

ABSTRACT

This text represents the explanatory note of São Luís NE (SA.23-X) and São Luís SE (SA.23-Z) sheets, in the scale 1:500.000, which are inserted in the area of the Grande Carajás Program, and taking part of the Brazilian Basic Geological Survey Program, Geologic-Metallogenic Integration Subprogram.

The sheets limited by the meridians 42°00' and 45°00' W and parallels 0°00' and 2°00' / 2°00' and 4°00' S and are located in the northern portion of the Northeast Brazil, involving part of the states of Maranhão and Piauí.

The studied area includes part of two tectonic domains: the Parnaíba and the Coastal and Continental Margin Provinces. The Parnaíba Province is represented by the northern portion of the Parnaíba Basin, which is considered as an intracratonic basin. The Coastal and Continental Margin Province is represented by the marginal basins of São Luís and Barreirinhas, formed during the rifting that motivated the drift of the South-American and African plates. The Parnaíba and the Coastal and Continental Margin Provinces are separated by a tectonic high of the crystalline basement, denominated São Luís Craton. This crystalline basement is formed by the Rosário Subvolcanic Suite, of Paleoproterozoic age, which is constituted by quartz-diorites, tonalites, granodiorites and andesites.

The Parnaíba Basin is represented by the Cabeças, Longá, Poti and Piauí Formations, of Paleozoic age; and by Sardinha, Codó and Itapecuru Formations Mesozoic. These sediments corre-

spond to transgressive-regressive cycles, with deposits of continental, marine and transitional origins, and also sediments of lagoonal origin, associated to restrict evaporite basins, deposited under climatic conditions of extreme aridity.

In this area, the São Luís Basin is constituted by Cretaceous rocks of the Itapecuru Formation, covered by unconsolidated sediments. The Barreirinhas Basin occupies the north and northeast portion of the São Luís SE sheet and in the area it is covered by an extensive sandy layer of Cenozoic age.

The unconsolidated cover includes all the Cenozoic sediments, embracing sequences of the Paleogene, Paleogene-Neogene (Barreiras Group), Neogene-Quaternary laterites and other Quaternary sediments.

The tectonic framework is defined by two main compartments that represent distinct sedimentologic, tectonic and geochronological domains: the Parnaíba Basin, to the south, and the basins of Coastal and Continental Margin (São Luís and Barreirinhas basins), to the north. The Ferrer-Rosário-Bacaba and Urbano Santos uplift splits apart these domains and represent an important Eocretaceous divisor, which gave place to the erosion of younger units of the Parnaíba Basin and has exerted enormous influence on the evolution of the coastal and continental margin basins.

This study has catalogued 148 mineral occurrences and deposits, which are represented by rocks and industrial minerals (sand, clay, broken stone, gravel, limestone, kaolin and marine salt), energetic minerals (peat) and mineral water.