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Extensional/Transtensional Basins in the Western Part of Moesian Domain—Still Promising Hydrocarbon Provinces from Romania

A series of sedimentary basins were identified on a dense grid of seismic reflection profiles in the western part of Moesian Domain. Basins development occurred in several stages between Early Triassic and Early Miocene times. Triassic basins resulted from an north-south extensional phase in Anisian, were proved as hydrocarbon bearing in different places. Tectonic inversion that took place during the Late Triassic caused the rotation of extensional structures. Three sedimentary mega-sequences separated by two unconformities have been recognized in those basins. In Upper Cretaceous and Early Miocene were generated transtensional/extensional basins, partially investigated from petroleum point of view. The structures in Cretaceous basins consist in roll-over anticlines with NNE-SSW strike. During the Cretaceous period these basins were dominated by limestone deposits. Generally Miocene basins are more than 5 km wide, having a north-south direction and more than 2 km clastic fill. Recent discovered oil and gas fields in the western part of Moesian Domain encourage the exploration of hydrocarbon in this area during the following years.