# The Lusitanian Basin (Portugal) and Its North-American Counterparts - a Comparative Approach

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The Lusitanian Basin (LB) is a peri-atlantic basin, related with the Triasic crustal stretching and Jurassic opening of the Northern Atlantic. On the eastern margin of the Atlantic, the LB is bordered by the Essaouira Basin (to the S) and the Galicia Basin (to the North), whereas on the western margin, just opposite to the LB, the Grand Banks, with the Jeanne D'Arc (JAB) and Flemish Pass (FPB) Basins are bordered by the Orphan and Wales Basins.

Assymetrical development between these non-volcanic opposite continental margins and its basins, involves aspects such as crustal and litospheric rupture, and consequently the tectono-sedimentary evolution of the related basins. This presentation deals with the comparison between the sedimentary filling and events of the Lusitanian Basin and the Grand Banks Basins.

The simple comparison between litostratigraphic and events chart from the JAB/FPB and LB, points to a broadly parallel evolution:

- Rift 1) Carnian – Sinemurian Rift, with Pliensbaquian - Callovian Post-Rift;
- Rift 2) Oxfordian-Berriasian Rift, with Berriasian – Aptian Post-Rift;
- Rift 3) Upper Aptian – Albian Rift, with Cenomanian - Maastrichtian Post-Rift.

However, some differences are to be noticed: i) at the LB, both the 1st post-Rift unconformity (related to the drastic opening to marine tethysean influences) and the 2nd Rift unconformity (related to increased uplift and basin subsidence) are slightly older at the Lusitanian basin; ii) the 3rd Rift unconformity (related to the Grand Banks – Iberian break-up) is also older at the Lusitanian Basin.

These timing delays may be due to the specific geodynamic evolution of these asymmetric and opposite margins, as well as to the influence of other deeper off-shore basins (e.g. Peniche and North Newfoundland).

Key words: North-Atlantic, Portugal, Lusitanian Basin, Mesozoic, Basinal Events