



## **Corelation of structural-tectonic and lithostratigraphic relationships between Velebit and Čantavir structures on the basis of 3d seismics**

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Velebit and Cantavir structures, known as significant hydrocarbon-bearing formations, are located in the SE part of Pannonian basin. Pannonian basin is the region of low deformity, characterized by block faulting, located between quite distinct zones created by overthrusting. The recent research based on the well's data shows that the region of Pannonian basin was significantly deformed with Mesozoic overthrust, and then rented apart with complex Cenozoic system, of normal and transcurrent faulting.

Velebit structure was formed as compacted anticlyne, by sedimentation over differentially sunk blocks. Within the core of the compacted antycline, under the Tertiary sediments, metamorphites (crystalline schists), Mesozoic dolomites and dolomite limestones are existent.

At the area of Cantavir, under Neogene sediments, Lower Triassic deposits are located. Lack of Upper Triassic, Jurrasic and Quaternary sediments directs us to the conclusion that this area was uplifted after the Lower Triassic, without any change till the Miocene sediments deposition. During Miocene, outflow of andesite-dacite magma along old faults was carried out, as well as volcanic material deposition and mixing with Miocene sediments along the edges of the structure. Lack of Pannonian at the central part of gas deposit directs our attention to conclude that, at that time period, Cantavir structure was expressed to local emersion, and, finally, during Pontian, the whole structure was flooded by sea.

Cantavir structure was not under the activity of radial tectonic movements. Mild anti-clinal (dome) form of the Lower Pontian sediments depends on the form of Neogene

footwall, as also by comparison of Neogene sediments deposited over Neogene base.

In order to define structural-tectonic and litho-stratigraphic relationships of the mentioned structures adequately, detailed 3D seismic data interpretation was performed. According to the analysis of the obtained results, it was defined that, taking all aspects into consideration, Velebit structure is much convenient for hydrocarbon accumulation. That was verified by hydrocarbon reserves, which are several times greater at that structure.