

## **The implication of early architecture for gold endowment in a low strain environment; the Yaouré orogenic gold deposit, Côte d'Ivoire**

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The 1.5 Moz Yaouré gold mine is located in the Bouafle greenstone belt in central Côte d'Ivoire. The low aspect ratio of the belt area where the deposit occurs contrasts with the NE-SW trending acuate Birimian granite-greenstone belts of the West African Craton. Country rocks in the Yaouré area occur in a poorly-deformed to undeformed state. Field data indicates that strike-slip faults bounding a 10 km-scale intra-belt basin acted as key controls on the structural geometry of the gold deposit.

Gold mineralization at Yaouré is polyphased. It first occurs within a conjugated set of strike-slips following the same orientations as the margins of a volcano-sedimentary basin present north of the deposit. These orientations are also borrowed by calc-alkaline dykes, emplaced prior to shortening. A second mineralized event is marked by a thrusting episode crosscutting strike-slips, within which mineralization occurs as an '*en echelon*' vein array associated with low to no displacement. The geometry and the kinematics study of the thrusts support a bulk incremental deformation under low differential stress leading to multiple slip increments and episodic fluid discharge. Although strike-slips and thrusts display different timing and hydrothermal alteration styles, they both developed during an EW shortening event that corresponds to the regional belt main shortening event.

This study presents an unusual orogenic gold mineralization setting in a poorly studied area and highlights the importance of early extensional tectonics as a controlling factor for the location of orogenic gold mineralization.