

PETROGRAPHICAL AND GEOCHEMICAL CONSTRAINTS OF DIATEXITES RELATED TO ANDRELÂNDIA GROUP GNEISSES, MINAS GERAIS, BRAZIL

JUNHO, M.C.B. and MENDES, J.C. Dept. of Geology, IGEO/UFRJ, Rio de Janeiro, Brazil

In southern Minas Gerais State, the basal unit of the Andrelândia Group consists of biotite gneiss metatexites grading to (garnet)-biotite-muscovite granitic leucogneiss showing several diatexitic textures. They present evidence of two deformational phases and a syn-D2 barrowian-type metamorphism that lead to the formation of late- to post-D2 (garnet)-(tourmaline)-biotite-muscovite leucogranite. The later occurs as dikes, sills and lenses in the syn-D2 diatexitic leucogneiss and in the other lithotypes. The diatexites are hololeucocratic to leucocratic rocks and show compositional variation from monzogranite to granodiorite with mineralogy made up of biotite, muscovite, epidote, allanite, zircon, apatite, sphene and rare garnet. They have fine grained, lepidoblastic, inequigranular texture. The geochemical behaviour points towards a peraluminous restrict calc-alkalic sequence (SiO_2 -range from 69% to 75%), with discrete major and some trace elements variations. The observed higher Ba, Sr, Y, Zr and mainly REE-content oscillations permit the discrimination of three different groups. Two groups present conspicuous Eu anomaly and higher intermediate and heavy REE-contents, with a flattened pattern for these elements, but different total REE-contents. The third group shows a strong REE fractionated pattern and smaller Eu anomalies. The accessory mineralogy of the diatexites is the main distinguishing feature between rocks of the three groups. The greater quantities of allanite/epidote, apatite, zircon and garnet are responsible for the higher intermediate and heavy REE-contents. The different intensities of Eu anomaly are likely to be related to variations in the degree of partial melting of the metasedimentary source rocks.