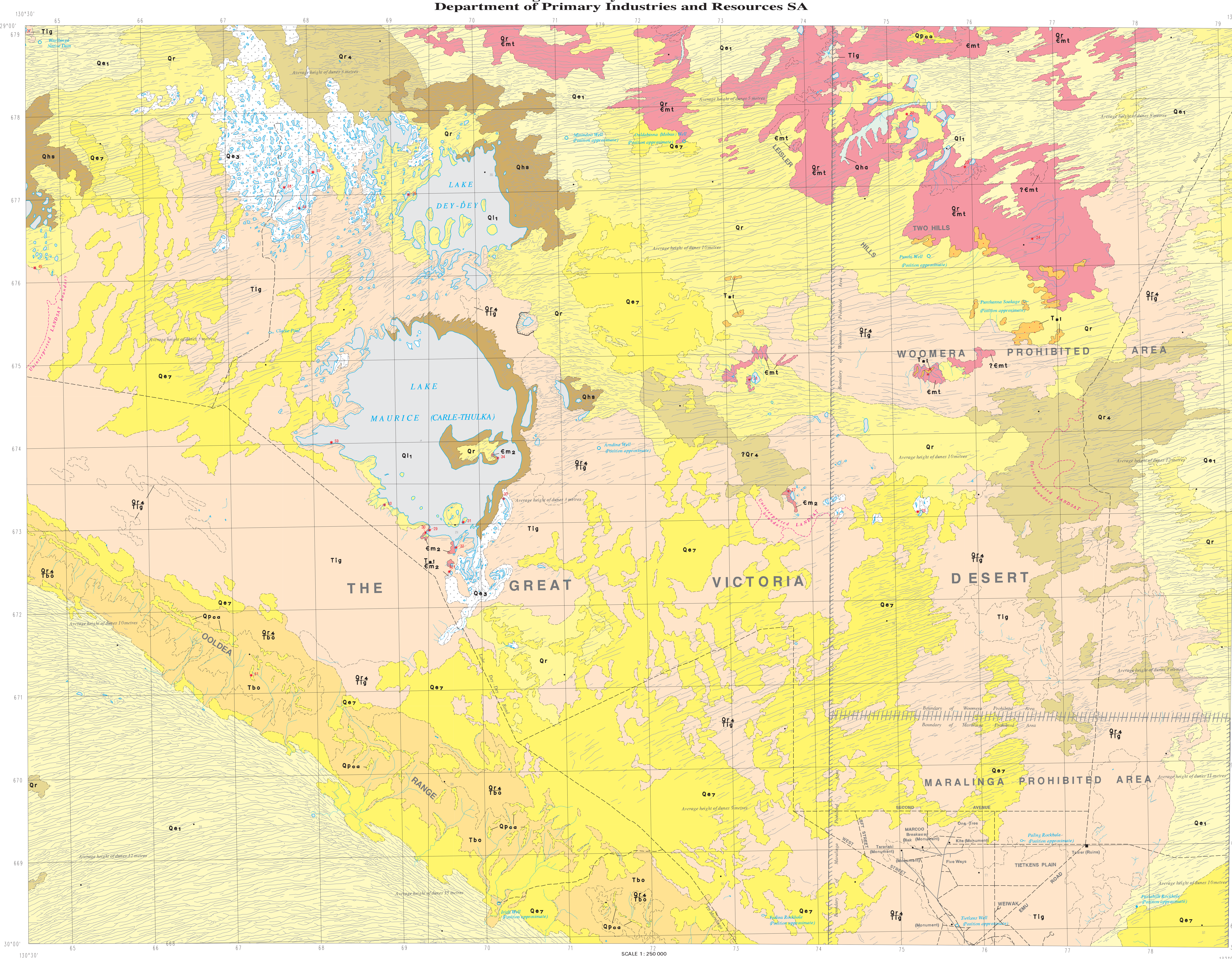
MAURICE

Geological Survey of South Australia
Department of Primary Industries and Resources SA



SCALE 1 : 250 000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

Topographic detail based on TOPO-250K GEODATA (source scale 1:250 000) supplied by Australian Surveying and Land Information Group (AUSLIG), ACT. The relationship between this data and PIRSA data is not guaranteed.

