

## **FIELD AND PETROGRAPHIC OBSERVATIONS ALONG THE CONTACTS OF MIGMATITIC GNEISSES AND KANDRA AMPHIBOLITES IN NELLORE SCHIST BELT, ANDHRA PRADESH, INDIA**

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### **Abstract**

Kandra area in the Nellore Schist Belt (NSB) consists of diverse rock types, such as quartz-mica schists, ortho-amphibolites, gabbros, dolerites, migmatitic gneisses, granites and pegmatites, which together are equivalent to Dharwarian granite-greenstone belts in Karnataka. The gabbro and dolerite were emplaced into the host-rocks composed of ortho-amphibolite, quartzite and mica schists. The gabbros all along the SW margin of the area are highly uralitised and saussuritised due to intensive shearing, occasionally preserving relict primary assemblage of olivine, pyroxene and plagioclase, along with their sub-solidus reaction rims. Similarly, the migmatitic gneissic region towards Guduru was involved in structural deformation resulting in the development of large scale en-echelon shear fractures. These were intruded by ~ 1600 Ma old pink microcline-granite and mica-bearing pegmatites.

The spatial association of quartzites, sericite schists and amphibolites suggests the spread over of volcanic origin pyroclastic materials/lahars. Subsequent eruption of basalts and intrusion of gabbro, dolerite, granite and pegmatite were confirmed by the observed geological setup. It is suggested that it may be more appropriate to designate this complex as the “Kandra granite-greenstone belt” within the NSB and formation of fractionated basic magmas from the mantle, and granitic intrusions from the crust.

*Keywords:* Kandra area, Nellore schist belt, field and structural data, petrography, India.