

ABSTRACT

The studied área comprises the Redenção Sheet (SC.22-X-A), in a 1:250.000 scale. The area is geologically located at a crustal block, named Araguacema which, is mainly represented by granitoids and volcano-sedimentary sequences (greenstone-belt type). Geotectonic compartments were identified as Pau d'Arco Belt (Archean) and Araguaia Belt (Proterozoic).

The Pau d'Arco Belt takes up two thirds of the western part of the area, enclosing archean metamorphic rocks which vary from greenschists (supracrustal) to amphibolites (mesocrustal). The Pau d'Arco Belt rocks present a structural and compositional banding, according to the E-W direction, showing some inflections around the axis and vertical to subvertical dips. This belt is the result of a transcurrent tectonics.

The Araguaia Belt extends along one third of the area, presenting, on its easternmost part, sedimentary rocks – mainly pelitic – and mafic and ultramafic igneous rocks. These rocks present an incipient metamorphism and some tectonic deformations in a compressive regimen from which shearing zones have been resulted. These zones show a thrusting character, with trends varying from N-S to NW-SE. The transcurrent shearing zones present a NE-SW general direction.

In the SW extreme of the Sheet, the Middle Xingu Intracratonic Basin (Proterozoic) occurs a small

area represented by the sediments of the Rio Fresco Group and the Gorotire Formation, the latter overlapping the further. In the Sheet, this geotectonic unit cut off and override the Pau d'Arco Belt.

Igneous manifestations considered as Lower-Medium Proterozoic, are represented by granitic rocks formally named Redenção Sienogranite.

Mesozoic diabase dikes cut the older rocks, presenting a sub-meridian trend, and vertical dip. In the Pau d'Arco Belt, N-S, NE-SW and NW-SE trends were identified.

The rocks of the area were submitted to a strong laterization process considered from the Tertiary age. These laterites are responsible for the plateau formation which are prominent in the Araguaia Belt rocks.

Quaternary sediments the main river channels.

The economic mineral potential of the studied area is represented by gold, iron, manganese, nickel and amianthus occurrences, associated to the greenstone-belt which occur in the Pau d'Arco belt dominion; amianthus, chromium, nickel, copper and talc associated to the ultramafic rocks of the Araguaia Belt dominion and limestones related to the Couto Magalhães Formation sediments, in the Araguaia Belt.

The geochemical anomalies, obtained through the stream sediment and heavy mineral analyses, are related to the lithological background, possibly associated to the structural trend.