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RECORD 1974/113

WIRELINE LOGGING OF WATER-BORES IN THE SURAT BASIN, 1960 to 1974

by

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SUMMARY

Between 1960 and 1974, 264 water-bores and 20 petroleum exploration wells converted to water-bores were logged in the Surat Basin, predominantly in Queensland. Most logging was done by or for the Bureau of Mineral Resources to provide both stratigraphic and hydrological information. Both flowing and non-flowing bores were logged; the basic scale used was 1" = 100 feet (1:1200), and logs at a scale of 5" = 100 feet (1:240) were also commonly run.

Gamma-ray logs are available for all the bores listed, and neutron, temperature, differential temperature, flowmeter, and casing collar locator logs are available for many. Typical logs are presented.

The bores are indexed by their Registered Numbers, as given by the Queensland Irrigation and Water Supply Commission and the NSW Water Conservation and Irrigation Commission. Their localities are plotted on a base map at a scale of 1:1 000 000. A complete list in numerical order of all bores logged, related to the 1:250 000 Sheet area in which they fall, is provided. For each Sheet area the bores are listed in numerical order, with converted petroleum wells separately listed in alphabetical order, and the following statistics are tabulated where available: name, elevation, depth drilled, depth logged, logs available, salinity, the unit the bore spudded in, the deepest aquifer presently tapped, the water level for non-flowing bores, and the flow rate for flowing bores. The aquifer statistics are consolidated for each Sheet area, and for the basin as a whole.

Water samples from many bores were chemically analysed by the Government Chemical Laboratory in Brisbane, and the analysis sheets are held at the Bureau of Mineral Resources. Water quality for six major aquifers is summarized graphically by plotting total dissolved solids against the HCO_3^-/Cl^- ratio for the western and eastern parts of the basin. This preliminary work has shown the potential of chemical analysis to distinguish between aquifers.

The logging has enabled reliable stratigraphic and aquifer correlations to be made throughout the basin, in conjunction with information from petroleum exploration wells. A gamma-ray correlation line is presented to illustrate the stratigraphic use of the data, and the correlations have been extensively used in a stratigraphic review of the basin.

The chemical data, in combination with estimates of flow rates, have revealed the characteristics of the major aquifers of the eastern and western sides of the basin. Flow rates are higher and water quality is generally better in the west than in the east, although the Pilliga Sandstone in the southeast yields excellent water and is probably the most productive aquifer. The depth to the shallowest major aquifer never exceeds 900 m.

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INTRODUCTION

Between 1960 and 1974, 264 water-bores and 20 converted petroleum exploration wells in the Surat Basin (Fig. 1) were wireline-logged for the Bureau of Mineral Resources (BMR) in co-operation with the Queensland Irrigation and Water Supply Commission and the Geological Survey of Queensland (GSQ). BMR officers carried out the early work, which proved the value of the method, but later programs were carried out by private companies under contract to BMR. The aim of the project was to:

a) Provide stratigraphic information of benefit to BMR-GSQ geological field parties and oil company geologists;

b) Provide hydrological information of benefit to hydrologists and engineers dealing with large-scale and small-scale problems within the Great Artesian Basin.

Pioneering work was carried out by BMR in 1960 and 1962, using gamma-ray and temperature tools. The 1960 program, during which 11 bores and 2 petroleum wells were gamma-ray logged in the Surat Basin, was reported by Jesson, Radeski, & Jewell (1963). The 1962 program, when a further 16 water-bores were gamma-ray logged in the Surat Basin, was reported by Jesson & Radeski (1964). This work showed that correlation of gamma-ray logs of water-bores was fairly reliable when the bores were spaced less than 25 km apart. However the 'temperature logs were of little practical value because the bores were not in a static state while being logged' (Jesson & Radeski, op. cit.).

In late 1964, Schlumberger gamma-ray logged a number of water-bores in the northwestern Surat Basin and eastern Eromanga Basin for American Overseas Petroleum Pty Ltd, and the results suggested that the conventional correlation of the Hooray Sandstone/Upper Intermediate Series/Adori Sandstone of the Tambo area with the Mooga Sandstone/Orallo Formation/Gubberamunda

Sandstone of the Roma area was probably incorrect. The correlation was later confirmed by field work and palynological studies. Transparencies of the Schlumberger logs were given to BMR, and copies can be obtained from the address given below.

In 1967/68 a new program of logging began in the Eromanga and Surat Basins with Down Under Well Services working under contract to BMR. Initially the standard logs run were gamma-ray and casing collar locator, and electric and flowmeter-caliper logs in suitable bores. During the contract a temperature-differential temperature log was added, and proved to be a most useful tool for aquifer studies. In the Surat Basin few logs were run in this year, the bulk of the work being done in the Eromanga Basin.

In 1968/69 the program continued using the same contractor, working mainly in the Homeboin, Dirranbandi, and St George 1:250 000 Sheet areas in the southwestern Surat Basin. In 1970/71 logging was extended into the Goondiwindi, Dalby, Chinchilla, Surat, Roma, and Mitchell Sheet areas. In 1969/70 and 1971/72 there was no logging in the Surat Basin.

In 1972/73 Down Under Well Services logged 45 bores in the Dalby and Goondiwindi Sheet areas in the southeastern Surat Basin. They used a neutron log in addition to those used in the earlier work. In 1973/74 Down Under Well Services completed coverage of the Queensland portion of the Surat Basin by logging 54 bores in the Taroom, Mundubbera, Chinchilla, and Roma Sheet areas in the northeastern part of the basin. Prints of the various logs are available from:

The Copy Service,
Government Printer (Production),
P.O. Box 84,
CANBERRA, A.C.T. 2600.

The costs per lineal foot in July 1974 were 53c for prints and 73c for transparencies.

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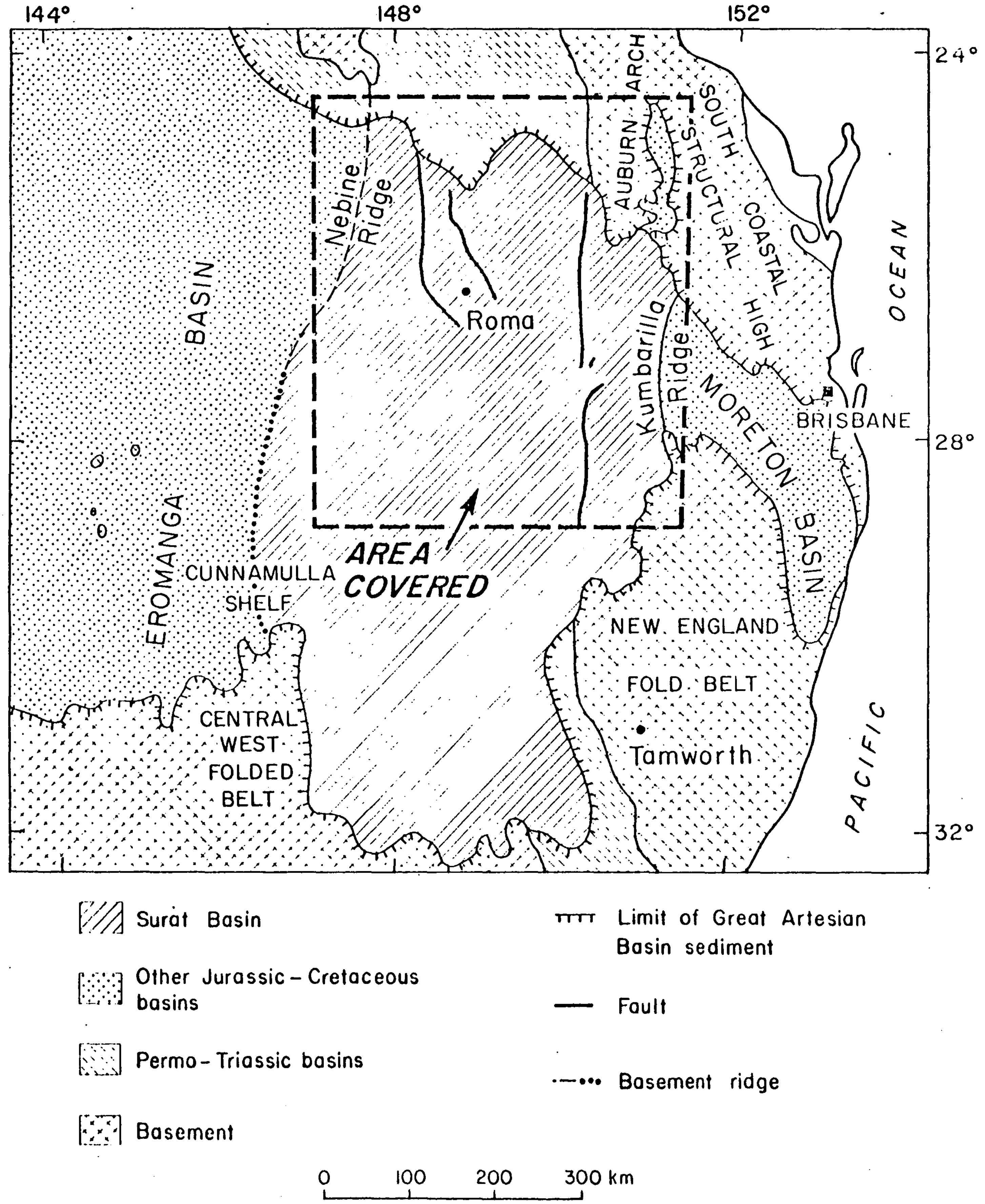


Fig. 1. Regional geological setting.

THE LOGS

Typical gamma-ray, neutron, temperature, differential temperature, and casing collar locator logs are shown in Plates 3 & 4, and a gamma-ray correlation of water-bores between Roma and Moonie is shown in Plate 5. The basic scale is 1" = 100' but for many bores logs at a scale of 5" = 100' are also available. The quality of the wireline logs is generally excellent. Where drillers' logs of the bores exist these have been added to the gamma-ray log by the Queensland Irrigation and Water Supply Commission.

The gamma-ray tool measures the natural radiation of the strata penetrated, and the apparatus produces a log showing the intensity of radiation in API units at all depths. Clay minerals have relatively high radiation whereas quartz and feldspar grains have low radiation. Thus quartzose sandstones give low values, whereas lithic sandstone, siltstone, and shale give high values. The gamma-ray log is the best stratigraphic tool available for holes which are cased, and most bores logged are cased for most of their depths.

Electric logs are only valuable where there is no casing, and hence few electric logs have been run. The electric logs consist of a self-potential curve recorded in millivolts, and resistivity curves recorded in ohms m^2/m.

The neutron log is produced by a high-energy neutron source which bombards the rocks penetrated, and a detector which captures and records those neutrons which have been sufficiently slowed (moderated) by collision with other particles. The most efficient moderator is hydrogen, which in the sequences penetrated is common only in water. Thus neutron logs measure moisture content above the water table and total porosity below the water-table. Hence they are of both hydrological and stratigraphic use. Higher values in API units indicate higher moisture content or greater porosity.

Flowmeter-caliper logs measure the revolutions per second of a propeller and the diameter of the hole, from which the flow per second in the bore can be calculated. With the tools employed until recently, the technique was effective only in rapidly flowing bores as the rotor in the current meter was unreliable at low rates. An improved tool now allows low flow rates to be measured. The logs indicate the position of the major aquifers in uncased bores and allow their flows to be calculated. In cased bores they indicate the position of perforations in the casing, and increase or decrease of flow rates by gain or loss of water through the perforations.

The temperature-differential temperature logs are valuable for aquifer studies and have been run in most boreholes. A sensor measures the temperature (^{o}C) as it is lowered into the borehole. This temperature is marked directly onto the temperature log. It is also stored on the memory of the instrument and compared with the temperature 15 cm deeper; the resultant temperature differential is recorded continuously, giving the differential temperature log, which is more sensitive than the normal temperature log. When water enters the hole at any level it is normally cooler than water rising up the borehole from below that level. In a few bores noted in the Eromanga Basin, hot water has made its way into a higher aquifer, probably along a fault, and anomalously high values are then recorded from the aquifer. The differential temperature log records the entry of water through perforations in the casing (or directly from the sediment in uncased bores) from the various aquifers, and for larger flows the actual change of the water temperature is recorded on the temperature log.

The casing collar locator is run in conjunction with the other logs. It provides a depth reference in the hole, enables the other logs to be correctly interpreted, and gives direct information about the state, and presence or absence of the casing. We use the simplest type, which consists of a permanent magnet wrapped in a coil of wire. Changes in the magnetic flux cause a small current to flow in the wire, and the current is recorded. At the casing collars there is much more steel than elsewhere in the casing, and the increase in magnetic flux is marked by peaks on the log. Where the casing has parted, or in the commonly uncased part of the hole in the lowest aquifer, no events are recorded. This information is important in that the presence or absence of casing affects the gamma-ray and neutron logs. Furthermore if a large part of the hole is uncased, electric logs can usefully be run. For the property owner the casing collar locator log shows the state of the casing, and whether repairs are needed.

STRATIGRAPHY

The Jurassic and Cretaceous Surat Basin (Fig. 1) forms most of the eastern part of the hydrological Great Artesian Basin, and its sediments are similar to those of the Eromanga Basin to the west, with which it intertongues across the Nebine Ridge and its broad southerly extension the Cunnamulla Shelf. It is bounded to the south by the Central West Folded Belt, to the east by the New England Fold Belt, the Moreton Basin, and the Auburn Arch, and to the north it has been eroded.

The basin is a simple depression with up to 1200 m of marine and paralic Lower Cretaceous sediments which are generally aquicludes, and up to 1700 m of freshwater Jurassic and lowermost Cretaceous sediments which contain several excellent aquifers. The structure is illustrated by contours on the top of the Walloon Coal Measures (Pl. 2), which horizon lies about halfway up the aquifer sequence and covers most of the basin. The Surat Basin sequence lies on rocks ranging in age from Devonian to Middle Triassic, and in composition from granite, schist, and gneiss to undeformed sediments. The stratigraphy of the Surat Basin sequence is summarized in Table 1 below; nomenclature used is based on that of Exon (1971). A full discussion of the stratigraphy is given in Exon (in press).

