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Report on D.L. Murray's bore, W.L.L.199,
near Bourke, N.S.W.

by

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20th June, 1942.

REPORT ON D.L.MURRAY'S BORE, W.L.L.199, NEAR BOURKE,
COUNTY OF GUNDERBOOKA, NORTHERN NEW SOUTH WALES.

(70 miles S.W.
of Bourke)

Received from Water
Conservation & Irrigation Commission
on February 11th, 1942.

- 25-50 feet - Cream coloured shale. No organisms.
- 77-100 feet - Ochreous shale with foraminifera rare (Haplophragmoides sp.,
cf. Textularia).
- 103 feet - Cream coloured shale, with numerous arenaceous foraminifera
(Haplophragmoides cf. glabra, H. sp., Trochammina sp., Textularia sp.,
Spiroplectammina sp., cf. Bigenerina).
- 128-153 feet - Ditto, with foraminifera rare (Haplophragmoides sp., Trochammina
cf. diagonis, Spiroplectammina sp.).
- 165-190 feet - Ochreous clay, with abundant fine, angular quartz grains and a
few foraminifera (Haplophragmoides spp., Trochammina sp., Spiroplect-
ammina sp.).
- 231-265 feet - Dark grey marl containing fragments of dark grey sandstone and
carbonaceous sandstone, numerous foraminifera (Ammodiscus sp.,
cf. Ammodiscus, Haplophragmoides cf. glabra, H. spp., Ammodiscus cf.
subretacea, Textularia sp., Spiroplectammina sp., cf. Nodosinella,
Trochammina cf. diagonis, Gumbelina sp.), and fragments of small fish
teeth at 231 feet.
- 276 feet - Pebbles.
- 277 feet - Carbonaceous shale with quartz grains and abundant arenaceous
foraminifera (cf. Ammodiscus, Ammodiscus cf. cretaceus, A. sp., Haplophrag-
moides cf. glabra, Ammodiscus sp., Trochammina cf. diagonis).
- 302-327 feet - Carbonaceous shale with fragments of siliceous rock (Trochammina
sp. on surface), and numerous foraminifera (Ammodiscus sp., cf. Ammo-
discus, Haplophragmoides cf. glabra, Ammodiscus cf. subretacea,
Spiroplectammina sp., Trochammina cf. diagonis) and ostracoda (Cythereis
sp. at 327 feet).
- 334 feet - Chiefly pebbles, with fine, angular quartz grains and foramin-
ifera (Ammodiscus sp., Haplophragmoides cf. glabra, Trochammina cf.
diagonis).
- 360 feet - Chiefly angular to subangular quartz with some showing crystal
faces, fragments of quartzite and foraminifera rare (Haplophragmoides
sp.).
- 375 feet - Fragments of milky quartz.

D.L.Murray's Bore, south-west of Bourke is the most westerly
yet to be examined in that area of New South Wales. From the palaeon-
tological aspect it is probably the most interesting, for the majority
of samples contain numerous arenaceous foraminifera of Lower Cretaceous

age.

Two facies are present containing characteristic foraminiferal assemblages.

(a) From 77 feet down to 190 feet, the material consists of ochreous shales and clays, in which foraminiferal tests are white in colour. The chief genera present are Haplophragmoides, Trochammina and Spiroplectammina. Unfortunately specific determination cannot be made as all tests are crushed.

(b) From 231 feet down to 327 feet, the sediments consist of dark grey marl and carbonaceous shale, with pebbles, quartz grains and quartzite prominent from 334 feet to 360 feet, the last sample at 375 feet consisting of fragments of milky quartz. The majority of the foraminiferal tests are brownish in colour. From 231 feet down to 327 feet, foraminifera are extremely abundant, but the assemblage of forms is rather different from that in the overlying beds. The genera Haplophragmoides and Trochammina are numerous, the species being similar to those in (a) but associated with these genera are crowds of tests of Ammodiscus and a form at present referred to Ammodiscus. The typical Cretaceous genus Gaembelina occurs at 265 feet. Ostracoda are present at 327 feet, and small fish teeth at 231 feet.

The zone represented in this bore by facies (b) has not been met with in any of the bores previously examined.

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