

## **GEOLOGY AND MINERALIZATION OF THE URUGUAI COPPER MINE - BRAZIL.**

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The Cu(Au-Ag) ore in the study area of Uruguai Mine is constrained by two NW cross-cutting fault zones. The older (F1) is N40°W; 78°NE and the younger (F2) is N50°W; 78°NE. Each fault zone is associated with a characteristic mineral assemblage. Veined and disseminated ore is related to F1, which is represented by green-colored rocks composed by chlorite, quartz, pyrite, chalcopyrite. F2 ore is mostly brecciated and veined and made up of bornite, chalcopyrite, quartz and hematite. The last mineral is responsible for the brown-reddish colors presented by the F2 related ore. The ore is in narrow - up to 50 m wide -dispersion haloes around the fault zones. This strongly suggest that the copper sulfides were deposited by hydrothermal fluids in a rock buffered system. The ore is enriched in LREE and U, suggesting a granitic source for the deposit. Chlorite geothermometry estimations indicate that at the F1 zone the maximum temperature attained was 287°C, close to the fault plane, decreasing to 187°C at the outer halo. Gold is related to bornite and to the increasing of Cu/S ratio, in F2 mineral assemblage. The available data on the Camaquã Mines did not permit, to establish an ideal genetic model for the area, although, most of the information suggest similarities with epithermal low sulfidation deposits.