

DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

REPT. BK. NO. 89/47

PALYNOLOGICAL DATING OF THE CRETACEOUS
SECTION IN MAGGEA PN128761 WELL, SOUTHERN
BERRI EMBAYMENT

NEVILLE F. ALLEY

BIOSTRATIGRAPHY BRANCH

JULY, 1989

DME ENV. 97/83

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TITLE: PALYNOLOGICAL DATING OF THE CRETACEOUS SECTION
IN MAGGEA PN128761 WELL, SOUTHERN BERRI
EMBAYMENT

AUTHOR: Neville F. Alley
Biostratigraphy Branch

BOREHOLE: Maggea 1 Well

SAMPLE DATA:

Branch No: S6168, S6167, S6166, S6165, S6164
Depth (metres): 202-204, 210-212, 216-218, 226-228, 228-230
Type of samples: Cuttings
Lithology: Claystone
Submitter: S.R. Barnett, Groundwater

LOCATION:

General location: Maggea township
Mapsheet: RENMARK

STRATIGRAPHIC INFORMATION:

Stratigraphic unit: Merreti Member
Geological Province: Berri Embayment
Rock Sample (RS) no.: 6929/RS37 to RS33
Borehole unit no.: 6929/423

ANALYTICAL DATA:

Laboratory technique: Standard with 10 um sieve
Microscope used: Zeiss Photomicroscope III
Palynomorphs counted: None undertaken because of downhole contamination, including from the
overlying Tertiary section

RESULTS:

Zonation:

Cyclosporites hughesii spore/pollen zone and Odontochitina operculata dinoflagellate zone of Helby *et al.*

(1987).

Zonal Species and Associates Present or Absent:

Spores Foraminisporis asymmetricus present and Crybelosperites striatus absent; dinoflagellates Odontochitina operculata present and Pseudoceratium turneri absent.

Age:

Early Cretaceous (Early to Middle Aptian)

Palaeoenvironment:

Shallow water marine

Other Comments:

The lowest two samples contain the greatest diversity in dinoflagellates suggesting that deeper water conditions prevailed during deposition of this part of the Cretaceous unit.

Rare reworked Permian pollen and spores are also present in the lowest two samples.

This occurrence of Cretaceous sediment marks the most southerly found so far in the Berri Embayment.

REFERENCES:

Helby, R., Morgan, R. and Partridge, A.D., 1987. A palynological zonation of the Australian Mesozoic. In: Jell P.A. (Ed.), Studies in Australian Mesozoic Palynology. Association of Australian Palaeontologists Memoir 4: 1-94.