

## **Banded Magnetite Quartzite hosted gold mineralisation, Chinmulgund, Karnataka, India**

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Sulphidic auriferous Banded Magnetite Quartzite associated with pyritiferous metatuff forming a part of metasedimentary sequence of Hiriyr Formation, Chitradurga Group of Dharwar Super Group occurs in NW-SE trending ridges in the northern part of Shimoga-Dharwar Schist Belt near Chinmulgund, Karnataka. The rock units strike  $N30^{\circ}$  to  $60^{\circ}W$  -  $S30^{\circ}$  to  $60^{\circ}E$  and dip  $30^{\circ}$  to  $60^{\circ}$  southwesterly and are folded into an overturned anticline plunging at a low to moderate angle towards NW with axial plane dipping at  $40^{\circ}$  to  $55^{\circ}$  towards west. Pyrite, pyrrhotite, arsenopyrite and chalcopyrite are found both along the bedding and in criss-cross fractures. Fine to coarse crystals of pyrite and arsenopyrite are rimmed by thin zones containing fine, dusty grains of pyrite, pyrrhotite, arsenopyrite and chalcopyrite suggesting that the sulphide minerals are of two generations. Gold occurs in native form as locked up grains within arsenopyrite and the individual grains are in the range of  $10\ \mu$  and  $-25\ \mu$ . The mineralised zones are characterised by extensive fracturing, shearing, silicification, carbonitisation and sulphidisation. The incidence of gold varies from 2 – 6g/t over widths of 3 – 5m; at places the same are as high as 50g/t. Gold mineralisation is both epigenetic shear controlled and syngenetic strata bound, the former being of economic significance.