# ABSTRACT

The results of the 1:100,000 geological mapping of Paulo Saldanha Sheet (SC.20-Z-C-V) are presented as a part of Brazil Basic Geological Survey Program (PLGB), performed by Companhia de Pesquisa de Recursos Minerais (CPRM), through Porto Velho Regional Office (REPO). Besides geological mapping, this explanation note discusesses geochemical/alluvial prospection and geophysics (gravimetry, aeromagnetometry and aerogamaspectometry) data. Geologic and metallogenetic/predictional charts are the final products of these surveys. Studied area is localized southeast of Rondônia State, at Madeira Subprovince of Tapajós Province, in western Amazonic Craton.

Rocks of the mapped region are distributed in three main geotectonic domains. The first one which is inserted in the Guaporé-Nova Brasilândia Shear Belt, is constituted by Santa Luzia Granulitic Complex and São Felipe Metamorphic Suite, to which is atributed a Lower Proterozoic minimum age; Nova Brasilândia Metavolcano-sedimentary Sequence (of presumed Middle Proterozoic age), metamorphosed up to the amphibolite facies and intruded by the Rio Pardo Granitic Suite: an "A" type tardi- to post-tangential granitic event of the same belt. The plataformal undeformed sedimentary rocks of the Paleozoic Pimenta Bueno Formation constitute the second domain. A third domain is represented by unconsolidated sediments of Tertiary-Quaternary and Recent ages.

The Santa Luzia Ganulitic Complex is constituted by basic granulites, enderbites, with minor trondhjemites besides allochtonous calc-silicate gneisses. São Felipe Metamorphic Suite is composed by granodioritic K-rich augen-gneisses and Na-rich tonalitic banded gneisses. Nova Brasilândia Metavolcano-sedimentary Sequence is represented by psammopelitic schists and biotite-paragneisses, intercalated with amphibolites of tholeiitic N-morb chemical composition and massive calc-silicate rocks. Rio Pardo Granitic Suite was divided in three granitic facies: a biotite bearing granite (Rio Pardo); a hornblende bearing granite (São Pedro) besides a syenitic one (São Luís). The three facies have alkaline affinities and constitute an "A"-type granitic association, intruded in low crustals levels , as indicated by myarolitic cavities locally. Pimenta Bueno Formation is represented by sandstones, shales and conglomerates of glacial origin. Finally, laterites occur restrictly, together with recent alluvial cover.

Two main deformational events could be characterised.The first one was recognised within the Santa Luzia (high-grade) Block and was developped under ductile-tangential conditions. It was responsible for the low-angle thrusting foliation (Sn) with frontal and oblique ramp structures that predominate in this block. It was developed under amphibolite to granulitic metamorphic conditions. In Nova Brasilândia Block, the deformation record is characterised by oblique ramps developed under ductile anfibolite facies metamorphism. In a second stage, in ductile-ruptile conditions transcurrent overprint originated the main subvertical foliation

(Sn+1), which transposed the preexistent thrust foliation and re-equilibrated the paragrenesis under (retrogressive) green-schist facies conditions.

This structural arrangement observed in both Paulo Saldanha and Rio Pardo sheets can be interpreted as a result of a collisional process involving two poorly known continental blocks. As a consequence of this continental collision, the Guaporé-Nova Brasilândia Shear Belt was developed, possibly in Middle Proterozoic times.

Reprocessing of aerogeophysic images (magnetometry and gamaspectometry) allowed the identification of two distinct magnetometric domains, represented by infrastructure (granulites) and supracrustals rocks (metavolcanic sedimentary sequence), besides several basic bodies. Radiometry allowed the discrimination of all granite types, and gravimetry revealed a contrast in crustal thickness of the region, showing some crustal thinning southwards.

Regional geochemical prospection, with alluvial sediments and pan concentrate sampling, characterized several anomalous zones for gold, tin, arsenic, platinum, wolfram, copper, lead, zinc, nickel, chrome, cobalt, iron and manganese, and provided the basis for metalogenetic analysis. Predictional-metalogenetic analysis pointed out eight interesting areas for mineral prospection, for Au, Pt, Sn and W, besides diamonds in placers, and granites and calcsilicatic rocks for construction and ornamentation.