

Suggested Pump Intake Depth 35 m

Available Drawdown = Pump Intake Depth – S.W.L.= 12 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

COMPILED: GHMcN

DRN: GHMcN

CKD.

DEPARTMENT OF MINES—SOUTH AUSTRALIA

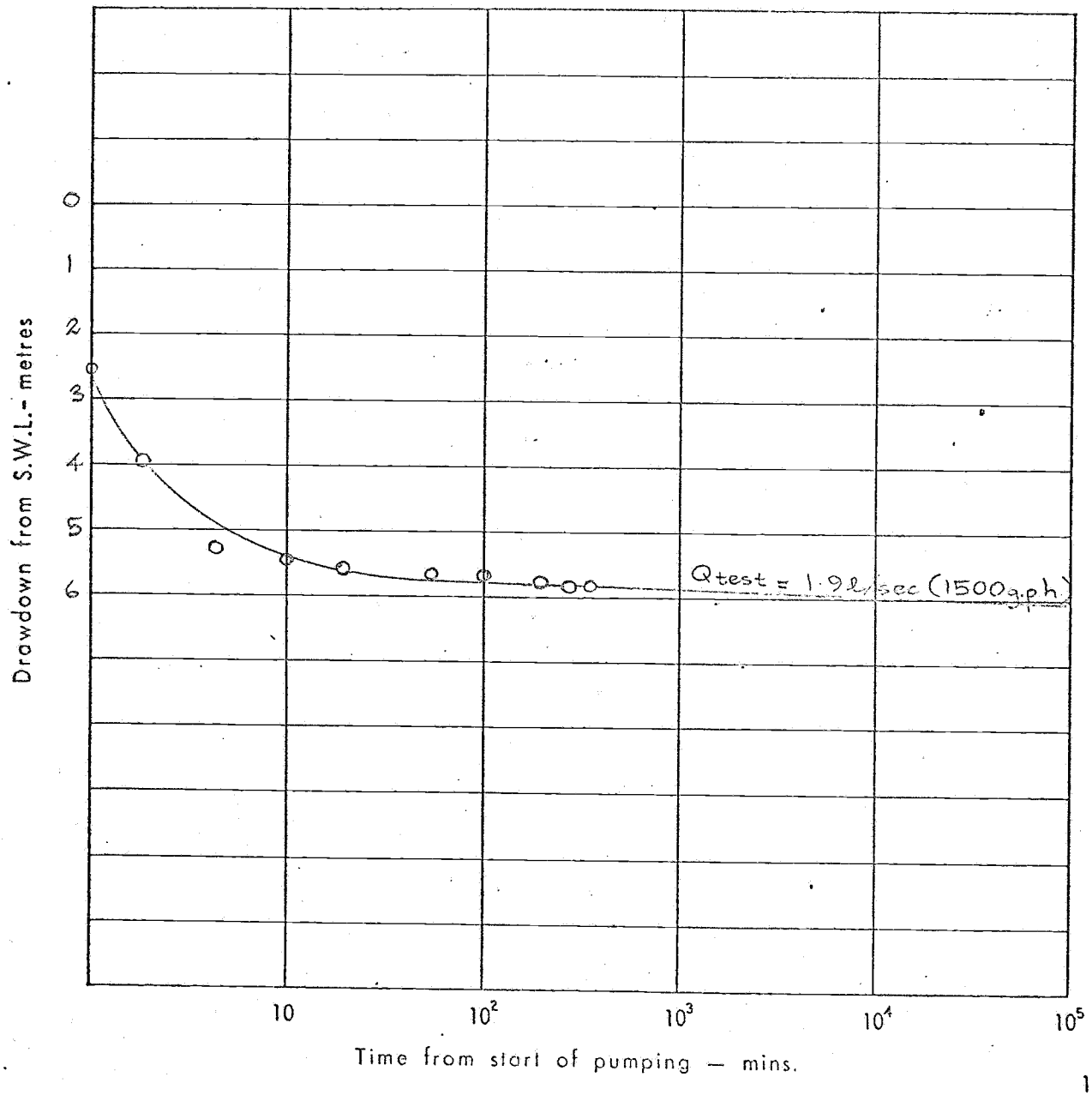
DRAWDOWN vs TIME

Well B240

DATE: 4.11.76

PLAN NUMBER

SCALE.




Unit No.:

Well No.: B240

Location:

Total Depth: 64.0 (m)

Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| 150mm | 0 | 13.7 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| nil | | |

Recommended Discharge Rate

(Q) 2.0 litres/sec.

Salinity: mg/l

Standing Water Level (S.W.L.)

10.8 m

Suggested Pump Intake Depth

30 m

Available Drawdown = Pump Intake Depth — S.W.L.= 19 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

DRAWN: G.H.McN

CKD.

DEPARTMENT OF MINES — SOUTH AUSTRALIA

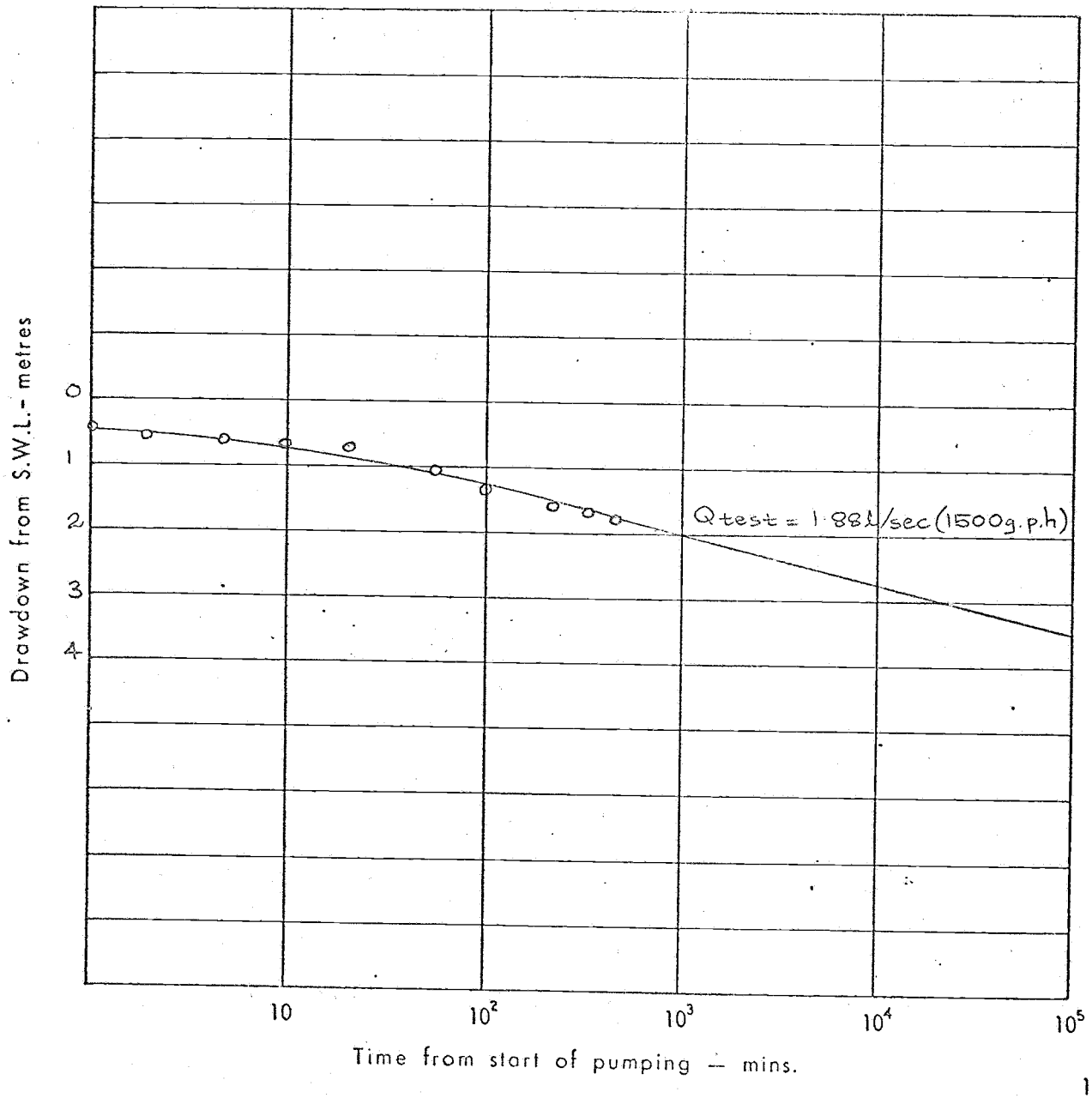
DRAWDOWN vs TIME

Well B265

SCALE:

DATE: 4.11.76

PLAN NUMBER:




Unit No.:

Well No.: B265

Location:

Total Depth: 58·0 (m)

Casing: Plain

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| 150 mm | 0 | 25·7 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| nil | | |

Recommended Discharge Rate (Q) 2·0 litres/sec.

