

## **THE CRETACEOUS-TERTIARY BOUNDARY IN BRAZILIAN MARGINAL BASINS: AN ANALYTICAL REVIEW OF 10 YEARS OF RESEARCH**

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Since 1990, detailed studies on the Cretaceous-Tertiary boundary (KTB) in Brazilian sedimentary basins have been performed in drilling wells from the Campos, Espírito Santo and Sergipe Basins, and in outcrops from the Pernambuco Basin.

Statistical factor analysis performed on geochemical studies of cuttings sampled from the wells defines regional trends for the major elements and conspicuous cyclicities of inter-regional character for the trace elements. The discriminant analysis show clear chemical and mineralogical discontinuities between the Cretaceous and Tertiary sections.

The Poty Quarry, only known outcropping sedimentary section spanning the KTB in the country, is located in the narrow onshore Pernambuco Basin. Its features include the occurrence of geochemical anomalies of iridium, fluorine and TOC, microspherules, shocked quartz, major biota extinction, and a possible tsunamite. Studies of pollens and dinoflagellates confirm the positioning of the KTB at the same level where the geochemical anomalies occur, while foraminifers and ostracods indicate a limit below the defined boundary.

At least two drilling cores in the offshore Campos Basin recovered successions apparently continuous across the KTB, as indicated by calcareous nannofossil analyses. One of them includes a 2.5-cm thick layer of spherules interpreted as tektites directly ascribed to KTB impact event, as well as stable isotope and iridium anomalies.