

Rept. Bk. No. 80/30

MARREE 1:250 000 SHEET
WATER WELL SURVEY

GEOLOGICAL SURVEY

By

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and

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DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

Rept. Bk. No. 80/30
D.M. No.
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MARREE 1:250 000 SHEET
WATER WELL SURVEY

ABSTRACT

During October, 1979 a water well survey of the MARREE 1:250 00 sheet was conducted to update and obtain new information, sample and photograph all flowing wells, and carry out field analyses on all water wells in the area.

Approximately 90 water wells, generally in good condition, were located during the survey, and of these 28 were flowing. There appear to be declining water levels, particularly near the southern margin of the basin. This apparently results from uncontrolled flow in many artesian wells which should be fitted with appropriate headworks. A rehabilitation project has been carried out in the area but work is still required on Cooryanna Bore.

Many wells completed in unconfined Tertiary - Quaternary aquifers are now abandoned or disused. Within the Algebuckina Sandstone, forming the deeper confined aquifer, salinity is generally less than 1 500 mg/l and flows may exceed 4 500 m³/day. Well head temperatures range from 27°C to 61°C. Pumping of water supplies for Marree township has resulted in the formation of a cone of depression and further study is suggested to investigate the problem.

INTRODUCTION

A water well survey of the Marree 1:250 000 sheet was carried out during October, 1979.

The sheet lies between latitude 29° and 30° S and longitude 138° and 139°30' E and include the following pastoral leases: Murnpeowie, Mt. Lyndhurst, Mt. Freeling, Witchelina, Mundowdna, Marree, Clayton, Dulkaninna, Lake Harry and Wilpoorinna.

The main objective was to provide basic data on hydrogeology of the area and photograph all flowing wells for future recognition and to assist the Drilling Branch with any rehabilitation programmes.

A water sample was obtained from each flowing well and brought back to Adelaide for full analysis. Field conductivities were obtained where possible from all wells visited.

PHYSICAL FEATURES

Topography

The area can be considered in four natural divisions:

- 1) Rugged eroded hills of the Willouran Ranges, providing continuous Proterozoic basement rock outcrops and associated creeks and drainage channels in the south-western corner of the sheet.
- 2) The rugged eroded hills of the extreme northern section of the Flinders Ranges with associated deeply incised drainage channels occupying the south eastern corner.
- 3) The central northern portion consists of flat topped hills, capped by duricrust, gravels or gypsum remnants. These hills are intersected by modern day river systems creating sharp scarp angles and large alluvial swamps.
- 4) The remainder of the sheet is covered by longitudinal sand dunes and interdunal salt lakes and clay pans.

Climate

The area has an arid climate with long hot dry summers and short mild winters. Higher rainfall generally occurs in the summer months due to thunderstorm activities. (Figs...2a, b). Average annual rainfall in the western part of the sheet is slightly higher (e.g. Marree 174 mm) than in the east (e.g. Murnpeowie 151 mm).

Vegetation

Vegetation is predominantly low salt bush, blue bush and perennial grasses. In the sand dunes, areas of tea tree, needle bush and mulga abound along the ridges and around the clay pans. Thick, dense, scrubby tracts of mulga occur over the ranges with natural grasses and spinifex the main ground cover. Large Eucalypts dominate the major creeks and drainage channels throughout the sheet. Native flowers and grasses are plentiful after heavy rains.

Land Use

Cattle grazing is the main land use due to unfavourable conditions for other domestic animals north of the vermin proof fence. South of the fence, sheep grazing is more extensive.

SURFACE HYDROLOGY

There are two main directions of drainage, to the north west into the Lake Eyre basin and to the northeast into the Lake Gregory - Lake Blanche basin.

The Frome River is the main drainage channel to Lake Eyre. Many tributaries drain into the Frome from the Willouran and the Flinders Range area. The central western region is drained by the Clayton River and its tributaries into Lake Eyre. Numerous drainage channels convey the floodwaters north eastward from the northern Flinders Ranges and the central eastern region to Lake Gregory and Lake Blanche.

HYDROGEOLOGY

Aquifers

The Quaternary aquifers consist of alluvial sand and gravel, occurring at shallow depth in the vicinity of creeks and on flood plains. The groundwater is highly variable in quality and quantity.

Aquifers of Tertiary age consist mainly of calcareous sandstone, gravel and conglomerate. Groundwater quality and quantity are very variable as indicated by the number of wells drilled and abandoned.

The artesian wells penetrate the Algebuckina Sandstone which consists of fine to coarse grained sandstone. This aquifer has been extensively developed for stock use because of the limited supplies available from other aquifers.

In general, quality is quite reasonable being generally less than 1 500 mg/l TDS but flows are apparently declining. This could be due to either increasing head pressure loss or corrosion of the casing causing loss to the upper aquifer. It is more likely to be the former as it is widespread, especially around the southern boundary of the basin.

The fractured rock aquifers of the Adelaide system are generally very low yielding and extremely salty but there are isolated exceptions in the northern Flinders Ranges where the groundwater is suitable for stock use. The aquifers range from dolomite, quartzite, tillite, siltstone, dolomitic sandstone and slate. As in the Quaternary - Tertiary aquifers many wells were failures and were abandoned.

Recharge

The unconfined aquifers are locally recharged due to the downward percolation of rainfall and runoff along drainage channels. Most wells in the area are drilled as near as

possible to drainage channels to obtain the maximum benefits from recharge.

The artesian aquifer recharge is essentially from the Great Dividing Range in Queensland and New South Wales.

Standing Water Levels

Standing water levels in Tertiary and Quaternary sediments range from 0.90 m to 51 m below the surface depending on topography. The standing water levels show considerable variations due to seasonal conditions which affect recharge.

Wells which intersect the pressure aquifer of the artesian basin flow continuously.

Salinity

Salinity of groundwater varies depending on the aquifer penetrated. In the Tertiary - Quaternary aquifers, salinities range from 325 mg/l to 27 000 mg/l. The Willouran Ranges is the only area where consistently high salinities were encountered within fractured rock.

Salinities of the artesian aquifer vary according to well head temperatures. When converted back to the standard 25° C, they range from 790 mg/l to 6 665 mg/l with an average of 1 600 mg/l.

Well head temperatures vary from 27° C to 61° C.

Yield

Yields range from 25 to 110 m³/day in the unconfined aquifers. The artesian wells yield small flows up to a known maximum of 4 713 m³/day.

WELL CONSTRUCTION AND EQUIPMENT

Older wells (now mostly abandoned and dry) were hand dug and timbered to below the water table. The majority of these are now abandoned, due to neglect and constant flooding, as they are adjacent to or in water courses.

Drilled wells in the unconfined aquifer are all steel cased, and slotted in the aquifer. Most wells are equipped with windmills and some also have jack pumps on standby for windless periods.

Wells within the artesian area are either cased with steel or PVC to the aquifer. In more recent times wells have been completed within the aquifer with slotted liners and sand screens. In the early days casing was stopped when the artesian aquifer was reached and then finished off as open hole. Approximately 50% of wells are fitted with gate valves, allowing for a regulation of flow, the remainder are fitted with an elbow and are flowing uncontrolled.

Rehabilitation

A rehabilitation project has been carried out previously in the area, and at present Cooryanna bore is the main well in the area still requiring rehabilitation. The well head is situated in a pool approximately 3 m deep and 6 x 6 m in area. Water is bubbling into this pool from below the well head and the water temperature at the well is 56⁰ C.

