DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

RECORD No. 1964/4

GREAT ARTESIAN BASIN BORE LOGGING, QUEENSLAND 1961



by

F. JEWELL A. RADESKI, and E.E. JESSON'

The information contained in this report has been obtained by the Department of National Development, as part of the policy of the Commonwealth Government, to assist in the exploration and development of mineral resources. It may not be published in any form or used in a company prospectus or statement without the permission in writing of the Director, Bureau of Mineral Resources, Geology and Geophysics.

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Plate 17. Composite logs of Bores No. 52 & 54
(Buckabie No. 1 and Betoota No. 1)

Plate 18. Correlation along Cross-section AA'

(G55/B6-40)

Plate 19. Correlation along Cross-section BB'
(G55/B6-41)

SUMMARY

The gamma-ray logging programme of water bores in the Great Artesian Basin, continued during 1961, revealed a fairly persistent radioactive marker taken as defining approximately the Tambo-Roma contact.

The change from Roma to Blythesdale sediments is interpreted as a change on the gamma-ray log from a uniform to a more-varied character.

Formation depths based on these criteria suggest a possible anticline in the Longreach area plunging roughly south-west.

1. INTRODUCTION

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The Bureau of Mineral Resources' programme of gamma-ray logging of water bores in the Great Artesian Basin, which was begun in 1960 (Jesson, Radeski, & Jewell, 1963), was continued in 1961.

Seven bores were logged around Longreach, 12 in the Blackall-Tambo area, and eight in the Bedourie-Birdsville area (Plate 1). In many of the bores, blockages prevented logging to the bottom.

Two bores north of Longreach, Winton No. 2 (Jesson & Radeski, 1960) and Corfield No. 1 (Jewell, 1960), had been logged previously by the Bureau. In addition electric logs were available of the following:

Longreach Oil Ltd (L.O.L.) No. 1 and 2 wells,

Westland Oil Co. Ltd. (W.O.L.) No. 2 (Warbreccan) well, and

Birdsville Town Bore (Delhi-Australian Petroleum Ltd., in preparation)

Formation depths were known (G.S.Q., 1960) in Queensland Oil Development Co. Ltd. No. 1 well (Langdale).

The gamma-ray logs of Ooroonoo No. 1 (McPhee, in preparation), Betoota No. 1 (Harrison, Warner & Gibson, 1961), Buckabie No. 1 (Phillips Petroleum Co. & Sunray Mid-Continent Oil Co., 1962) wells are included in this Record.

2. GEOLOGY

The geology of the Queensland portion of the Great Artesian Basin has been discussed by Jesson, Radeski, and Jewell (1963).

The Mesozoic succession in the eastern region of the Artesian Basin is as follows:

Cretaceous Winton Formation

Tambo Formation

Roma Formation

Jurassic Blythesdale Group

(Transition Beds (Mooga Sandstone (Fossil Wood Beds (Gubberamunda Sandstone

Walloon Coal Measures

Triassic Bundamba Group

The upper part of the Blythesdale Group may be Cretaceous. There is no definite evidence that the stratigraphic sequence in the western region of the Artesian Basin is the same as that in the east. The Cretaceous sediments found in the Boulia area have been named as follows (Casey et al., 1960):

Cretaceous

(Not recognised in Boulia area (Winton)

(Wilgunya Formation (Tambo and Roma
(equivalent)

(Longsight Sandstone (Upper
(Blythesdale equivalent)

(Absent in Boulia area (Lower
(Blythesdale)

(Absent in Boulia area (Walloon
(Coal Measures)

(Triassic (Absent in Boulia area

The Toolebuc member of the Wilgunya Formation is of particular interest in relation to gamma-ray logging. This member consists of laminated and thin-bedded sandy calcarenite, calcarenous siltstone, and coquinite; it contains fossil fish scales and bones on which is deposited a uranium mineral (Casey et al., 1960). The base of the Toolebuc member may, on fossil evidence, mark the boundary between the Wilgunya equivalents of the Tambo and Roma Formations.

About 200 miles south-south-east from the Boulia area the deep well Betoota No. 1 penetrated Winton sediments and also Walloon Coal Measure equivalents. The Blythesdale equivalent in this bore was placed entirely in the Jurassic.

Similarly in Ooroonoo No. 1 well, the Winton Formation and the Longsight Sandstone were recognised, the Longsight Sandstone being placed in the Jurassic.

3. EQUIPMENT AND OPERATIONS

The Failing Logmaster was used throughout the programme. The gamma-ray detector was mounted in a specially constructed vacuum flask which enabled the probe to be used to temperatures of up to $180^{\circ}F$.

The logs of three of the bores, <u>viz</u>. Bedourie No. 2, Birdsville Town, and Adria Downs, are open to doubt in that the equipment appeared to function erratically during the logging. Similarly, drift indicates the Pigurra log may be unreliable.

Because all but one of the bores were in a non-static state during logging, the temperature observations have little practical significance other than safeguarding the gamma-ray probe. The temperature readings have been corrected for a pressure effect on the thermometers by subtracting 5°F/1000-ft depth from the observed temperatures (Ogilvie, 1954).

The elevations at those bores for which data were not available from the Irrigation & Water Supply Commission (IWSC)
Lithographic Index were measured by barometric levelling. Three aircraft altimeters were read at each site and the average of the three readings was compared with pressure readings, reduced to mean sea-level, at nearby meteorological stations. The pressure difference at the site was converted to height from the tables included in the Meteorological Observer's Handbook.

Heights measured in this manner at four places of known elevation were found to be over-estimated on the average by 60-40 ft. A correction of 60 ft has therefore been subtracted from all heights by barometric levelling. The errors in the heights may be substantial owing to the large distances between the bore sites and the meteorological stations.

Five sites, <u>viz</u>. Breadalbane Nc. 9, Bore No. 11, Ludlow, Philippi No. 2, and Adria Downs were close to gravity stations that had been occupied by the Bureau of Mineral Resources helicopter gravity party in 1961. The heights measured by the gravity party, which should be accurate to - 10 ft, have been accepted as the bore-site elevations.

4. CORRELATION OF LOGS

A list of the bores logged and the oil company wells used is given in Table 1 and the gamma-ray and lithologic logs are shown on Plates 3 to 17. Examples of suggested correlations along Cross-section AA' for Bores 30, 31, 27, and 41, and along Cross-section BB' for Bores 52, 29, 28, 32, and 33, are shown on Plates 18 and 19 respectively. The locations of the bores and correlation cross-sections are shown on Plates 1 and 2.

A bed of relatively high radioactivity appears in a monotonous sequence of lower radioactivity on most of the logs (see for example Plate 18). This bed appears to correspond to the radioactive bed found at a depth of about 1700 ft in the Corfield No. 1 bore (Jewell, 1960). It also appears on the electric log of the Corfield bore as a resistive zone and clearly correlates with the resistive bed shown on the electric log of Winton No. 2 bore at about 2430 feet (Jesson & Radeski, 1960) and with the resistive bed shown on the electric logs of L.O.L. 1, 2, 3, and 4 at depths between 1500 and 1700 feet. This bed was interpreted by Longreach Oil Ltd as marking the contact between the Tambo and Roma Formations (G.S.Q., 1960). The radioactive zone appears also on the gamma-ray logs of Ooroonoo No. 1, Betoota No. 1, and Buckabie No. 1 wells (Plates 3 & 17) and appears as a resistive zone on the electric logs of V.O.L. 2 and the Birdsville Town Bore.

The radioactive marker is not apparent on the Birdsville and Adria Downs gamma-ray logs, (No. 42 and 43, Plate 12) which are suspect on account of faulty operation of the equipment, nor is it obvious on the Forrest Hill (No. 28), Lansdowne No. 5 (No. 32), and Greendale No. 3 (No. 33) logs (Plates 5 & 7).

The Roma and Tambo Formations seem to be remarkably uniform in radioactivity, apart from the radioactive bed mentioned above. *
The sequence of more-varied radioactivity below the Roma Formation, which is apparent on most of the logs, has therefore been interpreted as corresponding to the Blythesdale Group. The logs of Buckabie No. 1 and Betoota No. 1 (Plate 17), on which the stratigraphy shown is the interpretation of the oil companies, conform to the same pattern.

^{*} The log of Bedourie No. 2 (No. 49, Plate 15) showed large fluctuations within the Roma Formation but these may have been due to an intermittent fault in the equipment.

The actual top of the Blythesdale Group, on this basis, corresponds to a decrease in radioactivity from that of the Roma Formation above. However, as the base of the Roma Formation is generally arenaceous, as are the Transition Beds (the uppermost formation of the Blythesdale Group), the boundary cannot be well-defined by logging.

The correlation cross-sections (Plates 18 & 19) show very gentle south-west dip.

The distance between some of the bores are considerable and the correlations suggested may not necessarily be correct. This is particularly true for Cross-section BB' shown on Plate 19, where there is a distance of over 100 miles between bores No. 52 and 29, and 45 miles between bores No. 28 and 32. Over these distances the character of individual beds, their thickness, and their separation may change considerably. Thus it is impossible to attach any certainty to these correlations, though they are considered to be the most reasonable interpretation.

In view of the evidence that the Tambo-Roma boundary in the Boulia area may correspond to a radioactive bed, the elevation of the base of the radioactive zone has been contoured (Plate 1) as representing approximately the elevation of the Tambo-Roma boundary. In the Winton, Longreach, Warbreccan, and Birdsville Town bores, the base of the resistive zone has been taken to mark the base of the Tambo Formation, on the evidence of electric-log correlation with the Corfield bore. Similarly the base of the Roma Formation, as picked on the logs, has also been contoured (Plate 2).

The logs and correlation cross-sections suggest that there is not much variation in the thickness of the Roma Formation, and the form of the two contour maps is substantially the same.

As so few of the bores penetrated below the base of the Blythesdale Group, mapping of deeper formations has not been attempted.

5. TEMPERATURE LOG OF BORE NO. 31

As explained previously the temperature data have little practical value because of the non-static conditions in the bores; however, the temperature log of Bore 31 warrants comment because of its unexpected shape (Plate 6).

From the surface to a depth of about 2650 ft there was a gradual increase in temperature from 145°F to 158°F. The temperature then dropped suddenely by about 2°F, remained steady for the next 200-ft increase in depth, dropped suddenly again by about 1°F, and then resumed its gradual increase with depth.

This feature repeated on the down and up-logs, apart from a vertical displacement of about 25 ft which is probably explained by the slow sinking of the probe against the upward rush of the water on the downward run.

Both of the sudden temperature decreases coincide in position with zones of low radioactivity which indicate sandstone beds. The lithologic log indicates that the lower of these sandstones is an aquifer and this is probably also true of the upper one.

Thus it appears that in the region between 2650 and 2850 ft, the hottest water is entering the bore at the shallowest depth. This conclusion is unexpected but can probably be explained by water flowing between various aquifers outside the casing and entering the bore, though perforations, at depths not corresponding to the aquifer(s) from where it originated. A similar effect would result from the interchange of water between aquifers via local faulting.

6. CONCLUSIONS

The radioactive bed taken as depicting the Tambo-Roma contact has made correlation of the logs less doubtful than it was in the 1960 programme, although there is still some doubt where this radioactive feature is not clear and where bores are widely spaced. The contours indicate an anticline plunging roughly south-west in the Longreach area.

The base of the Roma Formation, taken as corresponding to a change to a more-varied radioactivity, is not well-defined where this formation includes basal sandstones overlying the sandy Transition Beds.

Further work is required to improve the interpretation.

