

GEOLOGICAL AND GEOCHRONOLOGICAL FEATURES OF THE FOUR ARCHEAN CRUSTAL SEGMENTS OF SÃO FRANCISCO CRATON, BAHIA, BRAZIL.

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Recent geological, geochronological and isotopic work identified four important Archean crustal segments in the basement of the São Francisco Craton. Each segment is well discriminated in the ENd x ESr diagram, supporting their distinct origin, evolution and metallogenetic characteristics. In the WSW part occurs the oldest Gavião Block, consisting of 3.4 -3.2Ga old TTGs, Archean greenstone belts with basal komatiites and also abundant 2.8-2.7Ga orthogneisses and migmatites, interpreted as products of partial melting of the TTGs. Along the Atlantic Coast, from the southernmost part of Bahia up to Salvador and then along a NE trend, occurs the youngest segment, termed the Itabuna-Salvador-Curaçá Belt. It is mainly composed by tonalite/trondhjemites with 2.6-2.4 Ga ages and also including stripes of intercalated metasediments and ocean-floor/back-arc gabbros and basalts. In the SSW area, the Jequié Block is exposed, being characterized by migmatites granulites (3.0-2.8 Ga) with supracrustal inclusions and multiple enderbitic-charnockitic intrusions (2.7-2.8 Ga). In the NE, occurs the Serrinha Block, with c.a. 2.9 Ga. orthogneisses and migmatites, which represent the basement of Paleoproterozoic greenstone belts (Rio Itapicuru and Capim). During the Paleoproterozoic Transamazonian event, these four crustal segments collided, resulting in the formation of an important mountain belt along an axis identified by a centrifuge vergence in the north of the Itabuna-Salvador-Curaçá Belt, which continues towards the western part of Gabon, Africa. The regional metamorphism resulting from crustal thickening associated with the collisional process was relatively homogeneous, medium-P/high-T, dated at around 2.0 Ga.