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Facies Characteristics of Talchir Succession, Gungutta River Section, Son-Mahanadi Gondwana Basin, Chhattisgarh, India

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Abstract

The Permo-Carboniferous glacial Talchir succession is well exposed along the western margin of Son-Mahanadi Gondwana basin. This succession is unconformably overlying the granitoid rocks of Precambrian age. A detailed lithofacies analysis is carried out of the Talchir succession exposed in Gungutta river section near the village Libra, Sarguja district in southern part of Son-Mahanadi basin, Chhattisgarh, India.

Earlier workers considered Talchir sediments as product of glacial, glaciofluvial and glaciolacustrine environments. The detailed lithofacies analysis indicates that the Talchir succession is a product of sedimentation, which was subsequently reworked and emplaced in front of ice grounding line. Moreover, lithofacies and depositional mechanism establishes overlap of wave agitated shoreface-shelf sediments due to marine transgression caused by glacier melting. The Talchir of Gungutta river succession represents a gradual amelioration of paleoclimate, deglaciation and related coastal onlapping predominantly in ice-marginal storm-tide interactive shallow shelf depositional environments.

Keywords: Lithofacies, ice-marginal shallow shelf, Talchir succession, Gondwana basin, Chhattisgarh, India.