7. REFERENCES

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|---|------|---|
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GAMMA RAY LOGGING, GREAT ARTESIAN BASIN, QUEENSLAND

| | | 1 | 4-MILE M | AD DEFENSE | | INDEX | | BORE | 3 | | T = | 1 202 | |
|------------|---------------|------------------------|------------|--------------------------|---------------------|----------------|----------------------|---------------|------------------|---------------|-----------------------------------|-----------------------------|---|
| LOG | REG. NO. | NAME | QUEENSLAND | AP REFERENCE MILITARY | LAT. | MILES NORTH | LONG. | MILES EAST | DEPTH DRILLED | DEPTH | ELEVATION OF LOG REF. LEVEL | B M R D RAWING NUMBER | REMARKS |
| 25 | 2628 | Evesham Lease No. 1 | 64 | Winton | 23°001 | 0.1 | 143°301 | 3.9 | 4150 | 2900 | 780(b) | F54/B6-1 | |
| 26 | 4897 | Wellshot No.8 | 55 | Longreach | 24°00' | 13.8 | 144 ⁰ 001 | 19.9 | 3814 | 3765 | 837 | F55/B6-í | |
| 27 | 94 | Middle Park | 44 | Tambo | 24°30' | 1.4 | 145 ⁰ 30¹ | 7.1 | 3000 | 2 70 0 | 998 | F55/B6-1 | obstruction at 2705 ft. |
| 28 | 4060 | Forrest Hill | 44 | Augathella | 25 ⁰ 151 | 10.4 | 145 ⁰ 301 | 4.3 | 3536 | 3420 | 1172 | G55/B6-33 | |
| 29 | 120 | Pigurra | 44 | Augathella | 25 ⁰ 15' | 11.4 | 145°30' | 0.0 | 3811 | 3790 | 1141 | G55/B6-33 | |
| 30 | 4497 | Athol No. 1 | 44 | Blackall | 25°001 | 20.2 | 145°001 | 11.2 | 3450 | 3100 | 875(b) | G55/B6-34 | obstruction at 3140 ft. |
| 31 | 378 | Burra Burra | 44 | Blackall | 25°001 | 24.9 | 145°001 | 20.4 | 3073 | 3000 | 912 | G55/B6-34 | |
| 32 | 33 3 9 | Lansdowne | 44 | Augathella | 25 ⁰ 15' | 14.9 | 146 ⁰ 001 | 17.9 | 4013 | 3060 | 1384 | G 55/B6-35 | obstruction at 3062 ft. |
| 33 | 5013 | Greendale No.3 | 44 | Tambo | 25°00' | 13.3 | 146 ⁰ 001 | 7.1 | 3185 | 3183 | 1320(b |)G55/B6-35 | |
| 34 | 14479 | Terrick-Terric | ¢ 44 | Blackall | 25°001 | 6.4 | 145°00' | 5.3 | 2025 | 2010 | 1000(e |)G55/B6-36 | obstruction at 2015 ft. |
| 35 | 4891 | Dartmouth | 55 | Longreach | 24°00' | 18.2 | 144 ⁰ 30' | 6.4 | 2639 | 1930 | 920 | G55/B6-36 | obstruction at 1940 ft. |
| 36 | 14588 | Blackall Town | 44 | Blackall | 24 ⁰ 301 | 4.3 | 145 ⁰ 001 | 29.4 | 1482 | 1480 | 938 | G55/B6-37 | |
| 37 | 1926 | Rand | 64 | Longreach | 23 ⁰ 15¹ | 9.2 | 144 ⁰ 30¹ | 7.3 | 2760 | 1540 | 7 59 | G55/B6-37 | obstruction at 1550 ft. |
| 3 8 | 3489 | Springleigh | 45 | Blackall | 25°00' | 29.4 | 144 ⁰ 301 | 14.9 | 7009 | 1100 | 969 | F55/B6-2 | obstruction at 2136 ft. temp limit of probe 1100 ft. |
| 3 9 | 4253 | Woolbrook | 55 | Longreach | 23 ⁰ 30' | 3.0 | 144°301 | 29.3 | 1440 ? | 920 | 820(b) | F55/B6-2 | |
| 40 | 377 | Glenusk | 44 | Tambo | 24°30' | 13.8 | 145°30' | 10.3 | 2384 | 1280 | 1044 | G55/B6-38 | partial obstruction 1280 ft. obstruction at 1366 ft. |
| 41 | 14579 | Northampton Downs | 44 | Tambo | 24°30' | 7.8 | 145 ⁰ 301 | 18.3 | 1124 | 1120 | 1130 | G55/B6-38 | |
| 42 | 14045 | Birdsville Town | 37 | Birdsville | 26°001 | 6.5 | 139°00' | 22.0 | 4000 | 3390 | 164 | G55/B6-4 | gamma ray probe failed at elevated temperature |
| 43 | 13088 | Adria Downs | 38 | Birdsville | 26°00' | 29.8 | 138 ⁰ 30' | 30.6 | 3090 | 1220 | 235(b) | G55/B6-4 | gamma ray probe failed at elevated temperature |
| 44 | 1450 | Fullerton | 55 | Longreach | 23 ⁰ 301 | 10.6 | 144 ⁰ 30' | 14.5 | 2320 | 2000 | 804 | F55/B6-3 | partial obstruction at 2009 G 16-10-1 |

elevations by: (b) barometric levelling, (e) estimated.

