

Basin Geometry and Salt Structures in the Knana/Ragoubet Mahjbia Ranges, North of Tunisia

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Abstract : The salt province Basin in Northern Tunisia is a complex of late Triassic to Early Cretaceous rift and sag basins which was inverted during the Tertiary folding. The deposition of evaporitic sediments during the Late Triassic times played a major role in the subsequent tectonic evolution of the basin. Within southern tethyan passive margin, the ductile salt mass shown early mobilization, vertical transport and withdrawal of the evaporites. These movements influenced the sedimentation during the late Jurassic and Early Cretaceous. The evaporites also influenced deformation during the inversion of the basin and the development of the Tertiary and Quaternary folding. In the studied area, the biostratigraphic and tectonic map analysis of the region of Jebel el Asoued / Ragoubet el Mahjbia can resolve between the hypotheses of the diapiric intrusion of the Triassic salt and the lateral spreading of the Triassic salt as salt 'glacier'. Also the variation in thickness and facies of the Aptian sediments demonstrates the existence of continental rise architecture at the Aptian time. The observation in a mappable outcrop of the extension segment of the graben fault of Bou Arada on the one hand confirms the existence of a Cretaceous extensive architecture and the tectonic inversion during the Tertiary time has not filled the main graben distension. The extent of our observations of Triassic/Aptian and Triassic/Early Campanian contacts, we propose a composite salt 'glacier' model as the structures recorded in the Gulf of Mexico in the subsurface and in the Ouenza east Algeria and in Tunisia within Fedj el Adoum, Touiref-Nebeur and Jebel Ech Cheid in the outcrops.

Keywords : Cretaceous rift, salt 'glacier', tertiary folding, Tunisia

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