THE VAZANTE, AMBRÓSIA AND FAGUNDES (MG, BRAZIL) NEOPROTEROZOIC EPIGENETIC ZINC DEPOSITS: SIMILARITIES, CONTRASTING FEATURES AND GENETIC IMPLICATIONS.

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The Vazante Formation hosts several contrasting zinc deposits possibly related to different genetic models. The Vazante deposit is a unique silicate (willemite) dominant zinc ore-body, which contains hematite, siderite, dolomite, quartz, zincite and franklinite. The Ambrosia deposit shares common features with the Vazante deposit, as represented by tectonic control, hydraulic breccia zones, fissural hydrothermal alteration and remobilizations along shear planes. However, the mineral association of Ambrósia is quite different, due to the predominance of Fe-sulfides, sphalerite and galena, which is also the case for the Fagundes mineralization. Fagundes is a stratabound deposit type related to a strong pervasive silicification that is represented mainly by chert nodules associated with baroque dolomite and ankerite. As in the Ambrósia deposit, dolomite and quartz have undulatory extinction, ribbon texture and the sulfides show mylonitic and cataclastic structures. However, the sulfides also display colloform, snow-on-roof and open-space filling textures.All these deposits represent epigenetic styles of mineralization. Vazante and Ambrósia could be related to hydrothermal processes linked to shear zones development, which permit, in both types, the establishment of different physical-chemical conditions. Fagundes can be related to fluid flow along the permeable units (stromatolitic dolomites and back-reef breccias) and probably might be a transitional deposit exhibiting features of both Mississippi Valley-type and Irish-type deposits.
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