To Accompany Record No 1964/4

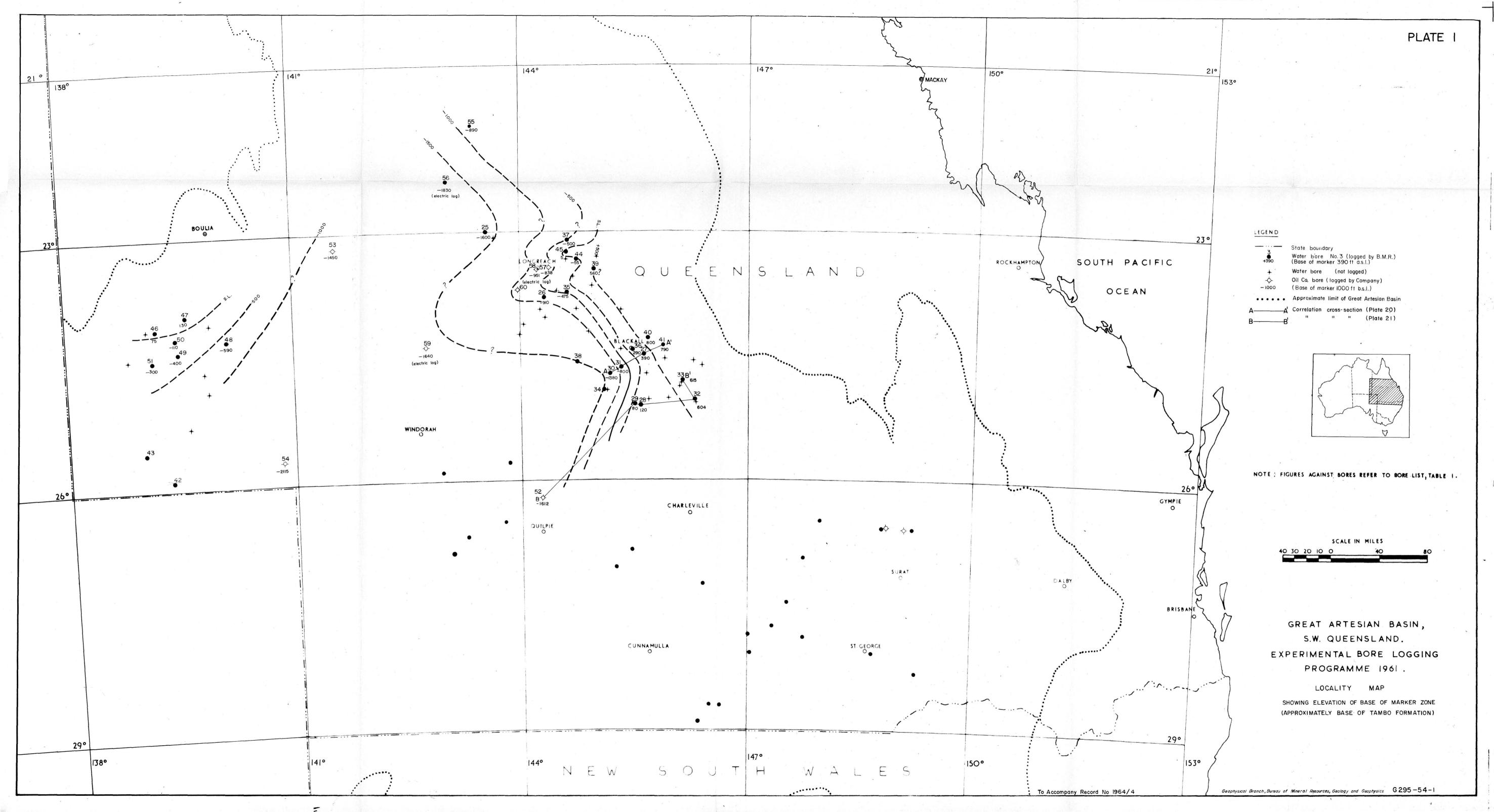
Table 1 Page 1 of 2

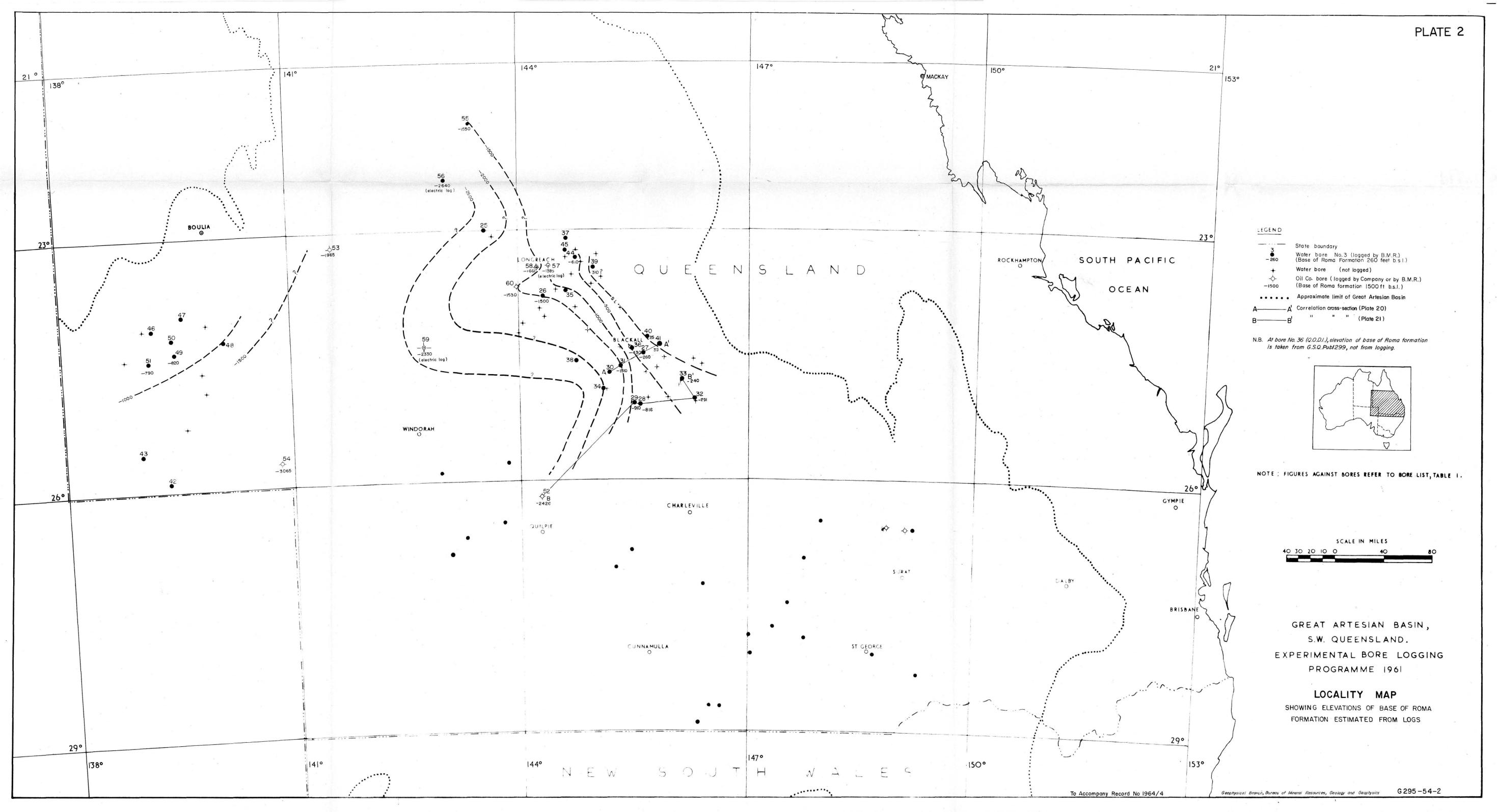
GAMMA RAY LOGGING, GREAT ARTESIAN BASIN, QUEENSLAND

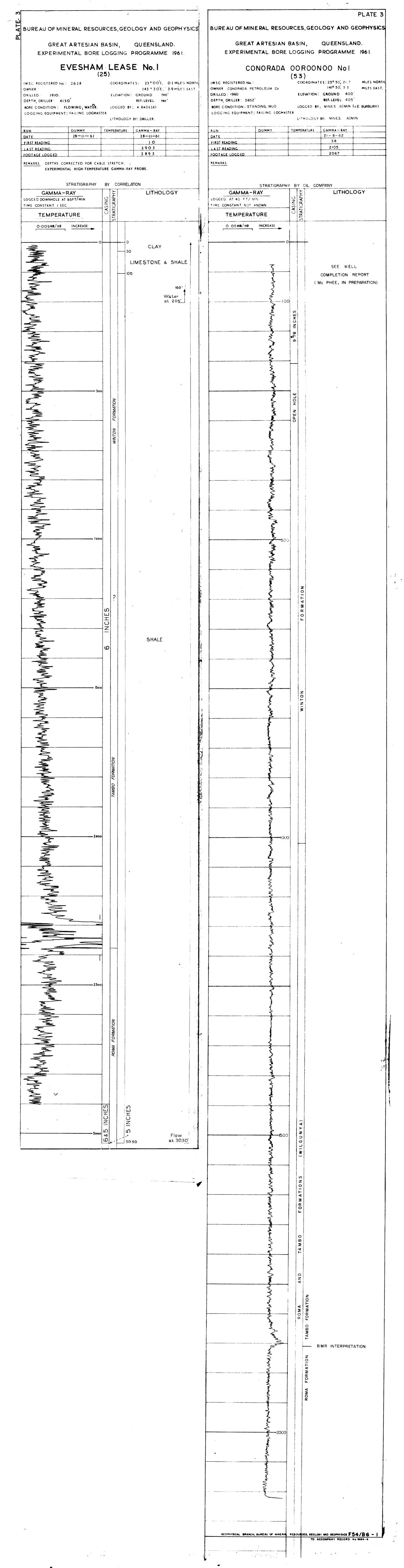
INDEX OF BORES

Table 1 Fage 2 of 2

| LOG | IWSC | NAME | 4-MILE M | AP REFERENCE | | LOCA | NOITA | | DEPTH | DEPTH | ELEVATION OF LOG | BMR | REMARKS | |
|------------|----------|----------------------|------------|-------------------|---------------------|----------------|----------------------|---------------|-------------|------------------------|----------------------|--|--|-----------|
| NUMBER | REG. NO. | | QUEENSLAND | MILITARY | LAT. | MILES NORTH | LONG. | MILES EAST | DRILLED | LOGGED | OF LOG REF. LEVEL | DRAWING NUMBER | WE MINKS. | |
| 45 | 1456 | Balmoral | 5 5 | Longreach | 23 ⁰ 30' | 16.7 | 144°30' | 6,1 | 1385 | 1140 | 707 | F55/B6-3 | obstruction at 114 | 4 ft |
| 46 | 4322 | Sandringham No. 4 | 58 | Bedourie | 24 ⁰ 15' | 12.2 | 139 ⁰ 00' | 11.2 | 775 | 460 | 331 | F54/B6-2 | obstruction at 461 | ſt. |
| 47 | 1668 | Breadalbane | 58 | Machattie | 24°00' | 4.7 | 139 ^o 30' | 5.1 | 7 80 | 650 | 360(b) | F54/B6-2 | obstruction at 661 | ft |
| 48 | | Bore 11 | 48 | Machattie | 24°30' | 17.5 | 140°00' | 7,8 | ? | 1350 | 362(b) | G54/B6-5 | | |
| 49 | 316 | Bedourie No.2 | 48 | Bedourie | 24 ⁰ 30' | 8.9 | 139 ⁰ 00' | 29.8 | 1314 | 1250 | 307 | G54/B6-5 | | |
| 50 | 12040 | Ludlow | 58 | Bedourie | 24 ⁰ 15' | 3.3 | 139 ⁰ 00' | 28.2 | 1025 | 900 | 3 05(b) | G54/B6-6 | obstruction 903 ft | |
| 51 | 13149 | Philippi No.2 | 48 | Bedourie | 24°30' | 2.5 | 139 ⁰ 00' | 8.2 | 1226 | 1050 | 246(b) | G54/B6-6 | obstruction 1069 f | t |
| 52 | | Buckabie No.1 | 25 | Quilpie | 26°30' | 20.9 | 144°00' | 16.5 | 9070 | 9070 | 738 | G55/B6-39 | Philips Petroleum see PSSA Publ. No | |
| 53 | | Ooroonoo No.1 | 57 | Brighton Downs | 23°30' | 21.7 | 141°30' | 3.3 | 3852 | 3852, Gamma 2100 | 405 | F54/B6-3 | Conorada Petroleum PSSA Publ. (in pre | paration) |
| 54 | | Betoota No.1 | 36 | Betoota | 26°00' | 20.1 | 140°30' | 20.6 | 9824 | 9824 | 359 | G54/B6-7 | Dolhi Australian P see PSSA Publ. No. | |
| 55 | 14125 | Corfield No.1 | 74 | Manuka | 22°001 | 19.8 | 143°00' | 24.1 | 2511 | 2450 | 844 | 966 | | |
| 56 | 14269 | Winton No.2 | 65 | Winton | 22 ⁰ 30' | 8.1 | 143 ⁰ 00' | 3.0 | 4016 | 4010 | 617 | G295 - 9 | electric logs only | |
| 57 | | L.O.L. No.1 | 5 5 | Longreach | 23 ⁰ 30' | 4.8 | 144 ⁰ 00' | 24.9 | 3068 | 3068 | 712 | | Longreach Oil Ltd, logs only | electric |
| 5 8 | | L.O.L. No.2 | 55 | Longreach | 23 ⁰ 30' | 4.0 | 144°00' | 16.6 | 3224 | 3224 | 639 | | Longreach Oil Ltd, logs only | electric |
| 59 | | W.O.L. No.2 | 46 | Jundah | 24°30' | 5.5 | 142°30' | 17.9 | 5224 | 4570 | 7 82 | | Westland Oil Co. Lt electric logs only. | |
| 60 | | Q.O.D. No. 1 | 55 | Maneroo | 24°00' | 21.6 | 143°30' | 30.5 | 2520 | _ | 660 | The second secon | Queensland Oil Deve Co. Ltd., not logge | |
| | | | | (b) el | Levations | by barome | etric leve | lling. | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | .,, | | | |
| | | | | | | | | | | | | | C | 16-IQ-I |

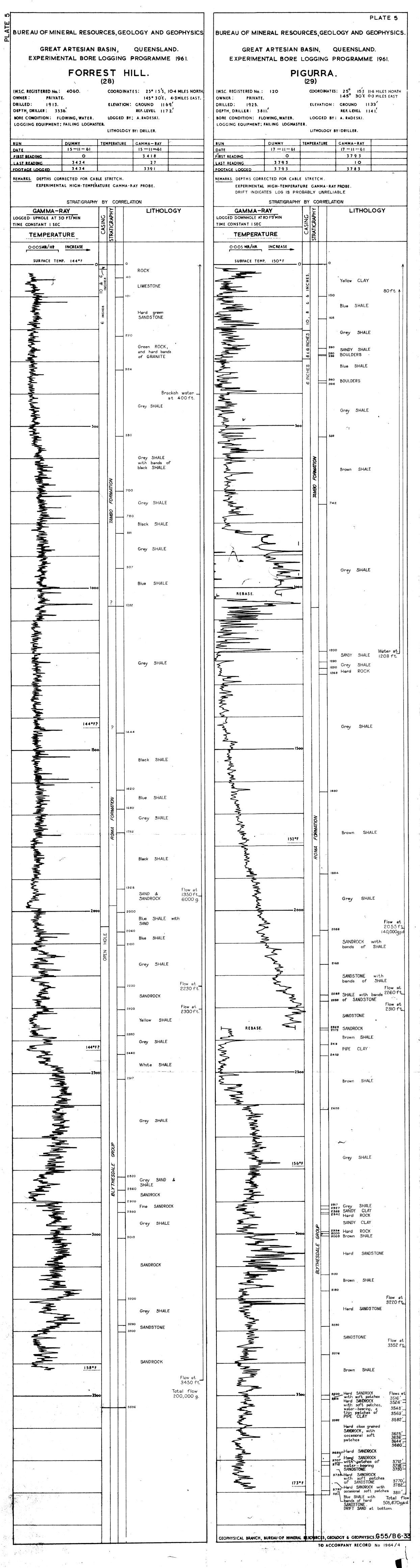






| GREAT ARTESIA | SOURCES, GEOLOGY AND GEOR IN BASIN, QUEENSLAND. RE LOGGING PROGRAMME 19 | GREAT ARTESI | ESOURCES, GEOLOGY AND GEOPHYS IAN BASIN, QUEENSLAND. ORE LOGGING PROGRAMME 1961. |
|--|--|--|---|
| WELL | SHOT No. 8. | MIC | DDLE PARK. |
| S.C. REGISTERED No.: 4897. /NER: PRIVATE. ILLED: 1918. PTH, DRILLER: 3814. PER CONDITION: PUMPED, WATER OGGING EQUIPMENT: FAILING LOC | COORDINATES: 24° 00′ 21·5 M 144° 00′ 27·6 M ELEVATION: GROUND 837.′ REF. LEVEL 837.′ LOGGED BY; A. RADESKI. MASTER. LITHOLOGY BY: DRILLER. | DRILLED: 1910. DEPTH, DRILLER: 3000. | COORDINATES: 25° 00' 24-6 MILES IN 145° 30' 6-9 MILES IN 145° 30' 6-9 MILES IN 145° REF. LEVEL 998'. TER. LOGGED BY: A. RADESKI. |
| N DUMMY TE I — II — 6 RST READING O ST READING 3 7 6 9 | 3765 | RUN DUMMY DATE 20-11- FIRST READING 0 LAST READING 3018 | 27 0'5 |
| OTAGE LOGGED 3769 MARKS. DEPTHS CORRECTED FOR | CABLE STRETCH. IPERATURE GAMMA- RAY PROBE. | FOOTAGE LOGGED 3018 REMARKS. DEPTHS CORRECTED FOR | 26'8 8 |
| GAMMA-RAY GGED UPHOLE AT 30 FT/MIN | APHY BY CORRELATION LITHOLOGY | GAMMA-RAY LOGGED UPHOLE AT 30 FT/MIN | GRAPHY BY CORRELATION LITHOLOGY |
| TEMPERATURE 0.005MR/HR INCREASE | CASING STRATICRAPHY LIGHT | TEMPERATURE 0.005 MR/HR INCREASE | CASING CASING STRATIGRAPHY A STRATIGRAPHY |
| SURFACE TEMP. 141°F | SUBSOIL Yellow CLAY | SURFACE TEMP. 138 °F | O ALLUVIAL A Rotten ROCK Yellow CLAY CLAY |
| | 78 Hard yellow SANDS 92 Yellow CLAY Blue SHALE | TONE 85ft | SANDY CLAY Grey SHALE |
| | 132 Hard SANDROCK 135 Blue SHALE SANDY SHALE Salt 500 at 210 | 190 ft | Black CLAYEY SHALE |
| | 230 | A Mary May | Dark grey SHALE 239 Grey CLAYEY SHALE 284 |
| A CANAL CANA | Narrow seams water of SAND STONE 310 and SHALE | | Light grey SHALE |
| | Blue SHALE 475 Hard SANDSTONE | Maryhan | Grey CLAYEY SHALE |
| | Blue SHALE 523 | Mary Army Mary Mary Mary Mary Mary Mary Mary Mar | 500 |
| | Blue SHALE | | Black CLAYEY SHALE 626 Rotten ROCK 636 Blue SHALE 626 GEAN |
| Water to the second sec | 743 | | Grey SHALE Light grey SHALE |
| | 743 746 Hard ROCK | The state of the s | Dark grey SHALE |
| The state of the s | FORMATIONS | Myster March | Light grey CLAYEY SHALE |
| A CONTRACTOR OF THE PARTY OF TH | DOOO DAN WINTON | MAN | Dark grey SHALE |
| Mark Mark | TAMBO AN | Manhaman | Dark grey CLAYEY SHALE 1034 Dark CLAYEY SHALE |
| AND THE PROPERTY OF THE PARTY O | | Management | Hard grey ROCK Dark CLAYEY SHALE |
| | Grey SHALE | AND THE PARTY OF T | Dark CLATET SHALE 1205 Dark&grey SHALE |
| 173° | · 2 | MA MARINA | Dark CLAYEY SHALE |
| | | Market Ma | 1439 SANIDDOCK Water |
| | 1500 | | SANDY PIPECLAY SANDY PIPECLAY SANDY PIPECLAY SANDY PIPECLAY SANDY PIPECLAY |
| | | | 1547 CLAY & SAND 154 1557 SAND & PIPECLAY 1575 1575 Grey CLAY |
| | 1684 | | |
| | Brittle black SHAL | | White & Grey CLAY |
| the father the | | WATER STATE OF THE | 1865 Light grey SANDY 1877 CLAY 1893 Grey CLAY |
| | 710N | | Light grey CLAY Light grey SANDY CLAY |
| The state of the s | Grey SHALE | | SANDY PIPECLAY 2027 SANDY CLAY 2020 & SANDROCK |
| | | | Grey & black CLAYEY SHALE CLAYEY SHALE SANDY PIPECLAY Grey CLAYEY SHALE SANDY CLAY 2123 SANDY CLAY |
| | INCHES | | Grey CLAYEY SHALE 2203 Grey, brown & white CLAY Grey & white SANDY CLAY |
| | Ly Water | | SANDY CLAY 2262 PIPECLAY & grey 2290 SANDY CLAY 2300 PIPECLAY 2313 Grey SANDY SHALE 2314 SANDROCK |
| | 2335 Water 2335 | | 2388 2402 Dark grey & brown SHALE Blue & brown SANDY CLAY |
| | 1500 Hard SANDSTONE | | SANDY CLAY 2445 Blue SANDY CLAY 2460 Blue SANDY CLAY SANDY PIPECLAY |
| | | | 2535 SANDROCK 25 2550 SANDY PIPECLAY 255 2565 Tough CLAY 256 SANDROCK |
| 18 | 2645 Brown SHALE 2665 With COAL 2677 SANDSTONE Chocolate SHALE | | Hard SANDSTONE |
| 18 | Chocolate SHALE | OBSTRUCTION @ 2705' | PIPECLAY & bands of SANDSTONE 2734 2734 SANDROCK 2783 27 |
| | Hard grey SHALE | | Hard SANDSTONE 2825 28 QUARTZY SANDROCK |
| | | c at _ | Z 2675 28 |
| ₹ | 2960 Wat 290 SANDSTONE 3029 | O ft. 156 ° F | -3000 3000 Total fic |
| | Hard SANDY SH | LE | |
| | 3166 QUARTZITE | | |
| | Hard SANDSTON 3274 Hard grey ROCK | | |
| | SANDY SHALE 33 | | |
| | SANDSTONE 3418 Black SHALE 3436 Black SHALE | | |
| | Black SHALE | | 3500 |
| | Bands of SANDSTONE and SHALE | low at | |
| | Very hard SANDSTONE with narrow soft seams Light coloured | 670 ft J | |
| 20 | CLAY SLATE 3775 Dark coloured 3785 CLAY SLATE Hard ROCK | | |
| | | | |