Salinity: mg/l

Standing Water Level (S.W.L.) 37·2 m

Suggested Pump Intake Depth 50 m

Available Drawdown = Pump Intake Depth — S.W.L.= 12 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

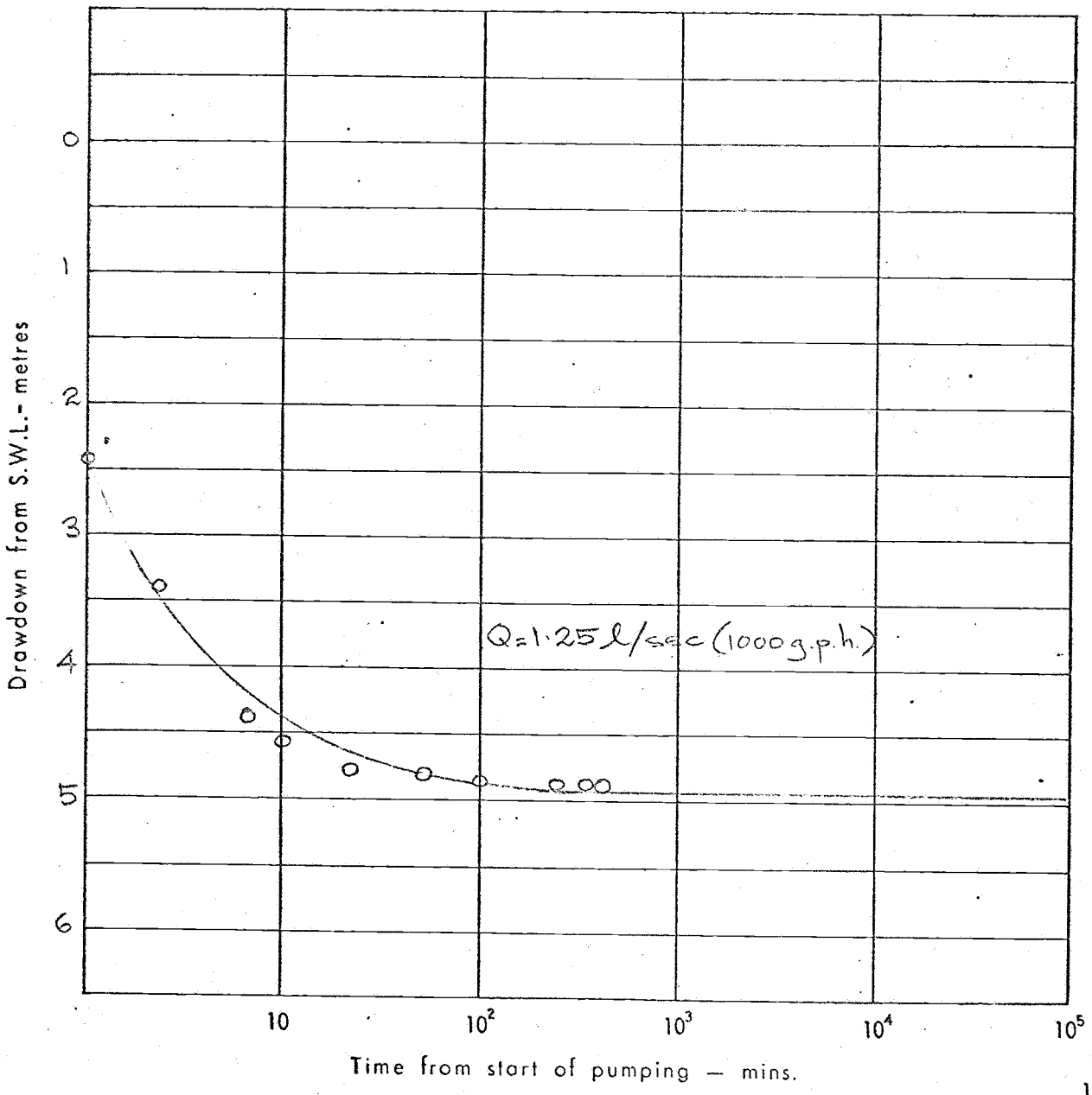
COMPILED: GWM

DRN: GWM | CKD.

DEPARTMENT OF MINES — SOUTH AUSTRALIA

DRAWDOWN vs TIME

Well B275




Unit No.:

Well No.: B275

Location:

Total Depth: 64·0 (m)

Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| | 0 | 6·3 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| nil | | |

Recommended Discharge Rate

(Q) 1·5 litres/sec.

Salinity: mg/l

Standing Water Level (S.W.L.)

23·3 m

Suggested Pump Intake Depth

40 m

Available Drawdown = Pump Intake Depth — S.W.L.= 17 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

SCALE.

