

# NEW U-Pb (SHRIMP) AGES FROM THE SANTA RITA INTRUSIVE SUITE – A CALYMMIAN INSULAR ARC IN THE RIO ALEGRE TERRANE - SW AMAZONIAN CRATON

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**RESUMO:** The Amazonian Craton is located at the border between Brazil and Bolivia recording amalgamation of the allochthonous Jauru, Rio Alegre and Paraguá terranes, which together form the basement of the Sunsás and Aguapeí Group, a sedimentary basin developed in an intracontinental rifting setting at tonian period. The Rio Alegre Terrane is composed of a meta-volcano-sedimentary sequence, named Rio Alegre Group, one mafic-ultramafic intrusive suite, and an ensemble of plutonic bodies varying from tonalitic to granitic in composition of the Santa Rita Intrusive Suite. The granitic bodies are foliated, elongated at NW trend and are shows metamorphic imprints at conditions of low grade, greenschist facies. The purpose of this paper is to present and discuss new geological and geochronological zircon U/Pb (SHRIMP) data from rocks of the Santa Rita Intrusive Suite in the Rio Alegre Terrane located in Brazil. The U-Pb (SHRIMP) data were obtained at the Isotope Laboratory (CPGeo - of Sao Paulo University). Previous works presents the following U-Pb data for the Santa Rita Suite:  $1384 \pm 40$  Ma,  $1400 \pm 24$  Ma and  $1412 \pm 5$  Ma by the U-Pb ID-TIMS method, and  $\epsilon Nd(t)$  of +3.6. News U-Pb datas (SHRIMP) determined on magmatic zircon crystals from the Barra Mansa Granite and Rio Aguapeí Diorite resulted in ages of  $1492 \pm 4$  Ma and  $1491 \pm 14$  Ma, respectively. By comparing the U-Pb data from ID-TIMS and SHRIMP, we can see that the magmatism related to the Santa Rita Intrusive Suite is prior to the magmatism that gave rise to the Pensamiento Intrusive Suite in the Paraguá Terrane, and the Pindaituba and Santa Helena Intrusive Suites in the Jauru Terrane. This suggests that oceanic subduction processes acted at intra-oceanic insular arcs at Rio Alegre Terrane, just a soft collision model, before the collision and continental magmatic arc settings, whit oceanic crust subduction between the Paraguá, Rio Alegre and Jauru allochthonous terranes. The U-Pb SHRIMP ages of intermediate bodies of Santa Rita Suíte are partially synchronous to granitic intrusion of Pindaituba Suite at Jauru terrane, magmatic continental arc contemporaneous do insular arcs of Rio Alegre Terrane. The amalgamation process ends at about 1.30 Ga, U-Pb datas of granitic post kinematics of Pensamiento Intrusive Suíte, in San Ignacio Orogeny at Paraguá Allochthonous Terrane.

**PALAVRAS-CHAVE:** RIO ALEGRE TERRANE, INSULAR ARC, SANTA RITA INTRUSIVE SUITE