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Mineralogy and petrography of calc-silicate xenoliths

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Abstract: The calc-silicate xenoliths, within the Shir-Kuh batholith are characterized by melilite, garnet, vesuvianite, and wollastonite mineral assemblage. On the basis of paragenetic relations, prograde and retrograde metamorphism are involved in the formation of these minerals. Melilite, wollastonite and diopside formed during progressive metamorphism which was accompanied by thermal peak shocking and decarbonization reactions in pyroxene-hornfels faces. The effect of fluids in later stage, which released during crystallization of batholith, caused the formation of hydrous minerals (hornblende-hornfels facies during retrograding metamoephism.

Keywords: *Calc-Silicate, Melilite, Xenolith, Shir- Kuh.*

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