Cartography by the Mapping Unit, Spacial Information Services Branch, Department of Primary Industries and Resources SA

Transverse Mercator Projection
Geocentric Datum of Australia, 1994
December 29, 2000
Original compilation August 1996

Geological mapping and compilation by G.W. Krieg, B.Sc.(Hons.) from LANDSAT imagery with limited ground control with contributions by M.C. Benbow, B.Sc., G.M. Pitt, B.Sc.,

R.S. Robertson, B.Sc. Hons, Acting Manager, Geological Survey Branch
Digital data available from Primary Industries and Resources SA
D. Mutton, Chief Executive,
Department of Primary Industries and Resources SA

REFERENCE

HOLOCENE

- **Qhs** — Thin spreads of pale, aeolian sand and silt on leeside of playa systems.
- **Qha** — Undifferentiated alluvial/fluvial sediments, clays, silts, sands and gravels of modern drainage channels. Fan deposits of lake margins.

PLEISTOCENE TO HOLOCENE

- **Qe1** — Dunefield deposits: Orange-brown, slightly clayey and silty quartz sand and minor inter^dunal ferruginous and carbonate float of the Great Victoria Desert.
- **Qe3** — Gypsum dunes: Aeolian gypsum and quartz deposits and gypsite crusts of leeside lunettes marginal to playas.
- **Ql1** — Playa deposits: Clay, Silt, sand and gypsum deposits.
- **Qpca** — Calcrete: Buff to cream, nodular, platey and rubbly carbonate sheets and layers.
- **Qr / Qr4 / Qr5** — Undifferentiated regolith of variously ferruginous, siliceous, calcareous and sandy colluvium, and minor weathered outcrop. Calcareous sand spread (interpreted from LANDSAT imagery) Ferruginous sand spread (interpreted from LANDSAT imagery)

EOCENE TO PLEISTOCENE

- **Qe7** — Composite mapunit consisting of indurated, red-brown to orange calcareous aeolian sand. Overlying OOLDEA SAND overlying HAMPTON SANDSTONE.

? LATE EOCENE TO PLEISTOCENE

- **Tfe / Tsi** — Ferricreted and silcreted quartzose sandstone and pebbly sandstone.

MIOCENE TO PLIOCENE

- **Tig** — GARFORD FORMATION (MANGATITJA FORMATION equivalent): Lacustrine deposits of chalcedonic limestone and grey, green or red clayey sand to sandy clay. (Benbow and Pitt, 1978; Major, 1973c) Subcrop and minor outcrop. Calcareous regolith on GARFORD FORMATION.

EOCENE

- **Tbo** — OOLDEA SAND: Very fine to medium-grained, moderately to well sorted aeolian quartz sand of the Ooldea, Barton and Paling Ranges, partly spicule-bearing. Subcrop and minor outcrop.

CAMBRIAN

- **€mt** — TRAINOR HILL SANDSTONE: Fine-to medium-grained, kaolinitic, micaceous and lithic white quartz sandstone, locally with red mottling or diffuse pale colorations; small to large scale low angle trough cross-bedding or angular cross-bedding; soft sediment disruption including roll slumps; thin mudstone interbeds and locally some clay intraclasts. (Benbow, 1982; Krieg, 1973). Subcrop and minor outcrop.
- **€m2** — WIRRILDAR BEDS, ARCOEILLINA SANDSTONE, OBSERVATORY HILL FORMATION: Fluvial, lacustrine, aeolian and sabkha deposits including micaceous and feldspathic sandstone and mudstone, cherty (Magadi-type) siltstone and carbonate interbeds. (Benbow, 1982; Major, 1973a; Gatehouse and Hibburt, 1987; Wopfner, 1969) Subcrop and minor outcrop.

