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REPORT No. 1949/109
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MICROPALAEONTOLOGICAL EXAMINATION OF SAMPLES FROM
KOPPERAMINNA BORE, SOUTH AUSTRALIA.

by

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A.C.T.

23rd January, 1950.

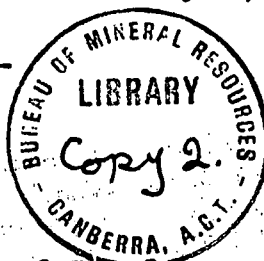
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Micropalaeontological Examination of Samples from
Kopperamanna Bore, Northeast of Lake Eyre,
South Australia.

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Detailed Description of Samples

1150 feet. Fine grained, Micaceous sandstone, with a little glauconite.
No foraminifera.

1166 feet. Fine grained micaceous sandstone with a little glauconite and
a few foraminifera.

Foraminifera:

Ammobaculites sp. nov.
Reophax ~~sp. nov.~~ cf. deckeri Tappan
~~Reophax~~ sp.

1907 feet. Grey sandstone with abundant pyrite, foraminifera, many
tests replaced by pyrite, ostracoda and fish remains.

Foraminifera:

Ammobaculites australe (Howchin)
Ammobaculites sp. nov.
Ammobaculites sp. nov. - ~~Howchin~~
cf. Ammobaculites
Ammodiscus cf. ~~Re~~ cretacea (d'Orb.)
Ammodiscus sp. nov.
Bigenerina sp. nov.
Crithionina sp.
Eponides sp. nov.
Globigerina washitensis Carsey
Globigerina planispira Tappan
Globulina lacroma (Reuss)
Gyroldina depressa (Alth)
Haplophragmoides chapmani Crespin
Haplophragmoides sp. nov. (1)
Haplophragmoides sp. nov. (2)
cf. Hyperammia sp.
Lagena laevis (Montagu)

Lenticulina sp. nov. Lenticulina spp.
Marginulina bulleeta Plummer
Marginulina cf. texasensis Cushman
Marginulina sp. nov.
Marginulina sp.
Nodosaria lepida Reuss
Nodosaria sp.
Pelosina sp. nov. - ~~Reuss~~
Patellina jonesi Howchin
Pseudopokymorphina sp. nov.
Reophax cf. deckeri Tappan
Reophax sp.
Spiroplectammina cf. cushmani Crespin
Spiroplectammina sp. nov. - ~~ad gella~~
Textularia sp.
Trochammina parvula Crespin
Trochammina raggatti Crespin
~~Verneullina~~ Verneullina sp. nov.

1910 feet. Dark grey siltstone with foraminifera.

Foraminifera:

Haplophragmoides chapmani Crespin
Nodosaria sp.
Pelosina sp.
Trochammina raggatti Crespin
Spiroplectammina sp.

1930 feet. Dark grey, carbonaceous sandstone with foraminifera.

Foraminifera:

Haplophragmoides sp.

1950 feet. Dark grey, carbonaceous sandstone with foraminifera and a few prisms of ~~Inoceramus~~ Inoceramus

Foraminifera:

Haplophragmoides chapmani Crespin

Haplophragmoides sp.nov.

Lenticulina sp.

Trochammina sp.

1990 feet. Dark grey carbonaceous siltstone with a little quartz numerous foraminifera, prisms of Inoceramus and small indeterminate fish teeth.

Foraminifera:

Ammobaculites sp.nov.

Anomalina rubiginosa Cushman = *Johnsoni* Cusp

Cibicides sp.nov.

Cibicides cf. lobatulus (W. and J.)

Eponides sp.nov.

Gyroldina depressa (Alth)

Haplophragmoides sp.

Haplophragmoides chapmani Crespin

Hyperammina sp.

Lenticulina spp.

Marginulina sp.nov.

Quinqueloculina sp.

Saracenaria acutauricularis (F. and M.)

Saracenaria ~~italica~~ italica (DeFrance)

Trochammina parvula Crespin

Trochammina sp.

cf. Textularia

Verneuilina polystropha (Reuss)

2110 feet. a. Glauconitic sandstone with fragments of ~~siltstone~~ carbonaceous siltstone, also numerous foraminifera, ostracoda small fish teeth and seed pods.

Foraminifera:

Ammobaculites sp.nov.

Ammobaculites sp.nov.

Ammobaculoides sp.

Bathysiphon sp.

cf. Flabellammina

Haplophragmoides sp.

Lenticulina gunderbookaensis Crespin

Lenticulina sp.

Reophax sp.

Spiroplectammina sp.nov. *etzelii* Cusp

Trochammina cf. raggatti Crespin

Trochammina cf. parvula Crespin

Verneuilina sp.

b. Moderately fine-grained sandstone with a little glauconite, ~~sand~~ foraminifera, and ostracoda.

Foraminifera:

Ammobaculites sp.nov.

