

THE URUGUAI MINE AND THE SANTA MARIA ORE DEPOSIT- CAMAQUÃ MINING DISTRICT- RIO GRANDE DO SUL (BRAZIL): GEOLOGY, MINERAL CHEMISTRY AND GEOTHERMOMETRY.

1LIMA, L, 1ALMEIDA, D. del P. M. 2COLLAO, S. 1Universidade do Vale do Rio dos Sinos, São Leopoldo, Brasil 2 Universidade de Concepción, Concepción, Chile.

The present abstract is a compilation of the results obtained in petrographic, mineral chemistry and geochemical studies of drillcores from Mina Uruguay and Santa Maria deposits- Mining District of Camaquã (sulfide mineralizations of Cu-Pb-Zn with subordinated Au). These are lode -type and scattered deposits and the mineralization is hosted by sandstone and conglomerates from the eo-Paleozoic age. The diagenetic processes such as oxidation and mechanical infiltration of clay were the first events that had affected sedimentary rocks; post hydrothermal alteration had generated chlorite, sericite/kaolinite, and this continued with the formation of pyrite, chalcopirite, bornite, specularite and carbonate/quartz. Barite, anhydrite, carbonate were generated during the mineralization final stages. Supergenic enrichment had formed digenite, covellite, chalcocite, and wittichenite. The geothermometric results obtained from fluid inclusions and mineral chemistry studies suggest that the Mina Uruguay was the first to be formed, deeper, and in higher temperature and pressure conditions than the Santa Maria Deposits, while all the system had evolved in middle to low temperatures and shallow depths (epithermal). The lode mineralization of the Mina Uruguay corresponds to the deepest parts – roots of an epithermal system and the mineralizations scattered in the Santa Maria Deposits, to the upper and distal portions of this same system. The plutonic-volcanic Rodeio Velho event (470 M.a) has been considered as a probable heat source and/or hidrothermal solution in the generation of the Uruguai Mine and the Santa Maria ore deposit mineralizations.