ABSTRACT

The geology of the Vila Mamãe Anã area (Sheet SB.21-V-D), situated in the southwestern and southeastern parts of the states of Amazonas and Pará, is presented here in terms of it main lithostratigrafic units, structural framework and mineral resources (gold) characteristics as well as its geological evolution. Seventeen lithoestratigraphic units were mapped. The Paleoproterozoic is represented by the Cuiú-Cuiú Complex, Jacareacanga Group, Parauari Intrusive Suite, Iriri Group, Bom Jardim Formation, Maloquinha Intrusive Suite, Pepita Granite and Buiuçu Formation.

The Cuiú-Cuiú Complex consists of orthogneiss and granitoid (tonalitic to granodioritic in composition), and minor amphibolite, diorite and rarely garnet-bearing leucogranite. Several authors consider the Jacareacanga Group a greenstone belt sequence. It includes a quartzitic domain (quartzite, metachert and banded iron formation units) and a schistose domain (mica schist, quartz schist and rare actinolite-tremolite schist and talc schist). Both of them are intruded generally by granitoid of the Parauari Intrusive Suite (subdivided into titanite-bearing granitic, granitic and granodioritic facies), the Maloquinha Intrusive Suite (alaskitic granite subdivided in amphibole-bearing and biotite-bearing facies), the Pepita Granite (riebeckite-arfvedsonite alkali feldspar granite) and also by volcanic rocks of the Iriri Group (rhyolite, dacite and locally tuff and ignimbrite) and the Bom Jardim Formation (andesite, andesite-basalt, trachyandesite and latite). The Jacareacanga Group is unconformably overlain by the Buiuçu Formation (arkose sandstone, conglomeratic sandstone with minor interbedded tuff).

The Igarapé Escondido Granite (rapakivi granite) is correlated with the El Parguaza mid-Proterozoic magmatism. The Jurassic Periquito Dolerite dyke crosscuts the Paleozoic sedimentary rocks of the Monte Alegre Formation (Permo-Carboniferous). Tertiary (Alter do Chão Formation) and Quaternary (alluvial sediments) cover and lateritic profiles are also shown on the area mapped. Two main structural features are observed: 1) regional foliation with NNE-SSW and NNW-SSE trends (only basement rocks, Cuiú-Cuiú Complex); and 2) main oblique strike-slip shear zones with NW-SE trend (on Parauari granitoid and basement rocks mainly). The Tapajós region was initially affected by a crust generation event in the Archean-Paleoproterozoic boundary (2,5 Ga?). However, the major units were formed during the Paleoproterozoic (2,0 to 1,9 Ga), with production of large volumes of arc-related magma, generating juvenile continental crust in a collisional setting. Several post-collisional granite intrusions (often of the A-type), mafic dykes swarms and sedimentary basins were developed in extensional setting.

A wide variety of gold mineralization styles occur in the Jacareacanga region including shear zone-quartz veins, quartz lode, porphyry-hosted stockwork/disseminated and epithermal adularia-sericite types. In total were 82 prospector´s workings (*garimpos*) were identified in the area. 120 occurrences were described, including pyrite, cassiterite, tourmaline, thorite, zircon, topaz, amethyst, xenotime, monazite, fluorite and also potential areas for industrial minerals.