



Multiple Deformation of Bar Conglomerate around Bar, Birantiya-Khurd and Giri Section in Northwestern Part of Pali District, Rajasthan

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Abstract

The north-south trending conglomerate belt of Bar, Birantiya and Giri occurs between the granitic gneisses of Banded Gneissic Complex (BGC) and garnetiferous mica schist of Bar conglomerate horizon. The conglomerate belt is intruded at several places by pegmatite veins. The pebbles of Bar conglomerate were deposited with no gravity driven deformation. These pebbles are good strain markers of the prevailing shear strain. About 80% of the pebbles changed their shape and size from spherical to oblate during second deformation phase. The deformed pebbles range in size from ~ 2.5cm to >80cm. Field evidences indicate that the deformational sequence penetrated up to third deformation phase, where few pebbles of Bar conglomerate horizon were further deformed and folded symmetrically. The fourth phase of deformation resulted in the formation of diagonal shear zones along the pegmatite veins at Giri dam as well as near Ramdev temple, which gave rise to zonal crenulations. Thick and thin exposures of pegmatite veins present in fringes are post tectonic in nature.

Keywords: Bar conglomerate, Deformation, Heterogeneous strain, Ductility contrast, Delhi Supergroup, Pali District, Rajasthan.