????SUBSURFACE

NEOPROTEROZOIC

- **N2** — WILPENA GROUP EQUIVALENTS: Marine sandstone, grey indurated mudstone and limestone. Includes PUNKERRI SANDSTONE, UNGOOLYA GROUP (RODDA BEDS) including KARLAYA LIMESTONE and WRIGHT HILL BEDS. (Gravestock and Sansome, 1994; Sukanta et al, 1994, Thomas, 1990; Major 1973b; Major, 1974; Priess and Krieg, 1992; Zang, 1993).
- **N3** — CALLANNA/BURRA GROUP EQUIVALENTS: Tidal, sabkha and aeolian deposits of anhydritic siltstone, sandstone, shale, dolomite, minor chert and quartzite. Includes PINDYIN SANDSTONE (Priess, 1987; Priess, 1993)

PALAEOPROTEROZOIC

- **Lk** — BIRKSGATE COMPLEX: Metasediments, gneiss, granulite. (Drexel et al, 1993)

GEOLOGICAL BOUNDARY
- OBSERVED
- INFERRED

FAULT
- OBSERVED
- INFERRED
- SHEAR ZONE

BEDDING
- TREND

TRIANGULATION STATION

RELIEF FEATURES
- SAND DUNE
- IDENTIFICATION POINT
- TOPOGRAPHIC DEPRESSION (PALAEODRAINAGE)

HYDROGRAPHIC FEATURES
- LAKE
- INTERMITTANT LAKE
- RIVER, CREEK
- FLOODPLAIN
- CLAYPAN
- SWAMP, MARSH
- WATERHOLE
- SPRING
- BORE, WELL
- DAM, TANK

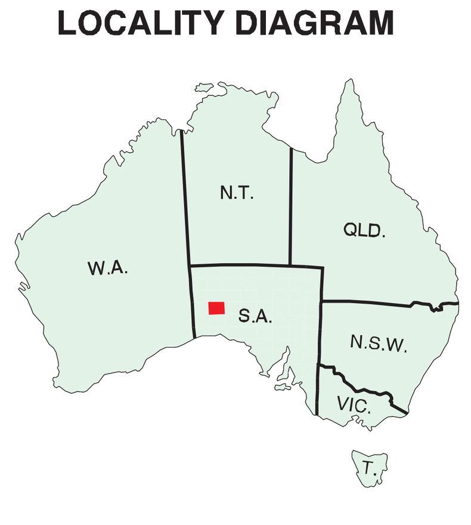
CULTURAL FEATURES
- HIGHWAY
- SECONDARY ROAD
- MINOR ROAD
- VEHICLE TRACK
- RAILWAY
- DISUSED RAILWAY
- VERMIN PROOF FENCE
- SEISMIC LINE
- PIPELINE
- PARK BOUNDARY
- HOMESTEAD
- YARD
- LANDING GROUND

MAJOR MINE
MINE
ABANDONED MINE
PROSPECT
ABANDONED PROSPECT
MINOR ALLUVIAL
Field Observations (Pitt 1983) 114

