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PŮVODNÍ PRÁCE/ORIGINAL PAPER

Hydrotermální mineralizace s dickitem v ordovických jílovcích bohdaleckého souvrství z tunelu metra linky D v Praze na Pankráci

Dickite-bearing hydrothermal mineralization in Ordovician claystones of the Bohdalec Formation from the tunnel of subway Line D in Prague-Pankrác

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Abstract

Two types of hydrothermal veins were found in the Ordovician claystones of the Bohdalec Formation (Barrandian, Prague Basin) during the excavation of tunnel of subway Line D at Prague-Pankrác site. The first type is represented by short hair-thin veinlets of various directions filled by dickite. The second type comprises thicker NNW - SSE trending veins with prevailing quartz, which cut the host rocks across the whole width of the gallery. In addition to quartz, they contain also dickite, chlorite (*thuringite*-chamosite), carbonates of dolomite-ankerite series (Dol_{37.5-44.0}Ank_{42.0-46.8}Ktn_{10.9-16.1}), calcite, fluorapatite, pyrite (with up to 0.5 wt. % Mn), galena (with ~0.6 wt. % Se) and sphalerite (with ~1 wt. % Fe and up to 0.35 wt. % Sn and 0.36 wt. % Cu). Except for calcite, which forms younger veinlets in older quartz fill, all other mentioned minerals form minute inclusions enclosed in quartz, which are arranged parallel with outer margin of the vein. Based on mineral assemblage and chemical composition of individual minerals, highly variable crystallization temperatures (<100 - 350 °C) can be interpreted in various mineralogically distinct domains of the quartz vein. We assume a polyphase, episodic origin of individual domains of the vein fill, close to the *crack-seal* mechanism, which was bound to successive evolution of the adjacent fault structure. The maximum formation temperatures exceeding by a value of ca. 100 °C the highest reported temperatures of Variscan thermal overprint of Lower Paleozoic rocks of the Prague Basin are explained by production of friction heat in the fault structure. It is probable that part of parent fluids originated from sedimentary iron ores occurring in the host Ordovician sedimentary sequence.

Key words: Hydrothermal veins, dickite, sulphides, chlorite, apatite, Ordovician, Prague Basin, Bohemian Massif

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