

Periodic breaching of the "barred basin" is evident at and above 4794'. Side wall cores at 4794' and 4654' have "mixed" faunas composed of two distinct faunal elements (i) arenaceous and cassidulinid species which could have withstood anaerobic conditions; (ii) planktonic species represented by small sized specimens. It is concluded that the sea floor had an anaerobic environment, but that oceanic currents washed in "size-sorted" planktonic specimens.

In Oligocene times the benthonic fauna was characterized by shallow water calcareous species of Anomalinoidea spp., Cibicides spp. and Notorotalia spp., as well as an abundance of arenaceous forms and miliolids. The sea floor was evidently well aerated. Even within one core, the planktonic percentage varies from 0 to 45%, and there is no pattern of gradual increase in planktonic percentage up the section. "Guembelitra" sp. comprises 30% of the total fauna at 3999' to 4000', suggesting "swarming", if in fact this species is a true planktonic. It is probable that open ocean circulation was still inhibited by the remnants of a barrier which was evidently affective during upper Eocene times. Oceanic overflowing would have brought in bursts of the planktonic element. The circulation inhibitor must have been active into the lower Miocene. The side wall core at 3356' has a sparse shallow water fauna with only 2 planktonic specimens and an abundance of spherical pyrite bodies.

The Bass-1 & 2 sequences do not contain such abundant planktonic faunas at the top of the Eocene or in the lower Oligocene. Even if abundant planktonic faunas are intermittent in Bass-3, one can still conclude that the marine influence is greater than in the other Bass sections.

Above 3356', lower Miocene sedimentation was on a shallow, open shelf in all 3 sections. This is also true for the middle Miocene, with a relatively undisturbed sea floor. Sedimentation was probably below the wave base as glauconite is common and worn byro<sup>zo</sup>al fragments uncommon.