TABLE 1. SURAT BASIN : GENERALIZED STRATIGRAPHY

Age		Unit	Maximum thickness (m)	Environment and lithology	Gamma-ray log character	Water	Relations
Lower Cretaceous	Rolling Downs Group	Griman Creek Formation Klg	480	Paralic and freshwater: sandstone, siltstone, mudstone	Generally low values: variable*	Minor aquifers: saline	
	Rolling Downs Group	Surat Siltstone Kls	150	Marine: siltstone, mudstone, sandstone	Fairly high values: consistent	Aquiclude	
	Rolling Downs Group	Coreena Member (Wallumbilla Formation) Klc	210	Paralic and freshwater: siltstone, mudstone, sandstone	Moderate values: variable	Minor aquifers: saline	
	Rolling Downs Group	Doncaster Member (Wallumbilla Formation) Kld	270	Marine: mudstone; some siltstone	High values: consistent	Aquiclude	
		Bungil Formation Kly	270	Freshwater and paralic: mudstone siltstone, sandstone	Moderate values: variable	Some aquifers	Eastern equivalent of Kle
		Cadna-owie Formation Kle	100	Paralic: siltstone, sandstone	Moderate values: variable	Some aquifers	Western equivalent of Kly
Jurassic to lowermost Cretaceous		Hooray Sandstone JKh	400	Freshwater: sandstone; some siltstone	Generally low values	Major aquifers	
		Mooga Sandstone Klm	300	Freshwater: sandstone; some siltstone, mudstone	Variable values: some very low	Major aquifers	
		Orallo Formation Juo	270	Freshwater: labile sandstone, siltstone, mudstone, coal	Variable values: some very high	Minor aquifers	
		Gubberamunda Sandstone Jug	300	Freshwater: sandstone; some siltstone, conglomerate	Low values: fairly consistent	Major aquifers	
		Pilliga Sandstone Jp	300	Freshwater: sandstone, conglomerate	Low values: consistent	Major aquifers	Southeastern equivalent of Juw & Js
	Injune Creek Group	Westbourne Formation Juw	200	Freshwater and possibly paralic: siltstone, mudstone, sandstone	High values: consistent	Aquiclude	
	Injune Creek Group	Springbok Sandstone Js	250	Freshwater: labile sandstone, siltstone, mudstone	Generally low values	Minor aquifers	Eastern equivalent of Ja
	Injune Creek Group	Adori Sandstone Ja	100	Freshwater: quartzose sandstone, siltstone	Low values	Major aquifers	Western equivalent of Js
	Injune Creek Group	Walloon Coal Measures Jw	650	Coal measures: labile sandstone, siltstone, mudstone, coal	Generally high values: variable	Aquiclude	
	Injune Creek Group	Eurombah Formation Jme	100	Freshwater; sandstone; some conglomerate, siltstone, mudstone	Very variable values	Minor aquifers	
		Hutton Sandstone Jlh	250	Freshwater: sandstone; some siltstone, mudstone	Generally low values: variable	Major aquifers	
		Evergreen Formation Jle	260	Freshwater and paralic: siltstone, mudstone, sandstone	Generally high values: variable	Some aquifers	
		Precipice Sandstone Jlp	150	Freshwater: quartzose sandstone; some siltstone, mudstone	Generally low values	Major aquifers	

* 'Variable' or 'consistent' refers to vertical variation in any one log.

drilled; this generally means that the hole has been deepened since it was originally drilled, and commission records have not been updated.

6) Logs available. The logs available vary from hole to hole. The symbols used in this column are:

G = gamma ray log

N = neutron log

Dt = Temperature-differential temperature log

T = temperature log alone

E = electric log (below casing only)

F = flowmeter-caliper log

In almost all holes a casing collar locator log was also run.

7) Salinity. For some bores the salinity of the water has been measured electrically both in the field and in the laboratory, and conventional chemical analyses have also been carried out, mostly by the Government Chemical Laboratory in Brisbane.

The 'analysed T.D.S.' column records the total dissolved solids in parts per million (ppm). In many cases this has been calculated by us, simply by adding together the values for all the ions analysed in the laboratory.

The 'conductivity', measured electrically in μS/cm, of some samples has been recorded in the field, and of others in the laboratory. Field recordings are denoted by 'F', and laboratory recording by 'L'. As field readings are a better record of the water as it emerges from the bore, they have been preferred where two figures are available for one bore.

The 'field salinity' was measured by the contractor with an instrument which converted the electrical data directly into its equivalent value in terms of sodium chloride (NaCl) salinity in parts per million.

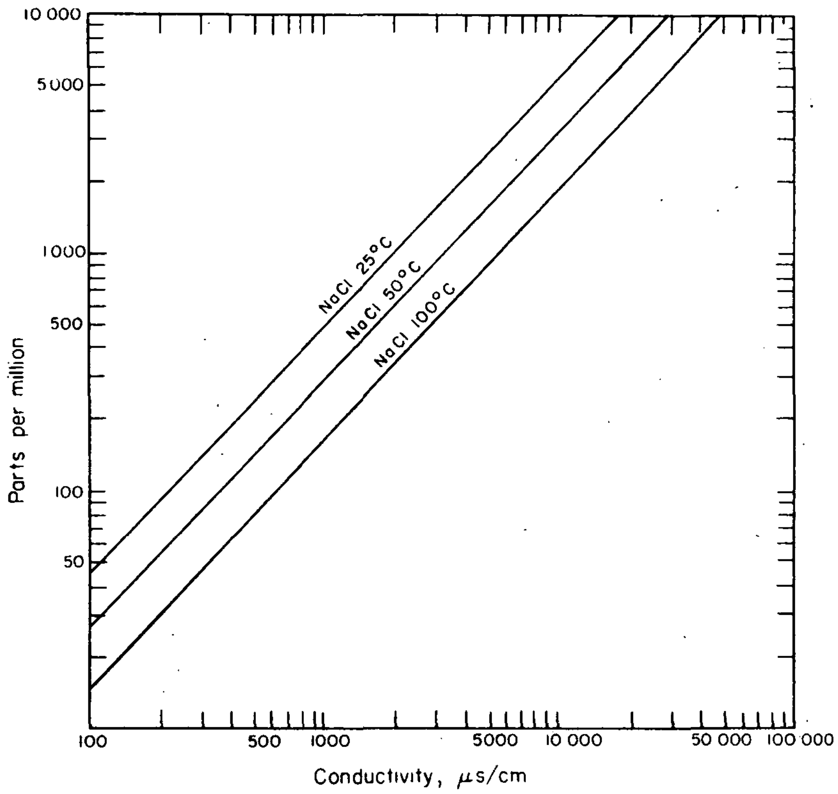
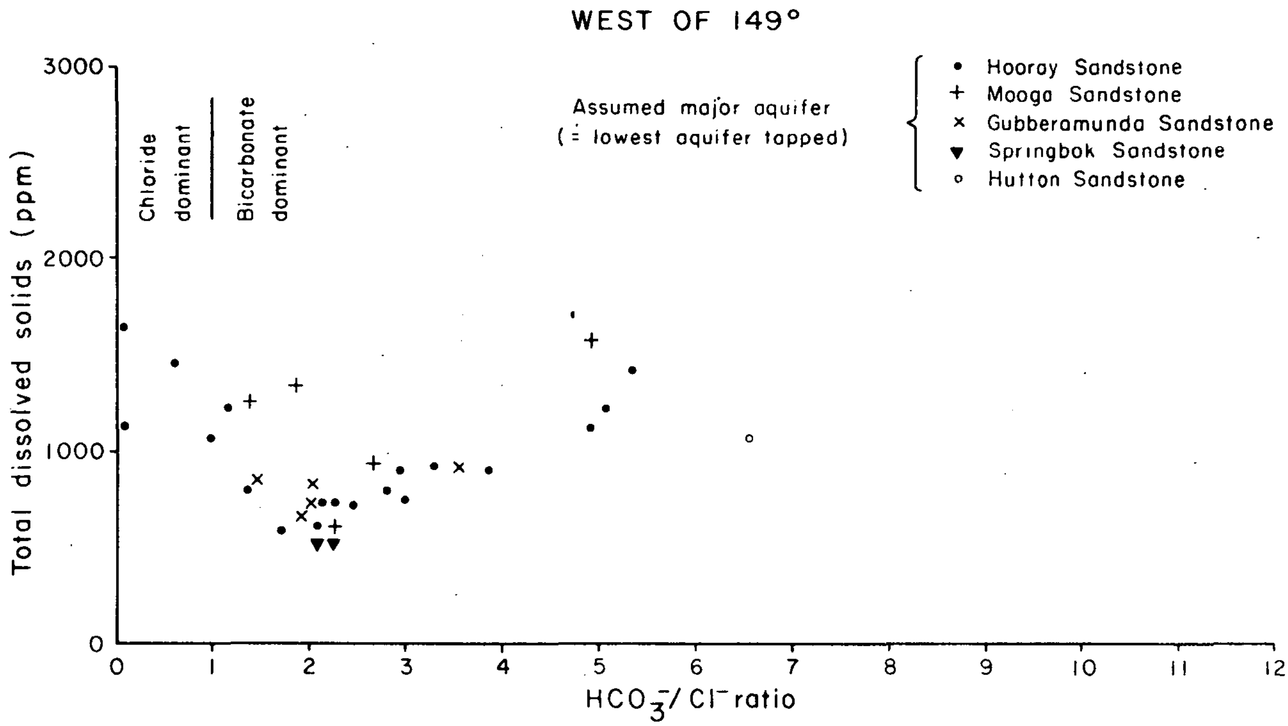


Fig. 2. Conductivity of aqueous solutions of NaCl at various temperatures. (adapted from fig. 3·10 in Davis & de Wiest, 1966)



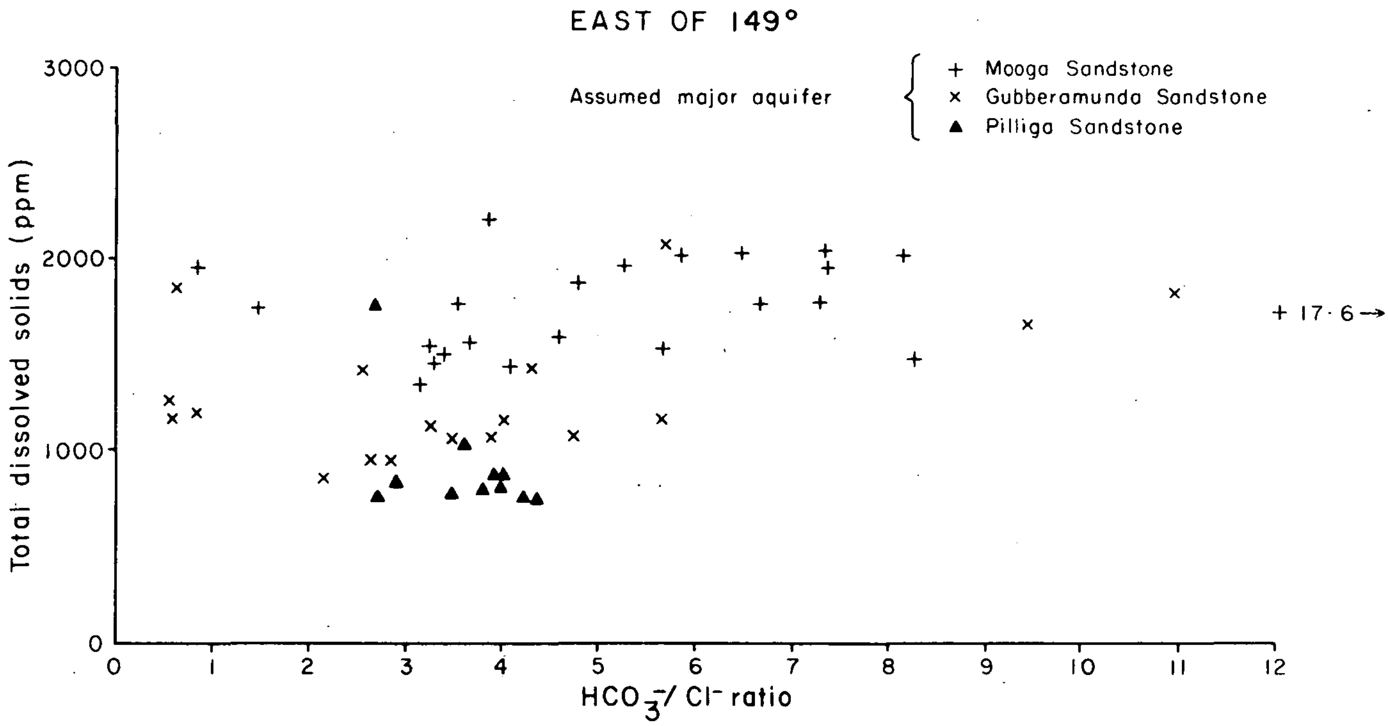


Fig. 3. Graphical presentation of water chemistry

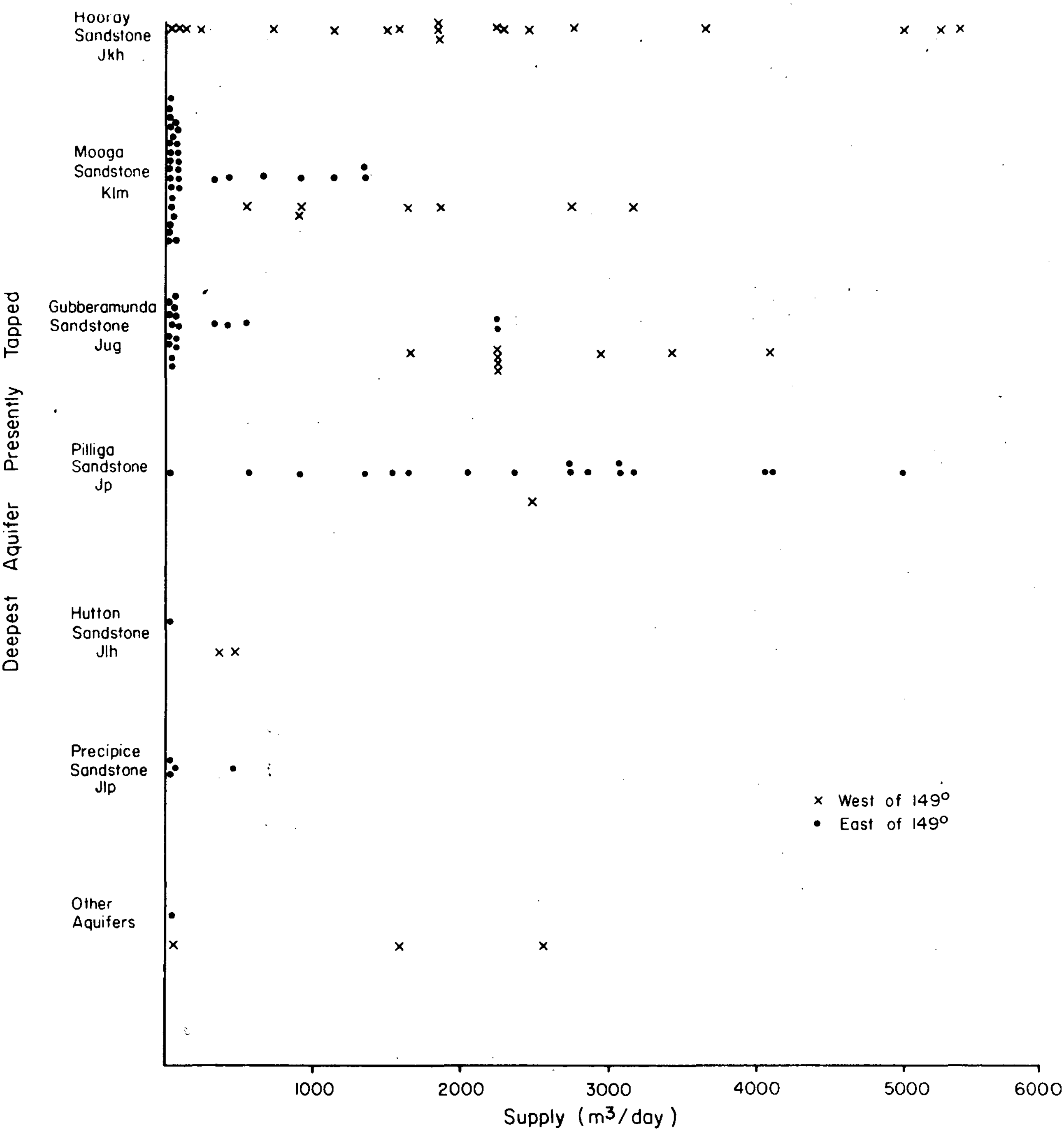


Fig. 4. Estimated flow rates of flowing bores drawing from various aquifers.

This value does **not** imply that the NaCl content of the water is that recorded, because other salts are always present and are commonly dominant. It merely implies that an NaCl solution of this concentration would give the measured electrical response. Thus the 'field salinity' bears a direct relation to the conductivity (which can be determined graphically - Fig. 2). The temperature is of great importance to these calculations, and values are normally expressed at 25°C.

