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The Gulf of Valencia, Exploration Review and Future Trends

## **Abstract**

The Gulf of Valencia is made up by the Tarragona shelf, Tarragona trough, Castellon High and the Columbretes volcanic Trough. The Neogene Basin has its continuity in the onshore along the Reus-Valls and Valles-Penedes depressions. The southern border of the Gulf of Valencia is the offshore continuation of the Betic ranges, and the northern limit is the Barcelona and Girona shelf. This shelf is made up of a very complex zone with thick Eocene and Oligocene sediments which are a mixture of the sedimentation and tectonics due to the continuity of the Catalonian ranges, Ebro Valley and Pyrenees to the offshore. The Tarragona trough is a very mature area. The main oilfields are located in the flanks of this trough and some minor accumulations have been found in the deepest part of this unit. The basin consist of a mesozoic rocks subcrop, covered with Neogene sediments and some spots with residual Paleocene-Eocene. The Neogene lies over Paleozoic rocks in some areas where the pre-neogene erosion was stronger. The source rock is made up of lower-middle miocene shales, rich in uranium salts, from shallow marine restricted environment. The degree API of oil in the oilfields is related to the depth of accumulations. The generation started in the Mid Miocene in the deepest zones and at the end of the Miocene in the Tarragona Trough and still continues till now. The geological review based on new well and stratigraphic data, basin reconstruction and geochemical analysis open new stratigraphic and structural plays in the Miocene and Mesozoic rocks.