

Gold mineralization at Posse, Mara Rosa Province, Goiás, Brazil

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The Posse gold deposit, located about 5km north of Mara Rosa town (north of Goiás state, Brazil) was discovered by "Mineração Colorado"(Utah Mining Co) in 1982 after a soil geochemistry gold anomaly. Oxide ore reserves were of the order of 400,000t@2g/t and 95% recoverable. The open pit primary ore reserves were estimated at 1.7Mt @ 2.24g/t.

Gold appears disseminated in leucocratic orthogneiss which has been interpreted as syn-tectonic (P1) granite of alkaline tendency. It intrudes a Neoproterozoic volcano sedimentary sequence (Sequência Mara Rosa) typical of arc setting. Regional metamorphism is of amphibolite facies. Late hydrothermal alteration affected those rocks and is contemporaneous to strike slip faults and shearing event.

Gold is the only metal exploited and it appears as very fine grains in association with Fe (Au,Ag,Pb)-tellurides and Fe-sulphides (pyrite, pyrrhotite, chalcopyrite). The ore minerals are related to the late alteration paragenesis (muscovite, carbonate, epidote,quartz). The primary ore is interpreted as epigenetic, associated to late hydrothermal alteration. The association of gold with tellurides in the primary ore disappears in the weathering zone due to telluride oxidation. Most of this gold is residually enriched in a saprolite zone directly overlying primary ore. Close to surface is a degraded laterite profile forming a stone line horizon where gold is residually and chemically enriched and laterally dispersed. Lateritic pisoliths in the stone line are highly enriched in Te. The stone line constitutes an adequate sampling media for exploration.