The HCO_3^-/Cl^- column records the ratio between the bicarbonate and chloride ions in the water (in terms of chemical equivalents). These are the dominant ions, and hence this ratio is important. Values less than one mean that chloride is dominant, whereas values greater than one mean that bicarbonate is dominant. In the artesian aquifers $NaHCO_3$ is dominant, whereas in the relatively unproductive subartesian aquifers within the Rolling Downs Group and the Injune Creek Group NaCl is dominant.

Total dissolved solids has been plotted against the HCO_3^-/Cl^- ratio for individual bores in Figure 3, yielding useful information about the various aquifers. From the chemical analyses held at BMR much more could be learnt about water quality, but such a study is outside the scope of the present report.

8) Spudded in. The unit in which the bore 'spudded' (i.e. the unit first penetrated) is recorded in this column. For bores in which substantial amounts of Tertiary (T), Cainozoic (Cz), or Quaternary(Q) sediments overlie the Mesozoic sediments, both groups are recorded. Post-Mesozoic sediments are as much as 200 m thick in places, and commonly yield subartesian water. The symbols are explained in Table 1.

9) Deepest aquifer presently tapped. This column records the deepest important aquifer which today yields water in each bore (symbols explained in Table 1). In many bores this is the most important aquifer.

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Many bores have caved in below the casing, or have been deliberately plugged below a certain depth, so that deeper aquifers which were originally penetrated no longer affect the bore. In general we have assumed that water is not being derived from aquifers below the depth which was logged, on the grounds that if the relatively small logging tool could not penetrate any deeper, the hole was blocked.

10) Water-level. The water-level has been recorded in feet (and metres) below the ground surface, where available. In bores where water is flowing out at the surface the term 'flow' has been used. In cases where water has to be pumped, but the water-level has not been recorded, the term 'pump' has been used.

Where the water is flowing out at the surface, estimated flow rates (m^3/day) have been included (1000 gallons per day = 4.546 m^3/day). In most bores these estimates were made by the log operator or property owner at the time the bore was logged, but sometimes they are the original estimates of the driller. In bores where original and recent estimates are available, flow rates appear to have declined considerably with time. Although these estimates are not particularly accurate, it is apparent from plotting them (Fig. 4) that taken in bulk they are informative.

THE AQUIFERS

The generalizations in the following section are based on the assumption that the deepest aquifer presently tapped in each bore provides the great bulk of the water in the bore. This is true in many but not all bores.

Some features of the water chemistry of the main aquifers in the Surat Basin are plotted in Figure 3, and estimated flow rates are plotted in Figure 4. These data are summarized in Table 4. Aquifers west of 149° have been separated from those east of 149° to demonstrate the changes

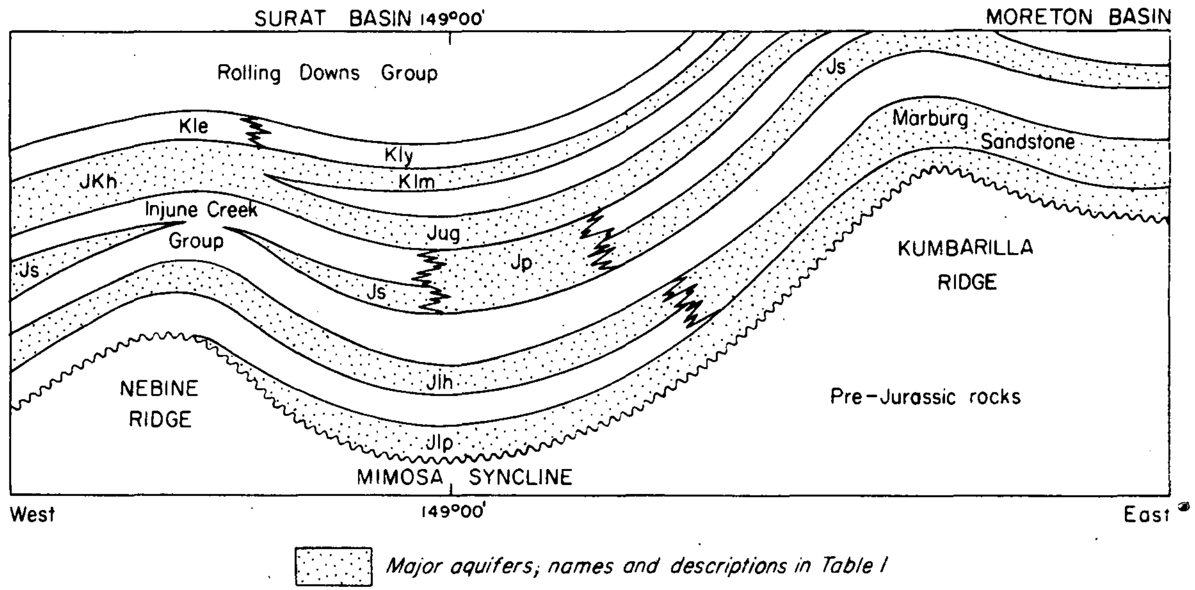
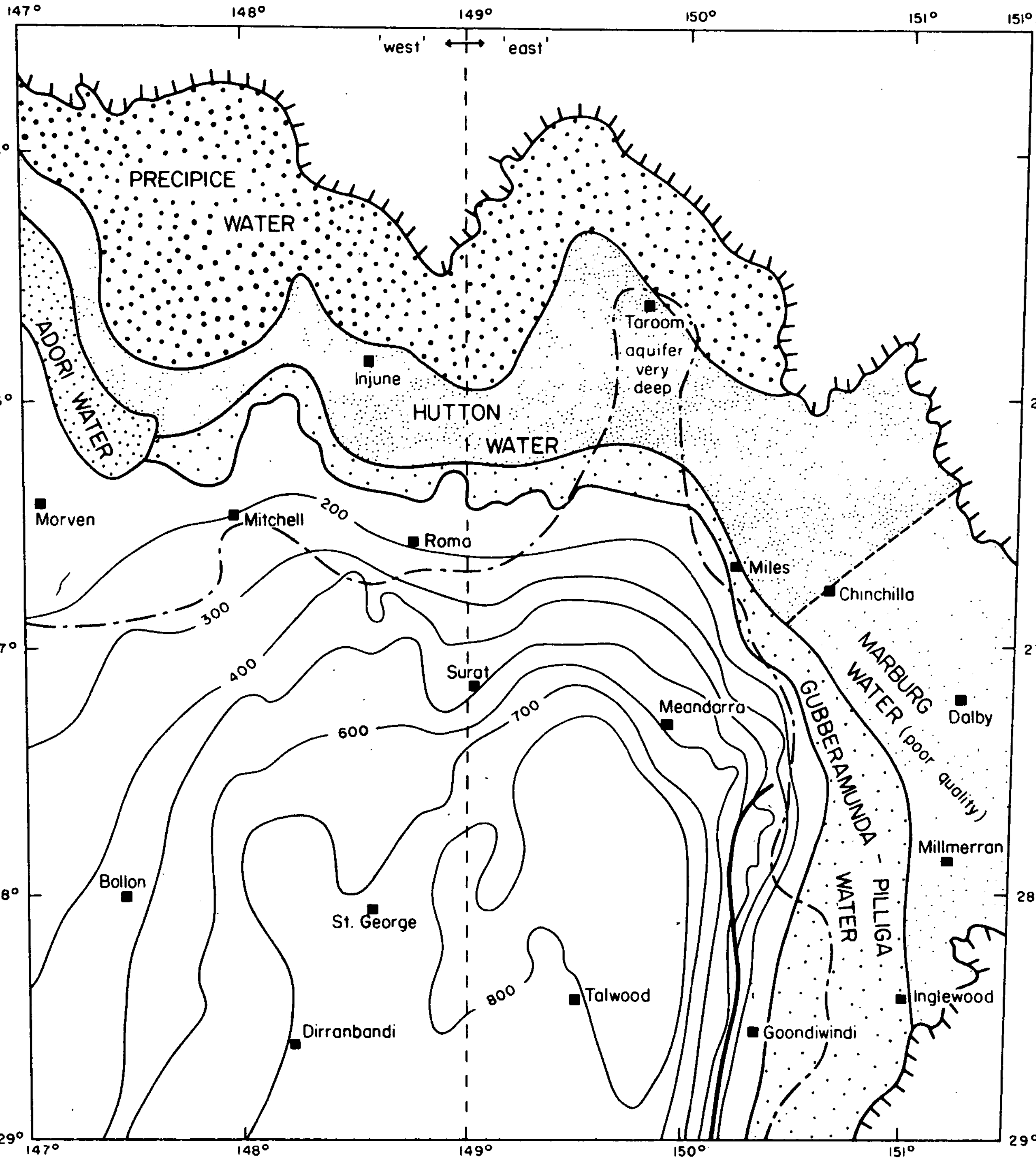


Fig.5. Schematic cross-section across the Surat Basin to show major aquifers.



Areas in which named aquifers are shallowest major sources of water.

Hooray - Mooga Sandstones	—200— Depth below ground of Hooray - Mooga aquifer (metres)
Gubberamunda - Pilliga Sandstones	Edge of Surat Basin
Adori Sandstone	Flowing bores are generally basinward of this line
Hutton Sandstone	Fault
Marburg Sandstone	
Precipice Sandstone	

Fig. 6. Distribution of aquifers.

across the basin. The interrelations of the aquifers are shown in Figure 5, and the distribution of the major aquifers and the depth to the Hooray and Mooga Sandstones, which generally contain the shallowest supplies, are shown in Figure 6.

The water chemistry has been summarized by plotting total dissolved solids (ppm) against the HCO_3^-/Cl^- ratio. The analyses provided by the Government Chemical Laboratory in Brisbane have shown that the dominant cation is sodium (Na^+), and that the dominant anions are chloride (Cl^-) and bicarbonate (HCO_3^-). In most aquifers HCO_3^- predominates over Cl^-, and the ratio can be informative. The Cl^- ion is dominant only in some of the aquifers of the Injune Creek Group, and in all the aquifers in the Rolling Downs Group. Thus low HCO_3^-/Cl^- ratios suggest that the bulk of the water is coming from an aquifer or aquifers in these units. Furthermore general salinity is highest in these units, and any inflow from them into bores drawing mainly from other aquifers could be expected to increase the salinity.

Figure 3 suggests that it may be difficult to separate the various major aquifers on the basis of water chemistry. In the west the salinity in terms of total dissolved solids ranges from 500 to 1650 ppm, and the HCO_3^-/Cl^- ratio from almost 0 to 6.5. Of the major aquifers the Gubberamunda Sandstone appears to contain water of the least salinity. The salinity values where the Hooray Sandstone is assumed to be the major aquifer show the greatest variability, probably because abundant highly saline water from the Rolling Downs Group is making its way into some bores.

In the east the major aquifers tend to deliver water of greater salinity, and the HCO_3^-/Cl^- ratio is highly variable (total dissolved solids 700 ppm - 2200 ppm; HCO_3^-/Cl^- ratio 0.6 - 17.6). The water is generally richer in bicarbonate in the east (average HCO_3^-/Cl^- ratio about 4) than in the west (about 2). The least saline water comes from the oldest aquifer and the most saline from the youngest (Pilliga Sandstone av. 900 ppm, Gubberamunda Sandstone 1200 ppm, Mooga Sandstone 1700 ppm).

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The plot of estimated flow rates (Fig. 4) shows that supplies vary from aquifer to aquifer, and from west to east. The most prolific aquifers are the Hooray Sandstone in the west, and the Pilliga Sandstone in the southeast, with maximum supplies about 5000 m^3/day, and average supplies about 2500 m^3/day. The percentage of flowing bores in these two aquifers (Table 2) is also higher than average. The Gubberamunda and Mooga Sandstones are also excellent aquifers with high flow rates in the west (Gubberamunda maximum 4000 m^3/day, average 2500; Mooga maximum 3000, average 1500), but much lower flow rates in the east where there are many bores with low flow rates and many subartesian bores. In general these aquifers are deeper where they are tapped in the west than in the east, and the potentiometric surface is higher, so the greater flow rates may depend solely on hydraulics. The older Hutton and Precipice Sandstones are seldom tapped in the deeper part of the basin, despite the high flow rates suggested by data from petroleum exploration wells. The Adori Sandstone yields abundant good-quality water, but is confined to the far west of the basin.

To summarize for the eastern side of the basin, the Mooga Sandstone provides poor to satisfactory supplies of moderately good water at reasonable depths. Similar supplies of better water can be obtained from the Gubberamunda Sandstone, which is normally 100 to 200 m deeper. The best supplies and best water come from the Pilliga Sandstone, which is only slightly deeper than the Gubberamunda Sandstone but is confined to the area south of Goondiwindi and Inglewood.

On the western side of the basin water quality is generally good, and excellent supplies are available from the shallowest major aquifers, the Hooray and Mooga Sandstone. Similar supplies are also available from the deeper Gubberamunda Sandstone.

The generally higher salinity and bicarbonate content of the eastern waters are probably related to higher carbonate concentrations in the intake areas and the aquifer sandstones themselves. The eastern aquifers derive their water from areas in the northeast and southeast where carbonate-rich soils are common; in contrast, the western aquifers derive their water from areas in the north where carbonate-poor soils predominate. Furthermore, the sandstones of the eastern aquifers are generally less mature and contain more unstable minerals, including carbonates, than do those of the western aquifers.

In many places in the deeper parts of the basin, costs prevent property owners drilling as deep as the major aquifers, and they make use of comparatively small saline supplies of subartesian water from the Rolling Downs Group or Bungil Formation. The depth to which they would have to drill to reach the Mooga Sandstone is as much as 800 m north of Talwood (Fig. 6).

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TABLE 2. AQUIFER STATISTICS FOR ALL BORES (INCLUDING PETROLEUM EXPLORATION WELLS) LOGGED

Deepest aquifer presently tapped	Number of bores	Status		% Flowing bores
		Flowing bores	Pumped bores	
Hooray Sandstone (JKh)	35	29	6	83
Mooga Sandstone (Klm)	73	60	13	82
Gubberamunda Sandstone (Jug)	62	32	30	52
Pilliga Sandstone (Jp)	19	18	1	95
Hutton Sandstone (Jlh)	47	10	37	22
Precipice Sandstone (Jlp)	17	5	12	28
Other	31	7	24	23
TOTAL	284	161	123	56

TABLE 3. AQUIFER STATISTICS FOR BORES LOGGED, BY SHEET AREA

1:250 000 Sheet area	Deepest aquifer presently tapped							Status	
	Hooray (Jkh)	Mooga (Klm)	Gubber-amunda (Jug)	Pilliga (Jp)	Hutton (Jlh)	Precipice (Jlp)	Other	Flow	Pump
Eddystone	1								1
							2		2
Taroom					22			4	18
						5		2	3
Mundubbera					1				1
						7		3	4
Mitchell	6							2	4
		1							1
					13			2	11
							2	1	1
Roma		17						14	3
			6					1	5
					3			2	1
							6		6
Chinchilla		3						2	1
			2						2
					4				4
						5			1
							5		5
Homeboin	16							15	1
		1							1
			3					3	
					3			1	2
							8	4	4
Surat		7						5	2
			6					3	3
					1			1	
							1		1
Dalby		26						22	4
			15					2	13
							3		3

TABLE 3 (Contd.)

