

DIAMOND MINERALIZATION IN BASTAR: A CLASSIC EXAMPLE OF STRUCTURAL CONTROL

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Abstract

The regional structural and tectonic environment is the controlling factor in a mineralogical province. The localization of all the mineral deposits and their mode of occurrence and origin are defined by specific structural control. The diamondiferous horizon of Bastar Craton is one of the classic examples of the structural control. The diamondiferous deposits are mostly located at the intersection of the major mega lineaments as Kimberlitic intrusive dykes. Manipur Kimberlite Field (MKF) as intrusive dykes in the Late Proterozoic Indravati Group and also as intrusive dykes in Khariar Group at Tokapal, are great examples of such structural control. Their emplacement follows the NW-SE trend of the Bhamargarh Lineament and E-W trending Garchirauli Lineament. With the generally high density of major mega and intermediate lineaments mostly in form of igneous intrusives and faults, mostly following either Mahanadi-Godavari trend (NW-SE) or Narmada-Son trend (E-W), a very rich potential of hidden diamondiferous mineralization is probable in the Bastar region. Few mafic dyke samples from the region have yielded positive indications such as – higher concentration of Ni, Cr, V, Sr and Zr, presence of Ilmenite, Sphene and Spinel. These indicators added with the most favourable setup, provide a good reason to believe that this region is very promising because it lies between the fertile diamondiferous zones on either side.

Keywords: Diamond Mineralization, Bastar Craton, Structural Control