

EXPERIMENTAL ADDITION OF PHYLLITES TO THE CLAY MINERALS OF SANTA GERTRUDES'S CERAMIC POLE (SP), BRAZIL

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The present work consisted on adding altered quartz phyllite, of granoblastic texture, foliated structure and greenschist facies from São Roque Group to different clay levels from Sartori mine, Corumbataí Formation, in order to improve the quality of the final product, because the ceramic industries of the region are trying to fit to the current rules. The approach used for this consisted on characterizing chemical, mineralogical and physically the main raw materials (clays), as well the additive (quartz phyllite). It was chosen a standard mine, the quarry Sartori, near Assistência district, Rio Claro (SP), Brazil, constituted by laminated or massive clay siltstones.

Several levels were used to classify such mine by the referred approach.

The chemical characterization comprised the determination of the amounts of major and some trace elements, as well the range of these amounts along the profile. The mineralogical characterization consisted on the identification and semiquantitative analysis of the mineral species, particularly clay minerals. The mineralogical and chemical data of the samples were related with their thermal behavior, using thermal analysis such as DTA, TGA and dilatometry. These analyses were used for identification of minerals and transformations occurred during heating. Afterwards, test specimens were submitted to the ceramic process at laboratory scale in order to obtain technological characteristics of the products and relate them to typology data and the characterization of the samples.