1:250 000 Sheet area	Deepest aquifer presently tapped							Status	
	Hooray (Jkh)	Mooga (Klm)	Gubber-amunda (Jug)	Pilliga (Jp)	Hutton (Jlh)	Precipice (Jlp)	Other	Flow	Pump
Dirranbandi	12							12	
		4						4	
			2					2	
							1	1	
St George		6						6	
			5					5	
				16				15	1
Goondiwindi		8						7	1
			23					16	7
				3				3	
							3	1	2

TABLE 4. WATER PROPERTIES OF VARIOUS AQUIFERS

Aquifer	Maximum supply (m^3/day)		Total dissolved solids (ppm)		HCO_3^-/Cl^- ratio	
	west	east	west	east	west	east
Griman Creek Formation Klg	Low	Low	High	High	Chloride dominant	
Coreena Member Klc	Low	Low	High	High	Chloride dominant	
Bungil Formation Kly and Cadna-owie Formation Kle	Low	Low	Moderate	Moderate	Bicarbonate dominant	
Hooray Sandstone J-Kh	5350	Absent	600-1600	Absent	0-5.4	Absent
Mooga Sandstone Klm	3150	1350	600-1600	1350-2200	1.4-5.0	0.8-8.2
Gubberamunda Sandstone Jug	4100	2300	650-900	850-2100	1.4-3.6	0.6-11.0
Adori Sandstone Ja	2650	Absent	-	Absent	-	Absent
Pilliga Sandstone Jp	-	5000	Absent	750-1000	Absent	2.7-4.4
Hutton Sandstone Jlh	500	-	-	-	-	-
Precipice Sandstone Jlp	-	500	-	-	-	-

High = > 2000 ppm

Moderate = 1500-2000 ppm

Absent = aquifer absent

- means no information available

west = west of 149°

east = east of 149°

TABLE 5. BORE NUMBERS RELATED TO 1:250 000 SHEET AREAS

10	Surat	3477	Homeboin	11950	Goondiwindi
24	Homeboin	3819	Dirranbandi	11954	Homeboin
37	Homeboin	3820	Dirranbandi	11995	Goondiwindi
39	Homeboin	3850	Roma	12088	Goondiwindi
40	Homeboin	3851	Roma	12106	Mitchell
55	Dirranbandi	3852	Roma	12136	Chinchilla
59	St George	3979	Mitchell	12158	Goondiwindi
62	Dirranbandi	4028	St George	12188	Chinchilla
64	Dirranbandi	4042	Dirranbandi	12190	Dalby
73	St George	4043	St George	12236	Taroom
89	Homeboin	4044	St George	12278	Dalby
97	Homeboin	4045	St George	12421	Roma
106	St George	4051	Surat	12447	Dalby
127	Surat	4052	Surat	12565	Dalby
132	St George	4053	Surat	12569	Dalby
133	St George	4185	Eddystone	12631	Goondiwindi
134	St George	4257	Roma	12633	Dalby
147	Dirranbandi	4399	St George	12639	Goondiwindi
149	Homeboin	4401	St George	12700	Roma
150	Homeboin	4585	Mitchell	12702	Goondiwindi
167	Dirranbandi	4587	Homeboin	12714	Goondiwindi
168	Homeboin	4687	Mitchell	12741	Mitchell
285	Mitchell	4918	Dirranbandi	12814	Taroom
303	Roma	4920	Dirranbandi	12883	Homeboin
387	Mitchell	4921	Dirranbandi	13030	Dalby
388	Mitchell	4999	Homeboin	13038	Roma
397	St George	8551	Goondiwindi	13139	Dalby
1482	Homeboin	8654	Homeboin	13140	Dalby
1483	Homeboin	10284	Goondiwindi	13155	Roma
1485	Homeboin	10479	Roma	13180	Mundubbera
1599	Mitchell	10809	Chinchilla	13248	Roma
1600	Mitchell	10841	Roma	13300	Goondiwindi
1601	Mitchell	10984	Mitchell	13471	Chinchilla
1603	Mitchell	11051	Homeboin	13455	Dalby
1604	Mitchell	11287	Mitchell	13518	Chinchilla
1605	Mitchell	11306	Mundubbera	13586	Dirranbandi
1609	Mitchell	11354	Eddystone	13682	Dalby
1610	Mitchell	11410	Surat	13710	Dalby
1773	Eddystone	11421	Dalby	13744	Goondiwindi
2339	Roma	11434	Taroom	13757	Chinchilla
2340	Roma	11492	Chinchilla	13809	Dalby
2414	Dirranbandi	11495	Surat	13820	St George
2621	Mitchell	11501	Taroom	13878	Chinchilla
2622	Mitchell	11523	Dalby	13882	Mundubbera
2623	Mitchell	11555	Dalby	13936	Mitchell
2686	Dirranbandi	11560	Roma	13951	Mitchell
2762	Homeboin	11645	Goondiwindi	13999	Goondiwindi
2770	Homeboin	11701	Chinchilla	14027	Roma
2822	Goondiwindi	11739	Taroom	14141	Dalby
2883	Homeboin	11740	Surat	14190	Taroom
2884	Homeboin	11743	Goondiwindi	14204	Taroom
2973	St George	11754	Mitchell	14307	Roma
2975	Homeboin	11758	Taroom	14388	Taroom
2976	Homeboin	11857	Homeboin	14506	Chinchilla
3475	Homeboin	11866	Homeboin	14598	Mundubbera
3476	Homeboin			14609	Taroom

TABLE 5. (Contd.)

14680	Taroom
14712	St George
14742	Dalby
14810	Roma
14857	Chinchilla
14861	Taroom
14906	Surat
14930	Roma
15036	Surat
15101	Surat
15124	Dalby
15171	Taroom
15183	Homeboin
15180	Goondiwindi
15302	Roma
15465	Goondiwindi
15473	Dirranbandi
15487	Mundubbera
15508	Chinchilla
15523	Homeboin
15525	Taroom
15590	Mundubbera
15624	Goondiwindi
15663	Goondiwindi
15670	Chinchilla
15696	Roma
15728	Taroom
15976	Goondiwindi
16000	Taroom
16029	Surat
16039	Goondiwindi
16065	Mundubbera
16140	Goondiwindi
16174	Roma
16204	Roma
16225	Taroom
16234	Dalby
16235	Roma
16264	Roma
16275	Goondiwindi
16281	Goondiwindi
16354	Goondiwindi
16400	Chinchilla
16445	Dalby
16476	Dirranbandi
16503	Goondiwindi
16524	Goondiwindi
16500	Dalby
16589	Taroom
16607	Taroom
16631	Roma
16654	Surat
16684	Roma
16686	Mundubbera
16735	Dirranbandi
16783	Dirranbandi
16788	Dirranbandi
16837	Dirranbandi
16984	Dalby
17070	Taroom
17191	Roma
17236	Roma
17385	Dalby
17435	Dalby
17511	Dalby
17689	Dalby
17877	Goondiwindi
17987	Dalby
18083	Dalby
22140	Goondiwindi
30054	Taroom
30316	Dalby
30346	Dalby
30535	Taroom
30788	Taroom
31127	Goondiwindi
31293	Goondiwindi
31371	Chinchilla
31489	Chinchilla
31860	Dalby
32735	Taroom
33283	Taroom
34768	Goondiwindi
34814	Goondiwindi
35251	Dalby
35458	Taroom
36075	Goondiwindi
New Bore	Taroom

<u>NSW Bores</u>

4024	St George
4032	St George
4099	St George
4121	St George
4132	St George
4163	St George
4185	St George
4578	Goondiwindi
4611	St George
4685	St George

<u>Converted petroleum exploration wells</u>

U.K.A. Alton West No. 1	Surat
U.K.A. Bennett No. 2	Dalby
M.O.C. No. 1 (Boyanda)	
U.K.A. Burunga South No. 1	Chinchilla
U.K.A. Cobbareena No. 1	Dalby
U.K.A. Currajong No. 1	Dalby
U.K.A. Crowder No. 1	Dalby
U.K.A. Crowder East No. 1	Dalby
U.K.A. Davidson No.	Dalby
U.K.A. Dockerill No. 1	Dalby
U.K.A. Dogwood No. 1	Chinchill
U.K.A. Kentucky No. 1	St George
A.A.O. Latemore East No. 1	Roma
U.K.A. Mt Driven No. 1	St George
A.R.O. No. 19 (Wallumbilla)	Roma
U.K.A. Moonie North No. 1	Dalby
U.K.A. Paloma No. 1	Surat
U.K.A. Retreat No. 1	Dalby
U.K.A. Tey No. 1	Dalby
U.K.A. Tingan No. 1	Goondwind
U.K.A. Widgewa No. 1	Dalby

TABLE 6. WIRELINE-LOGGED WATER-BORES IN THE EDDYSTONE 1:250 000 SHEET AREA

Reg. No.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E x	Analysed T.D.S. (ppm)	Salinity			Spudded in	Deepest aquifer presently tapped	Water-level (flows in m^3/day)	
										Conductivity ($\mu S/cm$) L, F	Field salinity (ppm NaCl)	$\frac{HCO_3^-}{Cl^-}$ (epm)			(ft)	(m)
1773	Wallace's	1668	800	765	508	244	233	G	-	-			Kld	Jkh	Pump	
4185	Woolshed No. 2*	1770	900	681	539	274	208	G	-	-			Jmb	Jlh	Pump	
11354	Karil*	1840	803	785	561	245	239	G	-	-			Jmb	Jlh	Pump	

* Schlumberger logs run for American Overseas Petroleum

x See text for explanation

TABLE 7. WIRELINE-LOGGED WATER-BORES IN THE TAROOM 1:250 000 SHEET AREA

No.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E [x]	Analysed T.D.S. (ppm)	Salinity: Conductivity (μS/cm) L, F	Salinity: Field salinity (ppm Na Cl)	Salinity: $\frac{HCO_3}{Cl}$ (epm)	Spudded in	Deepest aquifer presently tapped	Water-level (ft) (flows in m^3/day)	Water-level (m)
11434	Roche Dale	-	1000	767	-	305	234	Gn. Dt.	-	-	4,500		Jm	Jlh	29	9
11501	Bangildoon	-	1530	1413	-	466	431	G.N. Dt.	-	-	-		Jm	Jlh	46	14
11739	Langdale	-	2006	1947	-	611	593	G.N.	-	-	-		Jm	Jlh	150	46
11758	Belle Eau	-	1080	1073	-	329	327	G.N. Dt.	-	-	-		Jlh	Jlp	110	34
12236	Broadmere No. 4	-	962	873	-	293	266	G.N. Dt.	-	-	350		Jm	Jlh	30	9
12814	Moss Vale	-	1196	1683	-	365	513	G.N. Dt.	-	-	-		Jm	Jlh	24	7
14190	Alkoomie No. 2	-	1022	1015	-	312	309	G.N.	-	-	-		Jm	Jlh	170	52
14204	Wainui No. 2	-	1225	1188	-	373	362	G.N. Dt.	-	-	1,100		Jm	Jlh	100	30
14388	Bimbadeen	-	1216	1167	-	371	356	G.N. Dt.	-	-	500		Jm	Jlh	140	43
14609	Rushlan No. 2	-	1148	552	-	350	168	G.N. Dt.	-	-	-		Jlh	Jlh	161	49
14680	Acacia Plateau	-	935	927	-	285	28	G.N. Dt.	-	-	-		Jm	Jlh	130	40
14861	G	-	-	855	-	-	261	G.	-	-	-		Js?	Jlh	Pump	
15171	G	-	780	843	-	238	257	G.	-	-	-		Jm	Jlh	Flow	
15525	Robinson Creek	-	1048	902	-	319	275	G.N. Dt.	-	-	-		Jlh	Jlh	264	80
15728	Mayfield No. 3	-	1110	770	-	338	235	G.N. Dt.	-	-	1,700		Jm	Jlh	100	30
16000	Bridge Creek No. 3	-	900	1800 +	-	274	549 +	G.N. Dt.	-	-	-		Jm	Jlh	143	44
16225	Cudgee	-	2518	2441	-	767	744	G.N. Dt.	-	-	-		Jm	Jlp	127	39
16589	Carra	-	1635	1553	-	498	473	G.N. Dt.	-	-	900		Jm	Jlh	Flow	
16607	Kinnoul G		1955	1955	-	596	596	G.	-	-	-		Jm	Jlh	Pump	
17070	Moorland No. 4	-	1059	1055	-	323	322	G. Dt.	-	-	-		Jlh	Jlp	Flow	(90)
30054	Yurnga 1	-	982	785	-	299	239	G.N. Dt. E.	-	-	-		Jlh	Jlh	172	52
30535	Illuka	-	1900	1618	-	579	493	G.N. Dt.	-	-	-		Jm	Jlh	203	62
30788	Verbena Park	-	1000	996	-	305	304	G.N. Dt.	-	-	300		Jlh	Jlh	Flow	
32735	Taroom Town G	-	2246	2246	-	685	685						Jm	Jlp	Pump	
33283		-	1000	976	-	305	297	G.N. Dt.	-	-	800		Jm	Jlh	Flow	(13)
35458		-	1520	1507	-	463	459	G.N. Dt.	-	-	-		Jm	Jlh	58	17
New Bore	New Bore	-	-	3452	-	-	1052	G.N. Dt.	-	-	100		Jm	Jlp	Flow	(455)

G = logged by GSQ; logs available from Brisbane

x See text for explanation

TABLE 8. WIRELINE-LOGGED WATER-BORES IN THE MUNDUBBERA 1:250 000 SHEET AREA

Reg. No.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E[x]	Analysed T.D.S. (ppm)	Salinity: Conductivity (µS/cm) L, F	Salinity: Field salinity (ppm Na Cl)	Salinity: $\frac{HCO_3}{Cl}$ (epm)	Spudded in	Deepest aquifer presently tapped	Water-level (ft)	Water-level (m) (flows in m³/day)
11306	Bentley Park	-	1100	1151	-	335	351	G.N. Dt.	-		150		Jlh	Jlp	Flow	(33)
13180	Pontypool No. 2	-	1295	1286	-	395	392	G.N. Dt.	-				Jlh	Jlp	102	31
13882	Cluehead No. 2	771	1220	744	235	372	227	G.N. Dt.					Jle	Jlp	Flow	(small)
14598	Knockbine No. 3	-	1395	1134		425	346	G.N. Dt.	-				Jlh	Jlp	257	78
15487	Daldownie	-	1966	1946		599	593	G.N. Dt.	-				Jw	Jlp	101	31
15590	Beaumont	-	900	890		274	271	G.N. Dt.	-		100		Jlh	Jlp	Flow	(32)
16065	Bungabun	848	1281	954	258	390	291	G.N. Dt. E					Jlh	Jlh	22	7
16686	Knockbine No. 5	-	1050	1264		320	385	G.N. Dt.	-				Jlh	Jlp	196	60

x Seetext for explanation

TABLE 9. WIRELINE-LOGGED WATER-BORES IN THE MITCHELL 1:250 000 SHEET AREA

Reg. No.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E[x]	Analysed T.D.S. (ppm)	Salinity: Conductivity (µS/cm) L, F	Salinity: Field salinity (ppm NaCl)	Salinity: HCO_3/Cl (epm)	Spudded in	Deepest aquifer presently tapped	Water-level (ft) (flows in [illegible])	
285	Muckadilla	1173	3762	913	358	1147	109	G.	-	-	-		Klc	Klm?	11	3
387	Mitchell Town Bore*	1103	3007	2968	336	916	905	G.	-	-	-		Kld	Jlh	Pump	
388	Morven Town Bore*	1408	2648	2657	429	807	810	G.	-	-	-		Kld	Jlh	Pump	
1599	Parnassus*	1293	3424	3346	394	1044	1020	G.	-	-	-		Klc	Jlh	Pump	
1600	Woolshed*	1191	3025	3014	363	922	919	G.	-	-	-		Klc	Jlh	Flow, ceased	
1601	Bonus Downs*	1192	3030	3024	363	923	922	G.	-	-	-		Klc	Jlh	Flow, ceased	
1603	Oolandilla Creek*	1220	2869	2850	372	874	869	G.	-	-	-		Klc	Jlh	Flow, ceased	
1604	Annie Vale	1167	3205	588	356	977	179	G.					Klc	Jkh	Pump	
1609	Cytherea No. 1*	1164	2944	2892	355	897	881	G.	-	-	-		Klc	Jlh	Flow, ceased	
1610	Cytherea No. 2	1204	3408	3075	367	1039	937	G.T.	-	-	-		Klc	Jlh	Pump	
2622	Washpool Creek	1153	2738	2734	351	835	833	G. Dt.	569	720L	340	2.11	Klc	Js	Flow	(45)
2623	Washpool Creek	1255	3169	1805	383	966	550	G. Dt.	573	720L	350	2.09	Kld	Js?	70	21
3979	Crochdantigh	1163	2923	2921	354	891	890	G. Dt.	-	-	-		Klc	Jlh	14	4
4585	Leinster*	1176	2918	2915	358	889	888	G.	-	-	-	-	Klc	Jlh	Flow, ceased	
4687	Woolshed No. 2	1122	1800	1275	342	549	389	G.	-	-	-	-	Kld	Jkh	Pump	
10984	Horse Creek*	1137	710	560	347	216	171	G.	-	-	-		Juw	Jlh	Pump	
11287	Durella	-	1005	977	-	306	298	G.	1658	2800L	-	.009	T/Kld	Jkh	Pump	
11754	Dunkfeld	-	1177	1172	-	359	357	G. Dt.	-	-	750		Cz/Klc	Jkh	Flow	(90)
12106	Leinster West	-	1400	1339	-	427	408	G.	-	-	-	-	Klc	Jkh	Pump	?
13936	Bullagal	-	1100	1077	-	335	328	G.Dt.	1259	1675L	850	1.19	Klc	Jkh	Flow	(small)
13951	Mitchell No. 2	-	2920	2910	-	890	887	G.T.	-	-	-	-	Kld	Jlh	Flow	
2621	Eurella Creek*	1150	3775	3613	351	1151	1101	G.	-	-	-		Klc	Jlh	Flow	(small)