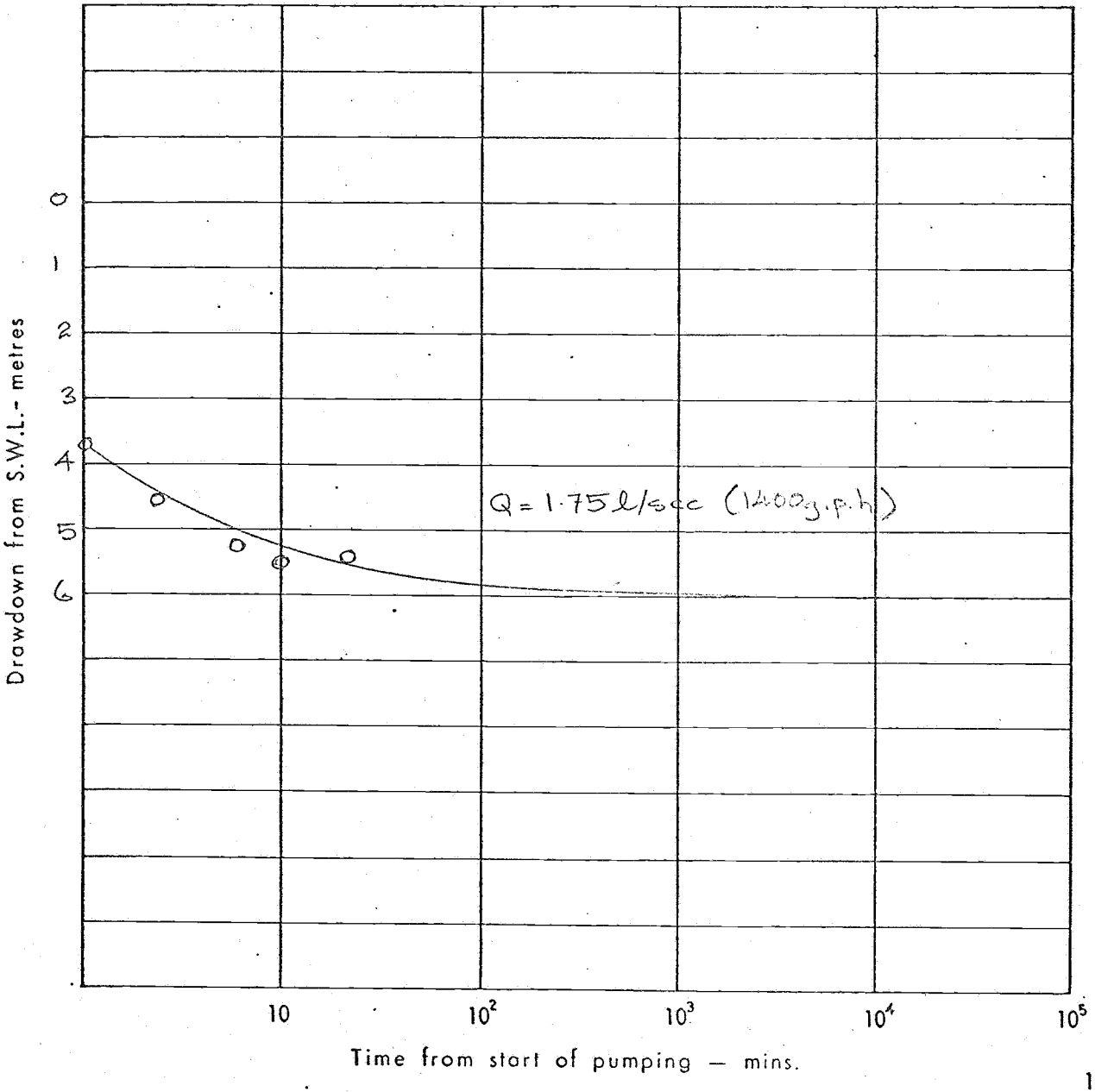
DATE: 4.11.76

PLAN NUMBER:

DRAWN: G.N.M.
CKD.
COMPILED: G.N.M.

DEPARTMENT OF MINES—SOUTH AUSTRALIA

DRAWDOWN vs TIME
Well B298




Unit No.:
Well No.: B298
Location:

Total Depth: 33.0 (m)
Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| 150mm | 0 | 13.0 |
| 125mm | 12.0 | 25.3 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| 125mm | 25.3 | 32.0 |

Recommended Discharge Rate
(Q) 2.0 litres/sec.
Salinity: mg/l
Standing Water Level (S.W.L.)
10.1 m
Suggested Pump Intake Depth
25 m
Available Drawdown = Pump Intake Depth — S.W.L.= 15 m
Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

SCALE:
DATE: 4.11.76
PLAN NUMBER:

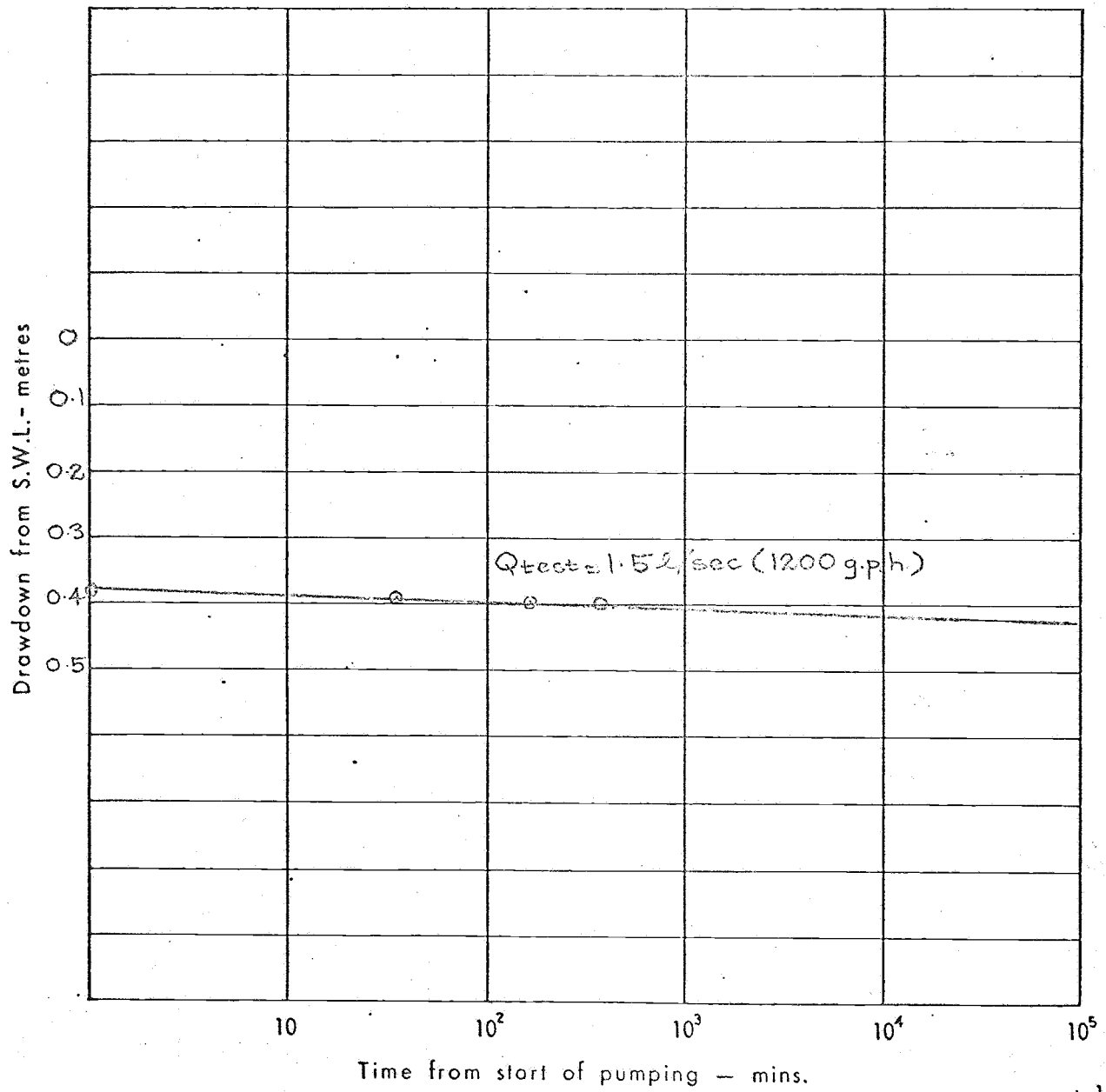
COMPILED: G.H.McN

DRN: G.M.N | CKD.

DEPARTMENT OF MINES—SOUTH AUSTRALIA

DRAWDOWN vs TIME

Well B298a




Unit No.:

Well No.: B298a

Location:

Total Depth: 27·0 (m)

Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| 150mm | 0 | 12·7 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| nil | | |

Recommended Discharge Rate (Q) 2·5 litres/sec.

Salinity: mg/l

Standing Water Level (S.W.L.) 12·0 m

Suggested Pump Intake Depth 20 m

Available Drawdown = Pump Intake Depth — S.W.L.= 8 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

SCALE.

DATE: 4·11·76

PLAN NUMBER:

COMPILED: GHMcN

DRN: GMcN | CKD.

