CALC-SILICATE ROCKS FROM GREENSCHIST - TO GRANULITE-METAMORPHIC FACIES OF THE SIERRAS PAMPEANAS OF TUCUMÁN, NORTHWEST ARGENTINA

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Calc-silicate rocks of the metamorphic basement of the Sierras Pampeanas in the province of Tucumán (northwest Argentina) are wide spread distributed. These rocks consist of thin beds, lenses and boudins centimeter to decimeter thick, intercalated with polideformed and polimetamorphic turbidites, of late Proterozoic to lower Cambrian sedimentation age.In greenschist facies, calc-silicate are represented by quartz, epidote, tremolite-actinolite and albite.The paragenetic minerals of the amphibolite facies are quartz, andesine, hornblende, garnet, disposide, clinozoisite-epidote and titanite as accessory.In granulite facies the mineral association is quartz, labradorite, hypersthene, scanty biotite with zircon as accessory. In all facies the fabric is granoblastic and with hornfels aspect. It is frequently banded, homogeneous or mineral zoned. Calcite when present, is only a secondary mineral. Whole rock geochemistry of major and trace elements discards a basic to intermediate volcanic origin, suggesting a sedimentary protolith origin composed of calcareous turbidites, most likely marls.Rare Earth- and multielements analysis of calc-silicate data fits well with the uppercrust average and shale composites proposed by different authors.Geologic relationships of the calc-silicate rocks analysed are suggestive of a passive continental margin origin located at de west margin of Gondwana.