Rio das Velhas Greenstone Belt structural evolution, Quadrilátero Ferrífero, Minas Gerais State, Brazil

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The structural evolution of the greenstone is divided into four deformacional stages. The first event (D1), compressional, Archaean, generated tight to isoclinal horizontal-normal or overturned E-W folds and E-W thrust faults with southward transport direction. A foliation S_1 is mylonitic or axial-planar to folds and a stretching lineation Lx_1 is down-dip to the foliation. The second event (D2), compressional, Archaean, generated south-west-verging tight to isoclinal folds and NW-SE thrust faults with south-westward transport direction. A foliation S_2 is mylonitic or axial-planar to folds. The third event (D3), extensional, Trans-Amazonian in age, was responsible for the uplift of Bação Complex and is related to the evolution of metamorphic core complexes. The uplift generated a new foliation around the complex (S_3) and reoriented earlier structures and linear and planar fabrics, giving rise to marginal synforms close to dome. The fourth event (D4), compressional, Brazilian, is fold-thrust type, forming large west-verging thrust systems, N-S recumbent folds and a mylonitic or axial-planar foliation (S_4). During this event, Archaean tectonic structures and planar and linear fabrics were transposed or reoriented and reactivated, specially near the thrust systems. N-S and E-W crenulation cleavages and open folds were formed during the late stage of this event. The Archaean structural signature is well preserved on the Quadrilátero Ferrífero western side, while the Brazilian deformation is well developed on the east side.