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**Geology and Petroleum Perspective Offshore Northwestern Morocco**

The study area is situated at northwestern offshore Morocco. It includes the shelf margin and the deep offshore. The area represents a late Miocene and Pleistocene undeformed foreland basin of the complex Rif fold belt.

Due of lack of the data, the stratigraphic succession is assumed to be like the onshore area, it shows a Paleozoic highly folded flysch, and a Mesozoic Passive margin facies buried by an Alpine Tertiary Basin and the Prerifain nappe. This Nappe is composed of rocks ranging in age from Triassic to Miocene. It is dated Tortonian in the onshore but it appears to be younger in deeper offshore.

The major tectonic events involved have been the Late Triassic to Early Jurassic rifting and the Late Cretaceous to Miocene alpine compression, which affected the area with thrusting and folding. The infra-nappe succession, however, is less affected by the compression.

Based on seismic interpretation, a thick Meso-Cenozoic succession is recognized bellow the nappe. It is attributed to upper Tortonian, Cretaceous, Jurassic and Triassic.

The Hydrocarbon potential is proven in the onshore area, like the Prerifain Ridges and Ain Hamra zone. Different oil productions from Jurassic and Miocene reservoirs were discovered.

Geochemical studies show that Jurassic source rocks constitute the major source of oil pools in the Prerifain Ridges. Cretaceous source rocks are known to have been the origin of the oil in the Ain Hamra field. The offshore basin promises even better potential than what has been proven in adjacent onshore area.