

## Mapping of the Top Carbonates in the Pre-Messinian sequence and evaluation of the HC potential through the interpretation of 2D seismic and well-log correlation

### Adriatic Basin (Italian Offshore Zone B)

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#### Abstract

The Italian Adriatic Basin has been relatively well explored since the late 1950's. Cumulative discovered reserves of 900 BSCM of gas in the Cenozoic foredeep play and over 2 billion barrels of oil in the Mesozoic carbonate play makes this area an important petroleum province. The major part of the exploration has been made within the Cenozoic foredeep and in the Apulian Platform area. On the other hand, exploration of the Pre-Messinian sequence is less mature in this basin and published regional seismic interpretations under the Fucoidi Formation (Aptian-Albian) do not exist. The offshore tectonic history of the Adriatic Basin includes a rifting phase and the subsequent establishment of carbonate platforms from Triassic and up to Early Jurassic. Later, and within the Mesozoic, the large carbonate system drowned and evolved to basin pelagic deposits flanked by marginal carbonate platforms. Cenozoic compressive tectonics induced the subduction of the Adria continental margin and complex fold-and-thrusts and normal inverted structures associated with a migrating foredeep filled by Pliocene-Pleistocene clastic sediments formed. This master thesis investigates the basin architecture and the main tectonic structures of the Italian Adriatic Basin. It also attempts to estimate the hydrocarbon potential by describing the main petroleum plays. The work is based on the interpretation of 18.000 km<sup>2</sup> of 2D vintage seismic data and the analysis of 97 wells. This study also presents depth and thickness maps of the Pre-Messinian sequences. This work corresponds to a preliminary study of the Italian offshore zone B and will be used in future steps by G.E.Plan Consulting Company to identify possible similarities in terms of structures, geometries and HC potential between both sides of the Adriatic Basin (Italian and Croatian).

**Key-words:** Adriatic Basin, seismic interpretation, well-ties, carbonates, Pre-Messinian, Apulian Platform, normal inversion, Mid-Adriatic Ridge, HC evaluation.