

## The Interpretation of Seismic and Geological Data of Some Structures in Albania

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Based on existing seismic data, an interpretation is suggested for the two remaining partially unexplored areas in the Kruja and Ionian tectonic zone in Albania.

The Pekisht-Peqin-Galush zone is located to the west of the Dumrea Diapir and extends 15 km in the meridian direction covering an area of approximately 100 km<sup>2</sup>. The Tortonian and Palaeogene limestone deposits represent the main objects for exploration. In the Pekisht zone there are oil pools at depths of approximately 1000 m. A number of exploratory wells also exist, with an average depth of 3000 m but these were not sited in adequate and/or favourable structural conditions. The Molasse and Palaeogene deposits continue to the east and west in a tongue-like form with pinch-outs and bays producing favourable conditions for oil accumulation. These deposits are either transgressive or of tectonic origin and are considered to have significant potential for accumulation of oil. The interpretation of the seismic profiles clearly confirms the overthrusting of the Dumrea Diapir in a westward direction. This overthrusting with a magnitude of several kilometres has caused the masking of structures of the Ionian zone. Decreasing thickness of the Molasse deposits is registered eastward. The possibility of hydrocarbon accumulation in the flanks of the diapiric salt domes must also be considered. The seismics in this zone were shot between 1989 and 1992 as part of an extensive study of the Dumrea Diapir. The lines are comparatively short, very distant from each other and with no intersections

which, together with the variation of the weathering parameters, makes interpretation very difficult.

The Paper-Rove-Mezezi zone is located to the north of the Dumrea Diapir and is composed of thrust belts with flysch, folding westward. The carbonate mountains are exposed in the eastern part of the area. The 40 km long zone extends in a meridional direction and covers an area of 300 km<sup>2</sup>. A few wells are drilled, but were located outside the prospect zones. Apart from these wells, the area can be considered to be still relatively unexplored, with possibilities for the discovery of oil and gas pools. The structures are tectonically superimposed and the outcropping Neogene deposits are overlying the older strata. The acquisition of seismic data in this area began in 1970. The rugged terrain, together with variations of the weathering zone parameters, negatively influenced the quality of the recorded data. It was mainly the magnetic recording system that was used (95% of the profiles) and only a number of more recently shot lines (5%) are in a digital recorded form. Therefore, the described system is not only characterised by irregular coverage, but is also not a uniform one.

Three conclusions may be drawn. Firstly, both zones are inadequately covered by seismic data. Secondly, strong lateral and vertical velocity gradients exist, and thirdly, one cannot overemphasise the importance of reprocessing of the seismic line.

