

HIGH-PRESSURE GRANULITES AND RELATED ROCKS FROM SOUTHEASTERN PART OF MINAS GERAIS STATE, BRAZIL*

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Boudin-shaped bodies of basic high-pressure granulites were found in trondhjemitic to granitic orthogneisses (Mantiqueira Complex) on the southeastern margin of São Francisco craton. These rocks are composed mineralogically by plagioclase (An₆₂₋₈₈), almandine (Prp_{15,7}Alm_{60,4}Grs_{17,5}Sps_{1.9}), orthopyroxene (En_{50,4}Fs_{48,5}Wo_{1,0}), diopside (En₃₆Fs₁₈Wo₄₆) and quartz. The presence of garnet coronas developed between plagioclase and orthopyroxene indicates incompatibility between these two minerals, a typical characteristic of high-pressure granulites. The mineral association orthopyroxene-plagioclase becomes unstable under higher pressures and is replaced by the clinopyroxene-garnet association. Globular symplectites of hornblende, clinopyroxene and quartz occur replacing the orthopyroxene. Geothermobarometric data obtained by TWQ software indicate 9.8 kbar/769°C for peak metamorphism and a reequilibrium around 7.0 kbar/730°C for these granulites. At the localities where the garnet granulites were found, there are some related rocks with different but complementary characteristics. The metamorphic conditions in these rocks were higher than the garnet granulites, where the peak metamorphism has reached almost 20 kbar and temperatures around 750°C. Plagioclase is almost all consumed just remaining as small inclusions within garnet. The mineral association garnet-clinopyroxene is more developed and stable and orthopyroxene is still present. A marked enrichment in Fe occurs, mainly observed in diopside and orthopyroxene compositions. This group of rocks seems to define a transition to eclogite facies.*CAPES grants.