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BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS. GREAT ARTESIAN BASIN, QUEENSLAND. GREAT ARTESIAN BASIN, EXPERIMENTAL BORE LOGGING PROGRAMME 1961. EXPERIMENTAL BORE LOGGING PROGRAMME 1961. LANSDOWNE No. 5. (32)(33)I.W.S.C. REGISTERED No.: 3339. COORDINATES: 25° 15'S, 14.9 MILES NORTH I.W.S.C. REGISTERED No.: 5013. 146° 00'E, 17.9 MILES EAST. OWNER: PRIVATE. OWNER: PRIVATE -DRILLED: 1915. ELEVATION: GROUND DRILLED: 1935. DEPTH, DRILLER: 4013. REF. LEVEL 1384. DEPTH, DRILLER: 3185. BORE CONDITION: PUMPED, WATER. BORE CONDITION: FLOWING, WATER. LOGGED BY: A. RADESKI. LOGGING EQUIPMENT: FAILING LOGMASTER. LOGGING EQUIPMENT: FAILING LOGMASTER. LITHOLOGY BY: DRILLER. RUN DUMMY TEMPERATURE GAMMA-RAY RUN DUMMY 25-10-61 25-10-61 DATE DATE 24-10-61 FIRST READING 0 3053 . 0 FIRST READING 3062 LAST READING 19 3189 LAST READING 3062 30 3 4 FOOTAGE LOGGED FOOTAGE LOGGED 3189 REMARKS. DEPTHS CORRECTED FOR CABLE STRETCH. STRATIGRAPHY BY CORRELATION STRATIGRAPHY STRATIGRAPHY GAMMA-RAY LITHOLOGY GAMMA-RAY CASING LOGGED UPHOLE AT 30 FT/MIN LOGGED UPHOLE AT 30 FT/MIN TIME CONSTANT I SEC TIME CONSTANT I SEC **TEMPERATURE TEMPERATURE** O-OI MR/HR O.OI MR/HR INCREASE _ 120°F 125°F 130°F 135°F SURFACE TEMP. 131°F ,6,5 & 4 ROCK, blue SHALE 40ft. Blue SHALE 0 0 Blue & grey SHALE 4 8 Grey SHALE, ROCK 5 ق 222 236 Grey SHALE, SAND Ø 8 Grey SHALE FORM. 327 INCHES MATION Blue SHALE 9 య 0 ∞ FOI TAM Grey SHALE TAMBO Blue SHALE NCHES Blue SHALE, SAND 7411t 752 Rock, blue SHALE Blue SHALE Jan May Mand Mand May and John Sang SAND, PIPECLAY brown SHALE Sticky PIPECLAY FORMATION Grey SHALE 1163 FORMATION ROMA Chocolate SHALE ROMA SAND, brown SHALE PIPECLAY Grey SHALE Grey SHALE, SAND SAND, PIPECLAY Brown SHALE, hard, Streaky

Chocolate SHALE

PIPECLAY &

Brown SHALE

Grey SHALE

2403 Streaks of SAND

Brown SHALE

Grey SHALE

Brown SHALE

Sticky PIPECLAY

Sticky PIPECLAY hard SANDSTONE

Hard SANDSTONE

Hard SANDSTONE Streaks of PIPECLAY

Brown & Grey SHALE

Brown SHALE, SAND

Brown, Chololate SHALE

Chocolate SHALE,

SAND & PIPECLAY

3204 Blue SHALE, SANDSTONE

Grey SHALE & SAND

3143 Grey SHALE 3149 Grey SHALE & ROCK

3306 Rock, blue SHALE

SANDSTONE

Brown SHALE

Brown SHALE.

SAND

3182 Grey SHALE

3268 PIPECLAY

3286

3088

2246 SANDSTONE

2376 Grey SHALE

SANDSTONE

2047

5300

2440

2606

SZ

GROUP

BLYTHESDALE

150°F

GREENDALE No.3. COORDINATES: 24° 30'S 17-8 MILES NORTH 146° OOE 8.5 MILES EAST ELEVATION: GROUND 1320' REF. LEVEL 1320 LOGGED BY: A. RADESKI. LITHOLOGY BY: DRILLER. TEMPERATURE GAMMA-RAY 24-10-61 24-10-61 3 1 8 3 3183 20 13 3170 3163 REMARKS. DEPTHS CORRECTED FOR CABLE STRETCH. STRATIGRAPHY BY CORRELATION LITHOLOGY Black SOIL Brown CLAY 20 Grey SANDY CLAY Grey SHALE ROCK Grey SANDY SHALE 300 Grey SHALE 504 Grey SANDY SHALE 765 Grey SHALE 910 Grey Sticky SHALE Grey SANDY SHALE 1220 Light Grey SANDY SHALE Porous SANDSTONE 1488 SANDSTONE Porous SANDSTONE SANDSTONE 1560 SANDY FORMATION & DRIFT White SANDY SHALE 1720 Tough Chocolate SHALE 1777 Grey SHALE 1827 Tough brown SHALE 1860 Tough grey SHALE Grey SANDY SHALE Blue SANDSTONE Blue Sticky SANDY CLAY 2028 DRIFT SAND 2047 ROCK SANDSTONE 2084 Tough brown SHALE 2084 SANDSTONE 2186 Hard grey SHALE SANDY FORMATION 2296 Grey SHALE water at 2340 ft. SANDY FORMATION 2373 2383 Hard grey SHALE **BLYTHESDAL** SANDSTONE 2436 WATER SAND (DRIFT) Grey SANDSTONE Water at 2513 Grey SANDY SHALE 2530 SAND ROCK 2552 SANDSTONE Brown SHALE 2576 Brown SANDSTONE 2659 2673 DRIFT SAND SANDSTONE 2729 Tough brown SHALE Grey Sticky SHALE Chocolate SHALE 2855 Brown SANDSTONE & COAL DRIFT SAND Flow at 2891 ft_ 2891 Hard brown SHALE DRIFT SAND water at 2934 ft_ 2934

Grey SHALE

Brown SHALE

DRIFT SAND;

Pink SHALE 3125 Red SHALE

TO ACCOMPANY RECORD No 1964/4

hard layers

Grey heaving SHALE

3017

3185

GEOPHYSICAL BRANCH, BUREAU OF MINERAL RESOURCES, GEOLOGY & GEOPHYSICS. G 55/B6-35

Flow at

109,750 g.p.d.

PLATE 7

QUEENSLAND.

GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

TERRICK-TERRICK FLOCK. (34)

I.W.S.C. REGISTERED No.: 14479 OWNER:

DEPTH, DRILLER: 2025!

DRILLED: 1961.

PRIVATE.

BORE CONDITION: PUMPED ?, WATER

LOGGING EQUIPMENT: FAILING LOGMASTER.

COORDINATES: 25 °00'S, 6.4 MILES NORTH 145°00'E, 5.3 MILES EAST.

ELEVATION: GROUND 1000 APPROX

REF. LEVEL "

LOGGED BY: A. RADESKI.

| ITHOLOGY | BY: | DRILLER. | |
|----------|-----|----------|--|
| | | | |

| RUN | DUMMY | TEMPERATURE | GAMMA-RAY | |
|----------------|----------|-------------|-----------|--|
| DATE | 18-10-61 | | 18-10-61 | |
| FIRST READING | 0 | 1 | 2012 | |
| LAST READING | 2015 | , N | 10 | |
| FOOTAGE LOGGED | 2015 | | 2002 | |

| GAMMA-RAY | T | <u>></u> | | | LITHOLOGY |
|--|--------|--------------|---|----------------------|---|
| GGED UPHOLE AT 30 FT/MIN | CASING | STRATIGRAPHY | | | |
| TEMPERATURE | S | TRATI | | | |
| O-OO5 MR/HR INCREASE | | 05 | | | |
| | - | | | 0 3 | Black SOIL |
| | | | | 14 | Yellow SANDSTONE Yellow SANDSTONE |
| | | | | 80 | CLAY |
| *** | | - | | 104 | |
| | , | | | | SANDY MUDSTONE |
| - War and the same of the same | | | | | |
| | | | | 253 | Grey SANDY SHALE |
| \rightarrow | - | | | 296 | SANDSTONE 450 |
| | | 1 | | GLO | |
| | | | | | |
| No. | | | | | Grey MUDSTONE |
| * | | | | | |
| \$ | 000 | | | | |
| | | | | 565 | |
| E | _ | | | | SANDY MUDSTONE |
| | | | | 625 | |
| | | | | | MUDDY SANDSTONE |
| \$ | | | | 720 | |
| | | | | 799 | SANDY MUDSTONE |
| W. | | | | | Grey MUDSTONE; |
| | | | | 860 | |
| } | | | | | Grey MUDSTONE, CO |
| | | | | | SHALE, SANDY PATCH |
| 10 | 000 | TION | | 1022 | |
| | | FORMATION | ٠ | 1070 | Grey MUDSTONE, CO SHALE, SANDSTONE |
| - | - | | | | Grey MUDSTONE, band COAL, SHALE & SAND PATCHES. |
| * | | WINTON | | 1124 | Hard SANDSTONE MUDSTONE Hard SAND STONE |
| 5 | | | | 1187 | MUDSTONE Hard SANDSTONE |
| * | | | | 1217 | MUDSTONE MUDSTONE |
| | | | | 1500 | Soft SANDSTONE |
| 3 | 1 | | - | | |
| 3 | | | | | Grey MUDSTONE |
| ** ** ** ** ** ** ** ** | + | | | | |
| 3 | | | | | |
| | 500 | | | 1473 | Grey MUDSTONE, |
| 3 | 8 | | | | COAL SEAMS. |
| 3 | | | | 1566 | Grey MUDSTONE, ROSEAMS |
| | | | | | Brown & grey MUDSTONE.COAL & |
| | | | | | SAND PATCHES. |
| | - | | | 1700 1715 1731 | Brown MUDSTONE MUDSTONE & LIMESTON |
| ** | | | | 1770 | Brown & grey & hard MUDSTONE. SANDY MUDSTONE |
| = | | | | 1785 | MUDSTONE; ROCK |
| 3 | | | | 1845 | SEAMS . MUDDY SANDSTONE . |
| 3 | | | | 1869 | SANDSTONE |
| 3 | | | | 1931 | Grey SANDSTONE. MUDDY SANDSTONE. |
| - | | | | 1958 | SANDY MUDSTONE. SANDSTONE. |

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS.

GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

DARTMOUTH.

(35)

I.W.S.C. REGISTERED No.: 4891.

BORE CONDITION: FLOWING, WATER

LOGGING EQUIPMENT; FAILING LOGMASTER.

DEPTH, DRILLER: 2639.

OWNER: PRIVATE.

DRILLED: 1894.

COORDINATES: 24000' 17.6 MILES NORTH 144° 30' 6.6 MILES EAST

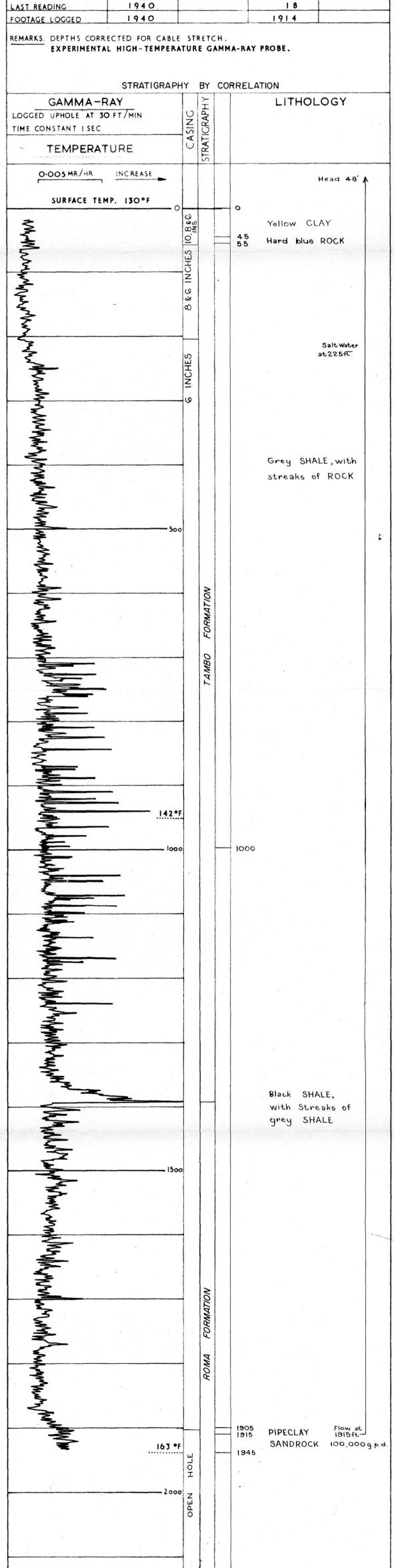
ELEVATION: GROUND 913'

REF. LEVEL 920.

LOGGED BY: A. RADESKI.

LITHOLOGY BY: DRILLER.

| RUN | DUMMY | TEMPERATURE | GAMMA-RAY | |
|----------------|----------|-------------|-----------|---|
| DATE | 31-10-61 | | 31-10-61 | , |
| FIRST READING | 0 | | 1932 | |
| LAST READING | 1940 | | 1.8 | |
| FOOTAGE LOGGED | 1940 | | 1914 | 7 |



GEOPHYSICAL BRANCH, BUREAU OF MINERAL RESOURCES, GEOLOGY & GEOPHYSICS G 55/B 6-36

TO ACCOMPANY RECORD No 1964/4

GREAT ARTESIAN BASIN. QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

RAND. (37)

I.W.S.C. REGISTERED No.: 1926.

1898.

DEPTH DRILLER: 2760.

PRIVATE.

OWNER:

DRILLED:

COORDINATES: 23°15'S, 9-2 MILES NORTH.

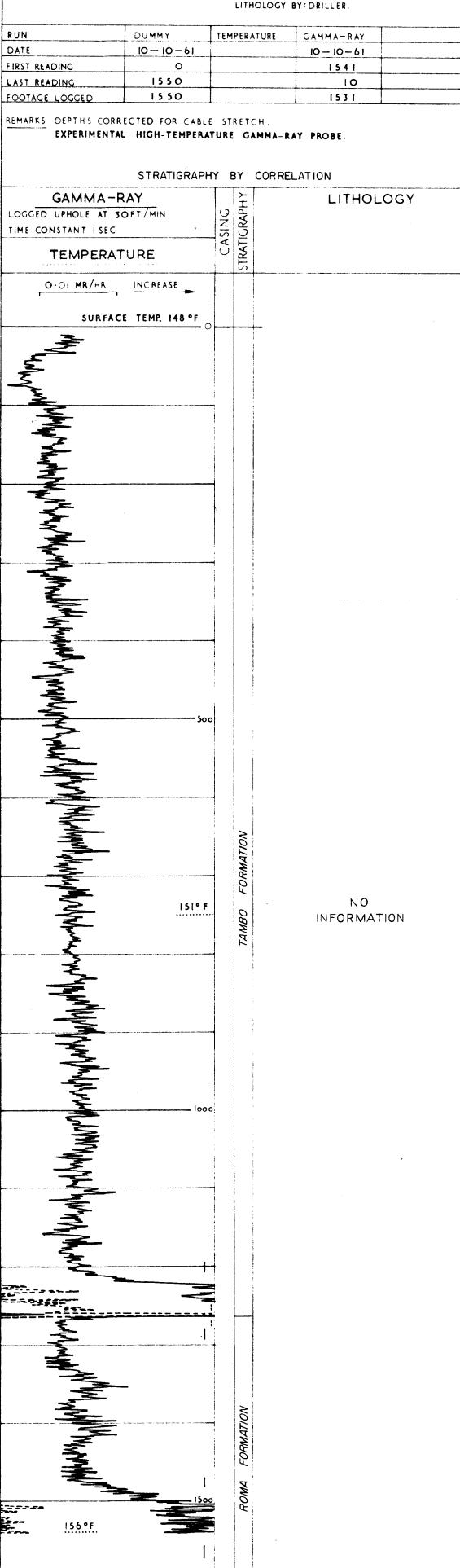
144 ° 30'E, 7.3 MILES EAST. ELEVATION: GROUND 7.59.

REF LEVEL 759.

BORE CONDITION: FLOWING, WATER. LOGGED BY: A RADESKI LOGGING EQUIPMENT; FAILING LOGMASTER.

LITHOLOGY BY: DRILLER.

| RUN | DUMMY | TEMPERATURE | CAMMA-RAY | |
|----------------|----------|-------------|-----------|--|
| DATE | 10-10-61 | | 10-10-61 | |
| FIRST READING | 0 | | 1541 | |
| LAST READING | 1550 | | 10 | |
| FOOTAGE LOGGED | 1550 | | 1531 | |



GEOPHYSICAL BRANCH, BUREAU OF MINERAL RESOURCES, GEOLOGY & GEOPHYSICS G 55/B6-37

TO ACCOMPANY RECORD No 1964 / 4

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

BLACKALL TOWN. (36)

I.W.S.C. REGISTERED No.: 14588 OWNER: TOWN.

DRILLED: 1961.

DEPTH, DRILLER: 1482.

COORDINATES: 24°30'S, 4.3 MILES NORTH

145 ° 00'E, 29.4 MILES EAST.

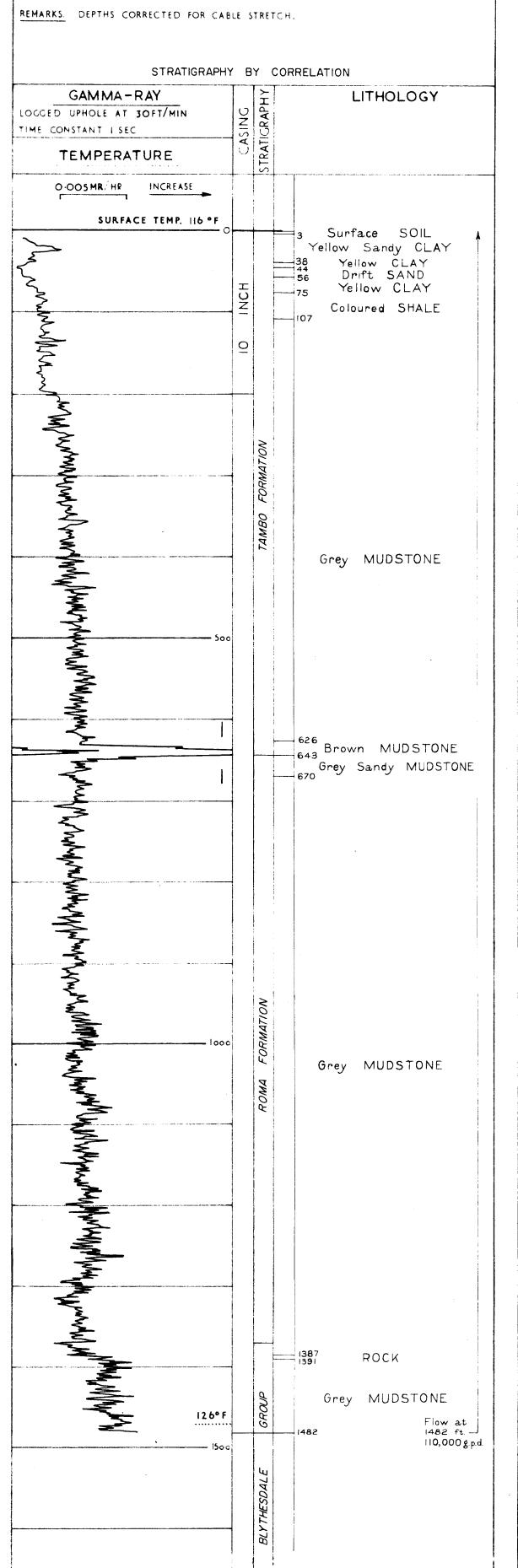
ELEVATION: GROUND 935. REF. LEVEL 938.

BORE CONDITION: FLOWING, WATER LOGGING EQUIPMENT: FAILING LOGMASTER.

LITHOLOGY BY: DRILLER.

LOGGED BY: A RADESKI

| <u> </u> | | | | |
|----------------|---------|-------------|-------------|--|
| RUN | DUMMY | TEMPERATURE | GAMMA - RAY | |
| DATE | 4-10-61 | | 4-10-61 | |
| FIRST READING | . 0 | • | 1481 | |
| LAST READING | 1482 | | 10 | |
| FOOTAGE LOGGED | 1482 | | 1471 | |



GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

SPRINGLEIGH. (38)

IWSC. REGISTERED No.: 3489.

COORDINATES: 25°00'S, 29.4 MILES NORTH

144° 30'E, 14.9 MILES EAST.

OWNER: PRIVATE. ELEVATION: GROUND 968. DRILLED: 1921. REF. LEVEL 969. DEPTH, DRILLER: 7009.

BORE CONDITION: FLOWING, WATER. LOGGED BY: A RADESKI.

LOGGING EQUIPMENT; FAILING LOGMASTER.

