THE GOLD DEPOSITS OF THE CARAJÁS MINERAL PROVINCE, PARÁ STATE, BRAZIL

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The Carajás Mineral Province (CMP) is located in the southeastern portion of the Amazon Craton. Its endogenous gold deposits comprise volcanogenic, Fe-oxides-Cu-Au-U-REE, and shear-related types, the latter divided into the lode and sedimentary-hosted sub-types. The lode gold deposits occur in the Rio Maria granite-greenstone terrains (the CMP south block), whereas the other types are found in the Itacaiunas shear belt (the CMP north block). The volcanogenic deposits (e.g. Salobo and Serra Verde) consist mainly of Fe-Cu-sulfides, magnetite, pyrite ? Au and are hosted by Archean medium to low metamorphic sedimentary rocks intercalated with basic volcanics. The Fe-oxides-Cu-Au-U-REE deposits (e.g. Cristalino and Sossego) represent a stockworking mineralization related to Archean granitoid stock cupolas. Although classed by others in this category, the Bahia deposit is interpreted as the result of the overprint of U-REE-rich magmatic fluids on a pre-existing volcanogenic Fe-Cu-sulfide?Au mineralization. Most lode deposits (e.g. Sapucaia, Babaçu and Tucumã) occur in base-metal poor-, gold-bearing quartz veins emplaced along shear zones that cut greenstone belt rocks. The Cumaru is a hybrid deposit since it is related both to a shear zone and a granitoid intrusion. Rather descriptive than genetic, the sedimentary-hosted sub-type is represented by the Águas Claras and the Serra Pelada deposits. Both are related to shear zones, but occur in Archean clastic sedimentary sequences. The Águas Claras Fe-Cu-sulfide?Au mineralized quartz veins seem to be genetically linked to the nearby 1.88 b.y. old Serra dos Carajás granite, while in the Serra Pelada the sulfide-poor, Pd-rich gold mineralization forms a saddle-reef deposit controlled by the hinge of a syncline.