

ABSTRACT

This report represents the product of the geological and metallogenic researches performed at the Aracaju-NE (SC.24-X) sheet 1:500.000, makes part of the Brazilian Basic Geological Survey Program (Geologic-Metallogenic Integration Subprogram), that is conducted by the CPRM – Geological Survey of Brazil.

They are presented here the geologic and metallogenic-previsional sheets accompanied of the explanatory note, which resulted of the compilation of previous data and local maps, as well as of the incorporation of new field and laboratory data and of the reprocessing of the aerogeophysical data available until September 1998.

The Aracaju-NE sheet is situated at the central region of the Borborema Province, including portions of the Precambrian Zona Transversal domain (viz. Piancó-Alto Brígida, Alto Pajeú, Alto Moxotó and Rio Capibaribe terranes) and External domain (viz. Pernambuco-Alagoas, Canindé-Marancó and Macururé terranes of the Sergipano belt) besides scattered Paleo- to Mesozoic basins and thin unconsolidated Tertiary and Quaternary covers.

A wide range of lithostratigraphic units are exposed in the Precambrian domains, being these units spread heterogeneously into the terranes. Archean and Paleoproterozoic orthogneisses and metavolcanosedimentary complexes outcrop in basement inliers and fragments correspondent to the Jirau do Ponciano anticline and the Floresta and Pão de Açúcar fragments. Events of anorogenic

magmatism affected part of these blocks in the late Paleoproterozoic and the Mesoproterozoic ($\geq 1.5\text{Ga}$), forming the gabbro-anorthositic Malhada Vermelha suite and the granitic Serra de Taquaritinga suite.

The definitive framework of the Borborema Province has been conformed during the late Mesoproterozoic and the entire Neoproterozoic carried out by the Cariris Velhos (1.1 to 0.95Ga) and the Brasileiro (0.75 to 0.54Ga) cycles. The Cariris Velhos cycle originated several metavolcanosedimentary belts, as such as the bimodal Riacho Gravatá complex, the arc-type Lagoa das Contendas, Canindé and Marancó complexes, among others. A belt of S-type granitoids is characteristic of the Cariris Velhos collisional event present in the Alto Pajeú terrane. Other sheet-like granitoids of different sources of this event are also observed in other terranes, mainly in the Alto Moxotó and Pernambuco-Alagoas terranes.

The Brasileiro supracrustals are represented by dominantly metasedimentary belts, being these sequences, as well as the subjacent complexes, strongly deformed by a transcurrent-style (Transversal domain) or contractional-style (Canindé-Marancó and Macururé terranes) tectonics, developed at the ending of the Neoproterozoic. This orogenesis is responsible by the nucleation of a system of conjugate NE-SW and E-W shear zones, well evident in the Zona Transversal domain, being the most important the Pernambuco Lineament, that separates this domain of the External one. A conspicuous granitic plutonism has developed during

syn-, late- and post-tectonic stages of this event, affecting all the terranes.

The Phanerozoic cover is represented by three sedimentary cycles, developed through the Silurian to Permian, Jurassic to Cretaceous and Tertiary to Quaternary intervals. The Paleozoic cycle is of the synclise-type, correspondent to the deposition of fluvial and shallow to restrict marine sequences of the Tucano-Jatobá, Fátima, Betânia, Carnaubeira, Mirandiba and São José do Belmonte basins. The Mesozoic is associated to the rift and passive margin stages of opening of the Atlantic Ocean, that are preserved, respective, in sequences of the Tucano-Jatobá and Sergipe-Alagoas basins. The

Cenozoic period is restrict to Tertiary and Quaternary continental sequences.

Numerous mineral resources were cataloged, including around 748 mines, deposits and occurrences of metallic and non-metallic substances, gems, pegmatite minerals, fossil and fuel substances, mineral water and dimension stone. The potential of the sedimentary basin for ground water has been also analyzed. Although there are a great number of mineral prospects, specially of carbonate rocks for lime industry, the granites for dimension stone constitute the principal resource of the area, existing an important mining district in the Agreste region of the Pernambuco State.