

STRUCTURAL EVOLUTION OF ARCHEAN GRANITOIDS OF THE CARAJÁS METALLOGENIC PROVINCE, EASTERN AMAZONIAN CRATON, BRAZIL: TECTONICS IMPLICATIONS

1ALTHOFF, F.J., 2BARROS, C.E.M., 2LEITE, A.A.S., 2DALL'AGNOL, R. 1PPGeo-UNISINOS, São Leopoldo, Brazil; 2CG-UFPA, Belém, Brazil.

The Carajás Metallogenic Province, the most important Brazilian mineral province, is a wide Archean domain of Amazonian craton. Stratigraphic, geochronological, tectonic and lithological data clearly show that Carajás Metallogenic Province is composed of two domains: Carajás Block, to the north, and Rio Maria Granite-Greenstone terrain, to the south. Both domains were stabilized at the end of the Archean. Despite the contrast between these blocks, Archean granitoids of both domains, with ages from 2.96 to 2.56 Ga, shows similarities in structural evolution. In the Carajás Block, the ~2.56 Ga old, A-type, Estrela Granite Complex is built up by several plutons. In the Rio Maria Granite-Greenstone terrain, several plutons of TTG, Mg-rich granodiorites and potassic granitoids (e.g. Mogno, Rio Maria, Xinguara, Guarantã, Mata Surrão) were emplaced at ~2.87 Ga. In some of these plutons, magmatic layering is flat on the central domains and subvertical on the peripheral zones. In Rio Maria Granite-Greenstone terrain, a subvertical foliation of E-W orientation is better developed in older than 2.95 Ga TTG granitoids associated with greenstones in Marajoara and Xinguara areas. In all these rocks, igneous layering, tectonic foliation and the structures of related enclaves have been developed as a response of both interference between batholiths and N-S compressional constraints, suggesting that shortening processes were important during granitoid emplacement.