

## **PRESSURE-TEMPERATURE PATHS OF GRANULITE METAMORPHISM, EASTERN MINAS GERAIS, SE BRAZIL**

COSTA. A. G. CPMTC/IGC-UFMG, Belo Horizonte, Brazil.

Granulite facies rocks, from eastern Minas Gerais, formed in the Proterozoic, mostly as basic (Juiz de Fora Complex) and peraluminous (Paraíba do Sul Metasedimentary Complex), occur as massive rocks as well as high-grade gneisses and show lithological, structural, and metamorphic attributes consistent with their host belt type. Banded leucogneisses, biotite and plagioclase gneisses are intercalated with these metapelites and can represent acid to intermediated metavolcanic rocks. In the western portion granulites derived from sedimentary protoliths, have been deposited, deformed and metamorphosed together with the mafic intrusions and as well as with their crystallization. Regional uplift exposed these rocks probably immediately after the metamorphism. In this belt the metamorphic grade is not uniform, especially where uplifting has exposed oblique cross sections over the granulitic rocks. Granulitic metabasites are characterized by the coexistence of orthopyroxene, clinopyroxene, plagioclase and more rarely garnet. The granulitic metasediments contain sillimanite, cordierite, mesoperthite, plagioclase, garnet, spinel and rutile. One of the highest temperature conditions is defined by the peak coexistence of hercynite-rich spinel + quartz. While garnet- and spinel record an increase of pressure towards the metamorphic peak, the presence of cordierite or reaction rims around garnets or spinels suggest low-pressure conditions. Geothermobarometric calculations indicate that the granulites has been generated under T conditions between 800 and  $990 \pm 50^\circ \text{C}$  and from low/medium (4,8 kb) to relatively high (10,0 kb) pressures.