

GOLD MINERALISATIONS AT THE RIO ITAPICURU GREENSTONE BELT, BAHIA, BRAZIL GREENSTONE BELT, BAHIA

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Shear-hosted gold deposits in the Rio Itapicuru Greenstone Belt (RIGB) occur within supracrustals rocks metamorphosed under greenschist to amphibolite facies conditions. Integration of host-rock geochemistry, fluid-inclusion studies, geochronology and structural geology supports a model of metallogenic evolution intimately linked to a paleoproterozoic history of tectonic convergence and collision, involving early arc/back-arc magmatism and subsequent collision and granitoid emplacement. In this context, gold mineralisation occurred mainly during late, collisional tectonics and resulted from the operation of a crustal-scale hydrothermal system with low salinity carbonic and aqueous-carbonic fluids of distinct nature and sources. These fluids migrated, interacted and reacted with host rocks of different compositions. In the south of the belt, structurally-controlled fluid circulation within Fe-rich mafic rocks gave rise to the most prolific gold deposits to date found in the RIGB. In contrast, fluid-rock interaction with volcanoclastic-carbonaceous sediments, both in the southern and northern parts of the belt resulted in the development of relatively smaller deposits and suggests that, despite the inferred presence of large-scale fluid migration processes, local-scale structural and lithological attributes were critical controls in the formation of the deposits.