

## **MINERALOGICAL CHARACTERIZATION OF MINE SAMPLE OF GOGI URANIUM DEPOSIT, KARNATAKA, INDIA**

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### **Abstract**

The Gogi uranium deposit occurs at the southern margin of the Bhima Basin in Karnataka. Mineralization is hosted by both basement granites and overlying Shahabad limestones. This study characterizes Gogi mine sample to provide relevant information on mineral constituents and liberation characteristics for effective processing. An integrated approach consisting of petrography, sizing, density fractionation of the sized ore followed by quantitative mineral estimation by microscopic grain counting has been carried out. The sample is constituted by 1) radioactive ore minerals (0.886%) represented by coffinite, pitchblende, urano-organic complex, labile uranium, 2) non radioactive ore minerals (6.58%) composed of pyrite, marcasite, chalcopyrite, galena and 3) gangue minerals (92.539%) constituted by calcite (61.57%), quartz+chert (13.10%), feldspar (1.59%), biotite + chlorite + clay (5.89%) and dolomite, hornblende, epidote, zircon and barite. Uranium is mainly associated with Methylene Iodide heavies (~60-70%), followed by Methylene Iodide lights (~30%) and Bromo lights (~5%) with higher values in the coarser fractions (+100#).

*Keywords:* Gogi, Uranium deposit, Mine sample, Mineralogical characterization.

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