

Facies Prediction and Depositional Environment of Early Cambrian, Khewra Sandstone Exposed in the Vicinity of Khewra, Eastern Salt Range, Jhelum, Pakistan.

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Early Cambrian, Khewra Sandstone is well exposed with its lower and upper contact with Precambrian Salt range Formation and Early Cambrian Kussak Formation respectively. Four Lithofacies (a. Flaggy shale facies, b. Lower fine sand stone facies, c. Aeolian sandstone facies, d. Upper friable sand stone facies) are eminent and defined on the basis of distinct lithological features including composition, Grain size, bedding characteristics and sedimentary structures. The bottom part of the formation is composed of maroon colored shales depicting underwater depositional effects in near shore or marginal marine environment. Over this shaly sequence, the formation is composed of fine grained sandstone which represents deltaic deposition evidenced by different sedimentary structures i.e. (cross bedding, ripple marks). The middle part of Khewra sandstone shows Aeolian deposition verified by wedge planar cross bedding. The topmost part of the Khewra sandstone is medium grained, highly porous and jointed sandstone which qualifies for a good quality reservoir, proven in adjacent wells. This facie is also inferred to be the result of wind deposition. Top of Khewra Sandstone is a 60 cm thick conglomerate bed which marks the regressive phase; also evidenced by coarsening up sequence and shallow water facies. The nature, age and type of this unconformity are still questionable and require more research work.