DEPARTMENT OF MINES—SOUTH AUSTRALIA

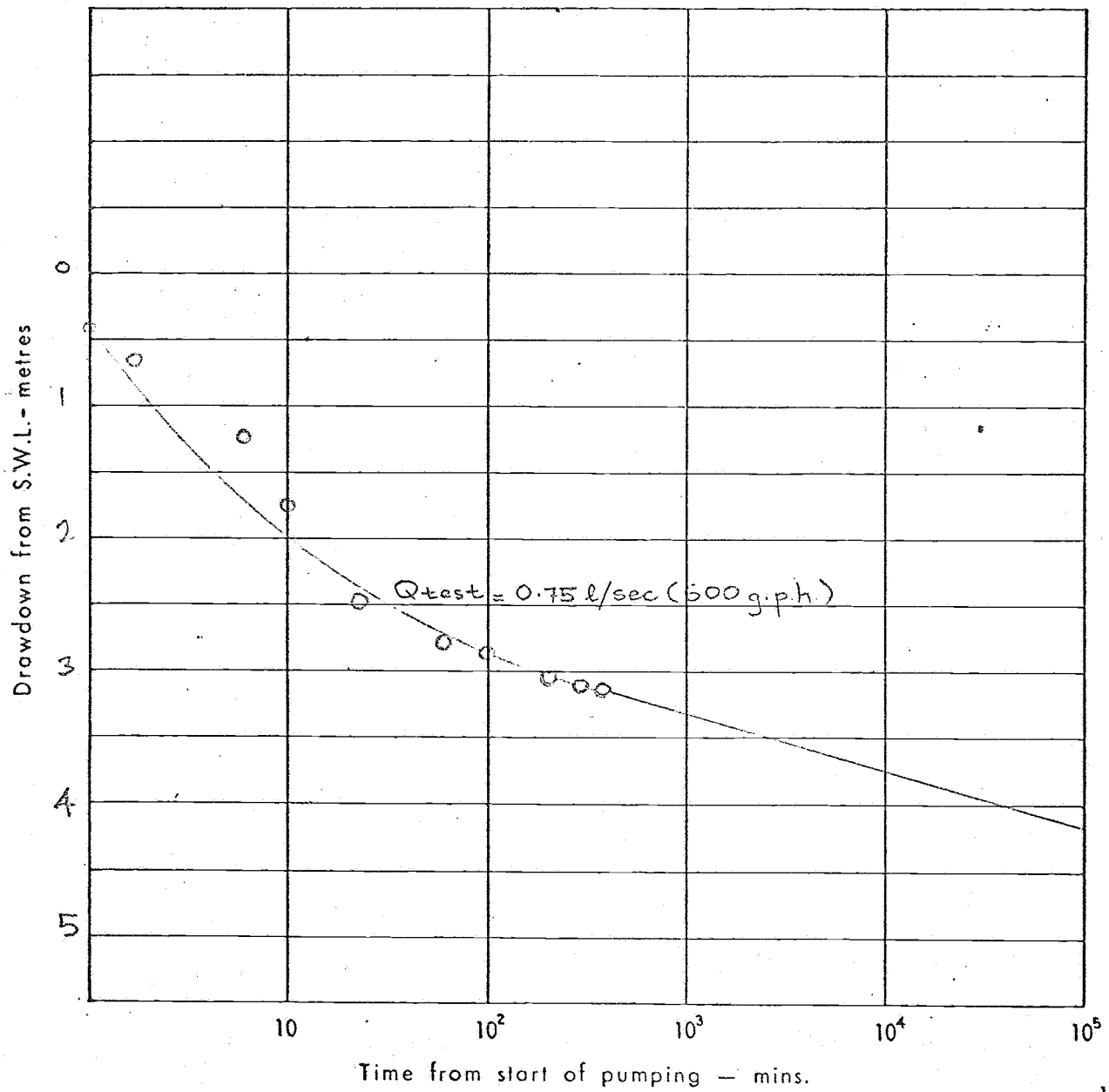
DRAW DOWN vs TIME

Well B307

SCALE.

DATE: 4.11.76

PLAN NUMBER:




Unit No.:

Well No.: B307

Location:

Total Depth: 37.0 (m)

Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| 150 mm | 0 | 21 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| 150 mm | 21 | 33.5 |

Recommended Discharge Rate

(Q) 0.75 litres/sec.

Salinity: mg/l

Standing Water Level (S.W.L.)

18.5m

Suggested Pump Intake Depth

34 m

Available Drawdown = Pump Intake Depth — S.W.L. = 15.5 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

COMPILED: GHMcN

DRN: GHMcN | CKD.

DEPARTMENT OF MINES—SOUTH AUSTRALIA

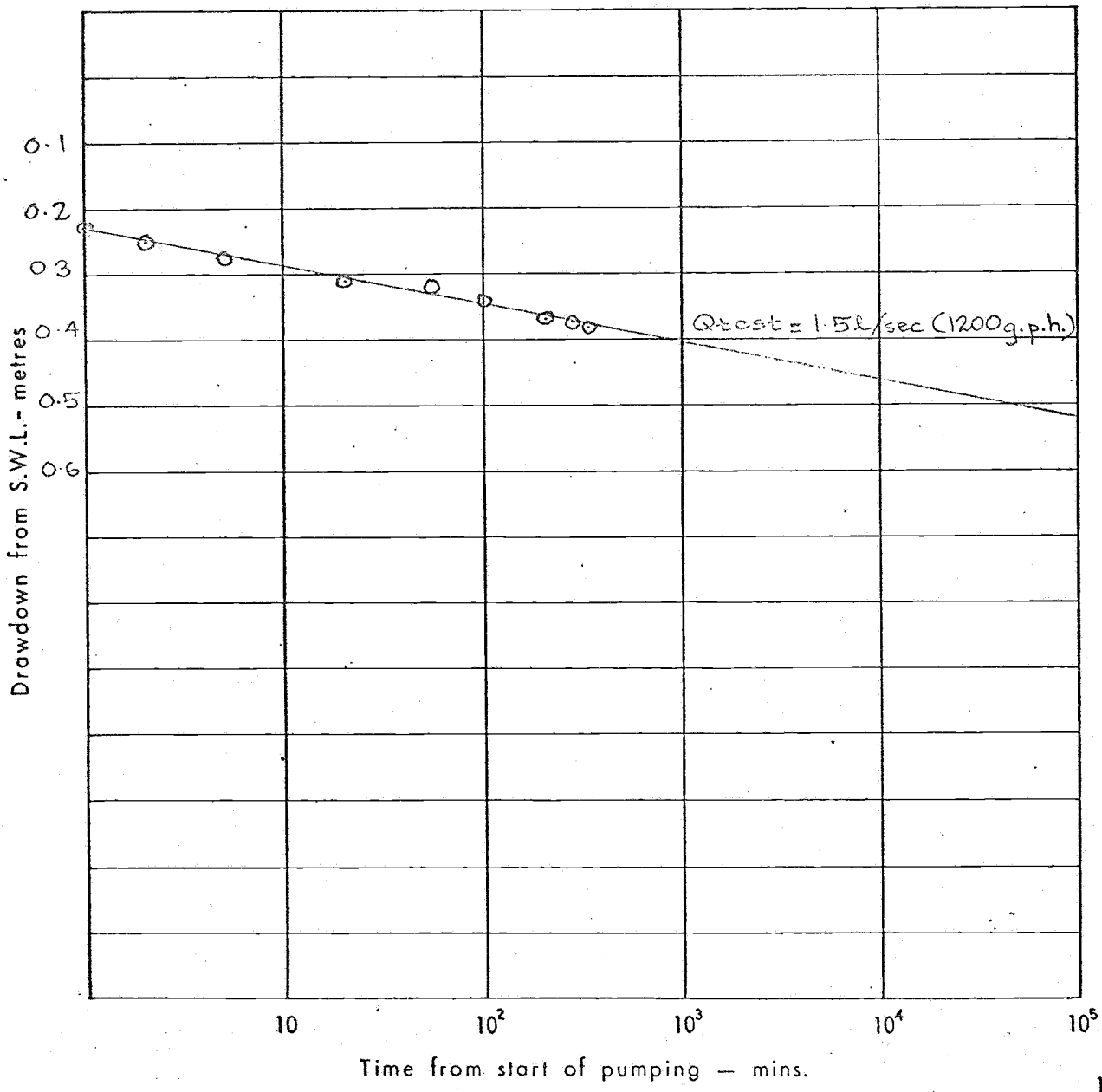
DRAWDOWN VS TIME

Well B320

SCALE.

