

The Structure of the deep Parentis Basin (Eastern Bay of Biscay) from 2D Interpretation

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ABSTRACT

The Parentis Basin (Eastern Bay of Biscay) has been the object of study for years due to its importance for oil industry. Determine the kinematic evolution of the area is essential to understand how the extensional event (related with the opening of the Atlantic Ocean) affected the Mesozoic deposition, and how this basin subsequently evolves during a compressional episode (related with the Pyrenean orogeny) that caused the inversion as well as the deformation of the Cenozoic sediments.

The Parentis Basin appears as a major half-graben bounded southward by a north-dipping planar fault. It is filled by Uppermost Cretaceous to Miocene synorogenic deposits lying unconformably on the top of a thick sequence of Jurassic-Upper Cretaceous rocks. The Mesozoic sequence is affected by salt anticlines and diapirs which are squeezed due to the Pyrenean compression. These structures have been also affected by tectonic inversion. The salt anticlines have constrained the deposition of Jurassic and Lower Cretaceous sediments, whose thins or are eroded in several parts of the Parentis Basin.

By the interpretation of a reprocessed oil exploration seismic survey (V80), this MSc. project aim to identify the extensional/compressional events and the salt tectonic of the area, but also to define the structural evolution of this deep offshore basin.

Keywords: *Bay of Biscay, Parentis Basin, inversion, salt tectonic, Mesozoic, Cenozoic, extension, compression, seismic survey, offshore*