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MICROPALAEONTOLOGICAL EXAMINATION OF ROCKS FROM THE SOUTH END OF CAPE RANGE STRUCTURE, WESTERN AUSTRALIA

by

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MICROPALAEONTOLOGICAL EXAMINATION OF ROCKS FROM THE SOUTH END OF CAPE RANGE STRUCTURE, WESTERN AUSTRALIA

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Eight rock samples from the south end of the Cape Range Structure were received on July 22nd from West Australian Petroleum Pty. Ltd. for micropalaeontological examination. The rocks were representatives of the Exmouth Sandstone, Trealla Limestone and Tulki Limestone. A detailed description of the microfossils recognised in these samples is given below.

1. Samples referred to the Exmouth Sandstone

CRP.1 (MF.3474) –
- Discorbis australis Parr
- Quinqueloculina sp.
- Rotalia beccarii Linné
- Rotorbinella cycloclypeus (Parr)
- Triloculina tricarinata d'Orb.

CRP.2 (MF.3475) –
- Discorbis australis Parr
- Cibicides mundulus (Brady, Parker & Jones)
- Elphidium crispum (Linné)
- Rotalia beccarii Linné
- Rotorbinella cycloclypeus (Parr)

CRP.3 (MF.3476) –
- Anomalina sp.
- Discorbis australis Parr
- Elphidium crispum (Linné)
- Quinqueloculina sp.
- Sigmoilina australis (Parr)
- Rotalia beccarii Linné

Although foraminifera are fairly common in these samples the tests are very worn and many species cannot be determined. However, the assemblage as listed above is typical of that found in the Exmouth Sandstone, and is also typical of that found along the shore-line of Western Australia today.

2. Samples referred to the Trealla Limestone

CRP.4 (MF.3477) –
- Calcareous algae
- Acervulina inhaerens Schultz
- Flosculinella cf. bontangensis (Rutten)
- Lepidocyclina sp.
- Marginopora cf. vertebralis Blainville
- Planorbulinella inaequilateralis (Heron-Allen & Earland)
- Pyrgo sp.
- Quinqueloculina sp.
- Triloculina tricarinata d'Orb.
- Valvulina sp.

CRP.5 (MF.3478) –
- Calcareous algae including Halimeda sp.
- Austrotrillina howchini (Schlumberger)
- Calcarina cf. verriculata (Howchin & Parr)
- Flosculinella cf. bontangensis (Rutten)
- Marginopora cf. vertebralis Blainville
- Spiroloculina canaliculata d'Orb.
- Triloculina tricarinata d'Orb.

CRP.7 (MF.3480) –
- Calcareous algae
- Austrotrillina howchini (Schlumberger)
- Calcarina cf. verriculata (Howchin & Parr)
- Lepidocyclina sp.
- Lepidocyclina ferreroi Provale
- Marginopora cf. vertebralis Blainville
- Numerous small miliolidae
- Valvulina spp.

CRP.8 (MF.3481) - Abundant calcareous algae
Austrotrillina howchini (Schlumberger)
Flosculinella sp.
Gypsina globula Reuss
Lepidocyclina sp.
Lepidocyclina cf. sumatrensis (Brady)
Marginopora cf. vertebralis Blainville
Planorbulina sp.
Sorites aff. martini Verbeek
Valvulina spp.

The foraminiferal assemblage which is dominated by small test of miliolidae is characteristic of that found in limestones of the Trealla Formation. However, the presence of small species of Lepidocyclina and of Flosculinella cf. bontangensis indicate that the limestones CRP.4,5,7 and 8 come from the basal part of the Formation. The organisms in sample CRP.7 are all fragmentary, suggesting shore-line conditions during sedimentation.

3. Sample referred to the Tulki Limestone

CRP.6 (MF.3479) - Calcareous algae
Acervulina inhaerens Schultz
Amphistegina sp.
Austrotrillina howchini (Schlumberger)
Anomalina cf. glabrata Cushman
Calcarina sp. (common)
Cycloclypeus cf. indopacificus Tan
Elphidium cf. hispidulum Cushman
Globigerina sp.
Globigerinoides trilobus (d'Orb.)
Gypsina globula Reuss
Lepidocyclina cf. pilifera Scheffen
Lepidocyclina spp.
Marginopora cf. vertebralis Blainville
Operculina cf. victoriensis Chapman & Parr
Planorbulina sp.
Quinqueloculina spp.
Sorites aff. martini Verbeek
Triloculina tricarinata d'Orb.

The faunal content of samples CRP.6 is typical of that found in limestones from the upper part of the Tulki Formation. It is much richer than that of the overlying Trealla Limestone. It consists of calcareous algae, numerous foraminifera, bryozoa, shell fragments and ostracoda. Many tests of small foraminifera such as Anomalina and Globigerina are present together with larger forms such as Operculina and Cycloclypeus. Fragments of tests of Lepidocyclina are scattered throughout the thin sections of the limestone.