DATE: 4.11.76

PLAN NUMBER:




Unit No.:

Well No.: B320

Location:

Total Depth: 32·0 (m)

Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| 150mm | 0 | 19·7 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| 150mm | 19·0 | 31·0 |

Recommended Discharge Rate (Q) 2·5 litres/sec.

Salinity: mg/l

Standing Water Level (S.W.L.) 18·4 m

Suggested Pump Intake Depth 25 m

Available Drawdown = Pump Intake Depth — S.W.L.= 7 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

DRAWN: GHM&N

CKD.

DEPARTMENT OF MINES—SOUTH AUSTRALIA

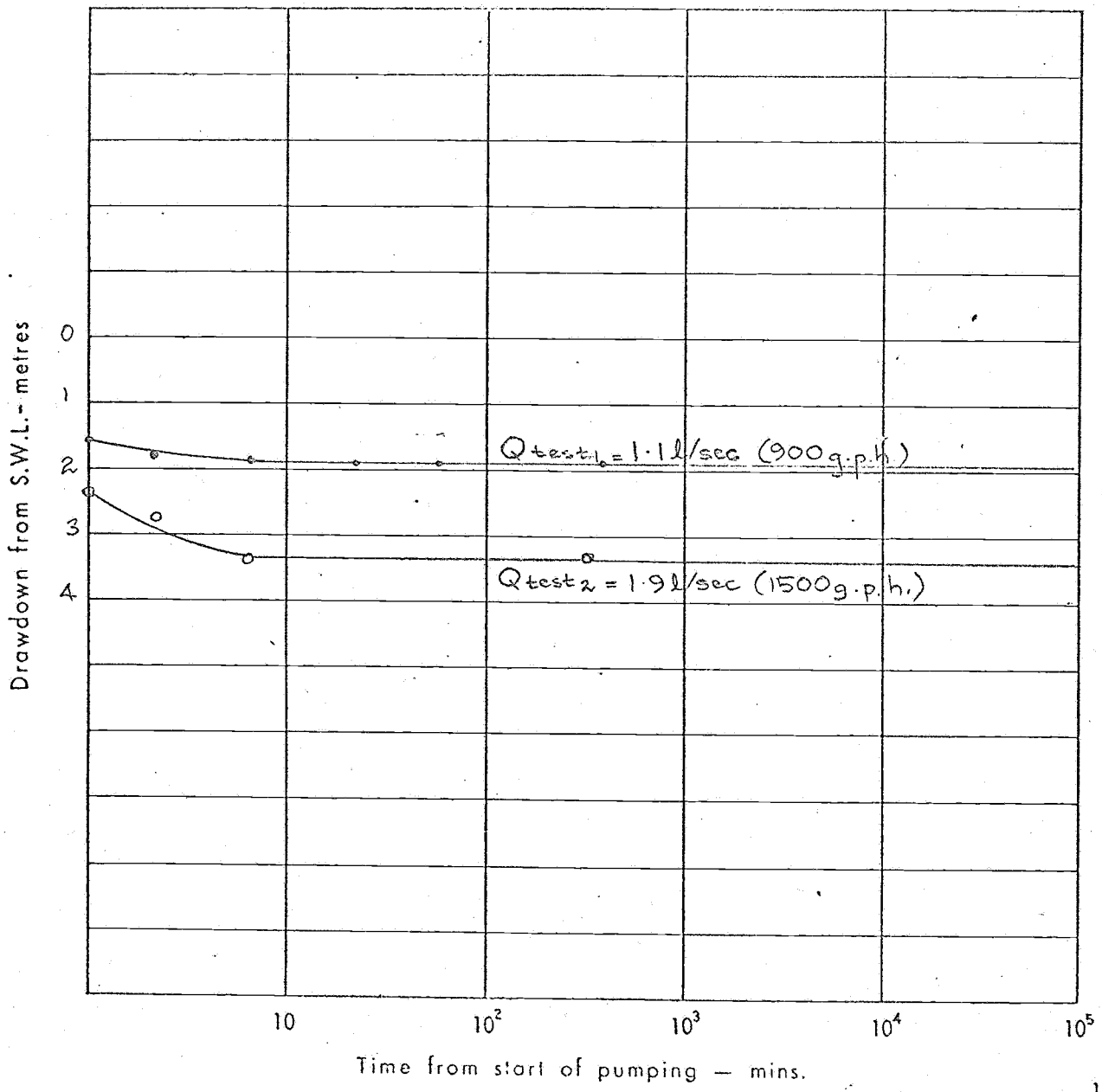
DRAWDOWN vs TIME

Well B347

SCALE.

DATE:

PLAN NUMBER:




Unit No.:

Well No.: B347

Location:

Total Depth: 52·0 (m)

Casing: Plain

| Diam.(inches) | from (m) | to (m) |
|---|---|---|
| 150mm | 0 | 19·3 |

Slotted

| Diam. (inches) | from (m) | to (m) |
|---|---|---|
| nil | | |

Recommended Discharge Rate

(Q) 2·5 litres/sec.

Salinity: mg/l

Standing Water Level (S.W.L.)

19.5 m

Suggested Pump Intake Depth

30 m

Available Drawdown = Pump Intake Depth — S.W.L.= 10 m

Well Log in:

$1 \times 10^5$ mins. = approx. 70 days

| | PUMPING RATE DURING TEST | | MAXIMUM DRAWDOWN After 6 hours | RECOMMENDED MAX. PUMPING RATE | |
|---|---|---|---|---|---|
| | l/sec | g.p.h. | (m) | l/sec | g.p.h. |
| B 195 | 1.25 | 1 000 | 9.1 | 0.5* | 400 |
| B 196 | 1.5 | 1 200 | 10.94 | 0.75* | 600 |
| B 198 | 1.2 | 950 | 12.66 | 0.75* | 600 |
| B 203 | 0.75 | 600 | - | 0.5 | 400 |
| B 224a | 0.7 | 550 | - | 0.5 | 400 |
| B 237 | 1.9 | 1 500 | 0.45 | 2.5 | 2 000 |
| B 240 | 1.9 | 1 500 | 5.82 | 2.0 | 1 600 |
| B 265 | 1.9 | 1 500 | 1.75 | 2.0 | 1 600 |
| B 275 | 1.25 | 1 000 | 4.80 | 1.5 | 1 200 |
| B 298 | 1.75 | 1 400 | 5.28 | 2.0 | 1 600 |
| B 298a | 1.5 | 1 200 | 0.40 | 2.5 | 2 000 |
| B 307 | 0.75 | 600 | 3.11 | 0.75 | 600 |
| B 320 | 1.5 | 1 200 | 0.38 | 2.5 | 2 000 |
| B 347 | 1.1 | 900 | 1.92 | 2.5 | 2 000 |
| | 1.9 | 1 500 | 3.30 | | |

*Could be increased if sand screen installed.

# APPENDIX D

## DATA ON EXISTING STOCK BORES

A number of existing bores in the vicinity of the proposed railway alignment may be of use for concrete batching in advance of the earthworks. Details of these bores, extracted from Mines Department records, are attached. In some cases this information is several years old, and the well may have been abandoned in the meantime. Conductivity test results indicate that all these stock waters are suitable for concrete mixing, and in most cases would be suitable for camp purposes as well. Their use should be negotiated with the pastoral leaseholders in advance.

1.

Name: Marla Bore Station: Welbourne Hill Depth: 102 m

Approx. Yield: 0.75 l/s Salinity: 1 320 mg/l S.W.L. 9.2 m

Location: About 7 km west of B196 km, along Stuart Highway.

Remarks: Equipped with windmill and tank.

0 - 28 m Bulldog Shale and Cadna-Owie Formation.

28 - 102 m Ordovician slate.

2.

Name: Boxhole Bore Station: Welbourne Hill Depth:

Approx. Yield: Salinity: 2 450 mg/l S.W.L. 12.6 m

Location: 3 km west of B206 km (approx.).