A number of well heads appear in good condition but are showing signs of weakness. The use of gate valves could be implemented to control excessive losses from the aquifer.

GROUNDWATER POLLUTION

No groundwater pollution was detected at the time of the survey and it is unlikely that pollution will be a problem in the future because of the small population and lack of industries.

SUMMARY AND CONCLUSIONS

The area is mainly dependent on water supplies from the artesian wells. This aquifer whether pumped or flowing freely, produces supplies of relatively good quality water for most of the area. The water levels around Marree have dropped because of pumping for the town supply.

The unconfined aquifers are not exploited within the artesian aquifer boundaries because of the unreliability of supply and salinity. Where it is the only source of water available, it is used as a last resort during dry periods. Dams are commonly used, and are generally constructed close to drainage channels.

Very little drilling of new wells is taking place, except as replacements and also rehabilitation of existing wells.

Most artesian wells are in good condition but wastage should be prevented by proper headworks.

Graziers are apparently satisfied with groundwater legislation as it may be used to conserve what groundwater is available.

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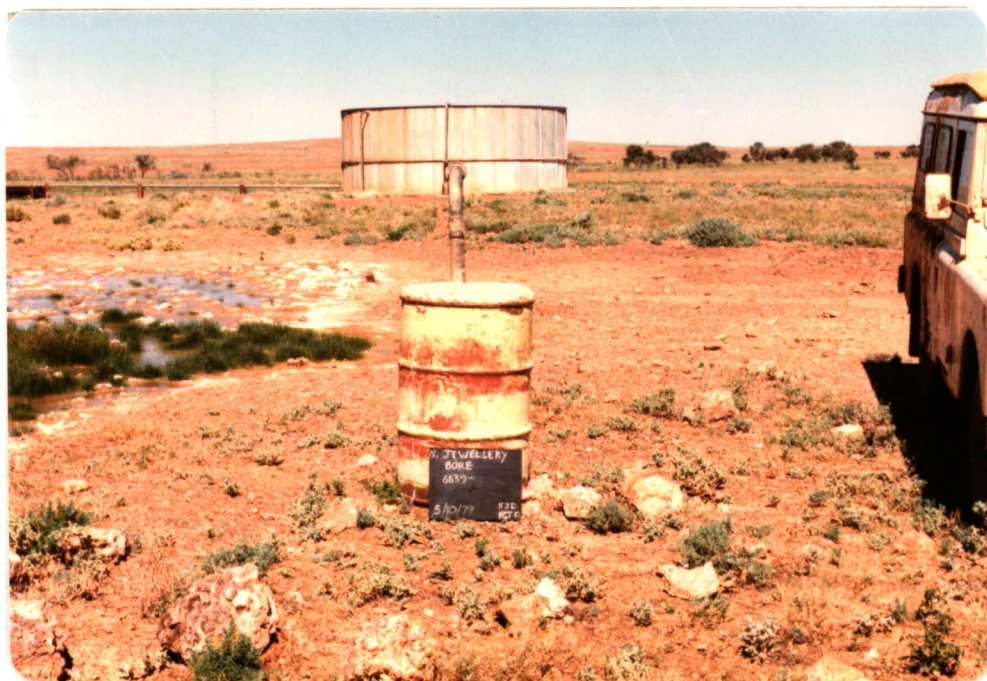


PLATE 1.

JEWELLERY BORE

A RECENTLY REHABILITATED WELL. Neg. 31219



PLATE 2.

COORYANNA BORE

WELL IN NEED OF REHABILITATION, Neg. 31235



PLATE 3

MARREE TOWNSHIP BORE. Neg. 31217

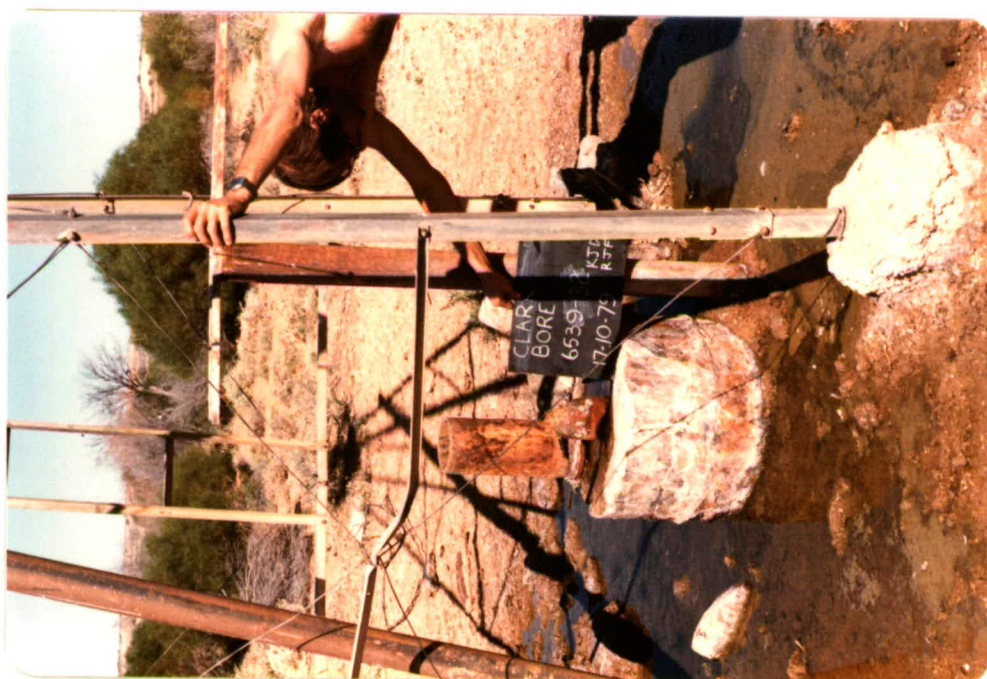


PLATE 4

CLARK BORE

Originally Flowing but affected by
pumping for MARREE town water supply
Neg. No. 31216

