

ARAXÁ GROUP PROVENANCE IN SOUTH BRASÍLIA BELT

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The present study had, as main objective, is the investigation of the provenance of metasediments comprising the Araxá and Ibiá groups exposed in the Pires do Rio (GO) region. U-Pb ages and Hf isotopes were determined using LA-ICP-MS on detrital zircon grains. An additional objective was to characterize isotopically the Maratá felsic magmatism and establish maximum sedimentation ages for the Araxá and Ibiá groups in the study area. Recent studies about the Araxá Group suggest that this group comprises two geochemically different sets of rocks. The first one, defined in the region of Araxá (MG), includes extensive outcrops of mafic rocks associated with micaschist and quartzite. The second set of rocks is exposed mainly in the state of Goiás, and contains mostly metapelitic rocks with minor occurrences of mafic bodies. In Goiás, small ultramafic rock bodies are identified. These are probably part of the ophiolitic Goiás *mélange*. Associated with the metapelitic rocks are granites and peraluminous rhyolites of the Maratá Sequence. The Ibiá Group presented maximum depositional age of ca. 620 Ma, T_{DMHf} values between 1.0 and 3.0 Ga, with ϵ_{Hf} between -18 and 9. The Araxá Group, in the southern part of this study area, presented U-Pb provenance ages similar to those of the Araxá Group in Minas Gerais (ca 2.0 Ga). The Araxá metapelites in Goiás, on the other hand, present maximum depositional age around 1.0 Ga, with the youngest zircon dated at 961 Ma. This Group presented T_{DMHf} values between 1,3 and 3,0 Ga and ϵ_{Hf} between -13 and 12. In the northern part of the study area, the Araxá Group presents provenance pattern similar to that of the Maratá Sequence. Zircon grains are prismatic, indicating proximal sources, suggesting that the Maratá Sequence could represent the main source of the original sediments. The Araxá pelites present maximum depositional age of ca. 730 Ma, with the youngest zircon dated at 731 Ma. This group presents T_{DMHf} between 1.58 and 1.98 Ga with ϵ_{Hf} between -17 and -6. The metavulcano-sedimentary Maratá Sequence dated at 791 ± 6 Ma (U-Pb), presents T_{DMHf} between 1.6 and 1.8 Ga, with negative ϵ_{Hf} values, between -15 and -6. The isotope data suggests that the Araxá Group comprise two distinct sets of rocks, limited probably by the granitic pluton series, denominated "Piracanjuba type", aligned in the E-W direction.

KEY WORDS: GROUP ARAXÁ, PROVENANCE, U-PB, HF, BRASÍLIA BELT,