



Lithological Diversity in Dhama Area, Sambalpur District, Odisha, India: Footprints of the Contact Between Bastar Craton and Rengali Province

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Abstract

Dhama area occupies a small segment of the contact zone between Bastar Craton (BC) and Rengali Province (RP) in the southern part of Sambalpur district. In this sector two crustal blocks, namely BC and RP, have come in direct contact with each other. Lithological assemblages in this juxtaposition region are very complex with diversity and have undergone polyphase deformation. A variety of granitic rocks viz. medium grained grey granite, dark porphyritic granite, constitute the BC within which small bands and strips of biotite schist, quartz biotite schist and quartzite occur. Mixing and mingling of the granitic component and metasedimentary rocks have given rise to narrow migmatite zones. Dolerite dykes have intruded into the rocks of BC. Garnetiferous pink granite gneiss, pegmatite, amphibolite, porphyritic granite gneiss, khondalite and garnetiferous quartzite are the constituent rock units of RP. Within the pink granite gneiss enclaves of amphibolite are found at some places. These amphibolites are therefore believed to be the oldest rocks of Rengali Province. Mingling of amphibolite has resulted in a narrow zone of migmatite. All these lithological assemblages preserve the polyphase deformational records from which evolutionary history can be reconstructed.

Keywords: Litho Assemblages, Polyphase Deformation, Bastar Craton, Rengali Province, Odisha