

METALUMINOUS ALKALINE BIOTITE GRANITES OF THE NORTHEAST PART OF SÃO FRANCISCO CRATON: MORRO DO LOPES MAGMATISM - BAHIA STATE, BRAZIL.

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The granitic magmatism of Morro do Lopes represents the last magmatic expression in the Serrinha Nucleus. These rocks constitute more than 35 stocks and several intrusive dikes emplaced in the gnaissic-migmatitic rocks that constitute the Archean basement of the Serrinha Nucleus. The $^{207}\text{Pb}/^{206}\text{Pb}$ ages obtained from monozircon in these granites exhibit $2,003 \pm 2$ Ma. The biotite monzogranites are leucocratic, with fine granulometry, showing abundant magmatic flow features, without regional deformation effects. However, the K-Ar data in biotite present ages of 1.8 Ga, suggesting that these rocks were affected by thermal events posterior to the most important deformational stage of Transamazonian (2.2 Ga). Geochemically these rocks are metaluminous with SiO_2 values up to 70%, and high values of Ba (2279), Sr (731), Rb (260), and Th (84); and low values of Nb (5), Zr (106), Y (3), Yb (0.17), and ratios of $\text{Ba}/\text{Sr} = 0.6$ and $\text{Ba}/\text{Rb} = 0.7$. The REE patterns are marked by the $(\text{La}/\text{Yb})_N = 62.83$ and $(\text{Eu}/\text{Eu}^*)_N = 0.38$ ratios. These features are similar to the modern post-collisional alkaline granites. In the regional tectonic context, the Morro do Lopes granites are located in the south portion of Serrinha Nucleus, near the calc-alkaline magmatism region, indicating a magmatic zonation in the Serrinha Nucleus, suggesting one collision zone in the Transamazonian tectono-thermal orogeny that is located in the northeast part of this ancient nucleus. This research is the contribution number 058 of the Grupo de Petrologia Aplicada (GPA)-UFBA. ACKNOWLEDGMENTS: CBPM; CAPES; GPA.