LITHOLOGY BY: DRILLER.

| RUN | DUMMY | TEMPERATURE | GAMMA - RAY | |
|----------------|----------|-------------|-------------|--|
| DATE | 19-10-61 | | 19-10-61 | |
| FIRST READING | 0 | | 1101 | |
| LAST READING | 2136 | | 10 | |
| FOOTAGE LOGGED | 2136 | | 1091 | |

REMARKS. DEPTHS CORRECTED FOR CABLE STRETCH.

| | · | T: | |
|--------------------------------------|-----------------|--------------|----------------------------|
| GAMMA-RAY LOGGED UPHOLE AT 30 FT/MIN | \ ₍₂ | PHY | LITHOLOGY |
| TIME CONSTANT SEC | CASING | GRA | |
| TEMPERATURE | 5 | STRATIGRAPHY | |
| | - | ST | |
| O-O 2 5 MR/HR INCREASE | | | |
| SURFACE TEMP. 121°F | | | |
| 2 | Z | | 10 5UBSOIL |
| | 938'0 | | |
| | Ť | | Yellow CLAY |
| | INCHES. | | |
| | NZ. | | Blue SHALE |
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| | 80 | | |
| | | | Grey SANDROCK |
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| 500 | | | 500 |
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| | INCHES | | Grey SHALE |
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| | 9 | FORMATION | 600 |
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| | | 8 | Rotten SANDROCK |
| | 1 | WINTON | 700 |
| | | Z | Chocolate SHALE |
| \$ | | | Grey SHALE |
| | | | 800 |
| | | | Chocolate SHALE |
| \$ | | | 860 |
| \frac{\frac{1}{2}}{2} | | | |
| <u> </u> | | | Grey SHALE |
| | | | |
| *** | | | Chocolate SHALE |
| 1000 | | | 1000 |
| | | | Grey SHALE |
| | | | 1050 Black SHALE with COAL |
| <u> </u> | - | | Chocolate SHALE |
| TEMP. LIMIT OF PROBE. [49°F | | | |
| ********** | | | |
| 177°F @ 2126 | | | Grey SHALE |
| | | | |
| | | - | 1230 |
| | | | Chocolate SHALE |
| , | - | | Black SHALE with COAL |
| | | | 1310 |
| | | | |

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS.

GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

WOOLBROOK. (39)

IWSC. REGISTERED No.: 4253.

OWNER:

DRILLED:

COORDINATES: 23°30'S, 3-0 MILES NORTH.

PLATE 10

144 ° 3 0'E, 29 - 3 MILES EAST.

ELEVATION: GROUND 820 1911 ? DEPTH, DRILLER: 1440'? REF. LEVEL 820

BORE CONDITION: FLOWING, WATER. LOGGED BY: A. RADESKI. LOGGING EQUIPMENT: FAILING LOGMASTER.

PRIVATE.

LITHOLOGY BY: DRILLER.

| RUN | DUMMY | TEMPERATURE | GAMMA-RAY | |
|----------------|-------------|--------------|-------------|--|
| DATE | 12 - 10 -61 | TEISTERNIONE | F2 - 10 -61 | |
| FIRST READING | 0 | | 921 | |
| LAST READING | ? | | 20 | |
| FOOTAGE LOGGED | | | 901 | |

REMARKS. DEPTHS CORRECTED FOR CABLE STRETCH.

| GAMMA-RAY OGGED UPHOLE AT 30 FT/MIN TIME CONSTANT I SEC | CASING | STRATICRAPHY | LITHOLOGY , |
|--|--------|-------------------|----------------|
| TEMPERATURE | Ü | STRAI | |
| O-OI MR/HR INCREASE | | | |
| SURFACE TEMP. III°F | - | | |
| My Mary Mary Mary Mary Mary Mary Mary Ma | | TAMBO FORMATION | • |
| Zona de la companya d | | | ? |
| | INCHES | FORMATION | <i>NO</i> , |
| The state of the s | 5 1 | ROMA FOR | STRATA |
| * | | | |
| 500 | | | <i>DETAILS</i> |
| | | | i . |
| 12.3°F. | | BLYTHESDALE GROUP | |
| | | | |

GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

GLENUSK.

I.W.S.C. REGISTERED No.: 377.

COORDINATES: 24° 30'S, 13.8 MILES NORTH

OWNER:

OWNER: PRIVATE. DRILLED: 1904.

145° 3 0'E, 10-3 MILES EAST.

ELEVATION: GROUND 1044. DEPTH, DRILLER: 2384.

DRILLED: 1961.

BORE CONDITION: FLOWING, WATER.

REF. LEVEL 1044.

LOGGING EQUIPMENT; FAILING LOGMASTER.

LITHOLOGY BY: DRILLER.

LOGGED BY: A. RADESKI.

| RUN | DUMMY | TEMPERATURE | GAMMA-RAY | |
|----------------|---------|-------------|-------------|--|
| DATE | 5-10-61 | | 5 - 10 - 61 | |
| FIRST READING | 0 | | 1281 | |
| LAST READING | 1366 | | 10 | |
| FOOTAGE LOGGED | 1366 | | 12.71 | |

REMARKS. DEPTHS CORRECTED FOR CABLE STRETCH.

| STRATIGRAPI | łΥ | BY | CORRELATION |
|--|-----------------------------------|--------------------------------|-------------------------|
| GAMMA-RAY LOGGED UPHOLE AT 30 FT/MIN TIME CONSTANT I SEC TEMPERATURE | CASING | STRATICRAPHY | LITHOLOGY |
| O-OO5 MR/HR INCREASE | | S | |
| SURFACE TEMP. 112°F | | | |
| SURFACE TEMP. [112°F] | 8, 6, 6 5 INCHES, DEPTHS UNKNOWN. | ROMA FORMATION TAMBO FORMATION | NO STRATA DETAILS |
| OBSTRUCTION № 1280' 128°F@ 1355' | | BLYTHESDALE GROUP RO | Water at 1038 |

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS.

GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

NORTHAMPTON DOWNS. (41)

IMS.C. REGISTERED No.: 14579.

COORDINATES: 24° 30'S. 7.8 MILES NORTH.

145°30'E. 18.3 MILES EAST. ELEVATION: GROUND 1130'

PLATE II

DEPTH, DRILLER: 1124.

REF. LEVEL 1130'

BORE CONDITION: FLOWING, WATER.

LOGGED BY: A. RADESKI.

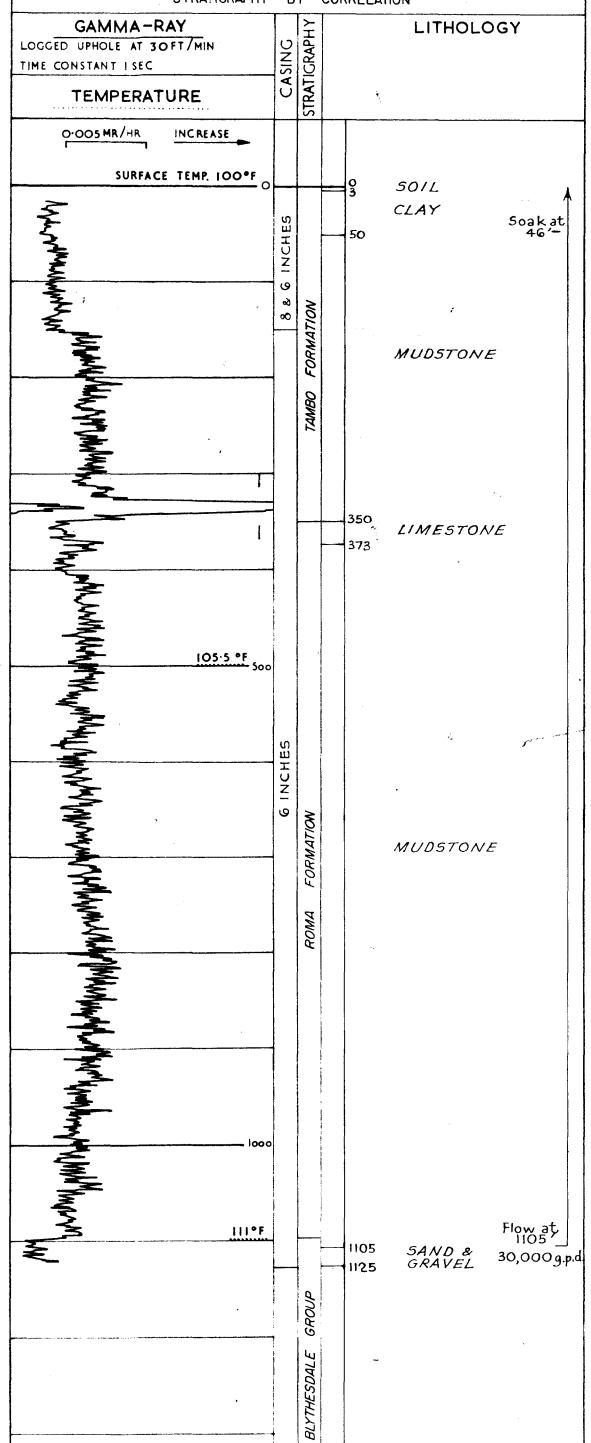
LOGGING EQUIPMENT: FAILING LOGMASTER.

LITHOLOGY BY: DRILLER.

| RUN | DUMMY | TEMPERATURE | GAMMA-RAY | |
|----------------|---------|-------------|-----------|--|
| DATE | 6-10-61 | | 6-10-61 | |
| FIRST READING | 0 | | 1121 / | |
| LAST READING | 1122 | | 15 | |
| FOOTAGE LOGGED | 1122 | | 1106 | |

REMARKS. DEPTHS CORRECTED FOR CABLE STRETCH.