* Schlumberger logs run for American Overseas Petroleum

x See text for explanation

TABLE 10. WIRELINE-LOGGED WATER-BORES IN THE ROMA 1:250 000 SHEET AREA

Reg. No.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E	Analysed T.D.S. (ppm)	Salinity: Conductivity ($\mu S/cm$) L, F	Salinity: Field salinity (ppm NaCl)	Salinity: HCO_3 / Cl (epm)	Spudded in	Deepest aquifer presently tapped	Water-level (ft) (flows in m^3/day)	Water-level (m)
303	Roma Railway	1037	3705	1290	316	1129	393	G.	-	-	-		Kld	Jug?	Pump	
2339	Coinda	1074	2186	2092	327	666	638	G. Dt.	-	-	-		Kld	Js?	120	37
2340	Dalmally No. 2	1138	2700	568	347	823	173	G. Dt.	-	-	-		Klc	Kly?	Pump	
3850	Mt Abundance No. 1	-	1632	2392	-	497	729	G. Dt.	-	-	-		Klc	Jug	190	58
3851	Mt Abundance No. 116A	1196	3875	1621	365	1181	494	G. Dt.	-	-	-		Kld	Jug?	94	29
3852	Lochiel	973	932	310	297	284	94	Dt.	-	-	-		Kld	Kly	18	5
4257	Roma Downs	1049	1627	1185	320	496	361	G.N. Dt.	-	-	-		Kld	Klm	68	21
10479	Wandoan Test No. 2	799	2150	1097	243	655	334	G.T.	-	-	-		Jum	Jlh	Flow	
10841	Combarngo	875	1640	1615	267	500	492	G.T.	-	-	-		T/Kls	Klm	Flow	
11560	Roundhole	968	2004	1980	295	611	604	G.	-	-	-		Js	Jlh	Pump	
12421	Taunton	965	1122	1080	294	342	329	G.T.	-	-	-		Klc	Klm	Flow	
12700	Wallabella No. 4	926	1200 +	1045	282	366 +	318	G.N. Dt.	-	-	-		Klc	Klm	Flow	(9.1)
13038	Oakland No. 3	-	1630	1593	-	497	486	G. Dt.	-	-	-		Js	Jlh	117	36
13155	Wandolin No. 2	ca. 920	1141	1080	280	348	329	G.T.	-	-	-		Klc	Klm	Flow	
13248	Rippon Lea	935	1870	1715	285	570	523	G.T.	-	-	-		T/Klc	Klm	Flow	
13816	Coolabong	1010	1176	1170	308	358	357	G.N. Dt.	-	-	-		Klc	Klm	Flow	
14027	Dalkeith No. 2	-	1580	1530	-	482	466	G. Dt.	-	-	-		Kld	Jug	98	30
14307	Moraby	-	1707	1699	-	520	518	G. Dt.	1561	1790L	950	3.69	T/Klc	Klm	Flow	(90)
14810	Forest Grove No. 2	951	1862	1398	290	568	426	G.N. Dt.	-	-	-		Klc	Klm	Flow	(680)
14930	Dundonnell No. 4	923	2100	1081	281	640	329	G.N. Dt.	-	-	-		Klc	Klm	36	11
15302	Deep Water	-	1328	1311	-	405	400	G. Dt.	-	-	-		T/Klc	Kly?	60	18
15696	Jackbore No. 2	-	2037	867	-	621	264	G. Dt.	1350	1650L	900	1.90	Klc	Klm?	Flow	(small)
16174	Salisbury Creek	-	1850	1845	-	564	562	G. Dt.	1756	1870L	950	6.70	Q/Klc	Klm	Flow	(small)
16204	Pine Hills	-	1564	1554	-	477	474	G. Dt.	1954	2670L	1400	0.92	T/Klc	Klm	Flow	(90)
16235	Camelot	-	1700	1631	-	518	497	G. Dt.	-	-	870	-	T/Klc	Klm	Flow	(90)
16264	Moira Runda	-	2008	1977	-	612	603	G. Dt.	1535	1740L	850	3.34	Cz/Klc	Klm	Flow	(90)
16631	Iona	965	1200	1180	294	366	360	G.N. Dt.	-	-	-		Kld	Klm	Flow	(1365)
16684	Bardloming No. 2	951	1070	740	290	326	226	G.N. Dt.	-	-	-		Klc	Kly	12	4
17191	Maffra No. 1	901	1940	1860	275	591	567	G.N. Dt.	-	-	-		Klc	Jug	Flow	
17236	Maffra No. 2	923	1925	1752	281	587	534	G.N. Dt.	-	-	-		Klc	Jug	4	1
Petroleum Wells																
405	A.R.O. No. 19	1044	4959	1834	318	1511	559	G.	-	-	-		Kly	Js?	Pump	
14431	A.A.O. Latemore East	1024	1500	1120	312	457	341	G.N. Dt.	-	-	-		Kld	Klm	60	18

x See text for explanation

TABLE 11. WIRELINE-LOGGED WATER-BORES AND CONVERTED PETROLEUM WELLS IN THE CHINCHILLA 1:250 000 SHEET AREA

R.N.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E[x]	Analysed T.D.S. (ppm)	Salinity: Conductivity (µS/cm) L, F	Salinity: Field salinity (ppm NaCl)	Salinity: HCO_3 / Cl (epm)	Spudded in	Deepest aquifer presently tapped	Water-level (ft)	Water-level (m) (flows in m³/day)
10809	Staines Por 71	-	1211	2357	-	369	718	G. Dt.					JKk	Jlp	54	16
11492	Butter Factory No. 1	-	1067	656	-	325	200	G. Dt.					Jw	Js	58	18
11701	Coolamunda	-	714	650	-	218	198	G.					Kly	Juo	Pump	
12136	Binbian Plains	987	1028	950	301	313	290	G.N. Dt.					Klc	Klm	130	40
12188	Redbank	946	1250	1234	288	381	376	G.N. Dt.					T	Klm	Flow	(10)
13471	Hell Hole	1034	1092	1010	315	333	308	G.N. Dt.					Jlh	Jlh	200	61
13518	Glenolive	989	1335	1215	301	407	370	G.N. Dt.					Klm	Jug	30	9
13757	Wieambilla	994	1040	914	303	317	279	G.N. Dt.					Jug?	Js	49	15
13878	Brigalow	1033	1303	1263	315	397	385	G.N. Dt.					T/Jw	Jlm	41	12
14506	Bawnduggie	1048	1233	1130	319	376	344	G.N. Dt.					Jle	Jle	334	102
14857	Dundee No. 3	995	1440	1314	303	439	401	G.N. Dt.					T/Klc	Klm	Flow	(14)
15508	Glen Laurel No. 5	-	1785	1768	-	544	539	G. Dt.					Jug	Jlh	110	34
15670	Ride & Sons Bore	1063	1228	1110	324	374	338	G.N. Dt.					Klm	Jug	138	42
16400	Golden Valley	1080	1500	1525	329	457	465	G.N. Dt.					C_z/Js	Jlh	116	35
31371	Tongy Park	-	3020	3013	-	920	918	G. Dt. E.			790		Js	Jlp	Pump	
34227	Weringa		1170	1330		357	405	G.N. Dt.					Jw	Jlp	249	76
Petroleum Wells																
8406	M.O.C. No.1 (Poyenda)	1070	4721	2396	326	1439	730	G. Dt.					Juo	Jlh	0	0
22541	U.K.A. Burunga South No. 1	1042	8524	2497	318	2598	761	G.N. Dt.					Jw	Jlp	176	54
22395	U.K.A. Dogwood No. 1	975	4138	4092	297	1261	1247	G. Dt.					Juo	Jlp	119	36

x See text for explanation

TABLE 12. WIRELING-LOGGED WATER-BORES IN THE HOMEBOIN 1:250 000 SHEET AREA

Reg. No.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E x	Analysed T.D.S. (ppm)	Salinity: Conductivity (μS/cm) L, F	Salinity: Field salinity (ppm Na Cl)	Salinity: HCO_3 / Cl (epm)	Spudded in	Deepest aquifer presently tapped	Water-level (ft)	Water-level (m) (flows in m^3/day)
24	Chippeway	690	3054	3050	210	931	930	G. Dt. F.	686	770 F	400	1.96	Cz/Klg	Jug	Flow	(Large)
37	Cypress	729	3103	3022	222	946	921	G. Dt. F.	834	880 F	470	2.04	Cz/Klg	Jug	Flow	(2270)
39	Powrunna	808	3534	3499	246	1077	1066	G. Dt. F.	795	825 F	500	1.37	Cz/Klg	Jkh	Flow	(1135)
40	Neabull	802	3505	3499	244	1068	1066	G. Dt. F.	708	720 F	430	2.09	Cz/Klg	Ja	Flow	(1590)
62	Hopeland Trust	1099	4496	4476	335	1370	1364	G. Dt. F.	689	870 L	340	3.05	Cz/Klg	Jlh	Flow	(455)
89	Maroungle	754	3131	3133	230	954	955	G. Dt. F.	889	1210 F	580	1.44	Cz/Klg	Jug	Flow	(2270)
97	Mona Trust	700	2778	1984	213	847	605	G.	-	-	-	-	Cz/Klg	Jkh	Flow	
149	Weirbolla	744	3333	3316	227	1016	1011	G. Dt. F.	604	660 F	350	1.20	Cz/Klg	Ja	Flow	2545
150	Wild Horse	647	2549	2548	197	777	777	G. Dt. F.	733	737 F	370	2.16	Q/Klg	Jkh	Flow	(3635)
168	Yunnerman	779	2231	2002	237	680	610	G.T.	-	-	-	-	Klg?	Jkh	Pump	
1482	Binda No. 1	692	1609	700	211	490	213	G. Dt.	904	1020 L	500	2.94	Cz/Kls	Jkh	Flow	(227)
1483	Binda No. 2	688	1952	1835	210	595	559	G.T.	-	-	-	-	Cz/Kls	Jkh	Flow	
1485	Bindebango No. 2	734	1847	1811	224	563	552	G. Dt. F.	-	-	400			Jkh	Flow	(1590)
2762	Foyle View	1049	3120	776	320	951	236	G.	-	-	-	-	Cz/Klg	Klm	68	21
2770	Maranda Downs	952	3245	3186	290	989	971	G. Dt.	-				Cz/Kls	Ja	86	26
2883	Grassmere No. 1	809	1760	1664	247	536	507	G. Dt. F.	595	631 F	350	1.70	Cz/Klg	Jkh	Flow	(2270)
2884	Grassmere No. 2	757	1800	1879	231	549	573	G. Dt. F.	-	-	360	-	Cz/Kls	Jkh	Flow	(1820)
2975	Homeboin No. 2	852	2322	2281	260	708	695	G.	-	990 F	-	-	Klg?	Ja	Pump	
2976	Homeboin No. 3	-	3353	3095	-	991	943	G. Dt.	1753	2850 L	1250	0.22	Klg?	Ja	68	21
3475	Abbieglassie No. 1	-	2600	537	-	792	164	G. Dt.	-	-	-	-	Klc	Jkh?	Pump	
3476	Abbieglassie	-	3020	784	-	920	239	G. Dt.	-	-	-	-	Klc	Ja?	Pump	
3477	Albany Downs	1100	3082	950	3353	939	290	G. Dt.	-	-	-	-	Klc	Ja?	Flow	
4587	Tongy No. 1	1013	2800	1322	309	853	403	G. Dt.	-	-	-	-	Klc	Ja?	98	30
4999		-	2808	2800	-	856	853	G. Dt.	-	-	-	-	Cz/Klc	Jlh	34	10
8654	Coolaman	-	1000	950	-	305	290	G. Dt.	1063	1320 F	550	0.97	Cz/Klc	Jkh	Flow	
11051	Toomoo No. 4	-	1053	1047	-	321	319	G. Dt.	1126	1540 F	750	0.07	Cz/Klc	Jkh	Flow	(45)
11857	Begonia No. 2	800	1995	2026	244	608	617	G. Dt.	1284	600 F	700	1.39	Cz/Klg	Klm	Flow	(small
11866	Gunnawarra	ca. 950	995	980	290	303	299	G.T.	-	-	-	-	Cz/Klc	Jkh	Flow	
11954	Tullochard	915	1338	1320	279	408	402	G.T.	-	-	-	-	Cz/Klc	Jkh	Flow	
12883	Lullworth	638	1135	2385	194	346	727	G. Dt. F.	733	885 L	800	2.29	Cz/Klg	Jkh	Flow	(4000)
15183	Tongy 4	ca. 850	1210	1000	259	369	305	G.	-	2640 F	-	-	Cz/Klc	Jkh	Flow	
15523	Chesterfield No. 2	795	4715	3795	242	1437	1157	G. Dt. F.	-	-	-	-	Cz/Klg	Jlh	Abandoned	

