N°92

COPY

LAKE COOIE-1.

VICTORIA

NOTES ON COMAUM BORE, WESTERN AUSTRALIA.

This bore is located 36 miles north west of Casterton and is one mile east of the South Australian border near Lake Cooie.

The series submitted consisted of samples with definite depths and others with the depth doubtfully indicated. It has not been found necessary to deal with the doubtful specimens in detail, since we have obtained all the necessary information in the accurately denoted specimens.

The specimen labelled doubtfully at 7 ft. is a friable, somewhat earthy, deposit which, when washed down, consists of a large proportion of subangular and rounded quartz grains, beautifully polished by wind action, a quantity of rounded ironstone grains and numerous foraminifera, some of which are well preserved, including Massilina torquayensis, Cassidulina subglobosa, Sphaeroidina bulloides, and Cibicides mundulus, with the ostracod, Cytherea polytrema.

Below this doubtful sample, we commence the systematic examination at 132 ft. This sample is rich in midrozoa and glauconite, the general aspect of which, together with above weathered sample, points to a fairly low horizon in the Tertiary. Succeeding this in depth at 150 ft. to 150 ft. 8 in., the species of foraminifera met with include some forms, such as Vaginula aff. gippslandica and Clavulina angularis, that mark a position quite low in the Tertiary series; whilst among the ostracoda, the occurrence in abundance of Cytherella intermedia, which was earlier described from the Sorrento Bore in the lowest Janjukian and Balcombian, supports this conclusion.

The samples below this, at 176 ft. and 248 ft., are highly interesting, both from a palaeongeographic and stratigraphic standpoint. In the first place, the rocks show an absolute change from the sample above, at 150 ft. to 150 ft. 8 in., with its moderately deep to shallow water conditions, and the one at 361 ft., which was presumably deposited at or above tide level. In the second place, from the stratigraphical standpoint, the occurrence of a large proportion of sponge spicules at 176 ft. appears to link up with other early Tertiary horizons where Ecionema is the prominent palaeontological factor.

A remarkable recurrence of polyzoal conditions is seen in the sample below, at 362 ft., and the foraminifera met with here still maintain the evidence for a low position in the Tertiaries. From the foregoing evidence, the whole of the series above, from 132 ft. to 362 ft. may undoubtedly be referred to the lower part of the Tertiary, and presumably of Oligocene age.

Below this, from 509 ft. to the bottom of the bore, which has been tentatively recorded at about 1000 ft., the samples are clearly referable to the Jurassic and consist of greenish felspathic mudstone with fragments of coal interspersed in the rock.

(Signed) F. CHAPMAN,

10.2.31.