

GEONEWS

ORE PETROLOGY OF THE ALADAHALLI CUPRIFEROUS PYRITE DEPOSIT, HASSAN DISTRICT, KARNATAKA

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A strata-bound, metamorphosed, cupriferous massive pyrite deposit occurs at Aladahalli, Hassan District, Karnataka in a hitherto unreported enclave of high-grade mylonitic metasediments and metabasites with subordinate ultramafites and chromitites, granitoid apophyses and minor anorthositic bands in the migmatitic/Peninsular gneiss country. Ore mineralization, although not restricted to any specific rock type, is dominantly associated with psammo-pelitic schists (containing garnet, staurolite, kyanite and sillimanite) and metabasites in a mylonitic mileu. Pyrite is the dominant sulphide mineral followed by pyrrhotite and chalcopyrite. Sphalerite is a minor constituent. The pyrrhotite-chalcopyrite-sphalerite association is observed in feldspathised rocks only. Magnetite and ilmenite are the principal oxide minerals accompanying the sulphides. Other minerals such as mackinawite and cubanite are present in traces. Cobaltite is rare. The ore mineralogy reflects a geochemical association involving mainly Fe with Cu and Zn. Ores along with the enclosing rocks have suffered polyphase deformation, intense shearing and mylonitization and repeated metamorphism. The environment of deposition was apparently geosynclinal. Ore bodies are interlayered and conformable with the metamorphosed volcano-sedimentary pile deposited during the pre-orogenic stage of the eugeosynclinal environment. A volcanic exhalative source for the metals that was active intermittently during sedimentation and was responsible for the intercalation of the basic volcanics with the sediments, is suggested for the genesis of the Aladahalli cupriferous pyrite deposit.

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ANNOUNCEMENT

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