

Structural setting and gold mineralizations of the syn- to late-orogenic Creporizão Intrusive Suite, Tapajós Province, Amazon Region, Brazil

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The Creporizão Intrusive Suite represents the major part of the syn- to dominantly late-orogenic granitoids of the Tapajós Auriferous Province. These granitoids are interpreted as developed in a magmatic arc, which was accreted to the Archaean portions of the Amazonian Craton in the Paleoproterozoic, between 1,997 and 1,957 Ma.

The structural framework of the Tapajós Province comprises dominant NW-SE-trending lineaments, representing mainly sinistral strike-slip faults and shear zones. These structures have played a major role in controlling the geometry and emplacement of the Creporizão granitoids, which are represented by irregular to sigmoidal-shaped batholiths and smaller plutons, all elongated according to the NW-SE direction. Most of the Creporizão granitoids show some deformation, presenting protomylonitic to mylonitic foliation, concordant to preserved primary (magmatic) foliation, and porphyritic to porphyroclastic, mortar and granoblastic textures, as well as subgrain development and recovery, all indicating a regional deformation event consistent with middle-amphibolite conditions.

Structurally controlled lode-gold mineralization associated to the Creporizão granitoids are mostly characterised by quartz veins emplaced in subvertical strike-slip faults, with variable orientations, but geometrically linked to the major NW-SE structures. Less numerous deposits associated to low-angle brittle-ductile shear zones, with gold present in large sigmoidal quartz veins and in shear planes, are also described.