APPENDIX A

Water Well Data

MARREE 1:250 000 Sheet

138°	138° 30'	139°	139° 30'
6539	6639	6739	29°
6538	6638	6738	29° 30'
			30°

1:100 000 Sheets

UNIT NUMBER	DEPTH	SWD	SAMP	ATS	PH	SUPPLY (KL/D)	TIME	YEAR	METH	LOG	STATUS	REMARKS
6538	WW00001	4.27	18NOV953	3.96	18NOV953	UNKN	7443M	18NOV953			STOCK	
6538	WW00002	359.60	16SEP979			UNKN	1586M	7.6	16SEP979	GEOL	ABANDONED	
6538	WW00003	319.46	24APR957			UNKN	10010M		22MAY957	GEOL	ABANDONED	
6538	WW00004	174.00	16OCT979			UNKN	1475M		16OCT979	GEOL	STOCK	
6538	WW00005	41.50	16OCT979			UNKN	1713M	8.2	16OCT979	GEOL	STOCK	
6538	WW00006	104.24	16DEC948			UNKN	5043M		16DEC948	122 EST	1948	GEOL UNKNOWN
6538	WW00007	175.00	16OCT979	3.31	16OCT979	UNKN	2433M		16OCT979	113 EST	PUMP	GEOL DOMESTIC MARREE-SOUTH-BOR
6538	WW00008	102.20	16OCT979	1.20	16OCT979	UNKN	1836M	7.7	16OCT979			DOMESTIC
6538	WW00009	110.67									GEOL	BACKFILLED
6538	WW00010	116.00	16OCT979			UNKN	2691M	7.8	16OCT979		GEOL	DOMESTIC
6538	WW00011	4.57	15JUN957			UNKN	5098M		15JUN957			UNKNOWN
6538	WW00012	50.50	17OCT979	.20	17OCT979	UNKN	1153M		17OCT979		PUMP	STOCK COOLONG-SPRINGS-BOR
6538	WW00013	296.79	17OCT979			UNKN	1825M		17OCT979		PUMP	GEOL STOCK
6538	WW00014	349.00	17OCT979			UNKN	3248M	7.3	17OCT979			STOCK
6538	WW00015	208.00	17OCT979			UNKN	3345M	8.1	08MAY975		PUMP	STOCK TCHQ-54
6538	WW00017					UNKN	2116M		17DEC948			UNKNOWN
6538	WW00018	10.00	17OCT979			UNKN	2573M		29AUG960			STOCK+DOM HOMESTEAD-STATION
6538	WW00019	104.00	17OCT979			UNKN	3426M	8.1	06MAY979		WMLL	GEOL STOCK
6538	WW00020	5.75	13OCT979			UNKN	7503M		13OCT979		WMLL	GEOL STOCK
6538	WW00021	42.66	MAR967	15.24	MAR967	UNKN	7149M		MAR967			GEOL UNKNOWN
6538	WW00022										GEOL	UNKNOWN
6538	WW00023	13.25	13OCT979	10.45	13OCT979	BAIL	15000M		13OCT979			UNKNOWN
6538	WW00024	13.05	13OCT979	8.60	13OCT979	UNKN	14200M		13OCT979			ABANDONED
6538	WW00025	3.00	14OCT979								GEOL	ABANDONED
6538	WW00026	4.83		4.57							GEOL	UNKNOWN
6538	WW00027	5.00	13OCT979			UNKN	9782M		16OCT960		GEOL	STOCK
6538	WW00028	21.34	11JUN927	19.51	11JUN927	UNKN	2130M		11JUN927		GEOL	UNKNOWN
6538	WW00029	21.34	13NOV957	15.24	13NOV957	UNKN	8854M		13NOV957		GEOL	STOCK OLD-MOUNT-NORTH-
6538	WW00030	2.00	13OCT979									WEST-WELL
6538	WW00031	21.34									GEOL	ABANDONED
6538	WW00032	69.00	17OCT979			BAIL	6665M	7.6	17OCT979			UNKNOWN
6538	WW00033			.50	16SEP974	UNKN	3023M		16SEP974		WMLL	STOCK
6538	WW00034	9.75										ABANDONED
6538	WW00035										WMLL	UNKNOWN
6538	WW00036	18.29										ABANDONED
6538	WW00037					UNKN	7921M		13NOV961			UNKNOWN
6538	WW00038			2.30	17OCT979		4250M		17OCT979		PUMP	STOCK BOORLOO-SPRINGS
6538	WW00039	101.00	16OCT979			UNKN	1908M	7.8	16OCT979		WMLL	STOCK
6538	WW00040	16.76	11OCT961	7.32	11OCT961	UNKN	10367M		11OCT961			BACKFILLED
6538	WW00041	60.96	17OCT961	4.88	17OCT961	UNKN	24219M		04OCT961			UNKNOWN
6538	WW00042	14.33	17OCT961	4.88	17OCT961	UNKN	6912M		05OCT961			UNKNOWN
6538	WW00043	28.12	09SEP964	17.07	09SEP964	UNKN	5710M		09SEP964			IRRIGATION
6538	WW00044	6.90	13OCT979	5.80	13OCT979	UNKN	27003M		13OCT979			UNKNOWN
6538	WW00045	21.34	13OCT979	7.62	13OCT979	UNKN	244186M		28JUL964			STOCK
6538	WW00046	106.68	28JUL964			UNKN	4170M		28JUL964		PUMP	STOCK
6538	WW00047	33.83	28JUL964	8.23	28JUL964	UNKN	6430M		28JUL964			32 EST
6538	WW00048	11.93										38 EST
6538	WW00049	152.00										UNKNOWN
6538	WW00050											ABANDONED
6538	WW00051	13.60	13OCT979	5.10	13OCT979	UNKN	2956M		25OCT960		WMLL	DOMESTIC
6538	WW00052	55.80	13OCT979	32.16	13OCT979	BAIL	6700M		13OCT979		WMLL	STOCK
6538	WW00053					UNKN	11253M		18JUN948			UNKNOWN

UNIT NUMBER	DEPTH	SWD	SAMP	ATS	PH	SUPPLY (KL/D)	TIME	YEAR	METH	LOG	STATUS	REMARKS
6536	WW00054		UNKN	4175M		18JUN948					STOCK	
6538	WW00055	32.80	130CT979	27.40	180CT979						NOT IN USE	
6538	WW00056	7.75	160CT979	.90	160CT979	EA IL	3237M		160CT979		ABANDONED	
6539	00012	523.00	150CT979	UNKN	85CM	7.3	150CT978			PUMP GEOL	STOCK	TCWO 55
6539	00031									GEOL		DEACHAWARFINA-30
6539	00103	674.00	150CT979	UNKN	936M	7.5	150CT979			PUMP GEOL	STOCK	GULKANINNA BORE
6539	00004			UNKN	135CM	7.9	150CT979				STOCK	
6539	00036	21.34	170CT961	20.73	170CT961	UNKN	3474M		070CT961		ABANDONED	
6539	00007										ABANDONED	
6539	00008	395.00	160CT979	UNKN	1276M	8.3	160CT979				STOCK	PETEFS-CRAMP-BOR
6638	WW00001	23.25	030CT979	21.30	030CT979	BAIL	2200M		030CT979	WMLL GEOL	STOCK	
6638	WW00002	385.41	27SEP913							GEOL	ABANDONED	
6638	WW00003	57.00	170CT961	18.90	170CT961	UNKN	8925M		050CT961		ABANDONED	
6638	WW00004	431.90	14SEP971			UNKN	1362M		14SEP971	PUMP GEOL	UNKNOWN	
6638	WW00006	28.00	120CT979	13.36	120CT979	UNKN	8500M		120CT979	PUMP	STOCK	
6638	WW00007	56.00	110CT979	48.15	110CT979	UNKN	8000M		110CT979	WMLL	STOCK	
6638	WW00008	60.96	0CT961							GEOL	DRY HOLE	
6638	WW00009	41.15	170CT971	37.19	170CT971	UNKN	4027M		29SEP961	GEOL	ABANDONED	
6638	WW00010	11.70	110CT979	10.00	110CT979	BAIL	2500M		110CT979	GEOL	NOT IN USE	
6638	WW00011	30.18	12SEP961	16.15	12SEP961	UNKN	11096M		06SEP961		UNKNOWN	MOOKAWARINNA-WEL
6638	WW00012	46.94	22JUL959	32.10	22JUL959	UNKN	11024M		22JUL959		STOCK	
6638	WW00013	8.05	170CT961	1.52	170CT961	UNKN	500M		170CT961		UNKNOWN	
6638	WW00014	1.50	170CT979			UNKN	2156M		030CT961		ABANDONED	
6638	WW00015	46.11	170CT961	14.33	170CT961	UNKN	13423M		030CT961		UNKNOWN	
6638	WW00016	311.50	160CT979							WMLL	NOT IN USE	
6638	WW00017	31.65	110CT979	23.00	110CT979	UNKN	9250M		110CT979	WMLL	STOCK	
6638	WW00018	13.50	180CT979	10.25	180CT979	UNKN	2170M		15MAR965	PUMP	NOT IN USE	
6638	WW00019	79.25	14APR968			UNKN	7970M	7.0	14APR968		STOCK	
6638	WW00020	128.02	02JUL971					32 EST	1968			
6638	WW00021	53.36	05JUL971							GEOL	UNKNOWN	*MT DISTANCE MIN
6638	WW00022	156.56	08JUL971							GEOL	UNKNOWN	*MT DISTANCE MIN
6638	WW00023	39.34	11JUL971							GEOL	UNKNOWN	*MT DISTANCE MIN
6638	WW00024	2.13								GEOL	UNKNOWN	*MT DISTANCE MIN
6638	WW00025	103.00	110CT979	8.15	110CT979	UNKN	7500M		110CT979	WMLL DRIL	STOCK	SHARTS-BLOFF-BOR
6638	WW00026	42.00	17JUL977	33.00	17JUL977	UNKN	4110M	7.9	16JUN977	PUMP DRIL	STOCK	
6638	WW00027	59.40	13JUN977	31.20	13JUN977	UNKN	2580M	7.5	12JUN977	21 BAIL 2HRS 1977	GEOL	UNKNOWN
6638	WW00028	11.50	110CT979	8.35	110CT979	PUMP	3750M		110CT979	WMLL	STOCK	
6638	WW00029	12.53	110CT979	10.10	110CT979	BAIL	920M		110CT979		ABANDONED	
6639	00011	373.50	170CT961			UNKN	2535M		170CT961	GEOL	STOCK	TARWINNA-BORE
6639	00032	304.79	150CT979			UNKN	850M	7.7	150CT979	GEOL	STOCK	
6639	00003	435.00	060CT979			UNKN	964M	7.3	060CT979		STOCK	COOBYINNA-BORE
6639	00034	522.00	040CT979			UNKN	931M	7.6	040CT979		UNKNOWN	JEWELLEY-CREEK-BORE
6639	00035	487.50	050CT979			UNKN	1100M	7.5	050CT979	GEOL	ABANDONED	TFOUDANINNA-OLD-BORE
6639	00036	395.50	050CT979				952M	7.6	050CT979	GEOL	STOCK	TFOUDANINNA-NEW-BORE

