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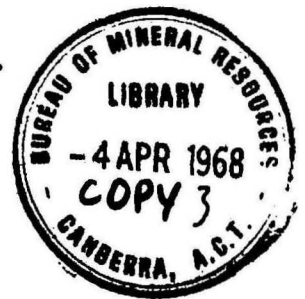
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DEPARTMENT OF NATIONAL DEVELOPMENT.
BUREAU OF MINERAL RESOURCES
GEOLOGY AND GEOPHYSICS.

RECORDS.



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FORAMINIFERA FROM THE MIDDLE PURARI RIVER AREA, PAPUA

by

D.J. Belford

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Eighteen samples from the Middle Purari River area of Permit 22, held by Papuan Apinaipi Petroleum Co. Ltd., were forwarded for examination by Mines Administration Pty. Ltd. Two samples labelled No. 5 were received, sample No. 16 was not received, and sample No. 8a is not mentioned in the list of samples.

Results of the examination are as follows:

Samples Nos. 1, 2 and 7, along Hou Creek

No microfossils were found in sample No. 1.
Samples Nos. 2 and 7 contained the following foraminifera:

Orbulina universa
Globigerinoides trilobus
Globigerina subcretacea
Globorotalia menardii
G. scitula
Sphaeroidinella seminulina
Pulleniatina obliquiloculata
Bolivinita quadrilatera
Bolivina alata
B. robusta
B. sp.
Nonion scapha
Sphaeroidina bulloides
Cibicides pseudoungerianus
Nodosaria arundinea
Sigmoilina schlumbergeri
Uvigerina schwageri
Astrononion sp.
Plectofrondicularia sp.
Globobulimina pacifica
Bulimina sp.

The planktonic assemblage in these samples is dominated by Globigerinidae and Globorotalia; specimens of Bolivina are abundant in sample 2.

Samples Nos. 2 and 7 are referred to the lower "Muruan" (lower part of the Upper Miocene).

Samples Nos. 10, 11 and 13, from the south-western flank of the Eri Anticline, along U.U. Creek.

These samples contained planktonic foraminifera (rare in sample No. 10) and also very rare benthonic species. Species determined are:

Globigerinoides trilobus

Globorotalia menardii

Orbulina universa

Pullenia bulloides

These samples are also referred to the lower "Muruan".

Sample No.12, from the north-eastern flank of the Eri Anticline.

This sample also contained abundant planktonic foraminifera, but in this case the assemblage is dominated by tests of Orbulina. The change in occurrence of Orbulina from rare to abundant is characteristic of the boundary between the "Muruan" and the "Orbulina" marls in this area; sample No.12 is therefore referred to the "Orbulina" marls, of Middle Miocene age.

Of the possibilities mentioned by Mines Administration Pty. Ltd., I regard this section as lower "Muruan"-"Orbulina" marls equivalent.

Samples 3, 4, 5, 6, 8 and 9b, from a traverse along the Wid River

The two samples labelled No.5, distinguished as 5 and 5a, are included here, and also samples 8a and 8b.

No microfossils were found in sample 8a and 8b contained only very rare planktonic foraminifera. Sample No.6 was examined in thin section and contained abundant Globigerinidae and also Orbulina, Globorotalia and a considerable benthonic fauna. This sample is not a typical "Puri" limestone, but could be either from the uppermost part of this formation or from the "Orbulina" marls. The "Puri" limestone is defined mainly on a lithological basis, and there are no satisfactory palaeontological data to distinguish the "Puri" limestone from the "Orbulina" marl. The "Puri" limestone is usually regarded as Lower Miocene ("Taurian" to "Keruan") in age, but the upper part of the formation may extend into the Middle Miocene ("Ivorian").

Samples Nos.3, 4, 5, 5a and 9b contained an abundant planktonic assemblage dominated by Globigerinidae and Globorotalia; numerous benthonic forms are also present. Species identified are:

Orbulina universa

Borbulina bilobata

Globigerinoides trilobus

Globigerina subcretacea

Globigerinella aequilateralis

Globoquadrina altispira

Globorotalia menardii

Sphaeroidinella seminulina

Pullenia bulloides

Bolivinita quadrilatera

Eggerella bradyi
Ammodiscus incertus
Uvigerina peregrina
Pleurostomella brevis
Pyrgo sp.
Triloculina sp.
Cyclammina sp.
?Trochammina sp.
Arenaceous indeterminate forms

These samples are regarded as lower "Muruan" in age.

Samples Nos. 14, 17, 18 and 20, from a traverse along Tseri Creek

Sample No. 14 contained only very rare planktonic foraminifera, insufficient for age determination.

Sample No. 17 contained larger and smaller foraminifera and algae. Foraminifera determined are Discocyclina, Amphistegina, and Miliolidae; the sample is of Eocene age. Kicinski (1953, report LPE) recorded an Eocene fauna in brecciated limestones assumed to be basal "Kerueruan" breccias with a derived Eocene fauna. There is no evidence of brecciation in the present sample, but several specimens of Discocyclina observed are broken; no evidence of age younger than Eocene has been observed. Carey (1941, report LI) shows an area of limestone on Tseri River east of the Pio fault queried as either Eocene or lower Miocene. The same writer (p. 33) mentions a scarp of white limestone overhanging the Wid Valley and states that boulders of "Puri" limestone and Spiroclypeus limestone are common in the river bed but that no Eocene boulders were collected. However, he concludes "... structural considerations suggest that the exposure here may be fairly deep. It is possible, therefore, that Eocene limestones will be found in this cliff".

The field occurrence of the present sample is important for determination of its correct stratigraphical level, whether Eocene in situ, or derived in a younger formation.

Sample No. 18 contained abundant larger foraminifera, algae and bryozoa. Foraminifera determined are Spiroclypeus, Eulepidina, Nephrolepidina and Amphistegina, together with indeterminate smaller foraminifera. This is a Lower Miocene "e" stage ("Kerueruan") limestone. Bands of limestone of this type occur interbedded with typical "Puri" limestone in the lower part of that formation.

Sample No. 20 is a typical "Puri" limestone, with abundant planktonic foraminifera (Globigerinidae, Globorotalia and Orbulina).

REFERENCES

- CAREY, S.W., 1941 - Report on the geology of the Purari River Region, Permit 5, Papua. Australasian Petroleum Company Pty. Ltd., report LI.
- KICINSKI, F.M., 1953 - Report on the palaeontological examination of samples from the Puri-Kuku Survey. Australasian Petroleum Company Pty. Ltd., report LPE, Appendix 1.