

## Porcelanit s relikty mikrofosílií z lemu miocenní bazanitové žíly u Mladějova v Českém ráji

Porcellanite with relics of microfossils lining Miocene basanite dyke at Mladějov, Czech Republic

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### Abstract

Porcellanite (fine-grained buchite) occurs at the contact of the dyke of Neogene basanite at Mladějov, Jičín District, North Bohemia. The dyke penetrated the sediments of the Březno Formation in the Jizera development of the Czech Cretaceous Basin. The protolith of the pocellanite was calcareous siltstone composed predominantly of quartz, clay minerals with dominancy of illite and carbonate (calcite represented by shells and detritus of both macro- and microfossils, mainly foraminifers, echinoderms and gastropods). The metamorphic assemblage corresponds to sanidinite facies and contains quartz + K-feldspar + anorthite + clinopyroxene + orthopyroxene + glass with minor pyrrhotite and accessory ilmenite, titanite and apatite. The groundmass of porcellanite is formed predominantly by quartz + K-feldspar + orthopyroxene whereas the assemblage anorthite + clinopyroxene occurs as pseudomorphs replacing calcitic shells of microfossils and calcic detritus of organic origin which shape remained frequently well-preserved despite of high-grade of pyrometamorphism. Elevated Cr in clinopyroxene gives evidence of the influence of fluids from the basanite. The presence of quartz and absence of tridymite indicates temperatures 840 - 900 °C at P < 0.2 Kb. Presence of ilmenite, pyrrhotite, elemental carbon (0.05 wt. % C), and analytically determined high Fe<sup>2+</sup>/Fe<sup>3+</sup> ratio indicate low oxygen fugacity during pyrometamorphism.

**Key words:** porcellanite, pyrometamorphism, basanite, clinopyroxene, orthopyroxene, Bohemian Paradise, Czech Republic