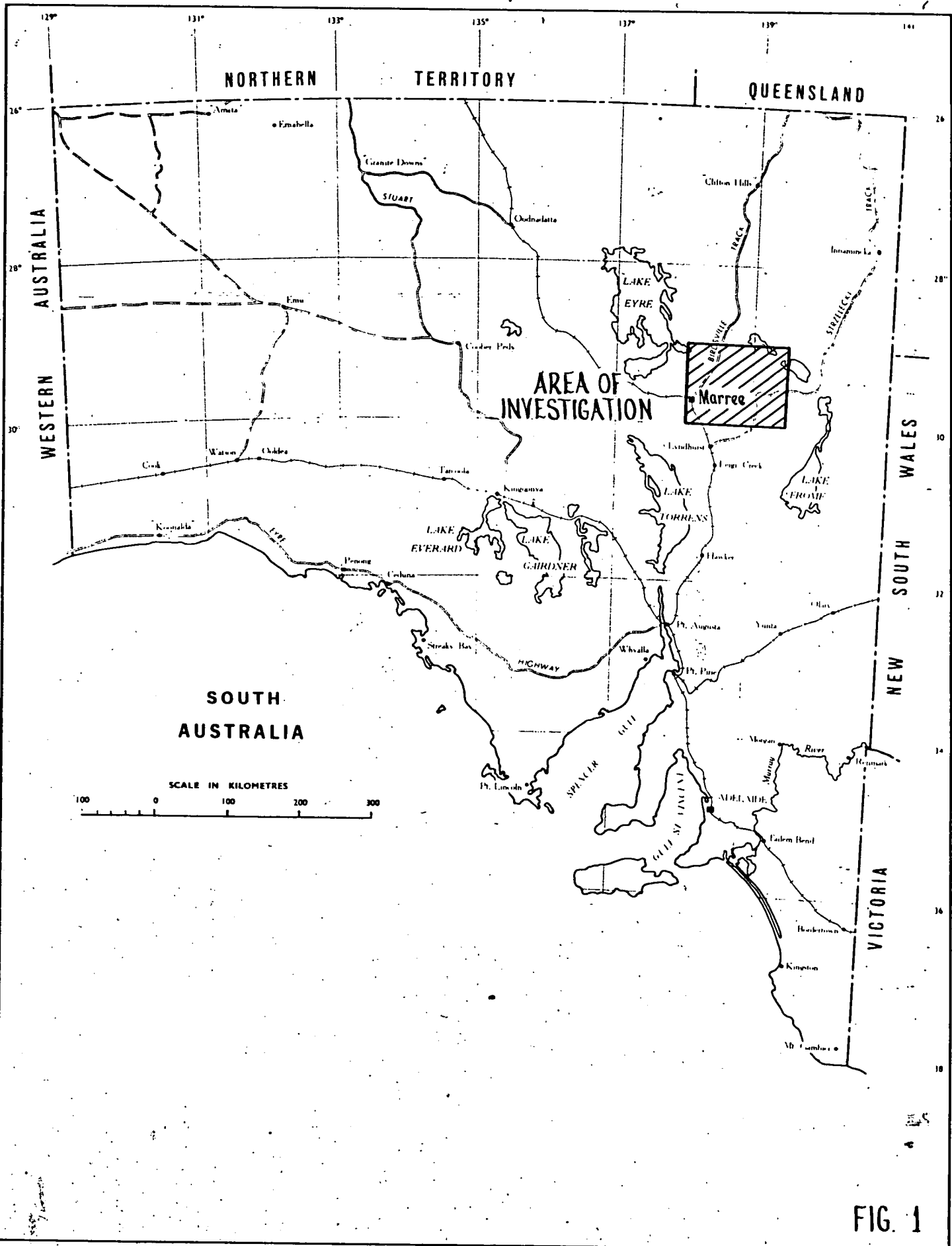
UNIT NUMBER	DEPTH	SWD	SAMP	ATS	PH	SUPPLY (KL/D)	TIME	YEAR	METH	LOG	STATUS	REMARKS
6639	00007	416.69	06OCT979	UNKN	1248M	7.8	06OCT979			GEOL	STOCK	CHAPPALANA-BORE
6639	00008	416.39	04OCT979	UNKN	790M	7.9	04OCT979			GEOL	STOCK	
6639	00009	345.00	03OCT979	UNKN	1737M	7.8	03OCT979				STOCK	CLAYTON-DAM-BORE
6639	00010	432.00	03OCT979	37.46	03OCT979				WMLL		GENERAL	TOOPAWARINNA-BORE
6639	00011	425.72	06OCT979	UNKN	987M	7.8	06OCT979				STOCK	NICK-O-TIME-BORE
6639	00012	21.34								GEOL	ABANDONED	BOREHOLE-CORNER
6639	00013	9.14	12SEP961	9.23	12SEP961	UNKN	23848M				UNKNOWN	
6639	00014	28.96	28JAN975								DRY HOLE	
6738	WW00063			UNKN	2064M	8.5	14AUG974				UNKNOWN	
6738	WW00064			UNKN	4321M	7.0	14AUG974				UNKNOWN	
6738	WW00065	19.05									ABANDONED	
6738	WW00066	10.00	10OCT979	5.65	10OCT979				WMLL		NOT IN USE	
6738	WW00067								WMLL		DILAPIDATED	
6738	WW00068			UNKN	4225M		17MAY957			GEOL	UNKNOWN	
6738	WW00069	397.00	03OCT979	UNKN	1156M		03OCT979			GEOL	UNKNOWN	TCWO 77
6738	WW00070	20.53	09OCT979	19.75	09OCT979	UNKN	805M		09OCT979	WMLL	STOCK	
6738	WW00071	195.68	28JAN930							GEOL	UNKNOWN	
6738	WW00072			UNKN	971M		09MAY958				STOCK	
6738	WW00073			UNKN	700M		01SEP961				UNKNOWN	
6738	WW00074	289.00	19OCT979	UNKN	1210M	7.7	09OCT979			GEOL	STOCK	
6738	WW00075			UNKN	7265M		21JUL948				UNKNOWN	
6738	WW00076			UNKN	1299M						UNKNOWN	
6738	WW00077	25.35	09OCT979	21.20	09OCT979	RAIL	325M		09OCT979	WMLL	ABANDONED	
6738	WW00078	15.24	12SEP961	6.40	12SEP961	UNKN	437JM		12SEP961	WMLL	GEOL	ABANDONED
6738	WW00079											
6738	WW00080	33.53								GEOL	UNKNOWN	
6738	WW00081	.64	30SEP961	9.14	30SEP961	PUMP	75M		30SEP961		STOCK+DOM	
6738	WW00082	25.55	11OCT979	23.85	11OCT979	UNKN	4600M		11OCT979	GEOL	UNKNOWN	
6738	WW00083	2.38	11OCT979	1.90	11OCT979	UNKN	9311M		14FEB924	GEOL	ABANDONED	
6738	WW00084	12.60	10OCT979	5.98	10OCT979	PUMP	2500M		10OCT979	WMLL	STOCK+DOM	
6738	WW00085										UNKNOWN	YAROLAFINNA-WELL
6738	WW00086	11.46	10OCT979	4.30	10OCT979				WMLL		STOCK	
6738	WW00087			UNKN	3245M						UNKNOWN	
6738	WW00088	9.10	10OCT979	8.44	10OCT979	PUMP	3450M		10OCT979		STOCK	BILLY-SPRING-BORE
6738	WW00089											
6738	WW00090	43.59									UNKNOWN	
6738	WW00091	9.15	09OCT979	6.51	09OCT979	PUMP	2200M		09OCT979	WMLL	STOCK	TCWO 76
6738	WW00092			UNKN	1699M		08OCT963				STOCK	
6738	WW00093										ABANDONED	
6738	WW00094	67.06	17OCT961	58.83	17OCT961	UNKN	3798M		02OCT961		STOCK	
6738	WW00095	135.00	10OCT979			PUMP	780M		10OCT979	GEOL	DOMESTIC	HT.-FITTON-TALC-MINE
6738	WW00096	21.75	03OCT979	21.05	03OCT979	RAIL	850M		03OCT979		ABANDONED	MUEPOWIE-NO.1 -BORE
6738	WW00097	23.54	03OCT979	21.09	03OCT979	RAIL	710M		03OCT979	PUMP	ABANDONED	
6738	WW00098			UNKN	1955M	7.5	10MAR970				UNKNOWN	
6738	SW00099	135.33	12DEC971							GEOL	UNKNOWN	*MURNPOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00100	75.29	10DEC971							GEOL	UNKNOWN	*MURNPOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00101	69.96	12DEC971								UNKNOWN	*MURNPOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00102	51.51	14JAN972							GEOL	UNKNOWN	*MURNPOWIE-AREA MINERALS INVESTIGATION
6738	SW00103	19.81	13DEC971							GEOL	UNKNOWN	*MURNPOWIE-AREA MINERALS INVESTIGATION

