Chronology of Neoproterozoic Magmatism in Guanhães Region: $^{207}Pb/^{206}Pb$ Single Zircon Evaporation Data of Alkaline Granite (Minas Gerais, Brazil)

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In the eastern Brazil, the Araçuaí Mobile Belt comprises Archean/Paleoproterozoic metamorphic complexes reworked during the Neoproterozoic Brasiliano event. Granitic magmatic process are largely represented on the north- and eastern sector of the Araçuaí Belt but Neoproterozoic granitic rocks were not yet recognized in the Guanhães Region. In this region, near the Mirandinha Mine, an undeformed granitic pluton intruded the complex. It does not crop out and samples were obtained from drilling proof above fourty meters. The pluton consists of syeno-granite, with microcline, zoned albite-oligoclase, quartz, biotite and muscovite. Zircons from the pluton are transparent with euhedral shapes and show no signs of metamictization.

Single-zircon Pb-evaporation analysis of five crystals were performed in varying temperature intervals. Consistent $^{207}Pb/^{206}Pb$ average ratios obtained from five crystals indicate small Pb loss. The data point to an average of 536±4 Ma (2σ) based on 262 $^{207}Pb/^{206}Pb$ measured ratios, that is interpreted as crystallization age of the granite. Structural features, geochemical data and age of magmatic crystallization indicates that the pluton represents melts emplaced on late to post-tectonic phases, during the post-collisional stage of the Neoproterozoic Orogeny.