Bibliographic Reference

* **Benbow, M.C. and Pitt, G.M.**, 1978. The Garford Formation, *Geological Survey of South Australia Quarterly Geological Notes,* 68: 8-15.
* **Benbow, M.C.**, 1982. Stratigraphy of the Cambrian - ? Early Ordovician Mount Johns Range, NE Officer Basin, South Australia. *Royal Society of South Australia. Transactions,* 106 (4), 191-211
* **Drexel, J.F., Preiss, W.V. & Parker, A.J.** *(eds). The Geology of South Australia. Volume 1,* The Precambrian. South Australian Department of Mines & Energy, Bulletin, 54, 171-203.
* **Gatehouse, C.G. & Hibburt, J.E.**, 1987. Observatory Hill 1 well completion report and geology of adjacent Observatory Hill Formation. South Australian Department of Mines & Energy Rpt Bk 87/58 (unpublished)
* **Gravestock, D.I. and Sansome, A.**, 1994. Eastern Officer Basin Geology and Hydrocarbon Potential, South Australian Department of Mines and Energy Report. Envelope 8591 (unpublished)
* **Krieg, G.W.**, 1973. EVERARD, South Australia, sheet SH/53-13. South Australian Geological Survey, 1:250 000 Series, Explanatory Notes.
* **Lindsay, J.F.** (editor), 1995. Geological Atlas of the Officer Basin, South Australia. Australian Geological Survey Organisation, Canberra and Department of Mines and Energy, Adelaide.
* **Major, R.B.**, 1973a. The Wirrildar Beds. *Geological Survey of South Australia Quarterly Notes,* 45, 8-11.
* **Major, R.B.**, 1973b. The Wright Hills Beds. *Geological Survey of South Australia Quarterly Geological Notes,* 46, 6-10.
* **Major, R.B.**, 1973c. The Mangatitja Limestone. *Geological Survey of South Australia Quarterly Geological Notes,* 47, 5-9.
* **Major, R. B.**, 1974. The Punkerri Beds. *Geological Survey of South Australia Quarterly Geological Notes,* 51, 105.
* **Pitt, G.M.**, 1983. Report on 1979 helicopter geological survey, western Officer Basin of South Australia. South Australian Department of Mines and Energy, Report Book 83/3 (unpublished)
* **Preiss, W.V.**, 1987. The Adelaide Geosyncline. Late Proterozoic stratigraphy, sedimentation, palaeontology and tectonics. South Australian Geological Survey, Bulletin 53, 1-438.
* **Preiss, W.V.**, 1993. Neoproterozoic. In: DREXEL, J. F., PREISS, W.V. & PARKER, A.J. (eds). The geology of South Australia. Volume 1, The Precambrian. South Australian Department of Mines & Energy, Bulletin, 54, 171-203.
* **Preiss, W.V., & Krieg, G.W.**, 1992. Stratigraphic drilling in the northeastern Officer Basin: Rodda 2 well. Department of Mines & Energy. Mines & Energy Review, South Australia, 158, 48-51.
* **Sukanta, U., Von der Borch, C.C. & Gatehouse C.G.**, 1994. Late Marinoan Ungoolya Group in the eastern Officer Basin, South Australia. South Australian Department of Mines & Energy, Quartly Notes (in prep).
* **Thomas, B.**, 1990. Summary of seismic interpretation in the eastern Officer Basin. South Australian Department of Mines & Energy, Report Book 90/58 (unpublished).
* **Wopfner, H.**, 1969. Lithology and distribution of the Observatory Hill beds, eastern Officer Basin. *Royal Society of South Australia, Transactions,* 93, 169-185.
* **Zang, W.**, 1993. Review of Neoproterozoic and Early Palaeozoic acritarch biostratigraphy. Central Australian Basins Workshop, Alice Springs, Programme & Abstracts, 12-14.

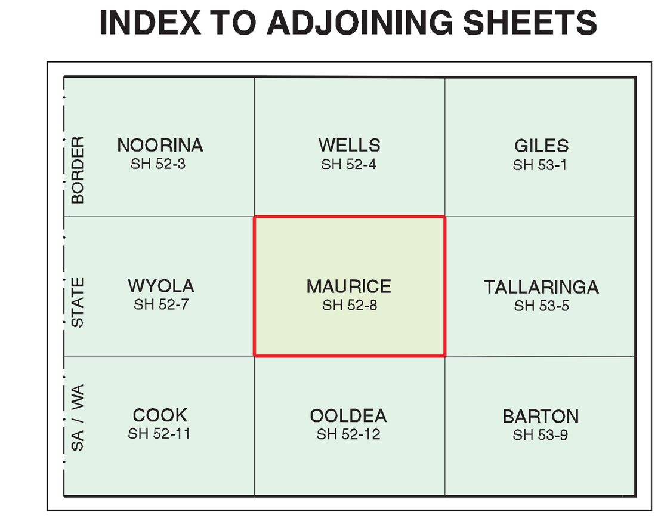
LOCALITY DIAGRAM



PRIMARY INDUSTRIES AND RESOURCES SA

GDA GEOCENTRIC DATUM OF AUSTRALIA

INDEX TO ADJOINING SHEETS



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MAURICE
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