UNIT NUMBER	DEPTH	SWD	SAMP	ATS	PH	SUPPLY (KL/D)	TIME	YEAR	METH	LOG	STATUS &	REMARKS
6738	SW00037	2.60	14DEC971							GEOL	UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATION
6738	SW00038	79.25	15DEC971							GEOL	UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00039	64.01	16DEC971								UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00040	64.92	08JAN972							GEOL	UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00042	60.66	09FEB972							GEOL	UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATION
6738	SW00043	60.96	15FEB972							GEOL	UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00044	55.78	11FEB972							GEOL	UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00045	4.57	16JAN972							GEOL	UNKNOWN	*MURNPEOWIE-AREA MINERALS INVESTIGATIONS
6738	SW00046	42.67	14FEB972							GEOL	UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00047	60.65	15JAN972								UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATION
6738	SW00051	51.62	22FEB972								UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATION
6738	SW00052	56.08	24FEB972							GEOL	UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00053	19.51	22FEB972							GEOL	UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00054	56.08	26FEB972								UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00055	56.39	22FEB972							GEOL	UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATIONS
6738	SW00056	60.80	21FEB972							GEOL	UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATION
6738	SW00057	2.43	18FEB972								UNKNOWN	*MURNPEOWIE-AREA MINERALS INVESTIGATIONS
6738	SW00058	76.20	17FEB972								UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATION
6738	SW00059	18.74	16FEB972								UNKNOWN	*MURNPEOWIE-AREA MINERAL INVESTIGATION
6738	MW00060	127.10	27JUN971								UNKNOWN	*MT.-DISTANCE MI NERAL INVESTIGATIONS
6738	MW00061	146.30	26JUN971								UNKNOWN	*MT.-DISTANCE MI NERAL INVESTIGATION
6738	MW00062	30.48								GEOL	UNKNOWN	KOORTANYANINNA-W ELL
6739	SW00061	20.73								GEOL	DRY HOLE	
6739	WB00062	396.00	09OCT979		UNKN	1186M	7.5	09OCT979			STOCK	TOONKETCHEN-BORE
6739	WB00063	13.41	19SEP961	9.45	19SEP961	UNKN	1200M	02SEP961		GEOL	UNKNOWN	EMU-WELL-BORE
6739	WB00064	27.43	12SEP961	26.52	12SEP961	UNKN	4141M	02SEP961		PUMP	GEOL	STOCK
6739	WB00065	27.43	12SEP961	13.59	12SEP961	UNKN	1299M	12SEP961		GEOL	UNKNOWN	JUNCTION-WELL RED-BANKS-WELL & BORE
6739	WB00066	283.00	09OCT979		UNKN	1225M	7.7	09OCT979		GEOL	STOCK	
6739	WB00067	24.69	12SEP961		UNKN	11324M		02SEP961			ABANDONED	
6739	WB00068										BACKFILLED	
6739	WB00069	54.56	12SEP961	15.54	12SEP961	UNKN	38499M	12SEP961			ABANDONED	

APPENDIX B

INDEX OF PHOTOGRAPHS OF FLOWING
WELLS ON MARREE 1:250 000 sheet

<u>WELL NAME</u>	<u>REFERENCE No.</u>	<u>NEGATIVE No.</u>
BRANSONS BORE	6538 - 02	31226
HERGOTT SPRING BORE	6538 - 05	31227
MARREE TOWNSHIP BORE	6538 - 07	31217
RAILWAYS BORE	6538 - 10	31218
LAKE BELLY BORE	6538 - 14	31215
CLARKS BORE	6538 - 32	31216
DAVIDS BORE	6538 - 39	31228
PEACHAWARRINA BORE	6539 - 01	31237
CLAYTON DAM BORE	6539 - 02	31236
DULKANINNA BORE	6539 - 03	31221
LAKE HARRY BORE	6539 - 05	31220
PETERS BORE	6539 - 08	31239
SINCLAIR BORE	6639 - 02	31222
COORYANNA BORE	6639 - 03	31235
JEWELLERY BORE	6639 - 04	31219
OLD TROUDANINNA BORE	6639 - 05	31234
NEW TROUDANINNA BORE	6639 - 06	31233
CHAPPALANNA BORE	6639 - 07	31229
YARRA HILL BORE	6639 - 08	31225
CLAYTON BORE	6639 - 09	31224
NICK-O-TIME BORE	6639 - 11	31230
MURNPEOWIE BORE	6738 - 02	31223
QUART POT BORE	6738 - 007	31232
METEOR BORE	6739 - 06	31231
FROME CREEK BORE	6538 - 04	) NOT PHOTOGRAPHED
ABDUL BORE	6538 - 08	) DUE TO FAULT IN
TOONKETCHAN BORE	6739 - 02	) CAMERA.



DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

MARREE 1:250 000 WATER WELL SURVEY
LOCALITY PLAN

Compiled. K. Dennis

Drn. M.R. Ckd.

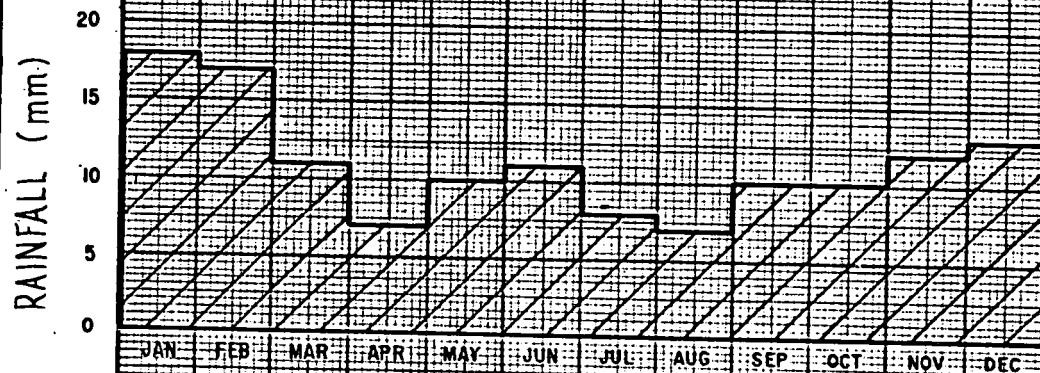
BT

Date: Feb. 1980

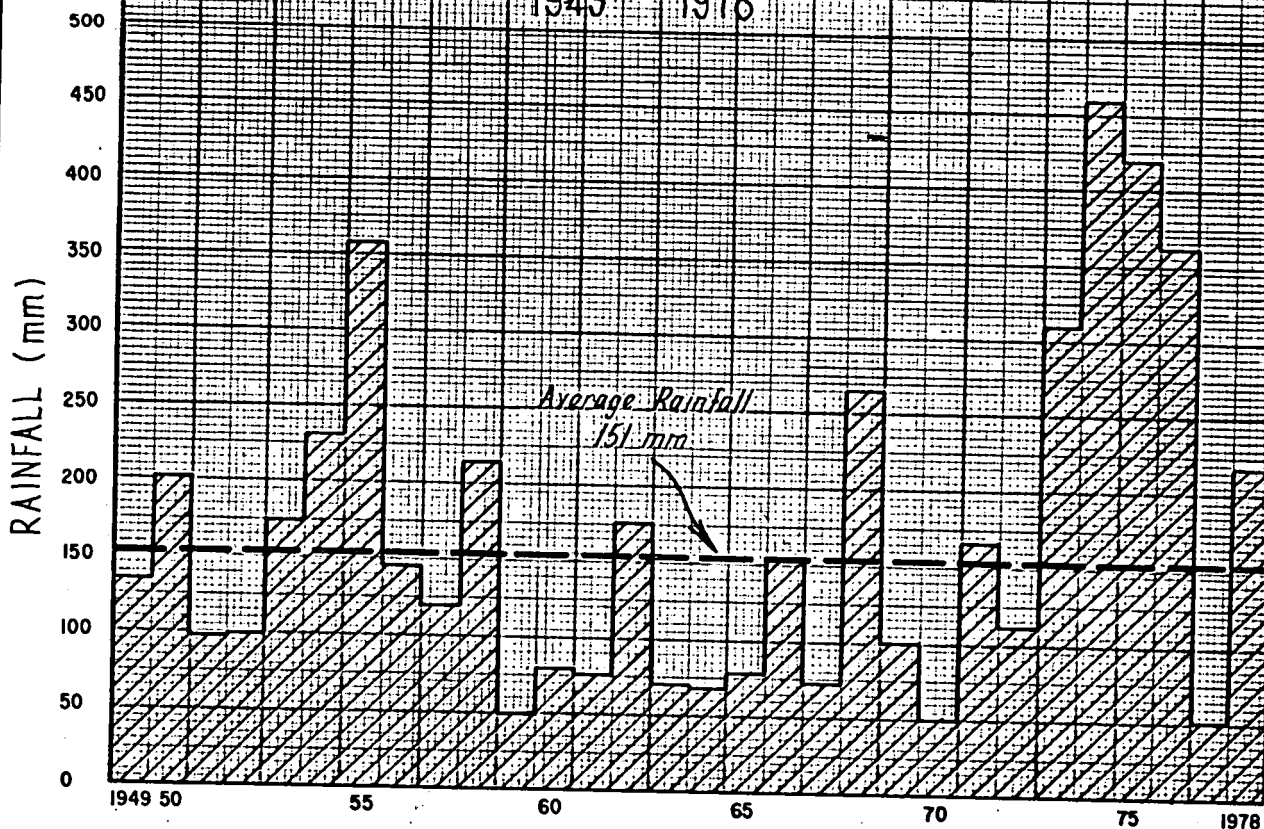
Org. No.