x See text for explanation

TABLE 13. WIRELINE -LOGGED WATER-BORES AND CONVERTED PETROLEUM WELLS IN THE SURAT 1:250 000 SHEET AREA

Reg. No.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E [x]	Analysed T.D.S. (ppm)	Salinity: Conductivity (μS/cm) L, F	Salinity: Field salinity (ppm Na Cl)	Salinity: HCO_3 / Cl (epm)	Spudded in	Deepest aquifer presently tapped	Water-level (ft) (flows in m^3/day)	Water-level (m)
10	Borah	1096	4843	4808	334	1476	1465	G. Dt. F	1080	1150 L	-	6.53	Klc	Jlh	Flow	(365)
127	Thomby	750	3980	3975	229	1213	1212	G. Dt. F	-	-	600	-	Klg	Jug	Flow	(2270)
4051	Noorindoo No. 1	-	3470	2706	-	1058	825	G. Dt.	-	-	-	-	Klg	Klm?	121	37
4052	Noorindoo No. 2	877	3103	2558	267	946	780	G. Dt.	-	-	-	-	Klg	Klm	9	3
4053	Noorindoo No. 3	892	3441	3436	272	1049	1047	G. Dt.	-	-	-	-	Klg	Jug	16	5
11410	Canmaroo	-	2550	2180	-	777	664	G. Dt.	2202	2340 L	550	3.86	Klg	Klm	Flow	(36)
11495	Kilburnie	-	1443	1370	-	440	418	G. Dt.	-	-	-	-	T/Kls	Kly	10	3
11740	Woodlands	908	1965	1856	277	599	566	G. Dt. Cal	1881	2000 L	1050	4.81	T/Kls	Klm	Flow	(small)
14906	Corack	-	2825	2803	-	861	854	G. Dt.	2081	2150 L	-	5.78	Klg	Jug?	Flow	(small)
15036	Meandarra Town	925	3686	3678	282	1123	1121	G. Dt.	-	-	550	-	Klg	Jug	50	15
15101	Pongi	-	2380	2351	-	725	717	G. Dt.	1766	2000 L	-	7.35	Klg	Klm	Flow	(45)
16029	Stirling Park	-	2000	1929	-	610	588	G. Dt. F.	1979	2050 L	550	5.29	Klg	Klm	Flow	(365)
16654	Innisvale	-	2400	2383		732	726	G. Dt.	-	-	500	-	Klg	Klm	Flow	(small)
Petroleum Wells																
	U.K.A. Alton West No. 1	699	6882	4116	213	2097	1255	G. Dt.			500		Klg	Jug	Flow	(590)
	U.K.A. Paloma No. 1	1002	7659	4025	305	2334	1229	G. Dt.			-		Klg	Jug	61	19

x See text for explanation

TABLE 14. WIRELINE-LOGGED WATER-BORES AND CONVERTED PETROLEUM WELLS IN THE DALBY 1:250 000 SHEET AREA

Reg. No.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E[x]	Analysed T.D.S. (ppm)	Salinity: Conductivity (μS/cm) L, F	Salinity: Field salinity (ppm NaCl)	Salinity: HCO_3^-/Cl^- (epm)	Spudded in	Deepest aquifer presently tapped	Water-level (ft)	Water-level (m) (flows in m^3/day)
11421	Lomond Downs	-	1065	1055	-	325	322	G.N. Dt.	1691	1840 L	1050	6.38	Kld	Klm	Flow	(small)
11523	Bathampton	-	1700	1663		518	507	G.N. Dt.	2004	2820 L	1700	1.13	Cz/KLS	Kly	103	31
11555	Wahroonga No. 1	-	1122	1082	-	342	330	G. Dt.	-	-	-	-	Cz/Klc	Kly	94	29
12190	Thuruna No. 2	-	1208	1211	-	368	369	G.N. Dt.	1585	1720 L	-	4.62	Cz/Kld	Klm	20	6
12278	Wahroonga No. 2	-	1400	1336	-	427	407	G.N. Dt.	2366	3680 L	2700	0.37	Cz/Klc	Klm	84	26
12447	Warroon	-	2000	1852	-	610	565	G. Dt.	-	-	870		Cz/Klc	Klm	Flow	(910)
12565	Cabawin	-	1287	1214		393	370	G.N. Dt.	1877	1990 L	1250	5.14	Cz/Klc	Klm	Flow	(7)
12569	Greenfield	895	1975	1963	273	602	598	G.N. Dt.	2006	2160 L	1100	8.17	Cz/Klc	Klm	Flow	(small)
12633	Warroon No. 2	-	1800	1772	-	549	540	G.N. Dt.	1912	2070 L	1250	5.72	Cz/Klc	Klm	Flow	(small)
13030	Strathalbyn	ca.950	2110	2066	290	644	630	G.T.	-	-	-	-	Cz/Klc	Klm	Flow	
13139	Bramston	-	1277	1225	-	389	373	G.N. Dt.	-	-	-	-	Cz/Kld	Klm	Flow	(small)
13140	Bellevue Park	ca.950	1502	1450	290	458	439	G.T.	-	-	-	-	Cz/Klc	Klm	Pump	
13455	Barramornie No. 3	925	1775	1750	282	541	533	G.T.	-	-	-	-	Cz/Kls	Klm	Flow	
13682	Barramornie	-	1860	1752	-	567	534	G.N. Dt.	1780	2140 L	1100	3.76	Cz/Kls	Klm	Flow	(36)
13710	The Oaks	-	1757	1728	-	535	527	G.N. Dt.	1980	2160 L	1100	8.05	Cz/Klc	Klm	Flow	(9)
13809	Belara	-	1720	1626	-	524	496	G.N. Dt.	2042	2100 L	1000	6.46	Cz/Klc	Klm	Flow	(90)
14141	Tara Town No. 2	1022	2006	1821	312	611	555	G.N. Dt.	-	-	-	-	Kld	Jug	140	43
14742	Inverness	-	1495	1436	-	456	438	G.N. Dt.	-	-	750	-	Cz/Klc	Klm	Pump	
15124	Moonie Weir	-	1096	1009	-	334	308	G.N. Dt.	-	-	-	-	Cz/Klc	Kly	8	2
16234	Warroma	-	2500	2493	-	762	760	G. Dt.	1812	2010 L	800	10.99	Cz/Klc	Jug?	Flow	(45)
16445	Coradon	-	1340	2382	-	408	726	G.N. Dt.	-	-	-	-	Cz/Kls	Jug	136	41
16550	Pippinford		2212	2082		674	635	G. Dt.	2019	2160 L	1050	5.83	Cz/Kls	Klm	Flow	(70)
16984	Talinga	-	1994	1914	-	607	584	G.N. Dt.	-	-	-	-	Cz/Kld	Jug	91	28
17385	Ringwood Park	-	1785	1563	-	544	476	G. Dt.	2032	1925 L	920	7.37	Cz/Klc	Klm	Flow	(small)
17435	Currajong No. 3	-	2850	2706	-	869	825	G. Dt.	1746	1820 L	900	17.61	Cz/Kls	Klm	Flow	(23)
17511	Willara	-	1530	1515	-	466	462	G. Dt.	1977	2090 L	1100	7.38	Cz/Klc	Klm	Flow	(23)
17689	Burnbrae		2150	2110		655	643	G.N. Dt.	1850	2725 L	1700	0.62	Cz/Kld	Jug	9	3
17986	The Deep	-	2436	2390	-	743	728	G.N. Dt.	1423	1520 L	950	4.28	Cz/Klc	Jug	114	35
18083	Gilgi	-	1230	1081	-	375	329	G. Dt.	5366	9500 L	6000	0.04	Cz/Kld	Klm	55	17
30316		-	2108	2046	-	643	624	G.N. Dt.	1321	1650 L	900	3.19	Cz/Klc	Klm	Flow	small
30346	Duffields Bore	-	1660	1544	-	506	471	G.N. Dt.	1519	1570 L	1200	5.71	Cz/Klc	Klm	Flow	(4.5)
31860	Tullaville	-	1652	1562	-	504	476	G.N. Dt.	1764	2300 L	1400	1.46	Cz/Klc	Klm	Flow	(11)
35251	Biddybrook No. 2	-	2118	2064	-	645	629	G. Dt.	1438	1640 L	750	4.14	Cz/Klc	Klm	Flow	(23)

x See text for explanation

Reg. No.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E[x]	Analysed T.D.S. (ppm)	Salinity: Conductivity (μS/cm) L, F	Salinity: Field salinity (ppm Na Cl)	Salinity: HCO_3/Cl (epm)	Spudded in	Deepest aquifer presently tapped	Water-level (ft) (flows in m^3/day)	Water-level (m)
Petroleum Wells																
	U.K.A. Bennett No. 2	940	5669	2059	287	1728	628	G. Dt.					Cz/Kld	Jug	62	19
	U.K.A. Cobbareena No. 1	1092	5170	1385	333	1576	422	G. Dt.					Kly	Jug	135	41
	U.K.A. Crowder No. 1	855	5864	2528	261	1787	771	G. Dt.					Klc	Jug	15	5
	U.K.A. Crowder East No. 1	860	5544	2507	262	1690	764	G. Dt.					Kld	Jug	25	8
	U.K.A. Currajong No. 1	844	6143	2805	257	1872	855	G.					Klc	Jug	13	4
	U.K.A. Davidson No. 1	933	7524	1546	284	2293	471	G. Dt.			1200		Cz/Klc	Klm	Flow	(9)
	U.K.A. Dockerill No. 1	832	6009	1630	254	1832	497	G. Dt.			850		Cz/Klc	Klm	Flow	(45)
	U.K.A. Moonie North No. 1	885	6012	2436	270	1833	742	G. Dt.					Cz/Klc	Jug	43	13
	U.K.A. Retreat No. 1	913	6233	2180	278	1900	665	G. Dt.					Cz/Klc	Jug	65	20
	U.K.A. Tey No. 1	949	5374	1667	289	1638	508	G. Dt.			900		Cz/Kld	Jug	Flow	(4.5)
	U.K.A. Widgewa No. 1	838	6183	2736	255	1885	834	G. Dt.					Klc	Jug	30	9

x See text for explanation

TABLE 15. WIRELINE-LOGGED WATER-BORES IN THE DIRRANBANDI 1:250 000 SHEET AREA

Reg. No.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E[x]	Analysed T.D.S. (ppm)	Salinity: Conductivity (µS/cm) L, F	Salinity: Field salinity (ppm Na Cl)	Salinity: HCO_3^-/Cl^- (epm)	Spudded in	Deepest aquifer presently tapped	Water-level (ft)	Water-level (m) (flows in m^3/day)
55	Eugen	712	3430	3320	217	1046	1012	G. Dt. F.	761	770 F	600	2.06	Cz/Klg	Jug	Flow	(3410)
64	Ingle	-	3322	3324	-	1013	1013	G. F. Dt.	921	935 F	500	3.87	Cz/Klg	Jkh	Flow	(5000)
147	Whyenbah	667	3132	3097	203	955	944	G. Dt. F.	652	660 F	380	2.36	Cz/Klg	Klm	Flow	(2730)
167	Yanco North	564	2400	2390	172	732	728	G. Dt. F.	710	715 F	400	2.09	Cz/Klg	Jkh	Flow	(5230)
2414	Yamburgan	729	3103	3022	222	946	921	G. Dt. F.	946	803 F	470	3.58	Cz/Klg	Jug	Flow	(2270)
2686	Queens Birthday	564	2102	2064	172	641	629	G. Dt. F. E.	653	605 F	1000	2.19	Cz/Klg	Jkh	Flow	(5365)
3819	Dunbar	588	2476	2207	179	755	673	G. Dt. F.	1445	1430 F	720	5.39	Cz/Klg	Jkh	Flow	(135)
3820	Whitably	628	2800	2135	191	853	651	G. Dt. F.	729	715 F	410	2.50	Cz/Klg	Jkh	Flow	(1820)
4042	Narine	540	3098	3097	165	944	944	G. Dt.	1603	1650 F	820	4.94	Cz/Klg	Klm	Flow	(590)
4918	Wyenbah No. 1	623	2850	2840	190	869	866	G. Dt. F.	943	880 F	600	2.69	Cz/Klg	Klm	Flow	(1820)
4920	Bullindigie	605	3057	2997	184	932	913	G. Dt. F.	1167	1210 F	600	4.90	Cz/Klg	Jkh	Flow	
4921	Cawildi	577	3000	2979	176	914	908	G. Dt. F.	1241	990 F	640	5.12	Cz/Klg	Jkh	Flow	(730)
13586	Glendon	-	1354	1309	-	413	399	G. Dt.	9878	16,500 F	8200	0.025	Cz/Klg	Klc	Small trickle	(2230)
15473	Book Book No. 2	-	2888	2889	-	880	881	G. Dt. F.	916	803 F	480	3.34	Cz/Klg	Jkh	Flow	
16476	Yartoo	-	2467	2465	-	752	751	G. Dt. F.	807	990 F	780	2.84	Cz/Klg	Jkh	Flow	(2760)
16735	Ballandool No. 2	-	3400	1615	-	1036	492	G. Dt. F.	-	660 F	480	-	Cz/Klg	Jkh	Flow	(1500)
16783	Calooma	-	4316	3300	-	1315	1006	G. Dt. F.	-	770 F	750	-	T/Klg	Jkh	Flow	(1820)
16788	Koomalah	-	3600	2700	-	1097	823	G. Dt. F.	-	1430 F	400	-	Klg	Klm	Flow	(910)
16837	Oban	-	3000	2888		914	880	G. Dt. F.	784	825 F	400	3.03	Cz/Klg	Jkh	Flow	(2455)

x See text for explanation

TABLE 16. WIRELINE-LOGGED WATER-BORES AND CONVERTED PETROLEUM WELLS IN THE ST GEORGE 1:250 000 SHEET AREA

Reg. No.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E[x]	Analysed T.D.S. (ppm)	Salinity: Conductivity ($\mu S/cm$) L, F	Salinity: Field salinity (ppm NaCl)	Salinity: HCO_3^- / Cl^- (epm)	Spudded in	Deepest aquifer presently tapped	Water-level (ft) flows in	Water-level (m) m^3/day
59	Geralda	805	3965	3951	245	1208	1204	G. Dt.	-	-	-	-	Q/Klg	Jp	44	13
73	Kaywanna Trust	760	4341	4330	232	1323	1320	G. Dt. F.	-	1100 F	500	-	Klg	Jp	Flow	(1635)
106	Myall Plains	630	3553	2873	192	1083	876	G. Dt. F.	-	1045 F	700	-	Cz/Klg	Klm?	Flow	(3180)
132	Weengallon No. 1	652	3666	3663	199	1117	1116	G. Dt. F.	-	1210 F	490	-	Q/Klg	Jp	Flow	(4045)
133	Weengallon No. 2	728	3762	3761	222	1146	1146	G. Dt. F.	-	920 F	640	-	Q/Klg	Jp	Flow	(1545)
134	Weengallon No. 3	750	3998	3998	229	1218	1218	G. Dt. F.	-	902 F	550	-	Klg	Jp	Flow	(590)
397	St George	655	2700	2448	200	823	746	G. Dt. F.	-	7040 F	390	-	Cz/Klg	Klm	Flow	(1365)
2973	Hollymount	780	3001	2946	238	914	898	G. Dt. F.	-	1100 F	500	-	Klg	Klm	Flow	(455)
4028	Newingar	648	3610	3604	198	1100	1098	G. Dt. F.	-	-	600	-	Q/Klg	Jp	Flow	(2730)
4043	Noondoo	572	3586	3442	174	1093	1049	G. Dt. F.	-	1056 F	500	-	Cz/Klg	Jug	Flow	(1635)
4044	Maxlands	583	3568	3534	178	1087	1077	G. Dt. F.	-	1869 F	600	-	Q/Klg	Jp	Flow	(2455)
4045	Bullwarrie	562	3614	3614	171	1101	1101	G. F.	-	1045 F	640	-	Q/Klg	Jug	Flow	(2910)
4399	Boombah	648	3024	2182	197	922	665	G.	-	880 F	-	-	Cz/Klg	Klm	Flow	
4401	Thuraggie	644	2988	2964	196	910	903	G. Dt. F.	-	1320 F	600	-	Cz/Klg	Klm	Flow	(910)
13820	Noondoo Trust	-	3867	3865	-	1178	1178	G. Dt. F.	-	770 F	550	-	Cz/Klg	Jug	Flow	(4090)
14712	Buckinbah No. 2	-	3057	3034	-	932	925	G. Dt. F.	-	990 F	600	-	Cz/Klg	Klm	Flow	(1635)
NSW Bores																
4024	Boomi	580	4008	3275	177	1221	998	G. Dt. F.	795	825 F	450	3.48	Cz/Klg	Jp	Flow	(3090)
4032	Boronga No. 1	650	4338	3795	198	1322	1157	G. Dt. F.	778	792 F	400	2.76	Cz/Klg	Jp	Flow	(2730)
4099	Careunga No. 1	660	4013	3601	201	1223	1098	G. Dt. F.	848	836 F	450	3.92	Cz/Klg	Jp	Flow	(910)
4121	Coubal	572	3991	3981	174	1216	1213	G. Dt. F.	746	770 F	410	4.23	Cz/Klg	Jp	Flow	(3090)
4132	Dolgelly	637	4086	4042	194	1245	1232	G. Dt. F.	823	814 F	430	3.90	Cz/Klg	Jp	Flow	(1365)
4163	Careunga No. 2	641	4014	3334	195	1223	1016	G. Dt. F.	808	792 F	450	3.94	Cz/Klg	Jp	Flow	(4090)
4185	Euraba	626	4002	4008	191	1220	1222	G. Dt. F.	1012	902 F	530	3.63	Cz/Klg	Jp	Flow	(2385)
4611	Welbondongah	596	3734	3240	182	1138	987	G. Dt. F.	757	792 F	400	4.26	Cz/Klg	Jp	Flow	(2865)
4685	Boronga No. 2	-	4570	4250	-	1393	1295	G. Dt. F.	819	825 F	420	2.87	Cz/Klg	Jp	Flow	(3180)
Petroleum Wells																
	U.K.A. Kentucky No. 1	778	7041	3624	237	2146	1105	G. Dt.	-	-	900	-	Klg	Jug	Flow	(90)
	U.K.A. Mt Driven No. 1	672	5720	3802	205	1743	1159	G. Dt. F.	-	-	500	-	Q/Klg	Jug	Flow	(2275)

