

New insights on the Neoproterozoic subduction zones in the Western Gondwana: NE Brazil

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Subduction of Pharusian Ocean and continental collision between Amazonia – São Luiz - São Francisco/Congo cratons mark the Neoproterozoic West Gondwana agglutination in South America. This process has generated two continental magmatic arcs in central and northeastern Brazil, the Goiás and Santa Quitéria (SQA), respectively. These arcs occur aligned along the Transbrasilian lineament, a continental shear zone, interpreted as a crypt suture zone [1]. While UHT sequences occur surrounding the Goiás arc [2], in the Santa Quitéria Arc an UHP belt has been identified along its western limits [3,4]. In this work we studied the eastern portion and surrounding areas of the SQA in terms of structural field analysis, elemental and isotopic geochemistry of metamafic rocks, Sm-Nd whole rock, U-Pb and Lu-Hf zircon geochronology, petrography by Raman spectroscopy and EMPA. Based on our results we propose a tectonic evolution model for the SQA that enclose an older intraoceanic subduction between 890-830 Ma, an younger continental subduction around 670-640 Ma and a posterior continental collision encompassing Paleoproterozoic basement, intraoceanic arc, passive margin basin, active margin basin, continental arc and Neoproterozoic oceanic crust. This continental collision places rocks of different metamorphic degrees laterally, evidencing that UHP and HT conditions developed in the eastern margin of the SQA. Detailed petrographic analysis (in course) may imply the possibility of SQA present, at its eastern edge, records of rocks subjected to ultra high pressure and ultra high temperature conditions.

[1] Brito Neves and Fuck (2014). *Precam. Res.*, **244**, 75-86. [2] Moraes *et al.* (2002). *J. Petrol.*, **43**, 1673-1705. [3] Santos *et al.*, (2015). *Gondw. Res.*, **28**, 1183-1196. [4] Santos *et al.*, (2009). *Gondw. Res.*, **15** (3-4), 454-470.