

GEOCHEMICAL CHARACTERISATION OF ANUMULAKONDA GRANITE, PAMURU, PRAKASAM DISTRICT, ANDHRA PRADESH

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Abstract

A series of granite plutons are emplaced within Nellore Schist Belt along a deep crustal fracture from Vinukonda (Guntur district) to Pamuru (Prakasam district). Anumulakonda granite having an area of 10 Sq.km is exposed between Pamuru and Chandrashekar Puram at Bukkapuram Village. The granite is coarse grained, crudely foliated, biotite to alkali granite comprising of quartz, K-feldspar, biotite, hornblende (riebeckite), ilmenite, zircon, sphene, garnet, epidote, magnetite, pyrite and fluorite. The granites chemically contain SiO₂ (71.70 – 75.74%), low calcium (0.36- 0.75 %), total alkalis Na₂O+K₂O (7.90-10.35%), FeO^T/MgO ratio (10.43 – 73.00), and are enriched in elements like Rb (122-301 ppm), Zn (10-124 ppm), Y (106-122), Zr (143-756ppm), Nb (24-926 ppm), and Ce (166-327ppm). These granites are peralkaline to peraluminous in nature and tectonically belong to Within Plate Granite (WPG) environment, and possess A-Type granite characteristics.

Keywords: Anumulakonda, Bukkapuram, A-type granite, Crustal fracture, Nellore Schist Belt.