

## **PETROGRAPHY AND GEOCHEMISTRY OF GRANITES WITH REFERENCE TO THEIR POTENTIALITY FOR RMRE MINERALISATION, DIRSAVANCHA-KAMMAVARIPALLE, PRAKASAM DISTRICT, ANDHRA PRADESH**

Asoori Latha, G. Nagendra Babu , S. Nayak and K. Shiv Kumar  
*Atomic Minerals Directorate for Exploration and Research, Begumpet, Hyderabad*  
*E-mail: alatha.amd@gov.in*

### **Abstract**

Proximal to the eastern margin of the Cuddapah Basin, number of granite bodies of Meso-Proterozoic age occur intermittently over a stretch of about 300 km from Vinukonda in the north to Sri Kalahasthi in the south. The granitic plutons of Dirsavancha-Kammavaripalle located NW of Kanigiri are petrographically characterised as alkali feldspar granite with accessory biotite, sphene, zircon, apatite, allanite and fluorite. Magnetite, ilmenite, galena, rutile, hematite, pyrite, molybdenite, goethite, limonite and gold are the opaque minerals observed. Radioactivity is attributed to U-bearing columbite-tantalite and labile uranium. The granites are per alkaline to meta aluminous, within-plate granites with high content of REE and the chondrite normalised pattern shows negative europium anomaly. The incompatible element enriched granite with the presence of elements like Nb, Ta, Zr, U Th and high Rb, LREE indicates low degree partial melting of rocks from lower to middle crustal depths. The enrichment of Large Ion Lithophile Elements indicates fertile nature of these granites and are potential hosts of RMRE minerals.

*Keywords:* Petrography, geochemistry, Dirsavancha-Kammavaripalle granites, Prakasam district.