

PETROGRAFIC AND PETROCHEMICAL CHARACTERISATION OF METAMORPHIC-METASSOMATIC PROCESS IN THE EMBU AND PILAR COMPLEXES, IN THE JUQUITIBA BLOCK, SP STATE, BRAZIL

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This work presents the results of studies regarding the metamorphism of the proterozoic sequences which occur between the Caucaia and Cubatão fault zones, in the area ascribed to the Jiquitiba Block, in São Paulo State, Brazil. In lithological terms, two distinct metamorphic units were recognised, made up by fine-grained schists and phyllites, and by biotite schists and gneisses, which correspond, respectively, to the Pilar and Embu complexes. Petrographic studies revealed a regional metamorphic event developed under greenschist facies conditions in the Pilar Complex rocks, and amphibolite facies conditions in the rocks of the Embu Complex, which promoted the recrystallisation of the quartz + plagioclase + biotite + garnet + opaques association found in schists and gneisses scattered all over the studied area and, more characteristically, in the region of the Billings Reservoir. The transformation of plagioclase into fibrolite + quartz and into muscovite, and of biotite into fibrolite/sillimanite and muscovite, as shown by the petrographic descriptions, led to the modification of these rocks, considered to be the original ones, into muscovitized and/or fibrolitized/sillimanitized schists and gneisses, due to a superimposed metassomatic event. The petrographic features and the comparison of the most modified mineral and rocks with those considered to be the original ones show systematic Na and Ca losses and K gains through the transformation, thus characterising a metassomatic process with ionic mobility implied.