

**Aptian integrated micropaleontological study
from the Brazilian Equatorial Margin (Pará-Maranhão Basin):
biostratigraphic and paleoecologic interpretation**

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The Brazilian Equatorial Margin (BEM) is a passive continental margin at equatorial latitudes and is composed by a well exposed Aptian section. This study presents a biostratigraphic and paleoecological interpretation for the Aptian, based on the integration of some microfossils groups from a well drilled in the offshore portion of Pará-Maranhão Basin. In this well the late Aptian was recovered between 1.272 and 2.676 m, by the palynomorph zones *Sergipea variverrucata* and *Complicatisacus cearensis*. The planktic foraminifera zone *Paraticinella eubejaouaensis* and the last occurrence (LO) of the radiolarians *Hiscocapsa grutterinki* (1.344 m) and *Cryptamphorella clivosa* (2.109 m) corroborate this interpretation. According to the distribution pattern of palynomorphs and microfossils (calcareous and siliceous), it is possible to subdivide the late Aptian in three intervals: (i) basal (2.208–2.676 m) is represented by land palynomorphs, whose species richness increased to the top of the interval. The predominance of pollen grains on spores, while among the aquatic elements the presence of fresh or brackish water is greater than marine (dinoflagellate cists); (ii) medium (1.902–2.208 m) is similar to the basal, however there is a downward trend in the number of species. The limit between this interval (2.208–2.217 m) is characterized by the acme of land palynomorphs species found in the well and a punctual dinoflagellate cists disappearance; (iii) upper (1.272–1.902 m) is marked by the constant and consistent co-occurrence of planktic and benthic foraminifera, calcareous nannofossils and ostracods, with palynomorphs. Towards the top of the studied section, slightly below the Aptian/Albian boundary, the presence of radiolarians and a predominance of marine palynomorphs has been observed. Also in this interval it was described fluctuations in the proportion between the planktic and benthic foraminifera fauna, which may be related to low frequency oscillations of sea level in a marine context. The marine ostracods indicate typical neritic conditions. Among the radiolarians recovered, there is a predominance of the cryptocephalic forms, (resistant to dissolution). The integration based on different groups of microfossils for well ME-02, allowed a refined understanding of the paleoenvironmental evolution of the basin during the late Aptian.