

A Genetic Model for the Occurrence and Distribution of Gold Mineralization in Kolar Schist Belt, Karnataka, India.

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Gold in Archean terrains is most controversial as far as its origin is concerned. Kolar Schist Belt-once famous for its large reserves of gold is still important academically and also for the probable gold potential towards south particularly near Chigargunta and also in various lateritic caps of the schist belt. This relatively small schist belt hosts gold in different geological environments-an understanding of which largely helps in exploration and exploitation programmes.

Earlier workers commencing from Bruce Foote (1882) to the officers of Geological Survey of India (Mukherjee 1994) have given an excellent account of various geological aspects of the belt. But still there are differences of opinion with regard to the ore-genesis.

In the present paper the authors after considering all the earlier views and working on the different gold deposits of the belt propose a working "genetic model" for the occurrence and distribution of gold in Kolar Schist Belt.

The present occurrence of gold in all major litho units in Kolar Schist Belt is a reflection of major structural control, although there appears to be some primary association of gold. Hence the present occurrence and distribution of gold in Kolar Schist Belt is a function of diagenesis with lithologic (syngenetic) and structural (epigenetic) controls. Accordingly the paper deals in detail about the host rock and ore association in each area with structural analysis particularly involving remote sensing studies. The auriferous lateritic cappings on both gneissic and schistose terrains are described with a note on their future importance.