
Sedimentological Attributes of Kamthi Sandstones from Umrer Coalfield, Nagpur District, Maharashtra

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Abstract

Kamthi sandstones from Umrer coalfield are manifested in eight distinct lithofacies. The lithofacies representing channel floor, channel-fill, point bars and vertically accreted overbank floodplain deposits with fining upward cycles correspond to meandering river depositional environment. These sandstones are mainly grouped as wackes and arenites. The sandstones are related to interior type of continental block provenance and are deposited under semi-arid to hot-humid palaeo-climatic conditions. The modes of sediment transport were traction related to main section of the channel, saltation of sub-aqueous bank and suspension corresponding to protected section of the channel. The Kamthi sediments exhibit very positive to positive skeweness and leptokurtic to very leptokurtic nature indicative of low energy velocity regime of depositing media. Heavy mineral species point out towards Archean metamorphic source rocks. The low ZTR index divulges mineralogical immature nature of these sediments which in present case correspond to the short distance of transport and nearby source of metamorphic rocks.

Keywords : Sedimentological attributes, Kamthi Sandstones, Umrer Coalfield, Nagpur, Maharashtra