RB 506

DEPARTMENT OF MINES.
SOUTH AUSTRALIA.

AUSTRALIAN OIL & GAS CORPORATION.

Loxton Oil Bore No. 1.

Hundred of Bookpurnong, Pt. Sec. 613.

Progress Report No. 5.

1. Abstract. Three samples of diamond drill core from 1550ft. 1570ft. and 1590ft. were examined. All are Cretaceous sediments, the lowest at 1590ft. is a glauconitic shale of marine origin with Cretaceous foraminifera. This is the first record of marine Cretaceous in the Murray Basin.

2. Examination of Samples.

1550ft. (ditch sample).

Dark grey plastic mudstone consisting mainly of clay material and humic matter.

Washings consist of fine angular quartz grains, muscovite, biotite, chlorite and carbonaceous fragments.

There is a good deal of contaminating rust and sporangia of Azolla which have probably been introduced with the drilling water.

1570ft. (Bore 38).

Dark grey carbonaceous micaceous mudstone. Washings consist of fine angular quartz grains with abundant mica, chlorite and carbonised plant remains. Azolla is present, presumably as contamination.

1590ft. (Core 44).

Dark greenish grey fossiliferous carbonaceous shale with abundant glauconite and pyrite.

Washings consist of fine angular quartz grains, glauconite pellets, abundant pyrite, muscovite and grains to grit size of various metamorphic rock fragments apparently derived from the Kanmantoo series.

Several species of arenaceous foraminifera are present.

Haplophragmoides sp. nov.
Ammobaculoides romaensis Crespin
cf. Ammobaculoides sp.
Ammobaculites minimus Crespin
Textularia sp.
Marssonella ozawai Cushman
Trochammina minuta Crespin
Trochammina sp.

There is also a pyrite cast of a microscopic ? opisthobranch gastropod.

The identified species have been described from Lower Cretaceous sediments of the Great Artesian Basin.

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3. Stratigraphic interpretation 1546-1601ft.

The low core recovery and the presence of what are presumably boulders of Kanmantoo 'greywacke' render a precise definition of the sequence below 1545 ft. difficult. It may be assumed that the non marine Cretaceous continued to 1587 ft. although there may be a slight break at about 1565ft. where there is a minor change in lithology and an anomaly in the radiometric log. At 1587 ft. the boring entered marine (or paralic) Cretaceous sediments. The mineral assemblage and the foraminifera are similar to those occurring in the marine Cretaceous of the Artesian Basin but the dominant species of the Roma formation are not present. It is, therefore, not possible from the small amount of material examined to determine with which part of the Rolling Downs Group the sediments should be correlated. If the material is Tambo, the age would be approximately upper Albian.

The occurrence of marine Cretaceous in the Murray Basin is of considerable stratigraphic importance.

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9-11-56. PALAEONTOLOGIST.