Remarks: Equipped with windmill and jack pump. Tank corroded, earth dam adjacent.

3.

Name: Mt. John Bore Station: Granite Downs Depth: 69 m

Approx. Yield: 1 l/s Salinity: 2 300 mg/l S.W.L.

Location: About 10 km southwest of B230, 100 km.

Remarks: Equipped with windmill, tank and jack pump.

4.

Name: Davey's Bore Station: Granite Downs Depth: 39 m

Approx. Yield: Salinity: 2 450 mg/l S.W.L.: 3-5 m

Location: About 7.6 km south west from B.230, 100 km.

Remarks: Located in Proterozoic siltstones and dolomite (Rodda Beds). Equipped with windmill, jack pump and tank.

5.

Name: Wantapella Well  Station: Granite Downs  Depth: 36 m

Approx. Yield:  Salinity: 1 810 mg/l  S.W.L.: 6 m

Location: About 6 km north east of B230, 100 km.

Remarks: Equipped with windmill, tank and jack pump. Adjacent Wantapella Swamp subject to inundation.

6.

Name: Roadside Well  Station: Granite Downs  Depth: 16 m

Approx. Yield:  Salinity: 1 500mg/l (approx.)  S.W.L.: 9.3 m

Location: About 700 m east of B243 km, adjacent to Stuart Highway.

Remarks: Abandoned. Rotary holes B243 a and B243b adjacent to well were unsuccessful.

7.

Name: Windmill Well  Station: Granite Downs  Depth:

Approx. Yield:  Salinity: 1 500 mg/l  S.W.L.:

Location: About 15 km south west from B258 km, along Granite Downs track.

Remarks: Equipped with windmill, jack pump and tank.

8.

Name: Branson's Well  Station: Granite Downs  Depth: 19 m

Approx. Yield:  Salinity:  S.W.L.

Location: About 10 km southwest from B258 km, along Granite Downs road.

Remarks: Abandoned.

9.

Name: Carol's Bores Station: De Rose Hill Depth: 56 m

Approx. Yield: 0.25 l/s (200 g.p.h.) Salinity: 3 650 mg/l S.W.L.: about 20 m

Location: 2.1 km east of B273.400 km.

Remarks: Located in Proterozoic siltstone. Two adjacent bores, one equipped with a windmill, the other with a jack pump, both feeding an earth dam. Original yield 1 l/sec (800 g.p.h.).

10.

Name: Edie's Bore Station: De Rose Hill Depth:

Approx. Yield: Salinity: 4400 mg/l S.W.L.:

Location: About 9 km west from B273 km, along track.

Remarks: Equipped with windmill, jack pump and tank.

11.

Name: Olga's Bore Station: De Rose Hill Depth: 35 m

Approx. Yield: Salinity: 3 300 mg/l S.W.L.

Location: 4.2 km west of B286.00 km.

Remarks: Located in sand overlying granite. Two adjacent bores, one equipped with a windmill and one with a jack pump.

12.

Name: Utah Bore Station: De Rose Hill Depth:

Approx. Yield: 0.5 l/s (400 g.p.h.) Salinity: 960 mg/l S.W.L.

Location: 200 m east of B288.100 km.

Remarks: Equipped with windmill and tank. Located in dolerite dyke.

13.

Name: Rieck's Bore  Station: Tieyon  Depth: 14 m

Approx. Yield:  Salinity: 1 455 mg/l  S.W.L.: 8 m

Location: About 14 km east of B290 km and Utah Bore.

Remarks: Status unknown.

14.

Name: Mary's Well  Station: Tieyon  Depth: 14 m

Approx. Yield:  Salinity: 3 030 mg/l  S.W.L.: 9 m

Location: About 11 km east of B300 km (no direct track).

Remarks: Abandoned.

15.

Name: Kay's Bore  Station: De Rose Hill  Depth: 33 m

Approx. Yield:  Salinity: 1 810 mg/l  S.W.L. 12-15 m

Location: About 1 km north east of B307 km.

Remarks: Equipped with windmill and earth dam. Original yield 1 l/sec (800 g.p.h.).

16.

Name: One Tree Hill  Station: Tieyon  Depth: 16.6 m

Approx. Yield.  Salinity: 985 mg/l  S.W.L.:

Location: About 13 km north west of B307 km (track from Kay's Bore).

Remarks: Possibly abandoned.

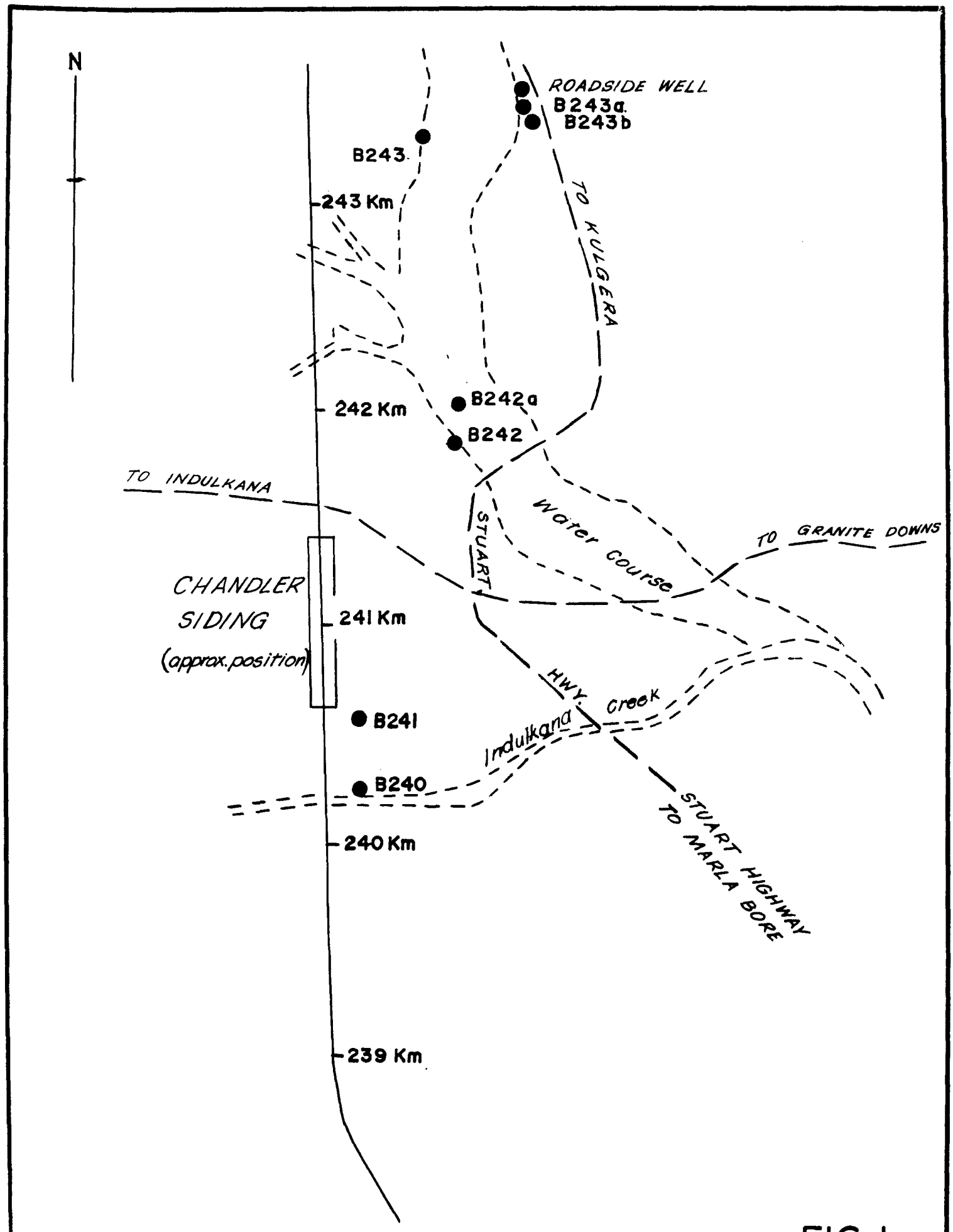



FIG: 1

| | DEPARTMENT OF MINES — SOUTH AUSTRALIA | Scale : 1:24000 |
|---|---|---|
| Compiled G. McN. | TARCOOLA-ALICE SPRINGS RAILWAY | Date : 11.11.76 |
| Drn. J.W.W. Ckd R.H. | INDULKANA CREEK AREA | Drg. No. S12519 |
| | LOCATION OF A.N.R. WATER BORES | |

