

1958/34

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COMMONWEALTH OF AUSTRALIA.

DEPARTMENT OF NATIONAL DEVELOPMENT.
BUREAU OF MINERAL RESOURCES
GEOLOGY AND GEOPHYSICS.

RECORDS.

Records 1958/34

MICRO-EXAMINATION OF FURTHER SAMPLES FROM DURAL

NO. 2 P.D.H. NEW SOUTH WALES

by

Irene Crespín

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A further consignment of cuttings from Dural No. 2 P.D.H., situated about 2 miles south-west of Dural No. 1 P.D.H., was submitted by Australian Oil and Gas Corporation Ltd. for micropalaeontological examination. This series of cuttings was taken in a continuous sequence from 3659 feet down to 5051 feet and is in continuation of that reported upon on 25/3/58. Permian foraminifera were found between the depths of 4340 feet and 4782 feet.

A short account of the samples examined is as follows:

3659-3900 feet. Dark to light grey siltstone and sandstone. No microfossils.

3900-4303 feet. Dark grey and light grey carbonaceous siltstone. No microfossils.

4302-4340 feet. Dark grey to black carbonaceous siltstone. No microfossils.

4340-4348 feet. Dark grey to black carbonaceous siltstone with foraminifera (Hyperammina sp.) and fragment of ostracod.

4348-4364 feet. Dark grey to black carbonaceous siltstone. No microfossils.

4364-4378 feet. Dark grey to black carbonaceous siltstone with foraminifera (Hyperammina sp.) and ostracoda (Bairdia grayi Crespin).

4402-4418 feet. Dark grey to black carbonaceous siltstone with foraminifera (Hyperammina sp., Rectoglandulina serocoldensis (Crespin)), and ostracoda (Bairdia grayi).

4440-4455 feet. Dark grey to black carbonaceous siltstone with foraminifera rare (Hyperammina sp.).

4485-4498 feet. Dark Grey to black carbonaceous siltstone with foraminifera (Ammodiscus sp. (pyritic), Frondicularia parri Crespin, Hyperammina sp.).

4522-4528 feet. Dark grey carbonaceous siltstone with foraminifera (Ammodiscus sp. (pyritic), Frondicularia parri, F. sp., Hyperammina sp.).

4567-4569 feet. Dark grey carbonaceous siltstone with foraminifera rare (Hyperammina sp.) and indeterminate ostracod.

4582-4590 feet. Dark grey carbonaceous siltstone with foraminifera (Ammodiscus sp. (pyritic), Fron dicularia parri, F. sp., Hyperammina sp.) and productid spine.

4625-4637 feet. Dark grey carbonaceous siltstone with foraminifera rare (Hyperammina sp.) and ostracod (cf. Cavellina).

4677-4688 feet. Dark grey carbonaceous siltstone with foraminifera (Ammodiscus multicinctus Cressin and Parr, Fron dicularia parri (common)).

4700-4712 feet. Dark grey to black carbonaceous siltstone with foraminifera (Fron dicularia parri, Hyperammina sp.).

4712-4776 feet. Dark grey carbonaceous shale and calcareous sandstone.

4776-4782 feet. Dark grey carbonaceous siltstone and fine sandstone with foraminifera rare (Ammodiscus sp.).

4782-4995 feet. Light and dark grey carbonaceous shale and calcareous sandstone. No microfossils.

4995-5051 feet. Dolerite (see well geologist's log).

Note on the samples

From evidence available from the cuttings, it appears that Dural No. 2 P.D.H. penetrated the marine Permian beds at the depth of 4302 feet when the lithology passed from dark and light grey siltstone with some sandstone into dark grey to black carbonaceous siltstone. This lithology was present down to 4712 feet, but it is possible that these marine beds extended down to 4782 feet where fragments of calcareous sandstone were associated with dark grey to black siltstone. Foraminifera were present in many samples from 4340 feet down to 4712 feet with rare tests at 4776-4782 feet.

The foraminifera and ostracoda were not as well preserved in Dural No. 2 Bore as in Dural No. 1. Fron dicularia parri, the characteristic foraminiferal species of subsurface sediments of the Sydney Basin, was recognised between the depths of 4485 feet and 4712 feet with several tests occurring at 4677-4688 feet.

The characteristic assemblage of microfossils at this horizon was discussed fully in the report on Dural No. 1 P.D.H. (Records 1957/27).

There is some difference in depth at which the marine Permian beds were met with in Dural No. 1 and Dural No. 2 as well as in the thickness of the beds. In the former, these beds were recognised from 4081 feet down to 4665 feet, a thickness of 584 feet and in the latter from 4302 feet down to 4782 feet, a thickness of 480 feet.