

MINERALIZATIONS RELATED TO TARDI-OROGENIC BASINS FROM SOUTHERN BRAZIL

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Castro (824 Km²), in the State of Paraná, Campo Alegre/Corupá (330 Km²) and Itajaí (875 Km²), in the State of Santa Catarina, and Camaquã/Bom Jardim (6415 Km²) in the State of Rio Grande do Sul are tardi-orogenic basins of remarkable compositional and tipological diversity of their mineral deposits. The Pb-Zn (Cu, Ag) deposit of Santa Maria and the Cu (Au, Ag) deposit of Camaquã, which are in Camaquã/Bom Jardim Basin, are hydrothermal plutogenic. The Basin of Itajaí contains the shear zone, hydatogenic, Pb (Ag) Ribeirão da Prata deposit, the filoncean, epithermal volcanogenic, Au Minepar deposit and the filoncean fluorite Agua Fria deposit, genetically related to basement fluids. In the Campo Alegre/Corupá Basin more than 20 kaolin deposits were formed by the conjunction of at least one phase of the high sulfidation type, epithermal volcanogenic alteration and many phases of peneplains related supergenic alteration. In the Castro Basin one Au low sulfidation epithermal volcanogenic deposit is known. This diversity of deposit types would be the consequence of those Basins' different geological histories. Campo Alegre/Corupá, with trachytes and alkalic rhyolites, seems to have always evolved on aerial environments. Castro, with rhyolites and related volcano-sedimentary rocks, seems to have been a shallow waters Basin. Itajaí Basin has few volcanic rocks. It has formed far from the subduction zone and has a deep-water type sedimentary pile. In contrast, the sedimentary sequence hosting the Camaquã and Santa Maria Mines is continental, delta-fan type, and dominantly non-marine.