COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS

RECORDS:

1953/21

MICROPALAEONTOLOGICAL REPORT ON SAMPLES FROM TWO BORES NEAR BOURKE, NORTHERN NEW SOUTH WALES.

by

I. CRESPIN.

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Bore No. 8287, Mr. E.J. Riches "Myrnong" Bourke

Thirteen samples were submitted for examination from this bore. A detailed examination of these is given below.

50 feet. Whitish, fine-grained sandstone and sandy siltstone. No microfossils.

100 feet. Limonitic sandy siltstone. No microfossils.

150 feet. Similar to 50 feet.

200 feet. Quartz grains and fragments of carbonaceous siltstone, with pyrite and numerous arenaceous and calcareous foraminifera.

Anomalina mawsoni
Haplophragmoides concavus
Lenticulina spp.
Marginulina cf. jonesi
Marginulina marreensis
Robulus warregoensis
Saracenaria cf. triangularis
Valvulineria infracretacea

250 feet. Dark grey carbonaceous siltstone with a few foraminifera.

Anomalina mawsoni
cf. Glomospira

300 feet. Dark grey carbonaceous siltstone, with pyrite, quartz grains and foraminifera, chiefly calcareous species.

Ammobaculites minima
Astacolus cf. bronni
Enantiodentalina aff. communis
? Glomospira
Haplophragmoides dickinsoni
Marginulina australae
Saracenaria sp.
Valvulineria infracretacea

350 feet. Similar to 300 feet with numerous small foraminifera, mainly calcareous species.

Anomalina mawsoni
Enantiodentalina cf. debilis
Epistomina cf. carooolla
Lenticulina australae
Lenticulina sp.
Marginulinopsis subcretaceus
Robulus warregoensis (juv.)
Valvulineria infracretacea

400 feet. Similar to 300 feet with glauconite, pyrite and numerous foraminifera including both arenaceous and calcareous forms.

Ammobaculites romaensis
Anomalina mawsoni
Ammodiscus cretaceus
Haplophragmoides concavus
Lenticulina sp.
Marginulina australae
Marginulina cf. comma
Marginulina aff. tenuissima
Robulus sp.
Spiroplectammina edgelli
Spiroplectammina sp.
Valvulineria infracretacea

450 feet. Carbonaceous siltstone with abundant pyrite, numerous small arenaceous foraminifera and a few calcareous forms, and pyritic replacement of many tests.

Ammobaculites sp.
Ammodiscus sp.
Anomalina mawsoni
Marginulina cf. australe
Reophax aff. deckeri
Valvulineria infracretacea
Verneulinoides cf. schizea

500 feet. Fine quartz grains, pyrite, glauconite, and numerous small calcareous foraminifera.

Ammodiscus cretaceus	Robulus gunderbookaensis
Anomalina mawsoni	Robulus warregoensis
Lenticulina grata	Patellina jonesi
Lenticulina sp.	Valvulineria infracretacea
Marginulina sp.	

550 feet. Similar to 500 feet, with foraminifera chiefly calcareous species.

Anomalina mawsoni	Valvulineria infracretacea
Robulus gunderbookaensis	cf. Verneulinoides
Pseudoglandulina humulis	

600 feet. Glauconitic sandstone with fragments of carbonaceous siltstone and foraminifera.

Ammobaculoides pitmani	Spiroplectammina edgelli
Ammobaculoides romaensis	Verneulinoides schizea
Saracenaria sp.	

650 feet. Similar to 600 feet, with foraminifera.

Ammobaculoides romaensis	Marginulina sp.
Astacolus aff. aphrastis	Spiroplectammina edgelli
Anomalina mawsoni	Trochammina sp.
Haplophragmoides sp.	Valvulineria infracretacea
Marginulina australae	

NOTE ON THE SAMPLES

Bore No. 8287 is about 130 miles west of Bourke and is one of the most westerly bores to be examined in Northern New South Wales. Thirteen samples were submitted for micro-examination and these were taken at every 50 feet from the depth of 50 feet down to the last sample received at 650 feet. The samples from 50 feet down to 150 feet were unfossiliferous and the age of the beds is uncertain. However, from 200 feet down to 650 feet foraminifera were present in every sample. The assemblage was typically Lower Cretaceous and characteristic of the Anomalina mawsoni and Valvulineria infracretacea zone described in a previous report (11/7/52).

Calcareous tests dominated the assemblage, with only two families the Lagenidae and the Rotalidae being represented. The genera Robulus, Lenticulina and Marginulina were well represented and it has not been possible to determine many of the species specifically. The Rotalines, Valvulineria infracretacea and Anomalina mawsoni were present in most samples and were especially common at 300 feet and 350 feet.

Bore No. 4676, P. Mallon, "Avoca", Bourke

Fourteen samples were submitted from this bore and a detailed examination of them is as follows:

817-1000 feet. Carbonaceous siltstone, with quartz grains, pyrite and a few foraminifera, and probable radiolaria.

Haplophragmoides sp.	Patella jonesi
Lagena laevis	Valvulineria infracretacea
Lenticulina australae	Trochammina minuta

1000-1100 feet. Similar to 817-1000 feet, with a few foraminifera.

Ammobaculites minimum	Siphotextularia sp.
Marginulina australae	Spiroplectammina cf. cushmani
Robulus gunderbookaensis	(juv.) Trochammina minuta

1100-1288 feet. Similar to 817-1000 feet, with glauconite fairly common and a few foraminifera.

Ammobaculites minimum
Ammonabulites sp.
Lenticulina australae
Robulus sp.nov.
Robulus sp.
Robulus warregoensis
Spiroplectammina spp.

1288-1300 feet. Quartz sand with a little glauconite but no foraminifera.

1300-1460 feet. Sandstone

1460-1560 feet. Sandstone

1560-1643 feet. Sandstone consisting of fine angular grains of clear quartz.

1643-1690 feet. Coarse to fine quartz sandstone with mica.

1690-1735 feet. Fine grained sandstone with brown mica

1735-1750 feet. Coarse to fine sandstone with numerous mica flakes.

1750-1780 feet. ditto.

1780-1800 feet. Grey micaceous sandstone

1800-1820.feet ditto

1820-1831 feet ditto

NOTE ON THE SAMPLES

In view of the fact that Bore No. 4676 was located in an area north of Bourke from which samples from several other bores have been submitted for micropalaeontological examination, the first sample was taken at 817-1000 feet. The last sample came from 1820-1831 feet.

The typical assemblage of Lower Cretaceous foraminifera were present from 817 feet down to 1,288 feet. The tests were rather poorly preserved, especially the arenaceous forms. However, there is enough evidence to show that the assemblage is typical of the Anomalina mawsoni-Valvulineria infracretacea zone.

From 1,288 feet down to 1,831 feet, the beds consisted of unfossiliferous sandstone most probable of Jurassic age.