

GAMELEIRA CU (MO-AU) DEPOSIT: FLUIDS AND HYDROTHERMAL ALTERATION (CARAJÁS, BRAZIL)

1RONCHI, L. H., 1LINDENMAYER, Z. G. 2ARAÚJO, J. C. 1UNISINOS, São Leopoldo, Brazil, 2UNISINOS/CNPq-PIBIC

The Gameleira Cu (Mo-Au) deposit is hosted by a mafic extrusive and intrusive sequence with associated banded iron formation and an underlying gold bearing syenitic intrusion. The mineralization is in cross-cutting veins in a shear zone. These veins are characterized by the presence of chalcopyrite, quartz, fluorite, uraninite, tourmaline, biotite, molibdenite, and rare bornite. The enclosing mafic rocks suffered an intense pervasive potassic hydrothermal alteration (biotite, quartz, albite, and tourmaline). Aqueous two phase and/or one phase, probably primary, fluid inclusions associated in the same group with saturated inclusions (halite and non-identified daughter minerals) were described in the quartz, fluorite and calcite veins. The occurrence of associated aqueous-carbonic and/or vapor one phase inclusions is rare. Following the studied samples all these inclusions may have variable sizes up to 100 micrometers, but mainly between 5 and 20 micrometers. Usually they have irregular random distribution, suggesting a primary origin. Aqueous two phase inclusion microthermometry results show $T_h = 80-160^{\circ}\text{C}$ and salinity = 8 - 21% wt eq. NaCl. Some of the two-phase inclusions associated to the saturated, nucleated a halite daughter mineral during the freezing process. The total T_h of the saturated inclusions is mainly from 200 to 400°C . The co-existence of aqueous and saturated (halite) inclusions, and the eventual presence of vapor and aqueous-carbonic inclusions, could suggest that the mineralization formed in a shallow environment with strong magmatic contribution.