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MICROPALAEONTOLOGICAL EXAMINATION OF BORE CORES FROM ROEBUCK BAY NO.1 STRATIGRAPHIC BORE, CANNING BASIN, WESTERN AUSTRALIA

by

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Four cores from Roebuck Bay No.1 Stratigraphic Bore were submitted by West Australian Petroleum Pty. Ltd. for micropalaeontological examination. Core 7 was taken at 590-600 feet, Core 8 at 690-700 feet, Core 23 at 1989-1999 feet, and Core 33 at 2648-2657 feet. Foraminifera were found in all cores and proved the beds of Cores 7 and 8 to be Upper Jurassic in age and of Cores 23 and 33 to be Lower Permian. A detailed description of the examination is given below.

Core 7 - 590-600 feet. Grey pyritic silty sandstone with foraminifera and ostracoda.

Foraminifera: Lenticulina spp.
Saracenaria cf. triquetra (Gumbel)
Vaginulina cf. inspissata Loeblich and Tappan

Ostracoda: Cythere cf. drupacea Jones var. fortior Chapman

Core 8 - 690-700 feet. Grey, pyritic, silty sandstone with foraminifera.

Foraminifera: Lenticulina cf. audax Loeblich and Tappan
Lenticulina sp.
Saracenaria sp.

The foraminiferal assemblages in Cores 7 and 8 consist of forms belonging entirely to the family Lagenidae. Some of the species closely resembled those described by Loeblich and Tappan (1950) from the Jurassic of North America. None of the forms could be identified with the species described by Chapman (1903) from the Jurassic of Geraldton. The species of ostracod in Core 7 is very similar to figures of a species illustrated by Chapman from that locality.

Core 23 - 1989-1999 feet. Hard grey bryozoal and crinoidal crystalline limestone in which the structure of the bryozoal forms has almost completely disappeared. Foraminifera were scarce and a few tests of poorly preserved ostracoda were noted.

Foraminifera: Calcitornella sp.
Geinitzina triangularis Chapman and Howchin
Geinitzina sp.

The foraminifera in this core indicate a Lower Permian age and the beds are equivalent of the Noonkanbah Formation of the Fitzroy Basin. Geinitzina triangularis is a typical form in beds of this formation, and the form referred to as Geinitzina sp. is very similar to a new species also characteristic of the Formation. This assemblage has been found in some abundance in the Freney Kimberley Oil Company's Nerrima No.1 Bore at 129 feet.

Core 33 - 2648-2657. Grey sandy siltstone with foraminifera.

Foraminifera: Hyperamminoides sp.
Nodosaria sp.nov.

This core is regarded as coming from beds low in the Permian sequence and most probably from beds which are the equivalent of the Nura Nura Member of the Poole Sandstone of the Fitzroy Basin. Foraminifera are not common, but several well preserved tests of a new species of Nodosaria were found. This species is common in beds of the Callytharra Formation in the Carnarvon Basin and appears to be restricted to that stratigraphical horizon. It was also found in Core No.66 in the Giralia Bore at the depth of 3115-3120 feet, which was also considered to be the equivalent of the Callytharra Formation.

References

Chapman, F., 1903 - On Some Foraminifera and Ostracoda from Jurassic (Lower Oolite) Strata, near Geraldton, Western Australia. Proc.roy.Soc.Vict., 16 (2), n.s. 187-206.

Loeblich, A.R., and Tappan, Helen., 1950 - North American Jurassic Foraminifera: 1. The Type Redwater Shale (Oxfordian) of South Dakota. J.Paleont. 24 (1), 39-60.