780—6.74 F332 O

5544

10 CENTIMETRES ON ORIGINAL DRAWING

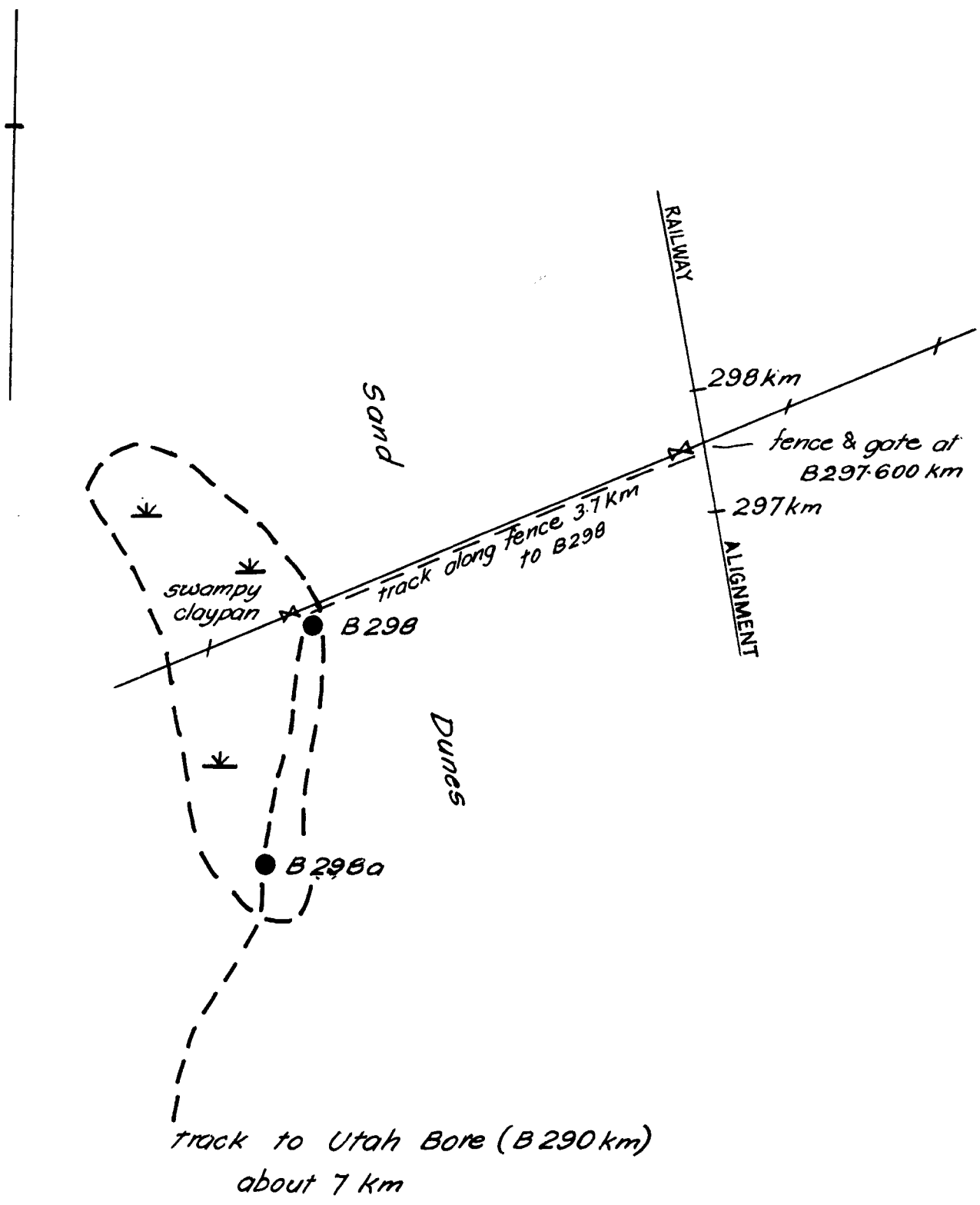


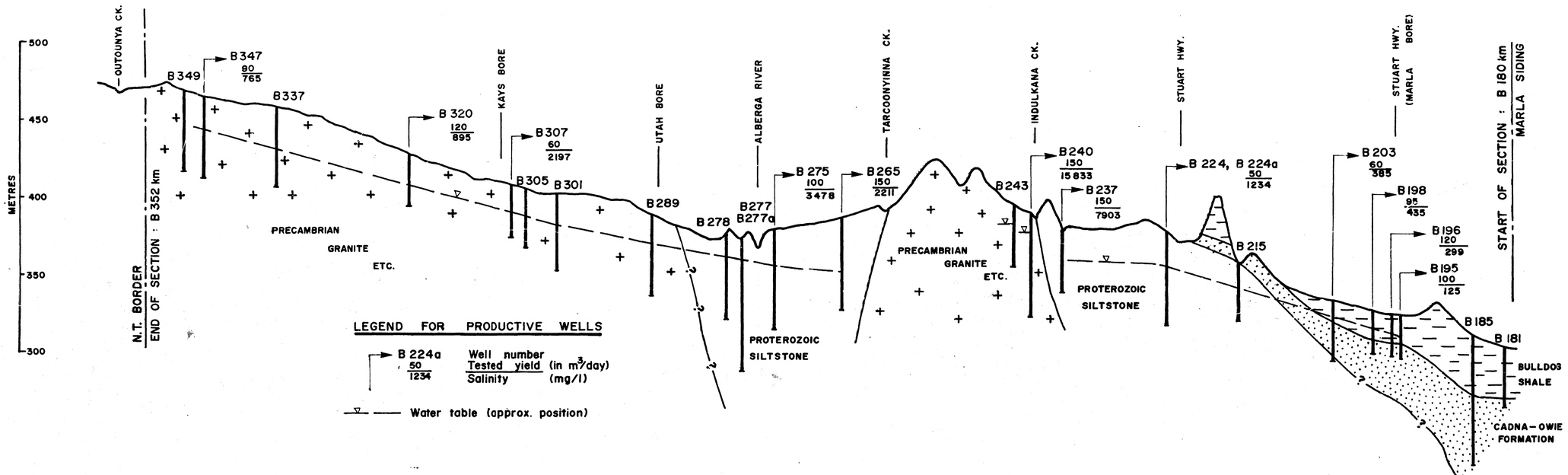

FIG. 2

| | DEPARTMENT OF MINES — SOUTH AUSTRALIA | Scale : 1:50000 |
|---|---|---|
| Compiled : G.McN | TARCOOLA-ALICE SPRINGS RAILWAY<br>LOCATION OF A.N.R. WATER BORES<br>B298 & B298a | Date : 11·11·76 |
| Drn. DWW. Ckd R.H. | | Drg. No. S12520 |

