

## **ALGOMA TYPE BIF AND ASSOCIATED SUBMARINE VOLCANO- SEDIMENTARY SEQUENCE IN RAMAGIRI GRANITE-GREENSTONE TERRAIN, ANDHRA PRADESH, INDIA**

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### **Abstract**

Ramagiri schist belt in the eastern Dharwar craton is composed chiefly of pillowed, mafic volcanics and meta sediments. The sediments are found to dominate relatively in the upper part of the succession. The greenstone belt rocks are metamorphosed from greenschist to amphibolite facies and the metamorphic grade increases near the contacts with the pluton (basement). The spatial and temporal association between the banded iron formations (BIF) and the meta-volcanic rocks indicate a genetic relationship between the two. The BIF in the Ramagiri greenstone belt are small, deformed and intercalated with metamorphosed volcano-sedimentary rocks of Late Archaean age. The absence of wave-generated structures indicates sub-aqueous precipitation below the wave base (the Algoma type). The close association of Algoma-type iron formation with tholeiitic to calc-alkaline basalts suggests a genetic relationship with silica, iron and CO<sub>2</sub> being derived from the volcanic source. The BIFs are possibly formed by the precipitation of Fe-silicate gels under slightly euxinic conditions. The source of iron and silica in BIFs is typically attributed to (i) anoxic weathering on continents (ii) submarine hydrothermal activity on the ocean floor in a back arc basin.

*Keywords:* Ramagiri greenstone belt, BIF, Algoma type, Volcano-sedimentary rocks, Andhra Pradesh.