2687125

SHRIMP U-PB ZIRCON GEOCHRONOLOGY OF THE FELSIC IGNEOUS ROCKS OF THE COSTA MARQUES REGION, SW RONDÔNIA STATE, BRAZIL: MAGMATIC AND TECTONIC IMPLICATIONS

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During a recent geological reconnaissance study, high-resolution ion microprobe (SHRIMP) zircon analyses were carried out on plutonic and subvolcanic felsic rocks in the Costa Marques region, SW Rondônia, Brazil, on the SHRIMP II at the University of São Paulo, Brazil. Three samples were selected for U-Pb zircon dating: 1- aegirine-augite riebeckite quartz-syenite (CM-16), 2- hornblende-biotite syenogranite (CM-23), and 3- hornblende trachyte porphyry (CM-04). The results indicate three distinct magmatic events at 1347±8.9 Ma (CM-16), 1057±9.8 Ma (CM-23), and 998±9.7 Ma (CM-04), which contrast to previously reported Rb-Sr isochron ages of 962±72 Ma and 1018±76 Ma obtained for the Costa Marques Group, which includes igneous felsic rocks near the town of Costa Marques and in the Alto Saldanha creek region in the Alto Guaporé belt, SW Amazonian craton. Thus, at least three magmatic events are recognized in the Costa Marques region. The oldest one (1347±8.9 Ma) is interpreted as related to the development of the Rondonian-San Ignacio province (1.56-1.30 Ga), and the two younger ones (1057±9.8 Ma and 998±9.7 Ma) to the Sunsás-Aguapei province (1.20-0.95 Ga).

Keywords: *geochronology, felsic rocks, Costa Marques region-Rondônia, San Ignacio province, Sunsás-Aguapeí province*