REPORT BOOK.

DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

BIOSTRATIGRAPHY DIVISION

MICROPALAEONTOLOGY OF SELECTED SAMPLES, FROM THE STUART CREEK OPALFIELDS

ANDAMOOKA 1:250 000 MAP SHEET

by

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and

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Rept.Bk.No. 78/95
G.S. No. 6062
D.M. No. 484/77
Biostrat. No. 7/78

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REQUEST SUBMITTED BY: L.C. Barnes (Non-Metallic Resources Division).

Location: Great Australian Basin

ANDAMOOKA 1:250 000 map sheet

Stuart Creek Opalfield

Boreholes:

- SCCI6 (Lat. 137°15'30' long. 30°05'50')
- SCCI9 (" 137°15'30' " 30°05'20')
- SCC21 (" 137°15'20' " 30°05'30')

RESULTS

Foraminifera

Bore SCC16

5.0 m Foraminifera are common in this sample and include:

Haplophragmoides audax (the most common species)

H. davenportensis (common)

Ammobaculites irrapatanensis (one specimen recognised)

Textularia anacooraensis (common)

T. wilgunyaensis (common)

Pelosina sp. (rare)

Most foraminifera in this sample, like many from the Great Australian Basin, are deflated. The fauna correlates with the Trochammina raggatti-Textularia anacooraensis Zone of Ludbrook (1966) which is Early Cretaceous (Aptian). This fauna is stratigraphically lower than the one fossiliferous sample (A34) recorded by Hannah and Lindsay

(1977) at Stuart Creek although the fauna is the same.

6.9 m No fossils found in the two samples examined from this level.

12.9 m No fossils found.

15.6 m No fossils found.

Bore SCC19

17.5 m No fossils found.

20.9 m No fossils found.

Bore SCC21

3.0 - 3.1 m Indeterminate foraminifera are present.

3.1 - 3.2 m No fossils found.

Palynomorphs

Two samples from Bore SCC19 at 17.50 m (sample No. S4444) and 20.90 m (sample No. S4443) were processed for acid insoluble microfossils - spores, pollen and dinoflagellates. Both yielded essentially similar assemblages of palynomorphs which included the dinoflagellates Dingodinium cerviculum, Odontochitina operculata, Cribroperidinium edwardsii, Muderongia mcwhaei and Canningia colliverii. Spores and pollen included Dictyotosporites speciosus, Foraminisporites wonthaggiensis, and Lycopodiumsporites circolumenus. The assemblages are dominated by Micrhystridium sp.

The dinoflagellate species indicate a correlation with Morgan's (1977) zone of Odontochitina operculata of Aptian age. The spores and pollen are consistent with this assignment and belong to the Cyclosporites hughesii sub zone of Dettmann and Playford (1969).

CONCLUSIONS

Foraminifera and acid insoluble palynomorphs occurring in these samples are consistent with an Aptian age for the sediments and their correlation with the lower part of the Marree Formation.

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