ABSTRACT

This report presents the final results of the revision and up dating of the geological/ metallogenetical mapping, 1:250.000 scale, of Iguatu (SB.24-Y-B) sheet, covering an area about 18.000km2, in the central-south of the Ceará state, delimited by parallels 6° - 7° and meridians 39° - 40° west of Greenwich. This work is part of the Programa de Levantamentos Geológicos Básicos do Brasil – PLGB carried out by CPRM since 1986.

The adopted methodology is characterized by integraded survey of different kinds of geological research, like geology, geochemistry, geophysics and inventory of mineral deposits. Like final results are included the geological and metallogenetic-previsional maps in the scale of 1:250.000, products of integration of different tematic maps.

The different lithotypes identified in the area were jointed in five main groups. The oldest one, probably archean age and poorly represented in the sheet, constitutes a predominantly orthoderivated domain, with orthogneiss of tonalitic to granodioritic composition, including metabasic/metaultrabasic remains, and with strong evidences of reworking in Transamazonic and Brazilian cycles.

The second, developed in the Early Proterozoic, comprises the Granjeiro Complex, represented by an exalative volcano-sedimentary association, with anphibolites, felsic tufs, metamafic-metaultramafic rocks, including subordinated amounts of schists, quartzites, limestones, metacherts and banded iron formations; the Ceará Complex, which is composed by quartzites, limestones and paragneiss, migmatized or not; and an important plutonic magmatic event, by tonalite-granodioritic association, with subordinated trondhjemitic bodies and lineage, and granodioritic-granite.

The third group Orós of middle Proterozoic age, is represented by a volcanosedimentary sequence developped in an intracontinental rift ambient.

The fourth group assembles types related to the Brazilian Cycle, comprehended between the Upper Proterozoic and Cambro-Ordovician, having granitoids early to post-tectonic, and anchimetamorfic sediments of the Cococi transtensive basin, subdivided in the Angico Torto, Cococi and Melancia formations, which form the Rio Jucá group.

Finally, there are the phanerozoic sedimentary covers, that include the mesozoic sediments of Iguatu group, basic dikes related to Ceará Mirim magmatism and the superficial cenozoic formations.

The analysis of the organization of planar and linear elements, as well as the style and intensity of deformations, suggest an evolutive history consolidated in, at least, two main geodynamic cycles. The first, pre-Brazilian, produced the Dn deformation, developped under a convergent tectonic regime; and the other, related to the Brazilian cycle, with three deformation fases (D_1 , D_2 e D_3), developped under a strike-slip and oblique-slip regimes.

The reinterpretation of geochemical information, provided by works previously carried out in the

region, by the heavy mineral and stream sediment sampling, provided data to the metallogenetic analysis, with delimitation of areas and points geochemically anomalous for some elements probably related to mineralizations.

The airborne geophysical maps were used to help the delimitation of some lithostratigraphic unities and major structures as well as to the comprehension of aspects related to the regional tectonics.

The metallogenetic-previsional analysis, product of the integration of several information by different methods of research, picked up 18 potentially propitious areas for mineral exploration, mainly: magnesite, limestone, talc, asbest, iron, vermiculite, barite and pegmatite minerals.