

LEUCOGRANITE MELTS AND KINZIGITE RESIDUE FORMATIONS IN MIGMATIZATION PROCESS DURING THE TRANSAMAZONIAN OROGENY AT PINTADAS REGION, BAHIA, BRAZIL.

LEITE, C.M.M. ¹ ; BARBOSA J.S.F. ¹; SABATÉ, P. ² ; NICOLLET, C. ³;
¹ICPGGa/UFBA, Bahia, Brazil; ²ORSTOM/IRD/ISTEEM, Montpellier, France;
³Université Blaise Pascal, Clermont-Ferrand, France.

The Transamazonian high - grade metamorphism in Pintadas region (Salvador - Curaca Belt) led to formation of migmatites with two types of leucosomes: garnet-biotite gneisses (leptynites) and garnet-biotite- sillimanite gneisses (khondalites). There are also garnet-bearing leucogranites intruded in the dilatational loci of transcurrent shear zones. The melanosomes are composed by garnet-biotite-sillimanite-cordierite gneisses (kinzigites). The khondalites/ leptynites and the leucogranites are richer in K₂O, Na₂O, LILE and HFSE . These rocks show negative Eu anomaly but the leucogranites contain more K₂O(5wt%), Na₂O(4wt%) and LREE(LaN/LuN= 40), whereas the khondalites/leptynites have higher contents of Ba(950ppm), Sr(350ppm), Zr(300ppm), Th(28ppm), Y(50ppm) and HREE(LaN/LuN=18). The kinzigites show a selective enrichment of FeO, MgO, TiO₂ and REE. Such geochemical signatures are constrained by the presence of: (i) zircon, monazite and garnet in the khondalites/ leptynites; (ii) albite and mesoperthite in the leucogranites; (iii) plagioclase, garnet, cordierite and TiO₂-rich biotite in the kinzigites and by; (iv) the higher growth - rates of garnets at expense of biotite in the khondalites/ leptynites. It is suggested that the dehydration melting processes, from a psammo - pelitic protolith, were attributed to the following model continuous reactions at granulite facies conditions: Ms + Qtz + Pl = Kfs + Als + Bt + Grt/Crd + Melt and Bt + Als +Qtz + Pl = Kfs + Grt/ Crd + Melt.