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## **Petroleum Systems of the Eastern Central Onshore Tunisia - North Africa**

The Eastern Central Onshore Tunisia remains an interesting oil and gas province with many discoveries especially within Cretaceous and Ypresian reservoir levels. This area is characterised by Late Triassic to Early Cretaceous extensional cycle followed by Late Cretaceous to Early Quaternary repetitive compressive phases. This structural activities were locally associated with volcanic activity and significant movements of Triassic salt leading to the generation of many tectonic unconformities, folding, faulting, inversion, erosion and affected the facies distribution of different series. During Cretaceous-Paleogene period, this zone exhibits a transition position between platform deposits toward the South and basin deposits toward the North. At least three proven petroleum systems are recognised within the area which are related to the Albian Lower Fahdene, Early Turonian Bahloul and Ypresian Bou Dabbous formations. These units are characterised by an average T.O.C content of 1.5%, 2% and 1.3% respectively. On the other hand, the relatively stable sea level and shallow marine conditions created a broad, open marine shelf and shelf edge carbonate sequences which represent the proven reservoirs of the area (Middle Turonian Bireno, Coniacian Douleb, Campanian-Maastrichtian Abiod and Ypresian El Gueria formations). Some of these reservoirs are affected by tectonic and diagenetic events which enhanced their petrophysical characteristics. Basin modelling results show that the Cretaceous source rock levels are in the main oil generation zone and started to generate oil as early as 65MY, reaching peak oil generation at about 10MY. The oil expulsion took place at early Tortonian and shows a good relationship timing with traps formation. However, the Ypresian Bou Dabbous formation is mature mainly within high subsident zone where measured vitrinite reflectance reaches 0.9%.