

## Structural Aspects and Reservoir Rocks of Prerifan Ridges (Prerif, Morocco)

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The geology of Morocco reflects its position at the Northwest extrimities of the alpine orogen of North west African margin. Great investigations have been concentrated on mesozoic and cenozoic stratigraphy and structural evolution of the Atlas system of Morocco and the Rif mountains. The alpine cycle falls into two successive phases : the first phase is the tethys conquest and the later is the central atlantic opening in the mesozoic . In the early cenozoic times, the tethys is closed and started the convergence between Africa and Europe.

The prerifan ridges in Morocco represented an example of evolution in the boudary between the Atlas and the Rif mountains. In the prerif area, the specific geotraverse from Sidi Kacem- Moulay Driss Zerhoun is located in a central position between Gharb basin, Sais basin and the Rif mountain.

The basin basement is represented by various Paleozoic series witch were folded and metamorphozed during the late stages of the hercynian orogeny. The unconformable Mesozoic series are composed of many successive sequences: the oldest, of late triassic and earliest liassic age is made of clastics sediments, sandstones and argilites infilled basins ; the youngest, mainly dolomites, limestones, red marls and silicoclastics (rich oil reservoir) in the early liassic platform. The Domerian is characterized by carbonate platforms with the internal limestones, the Toarcian is represented by deltaic mudstones and calcareous repere strata. The Dogger is characterized by deposition of varied facies, mudstones, limeostones and oolitics sandstones (hot porosity).

The structural and seismic datas in prerif ridges, have show development of an assymetrical and complex structures in differents axes:

the axe of J. Boudra, J. Outita, Si Moulay Yacoub to J. Boulaas with complex active faults (N20-N30);

in the west zone, the Sidi Fili axe with active senestral strike-slip faults (N00-N30), deformed the jurassic series and the internal sandstones ( reservoirs producing oil);

in the east zone, the famous axe between J. Selfat , Guennouffa and Zerhoun ridges (N10-N150), implicate the successively imbricate ramps within an active depth flower structure;

the axe between J. Kafs, My. Driss, Tekerma to Gannouffa with the acive faults (N90-N120) and it's prolonged to the other axe in the North of J. Nesrani, J. Smed and Dhar Nssour, this axe is similar and complex as the last one.

The reactivation of all depth faults has be defined various structures and deformations in the middle jurassic attractive reservoirs in this area implying dismigration of oil stocks between each faults. The activity of all axes is not synchron, but the major characteristics implicate a very intersting results by ONHYM Explorations in anticline structures like this geotraverse of prerifan ridges with good production in the North west onshore zone.

Keywords : Morocco, Prerif , Ridges, stuctural, reservoir

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