Copy 2

COMMONWEALTH OF AUSTRALIA.

DEPARTMENT OF NATIONAL DEVELOPMENT.

BUREAU OF MINERAL RESOURCES

GEOLOGY AND GEOPHYSICS.

RECORDS.

1956/19

FOSSILS FROM ERADU AND MINGENEW, WESTERN AUSTRALIA.

by

J. M. Dickins

FOSSILS FROM ERADU AND MINGENEW, WESTERN AUSTRALIA.

by

J. M. Dickins

RECORDS 1956/19.

The fossils, collected by Mr. P. E. Playford, have been sent by West Australian Petroleum Pty. Ltd. for identification and age determination. The numbers shown are West Australian Petroleum numbers.

GB14

?Champion Bay Group, about 1½ miles east-north-east of Eradu. Army Grid Reference 300-445, Geraldton 4 mile sheet.

The rock containing the fossils is composed of a dark red ferruginized fine to medium grained sandstone or quartz greywacke with coarse grains of quartz and fragments of ?silt or kaolin (perhaps originally felspar). The rock has a number of small cavities perhaps representing calcareous material now leached away.

The fossils can be identified as follows:-

Cucullaea? sp. nov.
?*Radula duplicata* Sowerby (Etheridge Jnr. 1910)
?*Myacites sandfordi* Moore 1870
Wood fragments

The material is not satisfactory for an age determination. It is sufficient, however, to indicate that the rocks are not of Permian age because the species present are not referable to any known West Australian Permian forms. On the other hand the rocks are almost certainly Jurassic in age as two of the species can be referred with some reservation to species already described from the Jurassic rocks of the Geraldton area, namely to *Radula duplicata* and *Myacites sandfordi*. The reservation is necessary because only one incomplete shell of each is represented in the collection. *Cucullaea*? sp. nov., also represented by a single specimen, is not known from the Jurassic rocks of Geraldton but it is of a type found in rocks of similar age.

GB52.

Mingenew Formation, exact stratigraphic position within the formation unknown. Approximately 1½ miles east of Mingenew; 29°12'S, 115°28'E, Dongara 4-mile sheet.

Ferruginized weathered yellow and buff siltstone to very silty quartz greywacke with medium and coarse grains of quartz and ?decomposed felspar and with included pieces of siltstone.

The fossils can be identified as follows:

Brachiopods
Cancrinella sp.
Strophalosia sp.
Aulosteges or *Taeniothaerus* sp. ind. (this form does not seem to be referable *A.ingens* Hosking.

Spiriferacea sp. ind. (?punctate form)
Neospirifer sp. (unspecialized type as in Callytharra and later formations)
Neospirifer sp.nov. (alate strongly fasciculate type as in basal Madeline member)

Pelecypods

Aviculopecten cf. subquinquelineatus (McCoy) 1847

None of the forms characteristic of the Fossil Cliff - Callytharra Formation are present in this fauna. The most useful form for correlation appears to be Neospirifer sp.nov. which in the Wooramel River area is restricted to basal (of two) predominantly siltstone member of the Madeline Formation. Strophalosia sp. and Aviculopecten cf. subquinquelineatus would also indicate an age youngerthan the Fossil Cliff Formation. On the other hand there are no forms which would indicate an age younger than that of the Madeline Formation or its equivalents further north, i.e. main part of Coyrie Formation and possibly part of Mallens. There are for instance none of the characteristic forms of the Wandagee Formation.

It can be concluded then that the fauna is younger than that of the Fossil Cliff Formation but is unlikely to be younger than that of the Madeline Formation of the Wooramel River area.

GB53

Mingenew Formation-Enanty Hill. 280' above the above the base of the Section, approximately 1½ miles north-north-east of Mingenew, 29°10'S, 115°27'E. Dongara 4-mile sheet.

Lithologysimilar to GB.52, perhaps slightly coarser with no siltstone.

The fossils can be identified as follows:

Brachiopods
Strophalosia sp. (probably same as form which occur in top member of Madeline)
Aulosteges or Taeniothaerus sp.ind.
Dielasma sp.ind.
Chonetes sp. (non sulcate type)

Pelecypods
Aviculopecten cf. subquinquelineatus (McCoy) 1847.

Two species, Strophalosia sp. and Aviculopecten cf. subquinquelineatus also occur at GB53, indicating that the two collections are from horizons of similar age. Again it can be concluded that the fauna is younger than that of the Fossil Cliff Formation but is unlikely to be younger than that of the Madeline Formation of the Wooramel River area.