S 14652

Mean Monthly Rainfall - Murnpeowie 1898 - 1978



Annual Rainfall - Murnpeowie 1949 - 1978



See plan no. 80-139 for location of Murnpeowie

FIG. 2a

DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

MARREE 1:250 000 WATER WELL SURVEY
RAINFALL STATISTICS
MURNPEOWIE

SCALE -

DATE Feb. 1980

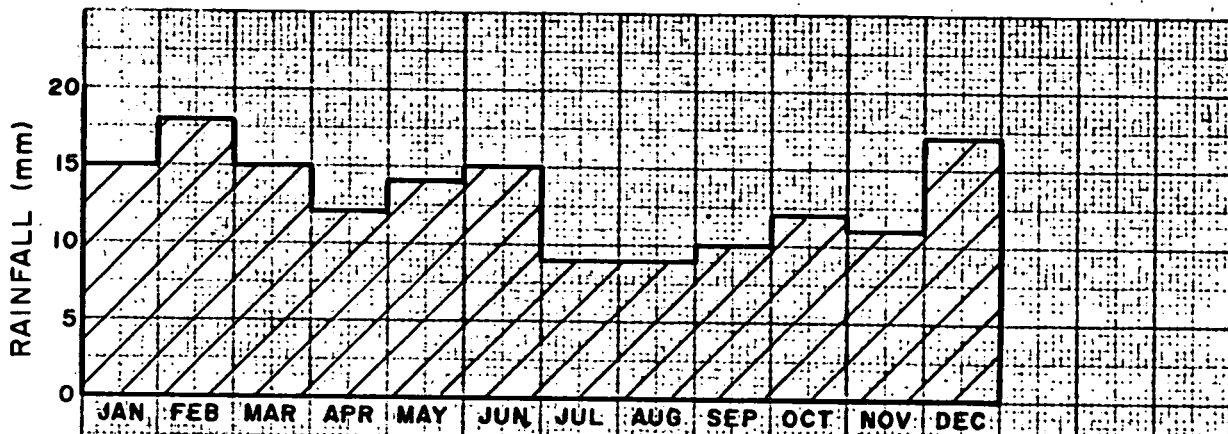
PLAN NUMBER

S 14655

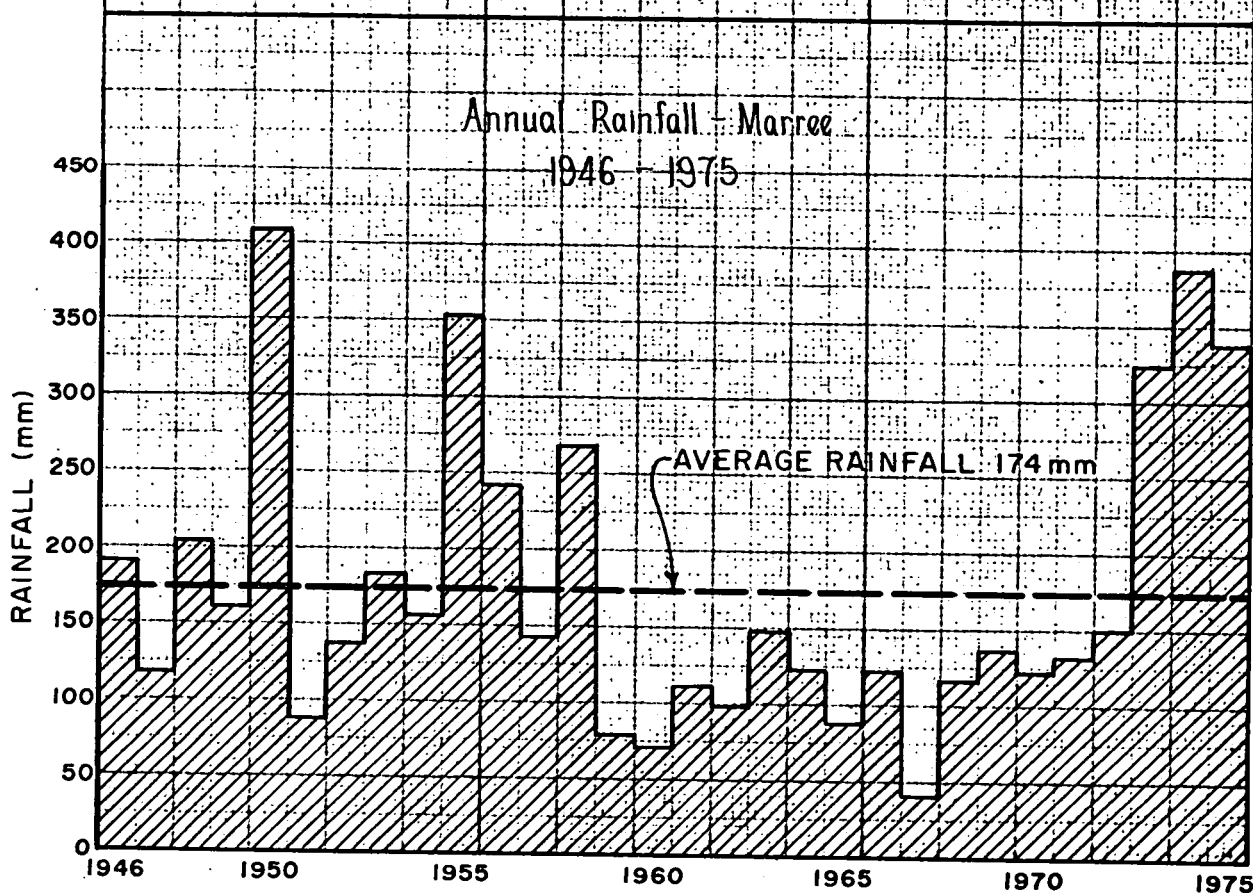
COMPILED K. Dennis

DRN: M.R. CKD

67



MEAN MONTHLY RAINFALL - MARREE P.O. - 1885 TO 1975



Annual Rainfall - Marree
1946 - 1975

AVERAGE RAINFALL 174 mm

See plan no. 80-139 for location of Marree.

FIG. 2b

DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

SCALE

COMPILED J. SAFTA

MARREE 1:250,000 WATER WELL SURVEY

DATE JAN 79

DRN M.W. CKD

RAINFALL STATISTICS

PLAN NUMBER

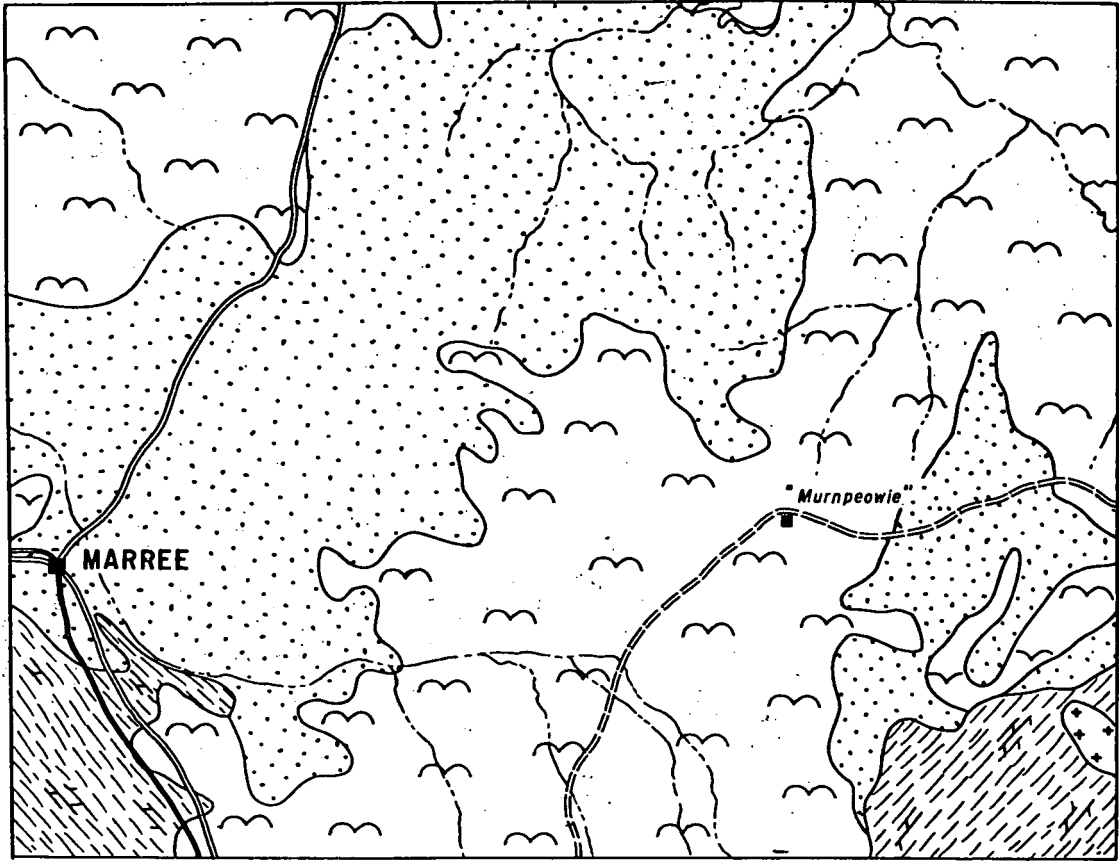
MARREE P.O.

