

GEOCHEMISTRY OF SAN MARTÍN WOLFRAMITES, RIO NEGRO PROVINCE. ARGENTINA

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The mineralization in San Martin tungsten deposit, consists of hübnerite (83-100% of WO_4Mn), quartz and potassic feldspar and small quantity of sulfides, in veins hosted in a granitic stock, with metasomatic variations to leucocratic granite. Some hübnerite crystals were replaced by calcite and scheelite. The shortage of data about trace elements in wolframite, especially REE has motivated this work. Samples of hübnerite were analyzed for REE and others (Ca, Co, Fe, Na, Th, U and Zn). The values of REE in hübnerite are very low (4,19 to 14,32 ppm) and more yet if they are compared with those of the granites (88,97 to 120,51 ppm). The relationship LREE/HREE is in average 0,38 for the wolframites and 33,31 for the granites. The profiles normalized to chondrites are almost identical for all the granites: soft negative slope, enriched up to 100 in La and 10 in Lu. Those corresponding to hübnerite show large differences, with positive slope and enrichment until 200 in Lu; one of the samples presents an important positive peak in Eu. The entry of REE (especially LREE) in hübnerite seems incompatible at the light of their small quantity and the negative correlation with WO_4Mn ; it does not happen the same with ferberite, since the REE present a very high correlation with Fe. The Eu shows correlation 1 with Ca, entering probably within scheelite. WO_4Mn has positive correlation with Co and U and there is also positive correlation between Ca and Zn and of Na with Th and Zn.