STRATIGRAPHY BY CORRELATION



GEOPHYSICAL BRANCH, BUREAU OF MINERAL RESOURCES, GEOLOGY & GEOPHYSICS. G55/B6-38

TO ACCOMPANY RECORD No 1964/4

PLATE 12 BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS. BURE AU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS GREAT ARTESIAN BASIN, QUEENSLAND. GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961. EXPERIMENTAL BORE LOGGING PROGRAMME 1961. ADRIA DOWNS. BIRDSVILLE TOWN 26°00'S, 29.8 MILES NORTH. IWSC. REGISTERED No.: 13088. COORDINATES: COORDINATES: 26°00'S, 6.5 MILES MORTH IWSC. REGISTERED No.: 146 45. 138 ° 30'E, 30-6 MILES EAST. OWNER: 139°00'E 22 MILES EAST PRIVATE. OWNER : TOWN. ELEVATION: GROUND 235 ELEVATION: GROUND 161' DRILLED: DRILLED: 1957. 1961. DEPTH DRILLER: 3090 REF. LEVEL 235' REF. LEVEL 164 DEPTH, DRILLER: 4006' LOGGED BY: A. RADESKI. BORE CONDITION: FLOWING, WATER. BORE CONDITION: FLOWING, WATER. LOGGED BY: A. RADESKI. LOGGING EQUIPMENT: FAILING LOGMASTER. LOGGING EQUIPMENT: FAILING LOGMASTER. LITHOLOGY BY: DRILLER. LITHOLOGY BY: Delhi Aust, Pty. Ltd TEMPERATURE GAMMA-RAY DUMMY DUMMY TEMPERATURE GAMMA-RAY RUN RUN DATE 24-8-61 17-9-61 DATE FIRST READING 30 10 FIRST READING 3050 LAST READING LAST READING 3400 3020 3390 FOOTAGE LOGGED FOOTAGE LOGGED REMARKS. EXPERIMENTAL HIGH-TEMPERATURE GAMMA-RAY PROBE. REMARKS. EXPERIMENTAL HIGH-TEMPERATURE GAMMA-RAY PROBE. STRATIGRAPHY BY QUEENSLAND MINES DEPT STRATICRAPHY LITHOLOGY GAMMA-RAY GAMMA-RAY STRATIGRAPHY LITHOLOGY CASING CASING For more detailed lithological LOGGED DOWNHOLE AT SOFT / MIN LOGGED DOWNHOLE AT 70FT/MIN descriptions see:
Bore Hole Survey Report, Birdsville
Town Bore by J Harrison & W. J. Green
Delhi Aust. Pet. Ltd., 1961. TIME CONSTANT I SEC TIME CONSTANT I SEC **TEMPERATURE TEMPERATURE** INCREASE 0.005 MR/HR INCREASE _ 0.005 MR/HR SURFACE TEMP, 185 °F SURFACE TEMP. 209 °F Red SAND Yellow SANDSTONE TERTIARY White CLAY Hard ROCK Yellow SANDSTONE 60ft. Red and cream desert SANDS! Hard ROCK siliceous SANDSTONES DURI-CRUST, PORCELLANITE, and Yellow CLAY white, soft, silty CLAY. Water at _ RECENT Blue SANDSTONE 180 Blue SHALE Blue SANDSTONE PROBE STATIONARY IN BORE FOR A FEW MINUTES. INCHE Blue SHALE O ∞ Dark SHALE; seams of brown SHALE & COAL Dark SHALE 6 INCHES Sandy SHALE at 540 ft 560 Dark SHALE 720 Hard BAND 740 Dark SHALE 775 Hard BAND Dark SHALE $\overline{\Box}$ 900 903 Hard BAND Dark SHALE Grey, soft, partly silty carbonac-Hard BAND Dark SHALE --- ous SHALES and salt and pepper" Brown SHALE fine to coarse grained, argillac eous occasionally calcareous,
tight, carbonaceous SANDSTONE. Occasional very thin LIGNITE seams. Between 590 and
600 feet, grey, microcrystalline, 1050 Hard BAND 1052 Dark SHALE 1060 Hard BAND arenaceous LIMESTONE Dark SHALE FIRST INDICATION OF PROBE FAILURE? 1290 Soft SAND Dark SHALE Hard BAND Dark SHALE 1601 Hard BAND PROBE FAILED. Dark SHALE 1936 2166 Dark SHALE seams 2175 of white SHALE. Dark SHALE 2215 AMPLIFIER SENSITIVITY REDUCED. Brown SHALE 2320 Dark SHALE Monotonous sequence of grey SHALES, partly silty, with occasional bands of brown, micro---- crystalline to medium crystalline, argillaceous to arenaceous, dense --- argillaceous to arenaceous, dense
--- LIMESTONE. Inoceramus prisms
---- and shell fragments frequent
---- throughout unit. Grey SHALE 2534 Brown SHALE 2545 Grey SHALE 2554 Grey SHALE 2570 Brown SHALE Grey & Brown SHALE; 2590 Hard BAND 2600 Sandy grey SHALE 2626 Grey SHALE Dark SHALE FIRST INDICATION OF PROBE FAILURE.? Dark brown SHALE 2916 Brown SHALE 2934 Dark brown SHALE Dark brown to grey silty, very calcareous, pyritic SHALE with organic material and abundant remains in form of scal spines and plates. White brown medium crystalli dense pyritic LIMESTOI with inoceramus prisms shell fragments. very calcareous, pyritic material and abundant fish 3000 Brown SHALE HOLE remains in form of scales, spines and plates. White to brown medium crystalline, OPEN dense pyritic LIMESTONE Flow at 3080 ft -3073 Sandy SHALE 3080 SANDSTONE with inoceramus prisms and 321,820gpd Predominantly dark grey, fissile, splintery, hard, micacoous SHALES with very occasional thin beds (2 feet) of grey - green, fine grain PROBE FAILED. ed argillaceous, glauconitic, tight SANDSTONE. Some Inoceramus prisms and shell fragments. 3691 Flow between 3840-4000 ft. 770,000 g.p.d GEOPHYSICAL BRANCH, BUREAU OF MINERAL RESCURCES, GEOLOGY & GEOPHYSICS. G 5 4/B 6-4 TO ACCOMPANY RECORD No 1964/4

PLATE 13

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

FULLERTON.

IWSC. REGISTERED No.: 1450. OWNER :

COORDINATES: 23° 30'S, 10-6 MILES NORTH

PRIVATE. DRILLED: 1898,

144° 3 O'E , 14· 5 MILES EAST.

DEPTH, DRILLER: 2320

ELEVATION: GROUND 804. REF. LEVEL 804.

BORE CONDITION: PUMPED, WATER. LOGGED BY: A RADESKI.

LOGGING EQUIPMENT; FAILING LOGMASTER.

LITHOLOGY BY: DRILLER.

| RUN | DUMMY | TEMPERATURE | GAMMA-RAY | |
|----------------|---------|-------------|-------------|---|
| DATE | 29-9-61 | | 29 - 9 - 61 | |
| FIRST READING | 0 4 | | 2002 | • |
| LAST READING | 2281 | | 26 | |
| FOOTAGE LOGGED | 2281 | | 1976 | |
| | | | | |

| STRATIGRAP GAMMA-RAY | | · · · | LITHOLOGY |
|--|--|--------------|-------------------|
| DGGED UPHOLE AT 30 FT/MIN | CASING | STRATIGRAPHY | |
| TEMPERATURE | Š | TRATI | |
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| SURFACE TEMP. 134°F | | | |
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BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS.

GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

BALMORAL.

I.W.S.C. REGISTERED No.: 1456.

OWNER: PRIVATE.

COORDINATES: 23.30's, 16.7 MILES NORTH.

144° 30'E, 6-1 MILES EAST.

ELEVATION: GROUND 707' DRILLED: 1913. DEPTH, DRILLER: 1385. REF. LEVEL 707

BORE CONDITION: FLOWING, WATER LOGGED BY: A. RADESKI. LOGGING EQUIPMENT: FAILING LOGMASTER.

LITHOLOGY BY: DRILLER.

| RUN | DUMMY | TEMPERATURE | GAMMA-RAY | |
|----------------|---------|-------------|-----------|--|
| DATE | 27-9-61 | | 27-9-61 | |
| FIRST READING | 0 | | 1141 | |
| LAST READING | 1166 | | 15 | |
| FOOTAGE LOGGED | 1166 | | 1126 | |

REMARKS DEPTHS CORRECTED FOR CABLE STRETCH.

| GAMMA-RAY LOGGED UPHOLE AT 30 FT/MIN TIME CONSTANT I SEC | SING | STRATICRAPHY | | LITHOLOGY |
|--|--------------------------------------|---------------------------------------|---|--|
| TEMPERATURE | O'A' | TRATI | | • |
| COOSMR/HR INCREASE | | | | |
| SURFACE TEMP. 124 °F | 0 | | | 0 |
| ም ጌ | 0.0 8,8 | | - | Yellow CLAY; bars of ROCK and |
| * E | 88 N N N | | - | BOULDERS |
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| OBSTRUCTION 1144' | • F | 77700 | | SANDSTONE Water flo at 1165 f |
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GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

SANDRINGHAM No. 4. (46)

IWSC. REGISTERED No. :

COORDINATES: 24° 15 S, 12.2 MILES NORTH

OWNER: PRIVATE.

139 OO'E, 11 2MILES EAST.

DRILLED: 1916. DEPTH, DRILLER: 775' ELEVATION: GROUND 331 REFILEVEL 331

BORE CONDITION: FLOWING, WATER- LOGGED BY: A. RADESKI.

LOGGING EQUIPMENT: FAILING LOGMASTER.

LITHOLOGY BY: DRILLER.

| | · · · · · · · · · · · · · · · · · · · | | | |
|----------------|---------------------------------------|-------------|-------------|---|
| RUN | DUMMY | TEMPERATURE | GAMMA - RAY | |
| DATE | 6-9-61 | | 6-9-61 | |
| FIRST READING | 0 | | 460 | |
| LAST READING | 461 | | 1.5 | • |
| FOOTACE LOCCED | 461 | | 445 | |

REMARKS. DEPTHS CORRECTED FOR CABLE STRETCH.

STRATIGRAPHY BY CORRELATION

| GAMMA-RAY LOGGED UPHOLE AT 30 FT/MIN TIME CONSTANT I SEC TEMPERATURE O-OOSMR/HP INCREASE | CASING | STRATICRAPHY | LITHOLOGY |
|--|--------------|--------------------------------|---|
| SURFACE TEMP. 108 °F O | 6 & B INCHES | ROMA FORMATION TAMBO FORMATION | No information |
| | | | Water at 710 ft Flow 714,000 gp.d |

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GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

BREADALBANE No. 9. (47)

I.W.S.C. REGISTERED No.: 1668.

COORDINATES:

24*00'S, 4-7 MILES NORTH

OWNER: PRIVATE. 139° 30'E, 5.1 MILES EAST.

DRILLED: 1919.

ELEVATION: GROUND 360'

DEPTH, DRILLER: 780

REF. LEVEL 360

BORE CONDITION: STANDING, WATER. LOGGING EQUIPMENT: FAILING LOGMASTER.

LITHOLOGY BY: DRILLER.

LOGGED BY: A. RADESKI.

| | | | | . 1 |
|----------------|----------|-------------|-----------|-----|
| RUN | DUMMY | TEMPERATURE | GAMMA-RAY | |
| DATE | 5 - 9 61 | | 5-9-61 | |
| FIRST READING | 0 | | 657 | |
| LAST READING | 7 2 | | 15 | |
| ECOTAGE LOGGED | 712 | | 642 | |

REMARKS, DEPTHS CORRECTED FOR CABLE STRETCH.

STRATIGRAPHY BY CORRELATION

| | T- | | Γ | <u></u> |
|---------------------------------------|--------------|--------------|------|--|
| GAMMA-RAY | | Ŧ | | LITHOLOGY |
| LOGGED UPHOLE AT 30 FT/MIN | 19 | \$ | | |
| TIME CONSTANT I SEC | CASING | Q | | *** |
| TEMPERATURE | V | STRATICRAPHY | | • |
| O-OO5MR/HR INCREASE | | | | |
| SURFACE TEMP. 86°F | | | | O CLAY |
| | 856 IN | | _ | 1 15 HARD ROCK |
| | 3 | _ | | Red & yellow CLAY & GRAVEL Sait water at 55 ft. |
| | | 0 | - | at 55 ft. (Soak) |
| | INCHES. | FORMATION | | (30&K) |
| | Z | F | | Blue SHALE |
| | 9 | TAMBO | | Brackish Water |
| | | | | Black SAND et 196 ft — Black SHALE & Flow 2000 gpd |
| | 4 | | | SAND mixed |
| | | | | Blue SHALE |
| | | <i>\</i> \ | | Side Strates |
| <u></u> | | 47/ON | ĺ | |
| | | 377 | | |
| | | FORM | | 465 ROCK |
| | | 1 | | |
| 500 | | ROMA | | Blue SHALE |
| | | 12 | _ | 528 ROCK |
| | | | | Black SHALE & 555 green SAND 556 ROCK |
| | | | | SSE ROCK |
| - | | | _ | Black SHALE |
| | 1 | | | Black SHALE & black SAND |
| | | 1 | | |
| | | ļ | | Black SHALE 1500 and |
| OBSTRUCTION AT 661 | | 1 | = | 1655 White SAND water at 670 ft |
| 102 °F | Zw | | | soo gpd. Increase |
| | OPEN HOLE | | | |
| CCODUVERCAL BRANCH BUREN OF ANNEXES | 1 | | | FOLLOW C. CEONWEIGE ES 4/DC O |
| GEOPHYSICAL BRANCH, BUREAU OF MINERAL | HE 50 | PRC | 15,0 | PROPERTY OF CHANGE STORY |

GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

BORE No.11 (48)

I.W.S.C. REGISTERED No. :

COORDINATES: 24° 30'S, 17.5 MILES NORTH

OWNER : PRIVATE

BORE CONDITION: FLOWING, WATER.

140 ° 00'E, 7.8 MILES EAST.

DRILLED: ? DEPTH, DRILLER : ? ELEVATION: GROUND 362'

REF. LEVEL 362"

LOGGED BY: A. RADESKI.

LOGGING EQUIPMENT: FAILING LOGMASTER.

LITHOLOGY BY: DRILLER.

| RUN | DUMMY | TEMPERATURE | GAMMA-RAY | |
|----------------|---------|-------------|-----------|--|
| DATE | 10-9-61 | | 10-9-61 | |
| FIRST READING | 0 | | 1346 | |
| LAST READING | 1351 | | 1.5 | |
| FOOTAGE LOGGED | 1351 | | 1331 | |

REMARKS. DEPTHS CORRECTED FOR CABLE STRETCH.

