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Abstract

The mineralization of the Lavras do Sul Mining District and Seival Mine are controlled by brittle structures associated with the emplacement of the volcanogenic rocks and granitoids located in Lavras do Sul region, southernmost Brazil. This magmatism is associated with the evolution of the Camaquã Basin, an Ediacaran basin generated during the post–collisional stage of development of the Dom Feliciano Belt. The regional tectonic process has led to the activation of a large–scale high–angle shear zones and intense fracturing in the brittle to brittle–ductile regime. The relative chronology of structures and stress–field variations were recognized through remote sensing and structural data. The ore–deposits are controlled by extensional fractures and normal fault systems with a N70°W/70–85°NE direction in Lavras do Sul and a N40–60°E/70–88°NW direction in Seival and are disseminated or occur associated with quartz and calcite veins, respectively. We made a comparison of structures going from regional scale to smaller mineralized areas. The