

**The Cretaceous/Paleogene transition
in the Brazilian Equatorial Margin (Pará-Maranhão Basin):
a micropaleontological approach**

**Krahl, G.^{1,*}, Fauth, G.², Bruno, M.D.R.¹, Guerra, R. do M.¹, Bergue, C.T.¹, Ceolin, D.¹,
Aguiar, E. da S.¹, Lopes, F.M.¹, Leandro, L.M.¹**

1) UNISINOS University, São Leopoldo, RS, Brazil, *E-mail: gkrahl@unisinós.br

2) itt Fossil, Unisinós University, São Leopoldo, RS, Brazil

The Cretaceous/Paleogene (K/P) boundary extinction event is one of the most impressive events in the Earth history, characterized by a drastic reduction in marine biota. The K/P boundary is largely known in marine sedimentary sections, such as at El Kef, Brazos River, and in many DSDP and (I)ODP sites. In South America, the K/P boundary was recognized in the Pernambuco, Campos and Neuquen basins, mostly based on microfossil groups. The Brazilian Equatorial Margin is positioned in a low latitudinal basin in a region with little detailed information about its biostratigraphy and evolution of the paleoenvironment. The objective of this study is to apply microfossil biostratigraphy in cutting samples from well ME-02, drilled in the Pará-Maranhão Basin. Sample preparation was based on the standard technique for microfossils and calcareous nannofossils. The calcareous microfossils observed across the K/P boundary show moderate preservation with full abundance through the Lower Danian. Well ME-02 recovered 4,310 m and the K/P boundary was recognized at 2,040 m based on the LOs of the planktic foraminifera *Globotruncana aegyptiaca*, *Planoheterohelix globulosa*, *Rugoglobigerina rugosa* and *Globigerinelloides prairiehillensis*, as well as the LO of the calcareous nannofossil *Arkhangelskiella cymbiformis*. The Danian was recognized between 2,040 and 1,929 m, represented by the planktic foraminiferal zones P0/P α , based on the LO of *Parvularuglobigerina eugubina*. The LO of the nannofossil *Lanternithus duocavus* (1,965 m) and the ostracod *Langiella reymonti* (1,929 m) corroborate this interpretation. The sedimentation rate in the Danian was relatively high and the sediments were deposited in a neritic environment.