x See text for explanation

TABLE 17. WIRELINE-LOGGED WATER-BORES AND CONVERTED PETROLEUM WELLS IN THE GOONDIWINDI 1:250 000 SHEET AREA

Reg. No.	Name	Elevation (ft)	Depth drilled (ft)	Depth logged (ft)	Elevation (m)	Depth drilled (m)	Depth logged (m)	Logs available G, N, Dt, T, F, E [x]	Analysed T.D.S. (ppm)	Salinity: Conductivity (μS/cm) L, F	Salinity: Field salinity (ppm Na Cl)	Salinity: HCO_3 / Cl^- (epm)	Spudded in	Deepest aquifer presently tapped	Water-level (ft)	Water-level (m) (flows in m^3/day)
2822	North Callandoon	685	3149	3094	209	960	943	G. Dt. F.	947	1175 L	600	2.69	Cz/Klc	Jug	Flow	(2270)
8551	Billa-Billa		982	983	-	299	300	G.N. Dt.	-		1200		Kly	Klm	Flow	(36)
10284	Yagaburne No. 3		988	820	-	301	250	G.N. Dt.	1206	1700 L	1100	0.88	Cz/Kly	Jug	Flow	(14)
11645	Euloma		1170	934	-	357	285	G. Dt.	1469	1675 L	840	3.27	Cz/Kly	Klm	Flow	(23)
11950	Wyaga No. 2	-	1200	709	-	366	216	G.N.	1264	1950 L	1100	0.59	Juo	Jug	36	11
11743	Monte Cristo	760	1120	990	232	341	302	G.T.	-	-	-		Kly	Klm	Flow	-
11995	Aronui	844	1120	871	257	341	265	G.N. Dt.	-	-	-		Juo	Jug	25	8
12088	Farleigh No. 5	-	1015	578		309	176	G.N. Dt.	-	-	-		Kly	Klm	42	13
12158	Iona No. 2	-	1000	911		305	278	G.N. Dt.	1409	1650 L	1200	2.59	Cz/Juo	Jug	Flow	(9)
12631	Gillina No. 2	-	1008	976		307	297	G.N. Dt. E.	-	-	750		Cz/Juo	Jug	Flow	(9)
12639	Bentwood	-	2020	1956	-	616	596	G.	1472	1675 L	800	3.28	Cz/Klm	Klm	Flow	
12702	Wyaga No. 3	-	1116	-	-	340	-	Dt.	-	-	-		Cz	Jug	42	13
12714	Wyaga No. 4	945	1225	827	288	373	252	G	-	-			Cz/Juo	Jug	Pump	
13300	Springfield	-	1049	1034	-	320	315	G.N. Dt.	851	1190 L	850	2.20	Cz/Klm	Jug	Flow	(small)
13744	Murra Cul Cul No. 2	-	1161	961	-	354	293	G.N. Dt.	1495	1680 L	950	8.34	Kld	Klm	Flow	(23)
13999	Wondalli	-	1233	1236	-	376	377	G.N. Dt.	1085	1325 L	650	3.99	Cz/Juo	Jug	Flow	(90)
15180	Githawin No. 4	-	1004	676		306	206	G.N. Dt.	1063	1450 L	750	1.55	Cz/Klm	Klm	Flow	(2.7)
15465		-	1110	861	-	338	262	G.N. Dt.	-	-	-	-	Klg	Klc	300	91
15624	Kildonnan No. 11	-	1200	1226		366	374	G.N. Dt.	947	1240 L	600	2.87	Klm	Jug	Flow	(68)
15663	Melness	-	1095	1069	-	334	326	G.N. Dt.	1092	1330 L	700	4.82	Cz/Juo	Jug	Flow	(68)
15976	Zilzie No. 2	-	1223	1221	-	373	372	G.N. Dt.	1044	1260 L	850	2.90	Cz/Klm	Jug	Flow	(90)
16039	Lapunyah	-	3300	3199	-	1006	975	G. Dt.	-	-	1300	-	Klg	Klm	Flow	(1135)
16140	O.K. No. 2		2127	2111		648	643	G. Dt.	1686	1740 L	1030	9.44	Kld	Jug	Flow	(45)
16275	Kulai		1108	1078		338	329	G. Dt.	1703	2030 L	1000	2.17	Cz/Kly	Juo	Flow	(45)
16281	Zilzie No. 3	-	1210	1211	-	369	369	G.N. Dt.	1129	1240 L	900	3.27	Cz/Juo	Jug	Flow	(435)
16354	Undabri	-	2238	2137	-	682	651	G. Dt.	1767	2070 L	1000	2.66	Cz/Juo	Jp	Flow	(45)
16503	Torridon No. 2	-	1000	990	-	305	302	G.N. Dt.	1122	1220 L	850	4.04	Cz/Klm	Jug	Flow	(45)
16524	Mooroondu No. 2	-	1265	1256	-	386	383	G.N. Dt.	1158	1800 L	950	0.59	Klm	Jug	Flow	(4.5)
17877	Merinda No. 2	980	1203	581	299	367	177	G.N. Dt.					Juo	Jug	Flow	(4.7)
22140	Arrowfield	-	1580	1338	-	482	408	G.N. Dt.	1246	1600 L	850	1.64	Kly	Juo	90	27
31127	Nindalyup	-	895	646	-	273	197	G.N. Dt.					Juo	Jug	21	6
31293		-	-	594	-	-	181	G.N. Dt.	-	-	-	-	Cz/Juo	Jug	46	14
34768		-	1017	1023	-	310	312	G.N. Dt.	1139	1300 L	700	5.71	Cz/Klm	Jug	Flow	(340)
34814		-	1370	1353	-	418	412	G.N. Dt.	1034	1300 L	700	3.58	Cz/Juo	Jug	Flow	(68)
36075		-	1154	690		352	210	G.N. Dt.	-	-	-	-	Juo	Jug	43	13
4578	Tulloona No. 2 (N.S.W. Bore)	681	3664	2200	208	1117	671	G. Dt. F.	834	1025 L	450	3.94	Cz/Klg	Jp	Flow	(5000)
Petroleum Well																
22181	U.K.A. Tingan No. 1	683	5957	3295	208	1816	1004	G. Dt. F.			1000		Cz/Klg	Jp	Flow	(2045)

x See text for explanation

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THE TABLES

Tables 6 to 17 detail information for bores from each 1:250 000 Sheet area; each bore is located on Plate 1. The various headings in the tables are discussed below. Consolidated statistics for all bores and for bores by Sheet areas are presented in Tables 2 and 3.

1) Reg. No. The Registered Number is the number issued for each bore, by the Queensland Irrigation and Water Supply Commission in most cases. In cases where a subheading 'NSW Bores' appears, the numbers are those issued by the New South Wales Water Conservation and Irrigation Commission. Considerable data on the bores are available from these organizations e.g. strata penetrated, water supplies at various levels, details of bore casings.

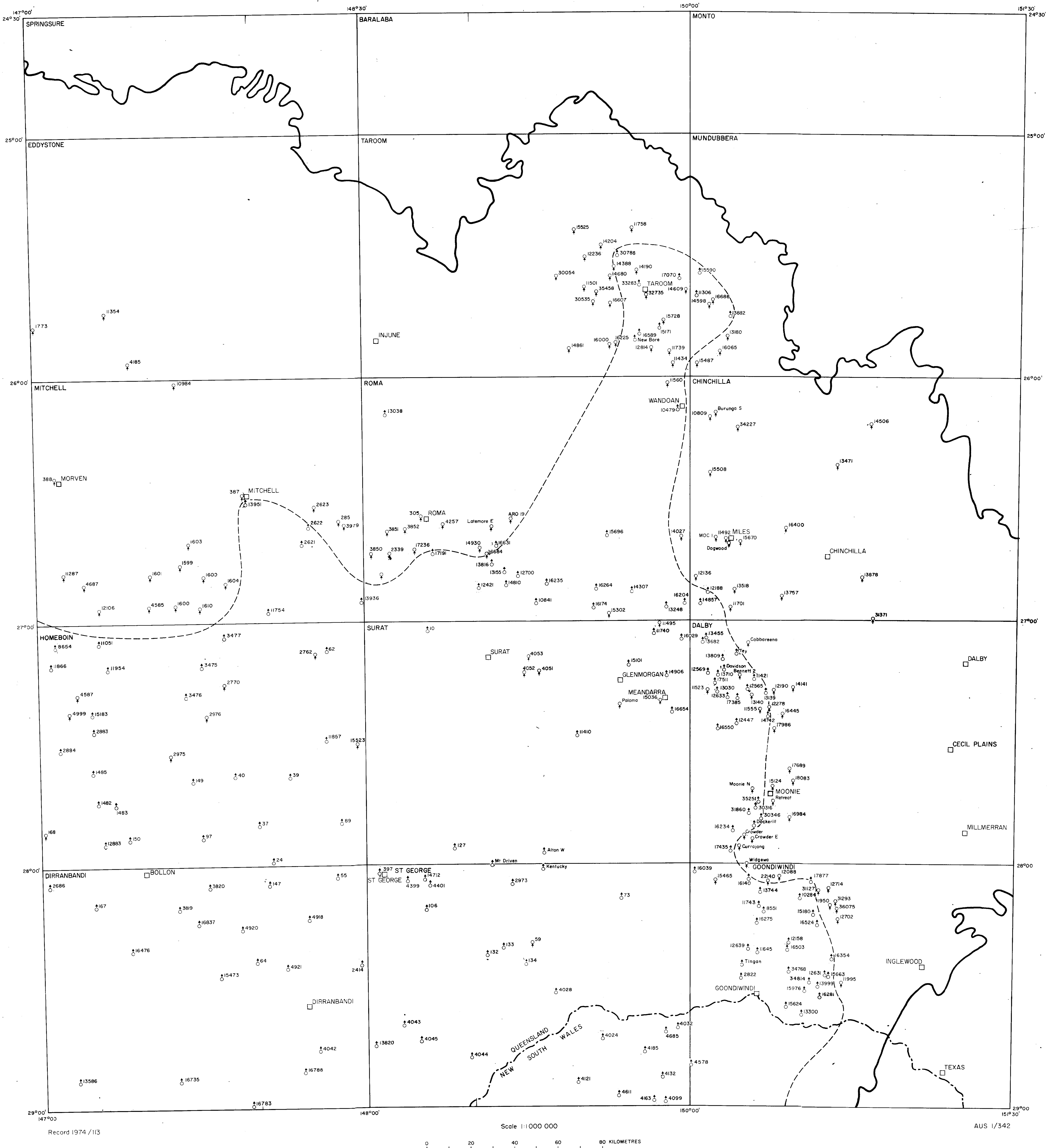
2) Name. Names are applied to the bores by their owners, and recorded by the two water supply commissions.

3) Elevation. The elevation above mean sea level of the ground surface at the bore, measured in feet and converted by us to metres, is recorded where it is available. In some cases this comes from original water-bore records, in others from the contractors who carried out the logging.

4) Depth drilled. The depth drilled in feet as measured by the driller was recorded by the two commissions, and we have converted this to metres.

5) Depth logged. This depth was recorded, in feet, by the wireline-logging contractor for each log run. Under this heading we have noted the number of feet (and the equivalent number of metres) logged with the gamma-ray tool, unless by some mischance this log was not run, in which case the number of feet from the differential temperature log is recorded. In many bores the depth logged is considerably less than the depth drilled; this generally means that there is an obstruction in the hole. Commonly the holes were cased for only the upper part of their depth, and have caved in below the casing. In some bores the depth logged is greater than the recorded depth

