

COMPARATIVE STUDY OF TWO PROTEROZOIC PAN-AFRICAN ANORTHOSITE MASSIFS

A Dharwadkar, R Ravindra, D Jayapaul, M.P. Gaur

Geological Survey of India, Faridabad, HARYANA, India

The study of two Pan-African (Late Proterozoic-Early Cambrian) Anorthosite massif bodies located at Perinthatta, Kerala, India and Gruber Mountains in the Wohlthat Ranges, cDML, E. Antarctica sheds light on the areal extent of the Pan-African event, Precambrian crustal evolution in the two crustal segments and the position of the Indian plate in the Gondwanaland tectonic assembly.

The intrusive Perinthatta body, within the Kerala Khondalite Belt (KKB), is elliptical in shape, emplaced along the Bavali Lineament (Moyar Shear Zone) within granulitic country rock. The main body extends over an area of about 60 sq km with the major axis trending E-W.

The Gruber body (~608 Ma) is circular in shape and has an areal extent of approx. 900 sq km. It shows intrusive relationships with the charnockite-Px granulite-gneiss country rock.

The dissimilarities in petrographic characteristics of various lithotypes within these massifs suggest that these bodies were emplaced under different tectonic set up and followed varying evolutionary trends.