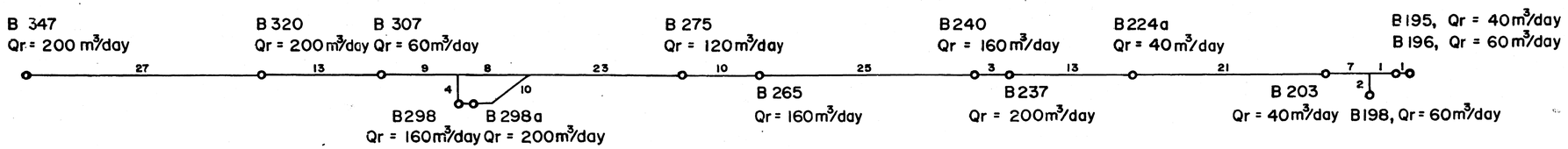
780—6.74 F332 O

5545

10 CENTIMETRES ON ORIGINAL DRAWING




## HYDROGEOLOGICAL SECTION, MARLA SIDING TO N.T. BORDER




## HAULAGE DISTANCES BETWEEN PRODUCTIVE WELLS (in km, Qr = Recommended pumping rate)

Horizontal Scale 1:500 000
Vertical Scale 1:2500
Vertical Exaggeration 1:200

FIG. 9

| | | |
|---|---|---|
| | DEPARTMENT OF MINES—SOUTH AUSTRALIA | SCALE As Shown |
| COMPILED G. McNally | TARCOOLA—ALICE SPRINGS RAILWAY<br>SECTION III—MARLA SIDING TO N.T. BORDER<br>B 180—B 352 km | DATE 7th JAN. 1976 |
| DRN T.E. CKD | RESULTS OF GROUNDWATER INVESTIGATIONS | PLAN NUMBER 77-14 |

133°15' 133°30' 133°45' 25°30' 25°45' 26°00' 26°15' 26°30' 26°45' 27°00' 27°15'

No 7 Bore · Murray Bore · Kalamurta Creek · Kalamurta Dam · BAYSTONE BORE · 40C · 30C · 20C · 10C · 0C · Spring Creek Dam · Spring Creek · MT MAGAREY · "Umbeara" Bore · Kangaroo Bore · Top Well (disused) · Kaboolka Dam · Mulga Bore · Arunta Rockhole · Rockhole · Kulgera · Dawkins Well (disused) · Boundary Bore · Kulgera Dam · Trotwood Bore · STOCK ROUTE · HIGHWAY · Kooyong Well · MT REYNOLDS · MT BARROW · MT CAVENAGH · Lyndock Bore · Wellmulina Creek · STUART · Walparina Spring · "Mt Cavenagh" · Calamity Bore · Drought Relief Bore · MT CECIL · NORTHERN TERRITORY · SOUTH AUSTRALIA · END OF SECTION · Curdimurka Creek · Bransons Well · Holywater Well · Acacia Well & Yard · 350 B · B 349 · B 347 · 340 B · Dougs Well · East Bore · B 337 · Halfway Bore · Arduppa Creek · Coonya Well · Mothers Well · 330 B · Cheeta Bores · Sundown Outstation · MT HOWE · Fools Well Bore · 320 B · B 320 · Coultys Hole Bore · The Hamilton · The Marryat · Guy Fawkes Bore · HIGHWAY · 16 One Tree Well · "One Tree" · Paradise Bank Dam & Yard · 310 B · 15 Kays Bore · B 307 · MARRYAT SIDING · B 305 · Bore · Johnsons Crab Hole Dam · Condoo Bore · Dead Finish Dam & Yard · B 301 · 300 B · Poddock Bore · "Agnes Creek" Stock Well · Kangaroo Well · Ethel Ngonna · Marys Well Bore & Yard · PAXTON BLUFF · Overthrow Bore · B 298 · B 298a · Xmas Well & Yard · B 295 · KITE HILL · Townleys Well · B 290 · 290 B · 14 Marys Dam & Yard · Ant Well & Bore · Eagle Hawk Dam · B 289 · Utah Bore · 12 · DE ROSE HILL · B 287 · 13 Riecks Bores & Yard · Olgas Bore · 11 · ROWLAND HILL · Pannikin Dam · Mucks Camp (Old HS) · Agnes Creek · 280 B · Oven Hill Bore · Dead Horse Dam · B 278 · B 277 · B 275 · B 277a · Corals Bore · 9 · 10 · Edies Bore · Dust Bowl Bores (2) · 270 B · SMALL PILE · B 265 · Alberga · Tarcoonyinna Creek · 260 B · Flat Top Hill Dam · Maynards Bore & Yard · Moorilyana Dam

B 265 · STUART · 260 B · HIGHWAY · Flat Top Hill Dam · Bronson Well · 250 B · 8 · 7 · Windmill Well & Yard · Bryans Well · "Granite Downs" · DONOGHUE HILL · B 243 · B 243 a/b · Roadside Well · Bore · B 242a · B 242 · B 241 · B 240 · CHANDLER SIDING · MT CHANDLER · 6 · Maynards Bore & Yard · The Alberga · Listers Well & Yard · Indulkana Creek · Mt Mystery Dam · MT MYSTERY · Johnsons Dam & Yard · Creek · W H · CHAMBERS BLUFF · B 237 · Wantapella Well & Tank · 5 · Wantapella Swamp · Yard · Rodda Bore · 230 B · Old Well · Yaalperinna · Christmas Well · Towalunginna Well · Creek · 4 · Davey Well, Bore & Tank · Yard · B 224 · B 224a · 220 B · Chimney Creek Yard · Mt John Swamp · MT JOHNS · MT WEIR · Mt John Bore & Tank · 3 · B 215 · ELLEMENTAFELLA HILL · Caves · Arcoollina Soak · Ammaroodinna · Policeman Spring & Well · 210 B · Dam · 2 · WILLUGUDINNA HILL · Box Hole Bore · Gap Bore · Creek · 27°15' · B 203 · 200 B · Apamurra Bore · MT BYILCAOORA · HIGHWAY · STUART · Claypan Dam · Yard · B 198 · B196 · B195 · MARLA BORE · 1 · MINTABIE OPAL FIELDS · Old Hut · Sailor Well & Tank · LITTLE TRAINOR HILL · TRAINOR HILL · 190 B · Yard · Larry Well & Tank · B 185 · WELLETELLYINNA HILL · Well & Tank · "Wallatinna" · 180 B · B 181 · MARLA SIDING · START OF SECTION

N

## REFERENCE

- 200 B — ROUTE OF TARCOOLA-ALICE SPRINGS RAILWAY WITH DISTANCES IN Km.
- ROAD-UNSEALED
- ROAD-UNIMPROVED EARTH
- WATERHOLE; BORE; WATERTANK, DAM
- STREAM, INTERMITTENT
- ● B 203 — RAILWAY WATER BORE, PRODUCTIVE
- ○ B 215 — RAILWAY WATER BORE, NON-PRODUCTIVE
- (15) — EXISTING STOCK BORE, DETAILS IN APPENDIX 'D'

## LOCALITY PLAN

134° 140° 24° 26° 30°

ALICE SPRINGS · KULGERA · NORTHERN TERRITORY · QUEENSLAND · SOUTH AUSTRALIA · GRANITE DOWNS · MARLA BORE · OODNADATTA · COOBER PEDY · RAILWAY UNDER CONSTRUCTION · MARREE · LEIGH CREEK · TARCOOLA · KINGOONYA · PT AUGUSTA · PT PIRIE · ADELAIDE

SCALE 100 0 100 200 km

SCALE-1:250000

5 0 5 10 15 20 25 Kilometres

FIG. 4

DEPARTMENT OF MINES — SOUTH AUSTRALIA

**TARCOOLA-ALICE SPRINGS RAILWAY**

THIRD TENDER SECTION, MARLA SIDING — NORTHERN TERRITORY BORDER

LOCATION OF WATER BORES

| | | | |
|---|---|---|---|
| ENGINEERING GEOLOGY SECTION | G H McNALLY, GEOLOGIST | Drn: G.H.McN | SCALE 1:250,000 |
| | | Tcd: R.G. | 77-13 |
| Director of Mines | | Ckd: | |
| | | Exd: | DATE JANUARY 1977 |

2,3