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Kausticky metamorfovaný pískovcový xenolit a doprovodná hydrotermální mineralizace z neovulkanitů od Prackovic nad Labem (České středohoří)

Pyrometamorphosed sandstone xenolith and associated hydrothermal mineralization from neovolcanites at Prackovice nad Labem (České středohoří Mts., Czech Republic)

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Abstract

Technical workings realized near Prackovice nad Labem (České středohoří Mts., Czech Republic) yielded new findings about rocks and mineral veins present in Cenozoic volcanites. The studied xenolith represents a piece of pyrometamorphosed and hydrothermally altered sandstone enclosed in an alkaline basic volcanic rock. The core of the xenolith contains relicts of clasts of quartz, embedded in a matrix composed of laths of quartz (probably pseudomorphs of quartz after tridymite) and symplectitic intergrowths of alkali feldspar (sanidine $Or_{57-81}Ab_{19-41}An_{0-1}$) and quartz. This core is rimmed by drusy overgrowths of sanidine and crystals of fluorapatite, aegirine-augite and titanite. All silicates are characterized by a significant substitution of Al by Fe^{3+}, which is probably the result of high content of Fe^{3+} in the sandstone protolith (perhaps in *limonite* cement). The marginal part of xenolith is formed by zeolites (chabazite-K and phillipsite-K), saponite and calcite. These minerals likely crystallized at very low temperatures (<100 °C) in a vug, leaving after volatiles, which were expelled during pyrometamorphism of the xenolith. In addition, we have studied tiny hydrothermal veinlets hosted by neovolcanites, composed of a mixture of Al-rich phyllosilicates (probably a mineral from the kaolinite group and smectite) and strongly substituted carbonates including siderite ($Sid_{55-91}Mag_{3-38}Cal_{5-31}Rdc_1$) and calcite ($Cal_{58-90}$ $Mag_{8-41}Sid_{1-6}$).

Key words: *neovolcanics, xenolith, pyrometamorphism, zeolites, aegirine-augite, smectite, siderite, České středohoří Mts.*

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