Ammobaculites sp.nov.

Ammobaculoides sp.

Dentalina sp.

Cibicides sp.

Haplophragmoides chapmani Crespin

Haplophragmoides sp.

C. d. Nordfoge

Lagena orbignyana Seq.
Lenticulina sp.nov.
Reophax sp.
Spiroplectammina sp.nov. *edgelli*

2285 feet. Fine grained sandstone with numerous but poorly preserved foraminifera and radiolaria.

Foraminifera:

Ammobaculites sp.nov.
Ammobaculites sp.nov. *frumosa*
Ammodiscus sp.nov.
Cibicides sp.
Crithionina sp.nov.
Gyroldina sp.
Haplophragmoides sp.nov.
Haplophragmoides sp.nov.
Planulina cretacea Crespín = *Valvulineria infuculata*
Spiroplectammina sp.
Trochammina cf. parvula Crespín

Radiolaria:

Porodiscus sp.

2813 feet. Hard, fine-grained, laminated ~~sandstone~~ siltstone.

Grey;

2870 feet. Laminated siltstone with carbonaceous sandstone.

2950 feet. ~~Dark~~ Grey, laminated siltstone and coarse sandstone.

Notes on the Samples

The Kopperamanna Bore is situated 50 miles east of Lake Eyre North. It is also 80 miles northeast of Marree and 130 miles southwest of the Patchawarra Bore, the deepest to be drilled in the northeastern part of South Australia.

Twelve samples were submitted for micropalaeontological examination and these were taken between the depths of 1,150 feet and 2,950 feet. ~~It is unfortunate that the samples above 1,150 feet were not made available.~~ Samples at 1,160, 1,907, 1,910, 1,930, 1,950, 1,990, 2,110 and 2,385 feet, contain foraminifera. The assemblage which in all cases is dominated by arenaceous forms, is characteristic of the Lower Cretaceous deposits throughout the Great Artesian ~~Basin~~ Basin and is similar to that found in the surface beds at Roma, Queensland. The assemblage in the Kopperamanna Bore contains species already described by Howchin and Crespín but the majority of them are new and are about to be described by the writer. Cotton in his palaeontological to the ~~South~~ South Australian Mines Department records species of mollusca which are similar to those found in the ~~lower~~ foraminiferal

bearing rocks of Lower Cretaceous age at Roma.

The Kopperamanna Bore is situated approximately in the centre of a line drawn in a northeasterly direction from Marree to Patchawarra. Samples from bores at these two localities have been examined micro-palaeontologically and the report submitted to the Director of Mines Adelaide, in 1946. The bore at Marree, which is 80 miles southwest of Kopperamanna, reached the depth of 380 feet. Well preserved foraminifera were abundant in the samples from the surface down to 300 feet, and many of the species are represented in the assemblage from Kopperamanna. The Patchawarra Bore is 130 miles northeast of Kopperamanna and is the deepest bore to be examined in that part of the Great Artesian Basin ~~which~~ occurring in northeastern South Australia. Samples from this bore were examined from the surface down to 5,408 feet but unfortunately there were gaps in the samples submitted at what were possibly critical depths. The first foraminifera were not met with until the depth of 4,890 feet and the last occurrence was at 5,161 feet. Unfortunately there were no samples between the depths of 4,520 feet and 4,890 feet and between 5,161 feet and the last sample at 5,408 feet. However, enough micropalaeontological evidence is available to show the gradual thickening of the Lower Cretaceous sediments in the Great Artesian Basin in a northeasterly direction from Marree through Kopperamanna to Patchawarra. In the Mungeranie Bore, 40 miles north of Kopperamanna, which was drilled to the depth of 3,370 feet, foraminifera were common between the depths of 1,642 feet and 3,009 feet with prisms of Inoceramus shell being recorded at 1,516 feet and at 3,370 feet. (demon)

Cotton, in his report on the mega-fossils from the Kopperamanna Bore, regards the samples from 28 feet down to 224 feet as Oligocene, from 224 feet down to 1,144 feet as Upper Cretaceous, and from 1,144 feet down to 2,850 feet as Lower Cretaceous and from 2,850 feet down to 3,256 feet as Jurassic. It is unfortunate that the ~~xxx~~ samples above 1,150 feet were not submitted for micro-examination for the lithology ^{given} ~~suggested~~ by Cotton suggests that the Lower Cretaceous extended upwards well above 1,144 feet. Furthermore, the writer, basing her ~~existing~~ conclusions on the recent ~~xxxx~~ investigations

into the micropalaeontology and lithology of samples from numerous bores in the Great Artesian Basin and of surface samples at Roma, is inclined to the view that all the samples received for micro-examination from 1,150 feet down to 2,950 feet are ~~of~~ Lower Cretaceous ~~rather than Jurassic~~

(1 C)
C.P.

22/1/58