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**EVOLUÇÃO TECTÓNICA MESOZÓICA DA
BACIA LUSITANIANA**

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The evolution of the Lusitanian Basin, localized on the western Iberian margin, is closely associated with the first opening phases of the North Atlantic. It persisted from the Late Triassic to the Early Cretaceous, more precisely until the end of the Early Aptian, and its evolution was conditioned by inherited structures from the variscan basement.

The part played by the faults that establish its boundaries, as regards the geometric and kinematic evolution and the organization of the sedimentary bodies, is discussed here, as well as with respect to important faults transversal to the Basin.

A basin evolution model is proposed consisting of four rifting episodes which show: i) periods of symmetrical (horst and graben organization) and asymmetrical (half graben organization) geometric evolution; ii) diachronous fracturing; iii) rotation of the main extensional direction; iv) rooting in the variscan basement of the main faults of the basin (predominantly thick skinned style).

The analysis and regional comparison, particularly with the Algarve Basin, of the time intervals represented by important basin scale hiatuses near to the renovation of the rifting

episodes, have led to assume the occurrence of early tectonic inversions (Calloviaian–Oxfordian and Tithonian–Berriasian). The latter, however, had a subsequent evolution distinct from the first: there is no subsidence renovation, which is discussed here, and it is related to a magmatic event.

Although the Lusitanian Basin is located on a rift margin which is considered non-volcanic, the three magmatic cycles as defined by many authors, particularly the second (approx. 130 to 110 My ?), performed a fundamental part in the mobilization of the Hettangian evaporites, resulting in the main diapiric events of the Lusitanian Basin.

The manner and time in which the basin definitely ends its evolution (Early Aptian) is discussed here. Comparisons are established with other west Iberian margin basins and with Newfoundland basins. A model of oceanization of this area of the North Atlantic is also presented, consisting of two events separated by approximately 10 My, and of distinct areas separated by the Nazaré fault.

The elaboration of this synthesis was based on:

- information contained in previously published papers (1990 – 2000);
- field-work carried out over the last years, the results of which have not yet been published;
- information gathered from the reinterpretation of geological mapping and geophysical (seismic and well logs) elements, and from generic literature concerning the Mesozoic of the west iberian margin.