

Loukos Hydrocarbon Potential

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Loukos block is the west extension of the Gharb and Prefif basin. It is the foreland of the Rif Alpin chain which results from the collision between the African plate and the Eurasian one. This collision caused important deformations mainly during the Middle Oligocene and Miocene. The latest movements took place in the Upper Miocene, the deformed grounds start from the Paleozoic until the Tertiary.

Offshore and onshore of Gharb basin have the same petroleum systems. Hydrocarbon accumulations have been found in adjacent external Prerif area. The oil production was from Paleozoic and Jurassic beds in the Prerif Rides, while gas was product from lower and Upper Miocene as well as from the Ain Hamra Neogene deposits.

The onshore structures are highly affected by alpine tectonic because it's close to Rif belts, it appears that the traps are fragmented even destroyed. In fact, because of there farness from the belt, the offshore structures could be preserved from alpine tectonic.

The **post-nappe** Mio-Pliocene clastics constitute a good reservoir for biogenic gas generated by shale source rocks. Reservoir clastics are provided from the north east (Rif chaine) which they are numerous detrial formations and from the South (Meseta domaine). These sands were transported and sedimented in channels or in the form of turbidites downstream in the onshore Gharb Basin which can be spread more largely in its offshore extension. A number of leads and bright spots have been also defined within the Mio-Pliocene supra Nappe succession.

The **infra-nappe** petroleum system was proven by LBS-1 gas discovery well drilled in the offshore of the Gharb basin. The integration of the geological and geophysical data resulted in identification of 3 large prospects in different levels, which are related to horst closures bellow the Nappe.