S 14654

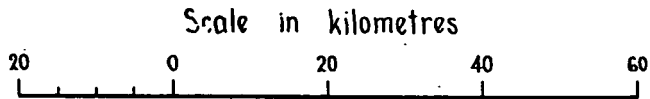
138°00'

139°30'

29°00'

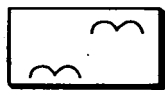


30°00'



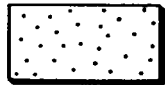
LEGEND

QUATERNARY-
TERTIARY



Limestone, gypseous clay, alluvium,
lake deposits and sand dunes.

CRETACEOUS



Sandstone, siltstone and shale with
occasional boulder beds.

UPPER
PROTEROZOIC



Siltstone, dolomite, marble, quartzite,
slate and boulder tillite.

LOWER
PROTEROZOIC



Granite and granitized sediments.

FIG. 3

DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

SCALE 1:1 000 000

COMPILED R.S.

MARREE 1:250 000 WATER WELL SURVEY

DATE: Feb. 1980

DRN M.R. CKD

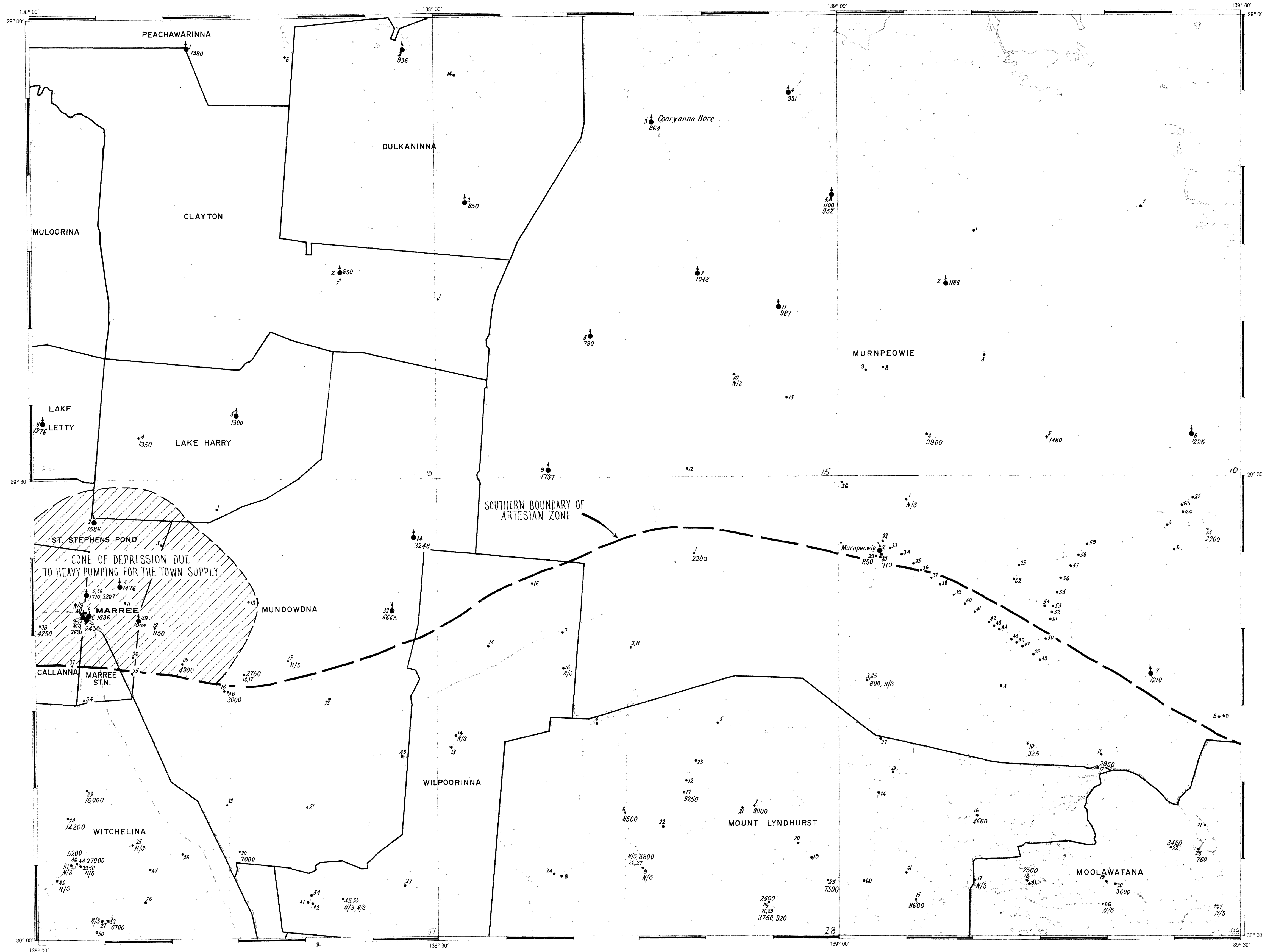
GENERALIZED GEOLOGY

PLAN NUMBER
S 14653

BT



REFERENCE



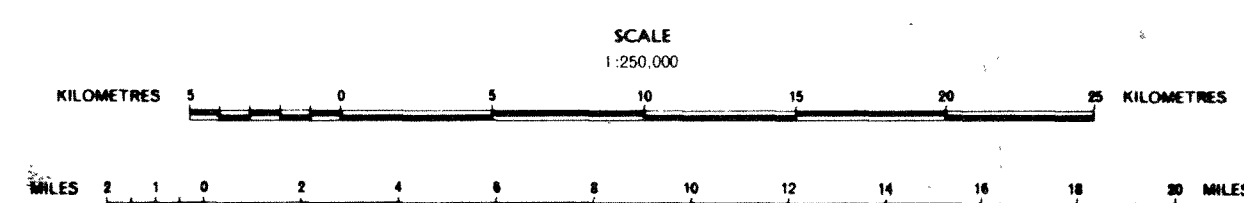
Well and number (prefix with 1:100,000 sheet number to obtain well unit number).
 Salinity (mg/l)
 Flowing well

- Bore well
- Tank
- Dam
- Main Road
- Road
- Track
- Railway
- Ephemeral Stream
- Ephemeral Swamp
- Claypan
- Triangulation Station
- Astronomical Station
- Mine

The location of bores on this plan is derived from Departmental and private sources.
 Bore detail may be available from Departmental records upon application.

ADJOINING 1:250,000 SHEETS

LAKE EYRE	KOPPERAMANNA	STRZELECKI
CORDIMURKA	MARREE	CALLABONNA
ANDAMOOKA	COPLEY	FROME



1:100,000 ENLARGEMENTS

6539	6639	6739
6538	6638	6738

Base compilation from Division of National Mapping published map.

DEPARTMENT OF MINES AND ENERGY - SOUTH AUSTRALIA

MARREE 1:250,000 WATER WELL SURVEY
 WELL LOCATION AND SALINITY PLAN

COMPILED: K. Dennis	DRN: M. R.	SCALE: 1:250,000	PLAN NUMBER
DIRECTOR GENERAL	CKD:	DATE: Feb. 1980	80-139