STRATIGRAPHY BY CORRELATION

| STRATIGRAPH | łΥ | BA | CORRELATION |
|---------------------|--|--------------|-------------|
| GAMMA-RAY | U | 4PHY | LITHOLOGY |
| TIME CONSTANT I SEC | CASING | STRATIGRAPHY | |
| TEMPERATURE | | STRA | |
| O-OOSMR/HR INCREASE | | | |
| SURFACE TEMP. 132°F | | | |
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GREAT ARTESIAN BASIN, QUEENSLAND. EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

BEDOURIE No. 2. (49)

I.W.S.C. REGISTERED No. : 316.

COORDINATES:

24° 30'S, 8.9 MILES NORTH. 139°00'E, 29.8 MILES EAST.

OWNER: TOWN.

ELEVATION: GROUND 300'

DRILLED: 1905. DEPTH, DRILLER: 1314

REF. LEVEL 307

BORE CONDITION: FLOWING, WATER. LOGGING EQUIPMENT: FAILING LOGMASTER.

LOGGED BY: A. RADESKI.

LITHOLOGY BY: DRILLER.

| RUN | DUMMY | TEMPERATURE | GAMMA-RAY | ξ |
|----------------|-----------|-------------|-----------|---|
| DATE | 29 - 8-61 | | 29 - 8-61 | |
| FIRST READING | 0 | | 1251 | |
| LAST READING | 1254 | | 30 | |
| FOOTAGE LOGGED | 1254 | | 1221 | |

REMARKS. DEPTHS CORRECTED FOR CABLE STRETCH. LARGE FLUNCTUATIONS OF THE GAMMA LOG MAY SUGGEST IT IS UNRELIABLE

STRATIGRAPHY BY CORRELATION

| STRATIGRAPHY BY CORRELATION | | | | | |
|--|--------|--------------|----------------|--|--|
| GAMMA-RAY | | <u>></u> | | LITHOLOGY | |
| LOGGED DOWNHOLE AT40FT/MIN | U | STRATICRAPHY | | 2111132331 | |
| TIME CONSTANT I SEC | CASING | SE | | 4 | |
| TEMPERATURE | A | ATK | ke. | | |
| TEMPERATURE | | STR | | | |
| O-OO5MR/HR INCREASE | | | | + 310' 1 | |
| , | | | | , 510 | |
| SURFACE TEMP. III PF | | | | | |
| 0 | | 2 | | SAND & COPIE | |
| | | | _ | 32'6" Yellow CLAY Brackish | |
| | | | | SAND & COPIE water at 401 SAND & GRAVEL 41' | |
| | ES. | | · | DRIFT SAND & GRAVEL | |
| | INCHES | | 1 | O3 Yellow CLAY | |
| | 9 | | | " MUD SPRING "Yellow & pink CLAY carrying COPIE" | |
| | 3 | | | | |
| | 8, | | | Red CLAY carrying COPIE | |
| | 2 | | CANAL MAN | Yellow CLAY | |
| | | | | 205 220 Black CLAY Blue CLAY | |
| | | | | 234 | |
| | INCHES | | | 255 at 255'- | |
| | N | | | Fine SAND with bands of CLAY | |
| \$ | 9 | FORMATION | | DRIFT SAND, carrying basalt and quartz pebbles at 285; iron pyrites and lignite at 300' | |
| 5 | ₩ • | 147 | | at 285; Iron pyrites and lignite at 300' | |
| | wed . | 080 | | 359 White SAND & CLAY | |
| | | F | | 342 SAND & GRAVEL 348 SAND & CLAY 359 White SAND & CLAY Brackish 362 White SAND water at 375 SAND & CLAY 353 | |
| REBASE. | - | 180 | | Service Service | |
| | S. | TAM | | <u> </u> | |
| | INCHES | 3 | | · · | |
| | Z | | | | |
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| 500 | | | | Blue SHALE | |
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| *************************************** | | | | | |
| | | | | Blue SHALE carrying COPIE in thin layers | |
| | | | | * | |
| 22.22 | | | | 745 | |
| 2 | 1 | | | | |
| | } | | | | |
| | | 0-84 | a Samuelana | | |
| | | | | Black SHALE | |
| | | > | | DIACK SHALE | |
| 2 | | FORMATION | | | |
| ACT OF THE PARTY O | 1 | TWE | | | |
| 1 | | 10 | | | |
| | | 2 | \vdash | 945 | |
| | | ROMA | $\vdash\vdash$ | SAND & COPIE 975 Hard streak of LIMESTONE 6" thick | |
| lood | | | | | |
| | - | | | 1014 Thin layers of LIME 1022 Hard streak of LIMESTONE 6"thick | |
| | | | | 1049 Hard street of LIMESTONE | |
| - | | | | 1049 Hard streak of LIMESTONE 4"thick | |
| | | | | Plant SUALS | |
| | | | | Black SHALE | |
| | | | | 1150 Green SAND & SHALE | |
| ~ | | 1 | | Plack SHALE 1162' | |
| | | 4 | | 1187 SAND & SHALE (50 9.Pd) 11886 Streak of LIMESTONE 11987 SAND & CLAY 6" 11987 119 | |
| 1 119°F | m. | | | 1198 SAND & CLAY 6" 1198" | |
| 1 minutes | HOLE. | 3 | | Fine arey SANDSTONE 11 1237 | |
| | OPEN | GROUP | | - 12-c | |
| | o | | | 1266 SAND, GRAVEL, PYRITES 1736 127 GREY SANDSTONE \$ 1278 1276 LIMESTONE 1280 | |
| | + | 4LE | | CORES SAMOSTOME | |
| | | BLYTHESDAL | | 1314 1314 | |
| | | THE | | TOTAL FLOW 2,649,401 g.p.d. | |
| | 1 | 12 | 1 | 2,673,401 g.p.a. | |

GEOPHYSICAL BRANCH, BUREAU OF MINERAL RESOURCES, GEOLOGY & GEOPHYSICS.G54/B6-5

To Accompany Record No 1964/4

GREAT ARTESIAN BASIN, QUEENSLAND.

EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

LUDLOW (50)

IW.S.C. REGISTERED No.: 12040.
OWNER: PRIVATE.

COORDINATES: 24° 15'S, 3-3 MILES NORTH.

OWNER: PRIVAT

PLATE

139°00'E, 28-2 MILES EAST.

DRILLED: 1957.
DEPTH, DRILLER: 1025'

ELEVATION: GROUND 305'
REF. LEVEL 305'

BORE CONDITION: FLOWING, WATER.

LOGGED BY: A RADESKI.

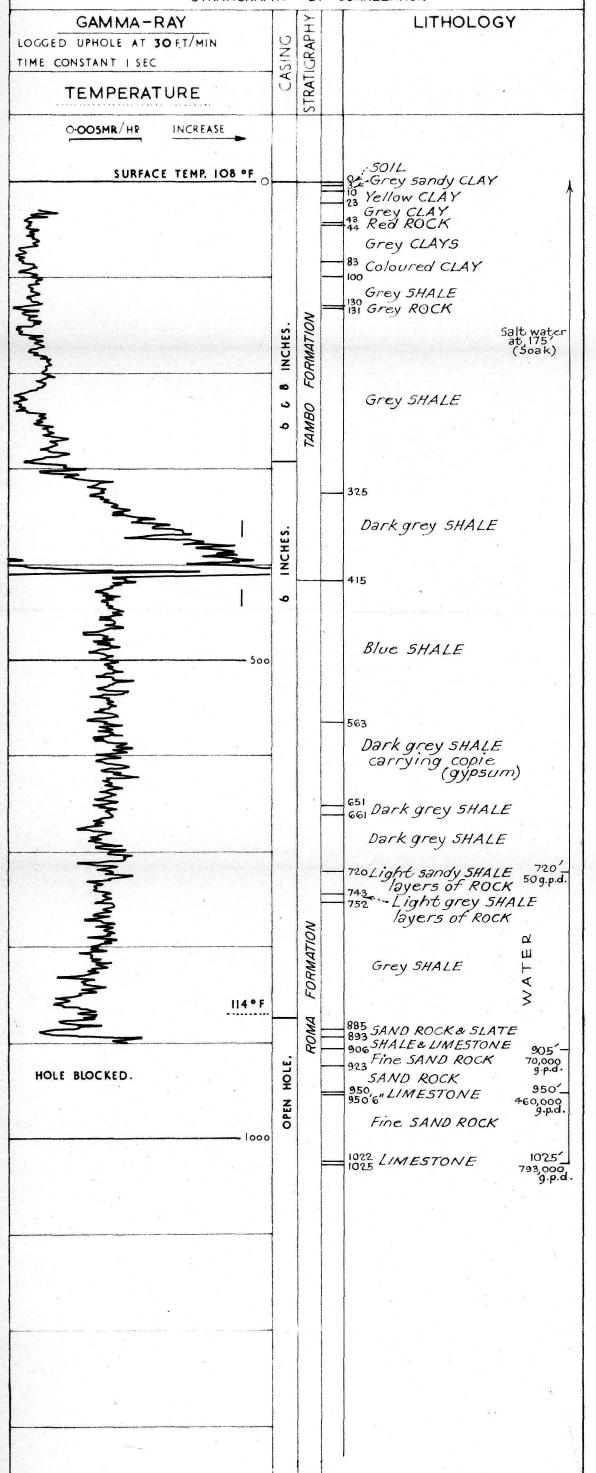
LOGGING EQUIPMENT: FAILING LOGMASTER.

LITHOLOGY BY: DRILLER.

| RUN | DUMMY | TEMPERATURE | GAMMA-RAY | · · · · · · · · · · · · · · · · · · · |
|----------------|--------|-------------|-----------|---|
| DATE | 4-9-61 | | 4-9-61 | AND THE RESERVE OF THE PERSON |
| FIRST READING | 0 | 2 4 | 901 | |
| LAST READING | 903 | | 30 | |
| FOOTAGE LOGGED | 903 | | 871 | 1 |

REMARKS. DEPTHS CORRECTED FOR CABLE STRETCH.

STRATIGRAPHY BY CORRELATION



BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS.

GREAT ARTESIAN BASIN, QUEENSLAND.

EXPERIMENTAL BORE LOGGING PROGRAMME 1961.

PHILIPPI No. 2

I.W.S.C. REGISTERED No. : 13149.

COORDINATES: 24°30'S, 2.5 MILES NORTH

OWNER: PRIVATE.

139°00'E, 8.2 MILES EAST. ELEVATION: GROUND 246'

DRILLED: 1956.
DEPTH, DRILLER: 1226.

EVATION: GROUND 246'
REF. LEVEL 246'

BORE CONDITION: FLOWING, WATER.

LOGGED BY: A. RADESKI.

LOGGING EQUIPMENT; FAILING LOGMASTER.

LITHOLOGY BY: DRILLER.

| RUN | DUMMY | TEMPERATURE | GAMMA-RAY | |
|----------------|--------|-------------|-----------|--|
| DATE | 8-9-61 | п. | 8-9-61 | |
| FIRST READING | 0 | 2 | 1052 | |
| LAST READING | 1069 | | 2 7 | |
| FOOTAGE LOGGED | 1069 | | 1025 | |

REMARKS. DEPTHS CORRECTED FOR CABLE STRETCH.

STRATIGRAPHY BY CORRELATION

| STRATIGRA | PHY | BY | CORRELATION |
|---|--------------|-------------------|---|
| GAMMA-RAY LOGGED UPHOLE AT 30 FT/MIN TIME CONSTANT I SEC TEMPERATURE | CASING | STRATICRAPHY | LITHOLOGY |
| O-OO5MR/HR INCREASE | | S | 9 50 00/4 C/ 1/ |
| | 5 & G INCHES | 30 FORMATION | Yellow CLAY & copi (gypsum) 50 Yellow CLAY copi (gypsum) 130 Grey SHALE with seams of grey ROCK |
| 500 | 5 INCHES | TAMBO | 500 |
| | | FORMATION | Grey SHALE 800 |
| 100 121 °F | | ROMA | Sandy grey SHALE |
| HOLE BLOCKED. | OPEN HOLE | BLYTHESDALE GROUP | 1080 5ANDSTONE 1080- 1080 5ANDSTONE 080- 1100 SANDSTONE 1140'- |

GEOPHYSICAL BRANCH, BUREAU OF MINERAL RESOURCES, GEOLOGY & GEOPHYSICS G54/B6-6

