

Compressive-distensive tectonics at western branch on the Curral anticline, Quadrilátero Ferrífero, MG, Brazil

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The 45 km-long, western domain of the Curral Anticline is marked by a significant variation in the structural pattern, despite the apparent regular alignment of the range and the iron formation, which builds it. The structural variation implies in different types of mineralizations. As a whole, the QF area underwent a compressive, recumbent, ductile deformation with thrusting direction due to NW, which resulted in large, tight folds with fold axes approximately parallel to the range, axial surfaces close to the main foliation and stretching lineation plunging toward 110° in iron formation. Reduction spots in the grey phyllite show their XY-plane perpendicular to thrust direction, following the trend of the range. Refolding of the previous structural elements consists in the bending of the lineation and the generation of small scale, open folds, of frequently rotated foliation along ductile-brittle shear zones, and ramp system. Rootless, mesoscopic folds along the shear planes reflect the intensity of deformation. Kinking, chevron and box folding, have been developed almost contemporaneously with the last structure. Strong brecciation in the boudinage zones of the fold limbs and in the kink bands allowed the percolation of high pressure, acid and oxidising fluids to promote the deposition of compact hematite as the cement of the breccia. Some deposits (Córrego do Feijão and Bocaina) reveal positive flower structures.