P16-8 DEFORMATION HISTORY OF THE VLORE-LUSNJA AREA

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Introduction

The paper threats results of the surface and subsurface data integration. It's based mainly on disciplinary approach to exploration. Our views based on the Plate Tectonic theory. The paper shows the main folding characteristics, type of the faults and tectonics regime. The geodynamic evolution is treated too.

New thinking and advance geophysical processing techniques made possible another step ahead in approaching underground reality of the area.

Tectonic Style

The tectonic setting of the study area is directly on the East of the Apulian Platform. The three regional units as Apulian Platform, Pre-Adriatic Depression and Ionian Basin represent differences of sedimentary rocks and folding scale.

During a long geophysical formed the trust folded belt, of the basin Carbonate and Tertiary fore deep.

The geology of the area is relatively well known, by a large volume of geological and geophysical data.

The area completely covered by sedimentary rocks aged Triassic up Quaternary. Four formations take place on geological framework of the area: Evaporite, Carbonate, Flysch and Molasses.

The first three formations are characteristic for the Alpine folded belts. Molasses deposit consists of Pre-Adriatic depression. Evaporite formations have a very large extension from North Africa, with a thickness more than 3000m. Flysch deposits represent the latest stage of the orogenesis and its closure.

A large number of seismic lines interpreted, and a number of regional lines, calibrated by exploration wells converged in depth.

The seismic lines encounter well top carbonate and some other shallow horizons. They cannot help to define salt thicken or deep slipping horizons, due to thick anhydride, attenuate and absorb much of seismic energy.

Structural analysis of the area shows that Carbonates structures are an assemblage of anticlines and synclines pushed against each other by a system of westward over-thrusts. It was made through a system of the high slip faults, which are present in all anticline structures. Compressive regime is well expressed, by predominating of horizontal component.

The local tectonic style of the area controlled, by frequent ductility contrasts that occur within stratigraphic sequence. Thus we observe compression decollement phenomena associated by Evaporite, flysch and molasses deposits.

Evaporate has played a very important role on deformation and generation of the main framework of tectonic style. Its role consists of halotectonic movements during orogene processes and slipping horizon. Considering the well data, surface observations, it's accepted that evaporites served as a decollement substratum. These phenomena caused due to Evaporate particularities increasing plasticisation under high pressure and temperature. Particularity of the Evaporate to <<flow>>, through other rocks, as Evaporate diapir, is well known. It is evidently expressed by Evaporate occurrence of the numerous carbonate and flysch deposits. Almost everywhere flysch, is very intensively folded, and displaced toward West slipping over top carbonate. The most opportune slipping horizons are Lower Oligocene Argyles. The other slipping horizon is within molasses deposits. Wells drilled in Pre-Adriatic Depression have penetrated inter molasses faults.

Normal faults inherited since rifting time transformed in high slipping ones. Such faults assumed to be deep under salt deposits.

They have played an important role, especially after re-activation during inversion phase. These faults transformed in high slipping ones. Thrust faults of large carbonate ranges lie almost horizontally in depth, becoming listric type. Such faults assumed to be deep, under salt deposits. They separate different carbonate folded belts. Having considerable different level of top carbonate structures, on their Eastern flank. The characteristics for triangle zones, is inclined plane toward west.

Relations between platform Carbonate and folded belts expressed, by most Western overthrust faults, which represent the front of orogenic belt. Some reactivated faults lost during Neogene, deforming the early and late Miocene deposits.

Geodynamic evolution of the are is strictly connected, with Alpine Orogenese. The main evolution stages distinguished: First one characterized by differential extension and general subsidence of the basin. Upper Triasssic-Early Jurrassic period effected by listric block-faulting phenomenon. It was completed with cross faults.

The post rift period defined by a general backup that marks inversion phase. The post rift sequence largely obscures the synrift. As result of the compression starts deformation of the deposits.

This deformation is expressed at the beginning with anticline formation, on top of which reduced thickness was deposited. Increase compression active paleo faults, which intersected Cretaceous-Paleogene deposits.

Third stage took place during Miocene-Pliocene period. It's post orogene phase. Compression regime also continued during this period.

Conclusions

The conclusions are as follows:

The study area represents the front of folded belt and its relationships with foredeep and Apulian Platform.

Tectonic style of the area affected in a considerable scale, by thick Evaporite substratum. It played an important role on the overthrusting phenomena.

Three main slipping horizons are distinguished within Evaporite, flysch and molasses. They present different difficulty contrast.

The fold thrust belts, complicated by thrust faults, inter flysch slip faults, backthrust faults and paleo-faults.