

Evolution of reworked Paleoproterozoic basement rocks within the Ribeira belt (Neoproterozoic), SE-Brazil, based on U-Pb geochronology: implications for paleogeographic reconstructions of the São Francisco-Congo paleocontinent

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Geological, geochemical and geochronological data suggest that the basement exposed in the Occidental terrane of the Neoproterozoic-Ordovician Ribeira belt represents the continuation of the São Francisco paleocontinent, which was amalgamated at the end of the Rhyacian

(Transamazonian Orogeny). The Mantiqueira complex represents a cordilleran-type active margin of the Archean paleocontinent, while the Juiz de Fora complex represents juvenile Paleoproterozoic material, probably developed within an oceanic setting (primitive arc or plateau?). The latter unit was probably accreted to the active margin of the paleocontinent during the latest stages of the Transamazonian Orogeny, around ca. 2.05 Ma, causing the deformation and metamorphism of the Mantiqueira complex. At this time, to the west and on the cratonic foreland, concurrent deformation of the Minas passive margin and sedimentation of the Sabará basin took place. Subsequent to the Transamazonian Orogeny, the basement associations were intruded by intra-plate alkaline and basic rocks related to rifting events between ca. 1.7 and 1.3 Ga that resulted in the development of intracratonic basins. The Paleoproterozoic suture located between the Mantiqueira and Juiz de Fora Paleoproterozoic terranes probably controlled the Neoproterozoic passive margin tectonics and also the development of a major thrust surface during the Neoproterozoic/Cambrian Brasiliano convergence.

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