

Rb/Sr-GEOCHEMISTRY AND THE AGE OF THE COLOMBIAN EMERALD MINERALIZATION.

SCHULTZ-GUTTNER, R. A. ROMERO-ORDOÑEZ, F. H. IGc-USP, São Paulo

It appears as if very special conditions governed the formation of the emerald deposits of the Eastern Cordillera of Colombia. Much has been learned by newer research and it is generally agreed that this mineralization has been produced by circulating hot saline solutions which interacted with the thick black shale deposits of the old Cordilleran basin. One of the main problems today is the timing of the deposition of emerald. The lack of suitable minerals and the setting of these deposits in young rocks of sedimentary derivation and only very slightly metamorphosed makes age determinations a difficult task. A systematic study of the Rb/Sr relations of emerald and calcite of various deposits however helped to define an error chron with a reasonable possible interpretation. The inferred age of emeralds from the western part of the Eastern Cordillera, (Muzo, Coscuez, Yacopi) is about 67 Ma, an age which makes the formation of the emeralds of the two belts (Muzo, Coscuez, Yacopi on the west, Chivor on the east) coeval. Considering the physico-chemical properties of the fluids and the P/T conditions of formation of all deposits, this fact is more reasonable than to postulate two different ages separated in time by about 30 Ma.