

U-Pb Zircon Ages in Granites (940 to 583 Ma) in the Sergipano Orogenic System, NE Brazil

M.L.S. ROSA^{1*}, J.A. CONCEIÇÃO², V.A.C. LISBOA³,
C.C. SILVA⁴, F.S. PEREIRA¹, H. CONCEIÇÃO¹

¹Laboratório de Petrologia Aplicada a Pesquisa Mineral, Pós-Graduação em Geociências, Federal University of Sergipe, Aracaju, Brazil (*correspondence: lrosa@ufs.br)

²Pós-Graduação em Geologia/UFBA – UFOB, Brazil

³IFPB-Picuí/PG em Geologia/UFBA, Salvador, Brazil

⁴Pós-Graduação em Geologia/UnB, Brasília, Brazil

The Sergipano Orogenic System is located northwards from the São Francisco Craton, which was structured in the Neoproterozoic, when the São Francisco Craton collided with the Pernambuco-Alagoas Domain. This collision has structured this system in a number of distinct geological domains four of which hold plutonic rocks (Poço Redondo, Marancó and Macururé domains). Crystallization ages of various massifs have been obtained by SHRIMP at the Geochronology Research Center of the São Paulo University. The oldest age corresponds to the granite-gneiss Serra Negra (933 ± 7 Ma), which shows an anorogenic geochemical character and is coeval to the rift where the Macururé sediments have been deposited at 985-920 Ma. At 695 ± 6 Ma the Garrote granite crystallized and its arc characteristics indicate its pre-collisional magmatism. The pre-collisional event is recorded by rocks with geochemical arc characteristics: Poço Redondo granodiorite (648 ± 7 Ma), Canindé Velho diorites (640 ± 4 Ma) and the gabbros and diorites of the Canindé Intrusive Suite (644 ± 6 Ma e 642 ± 4 Ma). In the Macururé Domain the oldest (636-615Ma) granites correspond to two-mica granites which represent magmatism synchronic to the collision or late-collisional: Itabi (631 ± 5 Ma), Glória Sul (626 ± 7), Monte Alegre (621 ± 5 Ma), Lagoa do Roçado (618 ± 4 Ma), Mocambo (616 ± 6 Ma) e Propriá (615 ± 6 Ma), stocks. The post-collisional magmatism in this domain is represented by the high-K calc-alkaline Gracho Cardoso stock (608 ± 6 Ma) and by the shoshonitic Glória Norte massif (588 ± 5 Ma), which holds ultrapotassic mafic enclaves. The geochronological data indicate a very long gap, ca. 240 Ma, from the opening of the Canindé rift and the beginning of the Brasiliano collision which generated this orogen. This must be object of further investigation. *Acknowledgment: This work was supported by CNPq, CAPES and FAPITEC.*