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Cretaceous Lacustrine Deposits of Fula Subbasin, Mugald Basin, Sudan

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Abstract: Detailed lithology and sedimentary facies analysis may enhance precision of sequence stratigraphic correlation of Fula Subbasin, Muglad Basin, Sudan. Based on logging and core (very little) data, stratigraphic correlation was took place. Accordingly, Abu Gabra Formation, Bentiu Formation, and Aradeiba Formation were subdivided into units. Essential depositional systems were recognized in the study area on the basis of the evolution of sedimentary facies. The origin of Fula Subbasin is related to the first rifting cycle (+ synrifting cycle?) that took place during the Early Cretaceous concomitant with an increase in tectonic activity asociated with the opening of the Central African rift system (Late Jurassic - Middle Miocene). Fula subbasin subdivided into 5 tectonic belts: the northeastern fault belt, the central fault belt, the southwestern fault belt, the northern sub-depression, and the southern sub-depression. Synsedimentary tectonic activity and succeeding restructural regime of the subbasin are clearly reflected in the sedimentary records. Infill of that Early Cretaceous subbasin began with continental deposits that were alluvial and lacustrine in origin. The identification, the division of the system tracts, and the first and the maximum flooding surfaces, were not recognized on seismic profiles due to the low quality of seismic data but were carried out on well logs.