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**THE SALAMANGONE PALEOPROTEROZOIC
Au-DEPOSIT, LOURENÇO DISTRICT, AMAPÁ,
BRAZIL: U-Pb, Sm-Nd, Rb-Sr, Pb-Pb AND K-Ar
ISOTOPIC SIGNATURES**

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The Salamangone deposit occurs in the Lourenço Gold District, Amapá. It is associated with Paleoproterozoic metamorphosed supracrustal rocks and a calc-alkaline complex. The deposit lies within a metaluminous to weakly peraluminous, calc-alkaline tonalitic-granodioritic pluton. The Au-mineralization consists of an epigenetic quartz-vein system, enriched in Au and As, and structurally controlled by a ductile-brittle shear zone. U-Pb zircon analyses of tonalite gave a crystallization age of 2.16 Ga, whereas Sm-Nd T_{DM} model ages for tonalite and granodiorite gave 2.24 and 2.34 Ga, respectively. $\epsilon_{Nd}(T)$ varies from +2.88 to +3.02. Additional whole rock Rb-Sr isochron ages on granitoids yielded values in the range of 2.17 to 2.28 Ga, with $^{87}Sr/^{86}Sr$ initial ratios of 0.702. A Pb-Pb isochron age of arsenopyrite crystals from the quartz veins gave an age of 2.0 Ga, consistent with the main mineralization stage. The geochemical signature and isotopic data of granitoids and Pb-Pb age data of quartz-vein sulfide suggest that the Lourenço region, as well as the neighboring areas in French Guiana, represents a vast area largely floored by accreted juvenile arc terranes without evidence of Archean crust contamination. In this scenario the Salamangone gold deposit seems to be an orogenic mesozonal gold deposit related to the development of a calc-alkaline magmatic arc, both produced within the Maroni-Itacaíunas Province during a major Paleoproterozoic orogenic event.