

PB/PB SINGLE-ZIRCON DATING OF PALEOPROTEROZOIC CALC-ALKALINE / ALKALINE MAGMATISM IN THE SOUTHEASTERN BORDER OF THE SÃO FRANCISCO CRATON, BRAZIL

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Two chemically and petrographically distinct rock bodies (a calc-alkaline trondhjemite and an alkaline A-type quartz-syenite cut by granitic aplites) were found near Piranga (Minas Gerais State), in the southeastern border of the São Francisco Craton, Brazil. They intruded the Archean Rio das Velhas greenstone belt and the Mantiqueira Complex. Both rock bodies are variably deformed and mylonitized. Age determinations by Pb/Pb single-zircon evaporation method show that both rock bodies are of Paleoproterozoic age. The emplacement / crystallization ages obtained were 2058 ± 10 My (trondhjemite), 2036 ± 4 My (quartz-syenite), and 2012 ± 8 My (aplite). The rocks also show older, inherited zircons. We interpret the studied rocks as resulting from the temporal evolution of the tectonic regime during the Transamazonian Orogeny. So, the calc-alkaline trondhjemite would be syn-orogenic compressive, while the A-type quartz-syenite and its aplitic differentiates would be late to post-orogenic, possibly extension-related. In terms of the Rb x (Y+Nb) contents the trondhjemite plots in the field of Volcanic Arc Granites while syenite and aplites plot in the field of Post-Collision Granites of Pearce (1996), thus corroborating the above interpretation. The mylonitic overprinting of the rocks could be Neoproterozoic, related to the Brasiliano (Panafrican) event.