

Bolivina anastomosa before it develops into B. sp.13. The highest appearance of these species either corresponds with or is slightly above the apparent extinction level of "Guembelitra" sp. The distribution of this species is erratic, and though considered a planktonic species, its biostratigraphic and environmental significance is dubious.

In Bass-3, the highest appearance of the diagnostic I-2 species is 2' below the top of core-3 (3997' to 4022': rec. 18'), so that the top of I-2 has been placed at 3999'. The highest occurrence (=3999') is in "flood" proportions, with "Guembelitra" sp. comprising 30% of total fauna.

LOWER OLIGOCENE: 4300' to 4516' - A cutting sample at 4300' contains Globorotalia testarugosa and rare Chiloguembelina cubensis indicating proximity to the top of Zonule J. Normally the range of G. testarugosa extends some 50' above that of C. cubensis.

UPPERMOST EOCENE: 4516' to 4794' - The top of core-4 (4516' to 4539': rec. 100%) has a planktonic fauna dominated by Globigerina angiporoides Hornibrook (= G. angipora of previous reports), with a few Globigerina specimens probably referable to G. ampliapertura and G. linaperta. The two latter species are more discernible towards the base of the core. These two species have been regarded as the index of Zonule K. Hornibrook (1965) states that the typical form of G. angiporoides "occurs in the upper part of the range zone of Globigerina ampliapertura Bolli, i.e. in the lower part of the Whaingaroan Stage (uppermost Eocene to Lower Oligocene)" of the New Zealand Tertiary sequence.

It is concluded that core-4 probably represents the top of the Eocene and the top of Zonule K is thus placed at 4516'. Globigerina ampliapertura and G. linaperta are virtually absent at this level, and neither they nor G. angiporoides were isolated in cuttings at 4500'. At 4600' the typical Eocene benthonic species Bolivina pontis and Haeuserella ? sp. were noted. Side wall core at 4654' and at 4794' contain Zonule K planktonic