

PAU-A-PIQUE DEPOSIT, GOLD IN THE METASSEDIMENTARY ROCKS OF THE FORTUNA FORMATION, AGUAPEÍ GROUP - SOUTHWESTERN PART OF THE MATO GROSSO STATE, BRAZIL

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The Pau-a-Pique Gold deposit is situated in the southwestern part of the Amazonian Craton within the realm of Alto Guaporé Gold Province, southwestern Mato Grosso State, Brazil. Ore occurs in quartz vein systems (located in D, R, R', P, P' and T fractures) and disseminated in phyllonitic metaconglomerates from the Fortuna Formation and in mylonites from the Pau-a-Pique Tonalite. The mineralization consists of gold remobilization in dextral, strike-slip, brittle-ductile Corredor Shear Zone. Pyrite, magnetite, hematite and ilmenite are the most important mineral assemblage associated with gold. However, disseminated chalcopyrite, pyrrhotite and arsenopyrite are common in the tonalitic mylonites. The variation of quartz texture (shape of the crystals) and preferential orientation, combined with evidence of its recrystallization allows to recognize five textural varieties of quartz veins in this deposit according to Dowling & Morrison (1989) nomenclature, they are: Buck, Comb, Replacement, Ribbon and Saccharoidal veins. Sixty four chemical analyses from quartz veins show that gold concentration in Replacement and Comb veins ranges from 0,2 to 1,2 ppm, however, in veins that show saccharoidal texture, gold concentration varies from 0,12 to 0,26 ppm. In the other vein classes, gold concentration was found to be below the detection limit (2ppb). Moreover, no correlations among gold and other elements such as As, Ba, Co, Cr, Fe, Mo, Rb, Sc, Ta e W were found. Thus, the differentiation between ore-rich and barren veins are made by gold contents and texture.