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Micropalaeontological Examination of Five Samples from Frazer River No.S-1 Structure Hole Dampier Land, Western Australia

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Records No. 1955/86

Five samples from the depths of 438-453 feet, 465-483 feet, 528-543 feet, 543-558 feet and 662-677 feet respectively were received from West Australian Petroleum Pty.Ltd. for micropalaeontological examination. The residue of the samples after washing consisted almost entirely of angular to subangular grains of clear quartz with glauconite grains, glauconitic replacement of tests of radiolaria and some foraminifera. The assemblage is characteristic of the Lower Cretaceous deposits of Western Australia. A detailed account of the samples is given below.

438-453 feet. Angular to subangular grains of clear quartz with glauconite grains, glauconitic replacement of radiolarian tests, and foraminifera, chiefly arenaceous tests and fish remains.

Radiolaria: Dictyomitra spp. (common)
Cenosphaera sp.

Foraminifera: Ammodiscus cf.cretaceus Reuss
Bigenerina sp.
Haplophragmoides sp.
Robulus gunderbookaensis Crespin
Spiroplectammina cushmani Crespin

Pisces: Fish tooth (small) and spines

468-483 feet. Similar tp 438-453 feet, but with glauconite grains more abundant.

Radiolaria: Cenosphaera sp.
Dictyomitra spp.
Lithocampe sp.
Theocapsa sp.

Foraminifera: Ammobaculites mimimus Crespin
Haplophragmoides sp.
Spiroplectammina cushmani Crespin

528-543 feet. Similar to 468-483 feet.

Radiolaria: Cenosphaera sp.
Dictyomitra spp.
Dictyomitra spp.
Lithocampe sp.
Porodiscus sp.

Foraminifera: Ammobaculites minimus Crespin
Bigenerina sp.
Haplophragmoides cf.dickinsoni Crespin
Haplophragmoides sp.
Lagena laevis Montagu
Spiroplectammina cushmani Crespin
Spiroplectammina edgelli Crespin

Ostracoda: Cytheropteron cf.concentricum (Reuss)

543-558 feet. Glauconite grains, glauconitic casts of radiolaria and foraminifera not as numerous as in 528-543 feet.

Radiolaria: Cenosphaera sp.
Dictyomitra sp.
cf. Spongotropis

Foraminifera: Ammobaculites fisheri Crespin
Spiroplectammina cushmani Crespin

662-677 feet. Glauconite grains, radiolaria and foraminifera less common than in 543-558 feet.

Radiolaria: Dictyomitra sp.

Foraminifera: Ammobaculites minimus Crespin
Spiroplectammina cushmani Crespin

Note on the samples

The samples most probably belong to the Jowlaenga Sandstone of Dampier Land. The rocks of this Formation are considered to be Neocomian in age, that is basal Lower Cretaceous (Guppy, Lindner, Rattigan and Casey, 1952). However, such abundance of radiolaria, the majority of tests of which are replaced with glauconite glauconite has not been found yet in surface deposits of basal Lower Cretaceous age in Western Australia. The angular to subangular grains of clear quartz together with the radiolaria and delicately preserved foraminifera are similar to that found in the Birdrong Formation of the Carnarvon Basin. The rocks of the Birdrong Formation although of Lower Cretaceous age probably not quite as low in the stratigraphic sequence Neocomian.

It will be of interest to see whether the bore penetrates Jurassic sediments.

Reference

Guppy, D.J., Lindner, A.W., Rattigan, J.H., and Casey, J.N., 1952- The Stratigraphy of the Mesozoic and Permian Sediments of the Desert Basin, Western Australia. Symposium Gondwana, 19th Intern. Geol. Congr. Alger. 107-114.

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