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PALAEONTOLOGICAL EXAMINATION OF CORE SAMPLES FROM
CAPE RANGE NO. 1 TEST WELL, WESTERN AUSTRALIA.

by

I. Crespin.

PALAEONTOLOGICAL EXAMINATION OF CORE SAMPLES FROM
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Samples from four cores from Cape Range No. I Test Well, Shothole Canyon, Exmouth Gulf were submitted for palaeontological examination, by West Australian Petroleum Pty. Ltd.

These samples were taken at the following depths:

Core 30 at 4,130 feet - Registered number B.3949
Core 31 at 4,230 feet - Registered number B.3950
Core 32 at 4,256 feet - Registered number B.3951
Core 35 at 4,303 feet - Registered number B.3952.

The lithology was uniform in all samples and consisted of a dark grey to black, tough, sandy coarse siltstone. It was similar to the sample of core from 3,880 feet in this well examined in October. Macrofossils were prominent on some of the fractured surfaces of the cores and included genera such as Inoceramus, Aucellina, Nuculana and Belemnites. These fossils will be reported upon later by Mr. J. M. Dickins.

Portion of each core was crushed, washed and examined for microfossils. Foraminifera of Lower Cretaceous age were found in all samples. Radiolaria, ostracoda and Inoceramus prisms were also present.

A detailed list of microfossils recognised in each sample is given below.

Core 30 at 4,130 feet.

Foraminifera were common especially in the finer washings. Many calcareous tests had been replaced by pyrite, with the surface ornament of some preserved. Pyritic casts of radiolaria were moderately common.

Foraminifera (Reg. No. MF.961A)

A. Arenaceous

Ammobaculites fisheri Crespin
Ammobaculites sp.
Ammodiscus sp. (very small, probably new species)
Crithionina sp.
Haplophragmoides chapmani Crespin
Haplophragmoides dickinsoni Crespin
Hyperammina sp.
Spiroplectammina cushmani Crespin
cf. Spiroplectammina sp.
cf. Textularia anacooraensis Crespin
Trochammina minuta Crespin
Trochammina raggatti Crespin
Vernueilinoides schizea (Cushman & Alexander)

B. Calcareous

Dentalina spp. (some tests pyritic)
Globigerina cf. planispira Tappan (pyritic)
Globigerina cf. washitensis Tappan (pyritic)
Globorotalia sp. (pyritic)
Globulina minuta Roemer
Gyroldina cf. nitida (Reuss)
Lagena globosa (Montfort)
Lagena laevis (Montagu)

Lenticulina spp.
Marginulina spp. (some tests pyritic)
Robulus gunderbookaensis Crespin
Robulus sp.
Saracenaria spp.
Vaginulina complanata (Reuss) var. perstriata Tappan

Radiolaria

Genosphaera sp. (pyritic)
Dictyomitra sp. (pyritic)

Ostracoda

Genus indeterminate

Core 31 at 4,230 feet.

Foraminifera were fairly common with most of the calcareous tests broken or poorly preserved. Inoceramus prisms were present.

Foraminifera (Reg. No. MF.961B)

A. Arenaceous

Ammobaculites fisheri Crespin
Ammobaculites minimus Crespin
Haplophragmoides chapmani Crespin
Hyperammina sp.
Pelosina lagenoides Crespin
Spiroplectammina edgelli Crespin
Spiroplectammina sp.
Trochammina raggatti Crespin (common)

B. Calcareous

Dentalina sp.
Lagena globosa (Montfort)
Nodosaria sp.
Robulus warregoensis Crespin
Robulus sp.
Saracenaria cf. acutauricularis (F. & M.)
Vaginulina sp.

Core 32 at 4,256 feet.

Foraminifera were fairly common. The calcareous tests were usually broken.

Foraminifera (Reg. No. MF.961B)

A. Arenaceous

Ammobaculites fisheri Crespin
Ammobaculites minimum Crespin
Flabellammina sp. nov.
Spiroplectammina cushmani Crespin
Spiroplectammina edgelli Crespin
Trochammina raggatti Crespin
Trochammina sp. nov.

B. Calcareous

Dentalina sp.
Discorbis cf. minima Vieaux
Globulina minuta Roemer

Lenticulina sp.
Robulus warregoensis Crespin
Spirillina cf. minima Schacko

Ostracoda

Genus indeterminate

Core 35 at 4,303 feet.

Foraminifera were moderately common with arenaceous tests predominating. Some calcareous tests were replaced by pyrite and pyritic casts of radiolaria were also present.

Foraminifera (Reg. No. MF.961B)

A. Arenaceous

Ammodiscus cf. cretaceus (Reuss)
Haplophragmoides chapmani Crespin
Haplophragmoides sp.
Hyperammina sp.
Reophax sp.
Spiroplectammina edgelli Crespin
Textularia cf. anacooraensis Crespin
Trochammina depressa Lozo
Trochammina minuta Crespin
Trochammina maggatti Crespin

B. Calcareous

Globigerina sp. (pyritic)
Lagena spp. (replaced by calcite)
Nodosaria sp.
Saracenatia acutiauricularis (F. & M.)
Robulus spp.

Radiolaria

Genosphaera sp. (pyritic)

Ostracoda

Genus indeterminate.

Notes on the Foraminifera.

The assemblage of foraminiferal species is typical of Lower Cretaceous deposits throughout Australia. It is dominated by arenaceous tests which are usually crushed or deflated. The commonest genera are Haplophragmoides and Trochammina. Calcareous forms are also present, and the majority of these belong to the Family Lagenidae. The tests in these cores were not as well preserved as in the core at 3,880 feet. Because of the toughness of the rock, many of the tests were broken during crushing; others were filled with calcite and at times were completely replaced by it. Tests of small Dentalinae and Globigerinae were present as pyritic casts, especially in the fine washings of Core 30 at 4,130 feet. It is important to note that the genus Globigerina makes its first appearance as a fossil form in the Lower Cretaceous throughout the world.

The assemblage of foraminifera which is dominated by the arenaceous genera, Ammobaculites, Haplophragmoides and

Trochammina is characteristic of deposits laid down in a near shore, cold to cool and probably brackish water environment (Bolin, 1954). The assemblage of arenaceous and calcareous genera such as is found in the above cores, is typical of the majority of Lower Cretaceous deposits in Texas, U.S.A.

Reference.

Bolin, E.J., 1954 - Some foraminifera, radiolaria and ostracoda from the Cretaceous of Minnesota. Jour. Palaeont. 28(4), 512.