\V



16735 Wireline logged water bore with registered number

Crowder E Wireline logged petroleum exploration well converted to water bore

Bore, flowing when logged

Bore, non-flowing when logged

Edge of Surat Basin

Approximate outer limit of flowing bores

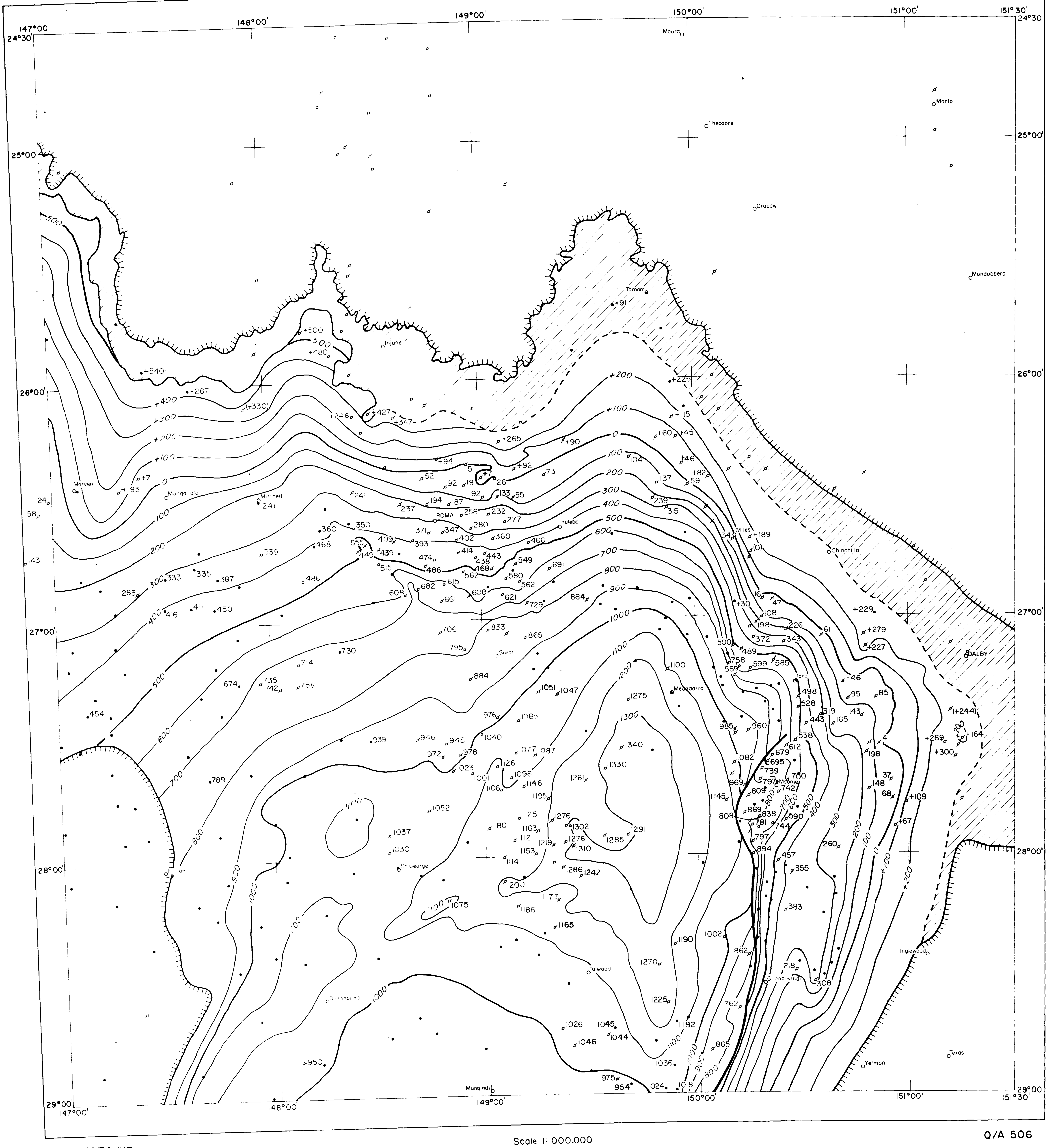
State boundary

MONTO Index to 1:250 000 sheet areas

504940

Plate I Wireline Logged Water Bores in Northern Surat Basin

SURAT BASIN



Scale 1:1000.000

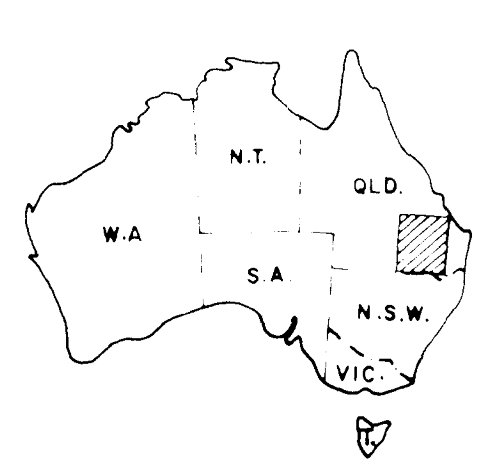
Q/A 506

Record 1974/113

20 10 0 20 40 60 80 100 KILOMETRES

10 0 20 40 60 MILES

Contour interval 100 m



Limit of Walloon Coal Measures (=Birkhead Formation)

Outcrop top of Walloon Coal Measures

Fault

Outcrop of Walloon Coal Measures

Petroleum exploration well

Wireline logged water bore

504940

Plate 2 Structure contours, top of Walloon Coal Measures

504940

PLATE 3

DOWN UNDER WELL SERVICES PTY. LTD.

GAMMA RAY NEUTRON LOG

GAMMA RAY NEUTRON LOG
R.N. 11739
Name LANGDALE

BUREAU OF MINERAL RESOURCES
WATER BORE LOGGING PROGRAMME
GREAT ARTESIAN BASIN QUEENSLAND

R.N. 11739 Name LANGDALE

LOCATION	OTHER SERVICES
LAT. 25°53'27" LONG. 149°53'58"	

PERMANENT DATUM	GL	ELEV	ELEV K.B. -
LOG MEASURED FROM	0	FT ABOVE PERM. DATUM	D.F. -
DRILLING MEASURED FROM	GL		G.L. -

DATE	8 Nov. 73
RUN No	GR-N
TYPE LOG	GR-N
DEPTH DRILLER	2006
DEPTH LOGGER	1947
BOTTOM LOGGED INTERVAL	1946
TOP LOGGED INTERVAL	20
TYPE FLUID IN HOLE	WATER
SALINITY PPM NaCL	-
DENSITY	1
LEVEL	150
MAX. REC. TEMP. DEG F	106
OPERATING RIG TIME	-
RECORDED BY	A. RADESKI
WITNESSED BY	

RUN NO	BORE HOLE RECORD BIT	FROM	TO	CASING RECORD SIZE	WGT	FROM	TO
						0	1946

Record 1974/113

FOLD HERE

THIS HEADING AND LOG CONFORMS TO API RP 33

EQUIPMENT DATA

	GAMMA RAY	NEUTRON
RUN No	1	1
TOOL MODEL No	CG 27×40	CG 27×40
DIAMETER	1 11/16	1 11/16
DETECTOR MODEL No		
TYPE		
LENGTH	6"	Probe 6"
DISTANCE TO SOURCE	8'	
SOURCE MODEL No		
TYPE		1.2/1
SPACING		17
STRENGTH		AmBe 3 Ci

GENERAL	
HOIST TRUCK No	1
INSTRUMENT TRUCK No	1
TOOL SERIAL No	27

LOGGING DATA

RUN No	GAMMA RAY: FROM (DEPTH)	TO	SPEED FT/MIN	ZERO DIV.	API UNITS PER LOG DIV	NEUTRON: ZERO DIV.	API UNITS PER LOG DIV
1	1946	20	30	0	10	0	100

REFERENCE LITERATURE

REMARKS: WATER SAMPLE NOT AVAILABLE

AUS 1/343

504940

PLATE 4

DOWN UNDER WELL SERVICES PTY. LTD.

Differential Temperature Log

R.N. 11739
NAME LANGDALE

BUREAU OF MINERAL RESOURCES
WATER BORE LOGGING PROGRAMME
GREAT ARTESIAN BASIN QUEENSLAND

R.N. 11739 NAME LANGDALE

LOCATION. APPROX	OTHER SERVICES
LAT 25 ° 53 ' 27" MILES N	G.R.-N
LONG 149 ° 53 ' 58" MILES E	

PERMANENT DATUM. GL ELEV -
LOG MEASURED FROM 0 FT. ABOVE PERM. DATUM
DRILLING MEASURED FROM GL

ELEV: KB ___ DF ___ GL ___

DATE	8 Nov 73		
RUN NO.	1		
DEPTH DRILLER	2006		
DEPTH LOGGER	1947		
BTM. LOG INTER.	1947		
TOP LOG INTER.	230		
TYPE LOG	dT & T		
TYPE FLUID IN HOLE	Water		
SALINITY. PPM NaCl	-		
DENSITY	1		
LEVEL	150		
MAX. REC. TEMP. °F	106		
OPERATING RIG TIME	-		
RECORDED BY	A. RADESKI		
WITNESSED BY			

BORE-HOLE RECORD				CASING RECORD			
NO.	BIT	FROM	TO	SIZE	WGT	FROM	TO
						0	1946

Record 1974/113

EQUIPMENT DATA
TOOL: DIAM. 1¾
No. CDT 23 TC 101
PANEL No. DTPA 42
TRUCK No. 1
OTHER DATA

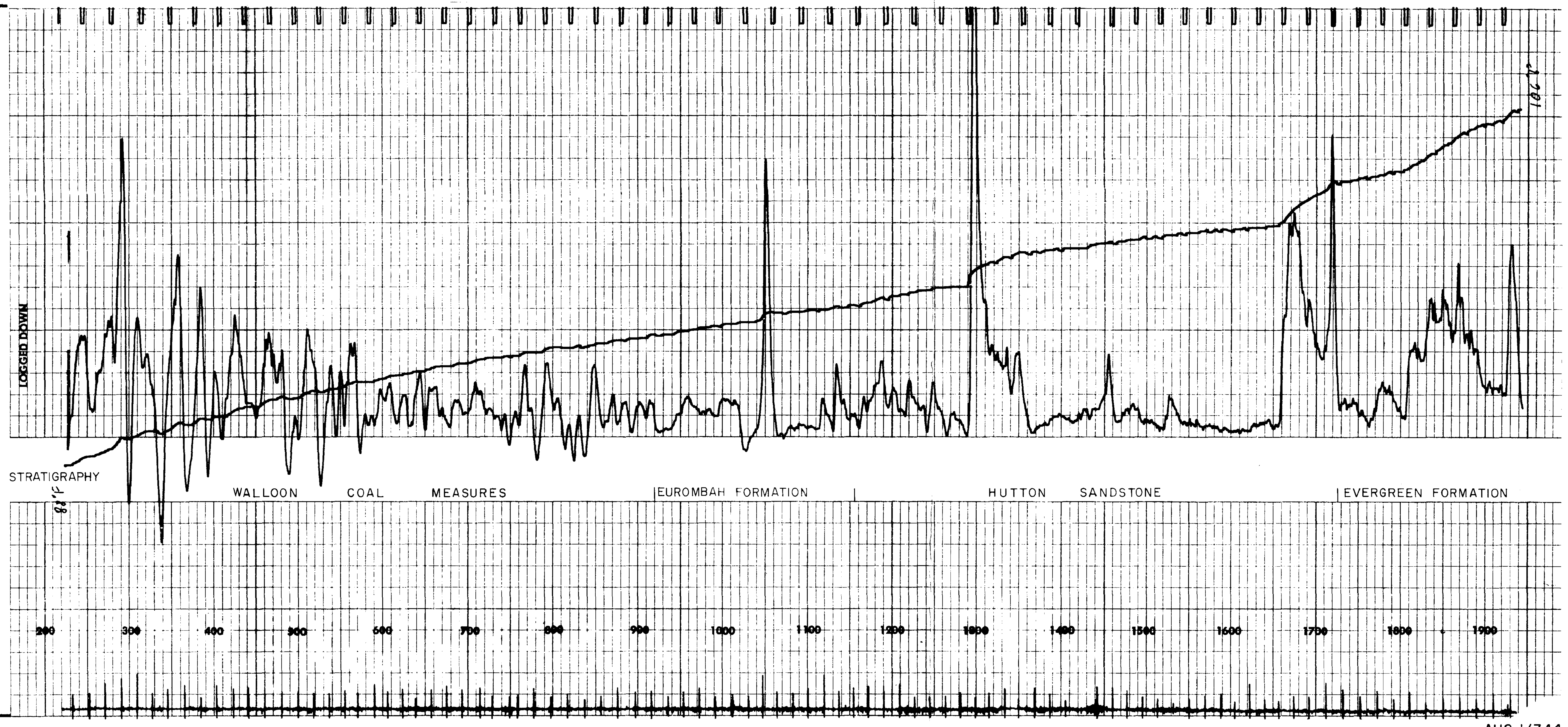
BORE DATA
PUMPING
S.W.L. 150'
PUMP AT 220'

TEST DATA

RUN No.	DEPTH FROM	DEPTH TO	LOGGING SPEED ft/min	TIME: START	TIME: FINISH	TEMP. LOG °F/INCH	TEMP. LOG MAX TEMP	DIFF. LOG SENS.	DIFF. LOG SPACING
1	230	1947	30			4	106	100	1'
2									
3									

REMARKS Recorded DOWN
WATER SAMPLE NOT AVAILABLE
RECORDING STARTED BELOW PUMP CASING

TEMPERATURE



AUS 1/344

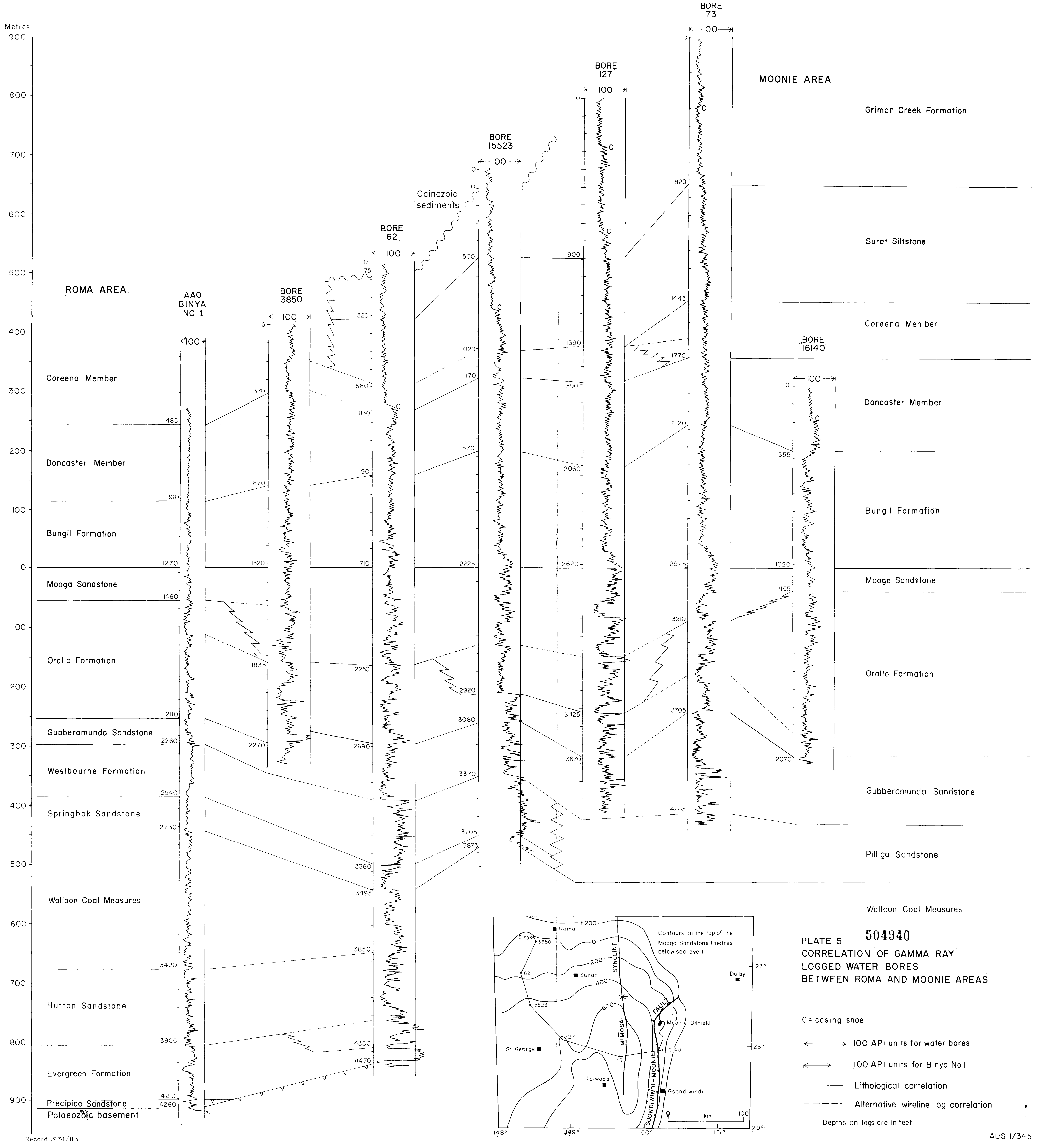


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PLATE 5
CORRELATION OF GAMMA RAY LOGGED WATER BORES BETWEEN ROMA AND MOONIE AREAS

Record 1974/113

AUS 1/345