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Fluid inclusion studies in quartz from the Li-rich pegmatite veins from Segura

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Abstract

Fluid inclusions were studied in quartz from two lithium rich aplite-pegmatite veins from the Segura region in order to estimate the composition of the fluids involved in the formation of these veins.

Three types of quartz were found in the studied veins: large and very fractured quartz, mosaic quartz with subgranulation and xenomorphic quartz with recrystallization. Petrographic, microthermometric and micro-Raman spectrometry characteristics of fluid inclusions in these quartz reveal the presence of an early aqueous carbonic H₂O-CO₂-(CH₄-N₂-NaCl) fluid. This fluid has been modified in a reducing context, by the interaction with the C-rich metasedimentary host rock, resulting in its enrichment in CH₄ and N₂. The significance of the trapped fluids is, at present, difficult to establish since fluid inclusions can correspond to relatively late events of fluid trapping.

Key words: Li-rich aplite-pegmatite; lithium; quartz; fluid inclusions; Segura.

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