Proterozoic Gold Mineralisation in Dhanjori QPC, Bihar, India

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The Proterozoic Dhanjori Group of rocks unconformably overlie the Archaean Singhbhum Craton with locally sheared contact and occupy a vast track in Bihar, India. At places the Dhanjori Group starts with an acidic tuff overlain by interbedded sequence of quartz - pebble conglomerate (QPC), quartzite and phyllite. The tectonic setting of the Dhanjori Basin appears to be a zone of intracontinental extension along which the basal tuff is observed. The QPC occurs as thin lenticular beds at various levels within the quartzite-phyllite package and represents oligomictic type composed essentially of subrounded to subangular, stretched pebbles of vein quartz with rare quartzite and chert, set in mainly quartzose matrix. The QPC is poorly sorted and is framework supported. Important heavies of the matrix are magnetite, zircon, monazite, fuchsite etc. These QPC beds are auriferous and occasionally uraniferous and argentiferous. Gold and silver occur mostly in the matrix as dusts and fine flakes suggesting their palaeoplacer origin. Presence of euhedral zircon and magnetite indicates near - source transportation. The QPC-quartzite-phyllite package of the Dhanjori Group thus appears to have a nearby provenance of rising Archaean granite-greenstone belt which contributed the sediments to be deposited as alluvial fans.