

**PETROGENESIS OF GRANULITES AND GFÖHL GNEISSES FROM THE  
MOLDANUBIAN ZONE IN THE SOUTHEASTERN BOHEMIAN MASSIF, LOWER  
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The prominent granulites and Gföhl gneisses from the southeastern Moldanubian Zone (Bohemian Massif) in Lower Austria, with the Variscan (~340 Ma) high to medium-pressure and high temperature metamorphic imprint, indicate that both meta-granitoidic rock types have S-type affinity typically related to partial melting of sedimentary source material within the lower crust. The samples represent peraluminous fractionated granites, granodiorites and tonalities in the A/NK-A/CNK plot after SHAND (1943). Variation diagrams of major element oxides and trace elements, such as decreasing TiO<sub>2</sub>, FeO<sup>tot</sup>, MgO, Ba, Zr, Sr and increasing Rb/Sr with increasing SiO<sub>2</sub> reveal typical crystallization trends. Granulites can be characterized as calc-alkaline to high-K calc-alkaline rocks while Gföhl gneisses only represent high-K calc-alkaline rocks on the basis of the SiO<sub>2</sub>-K<sub>2</sub>O plot of PECCERILLO & TAYLOR (1976). Chondrite-normalized REE plots resemble typical patterns of subduction zone related granitoides, showing moderate to slight enrichment in LREE and negative Eu anomalies. For reconstruct the tectonic setting of the magmatic rocks, element discrimination diagrams such as Rb vs. Y+Nb and Rb vs. Y after PEARCE et al. (1984) were applied. Referring to that, the bulk composition of investigated rocks represent syn-collisional to volcanic arc related granitoides. According to FRIEDL et al. (2011) the emplacement and crystallization of the magmatic rocks is in the range of 450 to 430 Ma, which in turn marks a (late) Ordovician-Silurian stage within the Moldanubian Zone where an active continental margin led to the production of large intrusive rocks.

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PEARCE, J., HARRIS, N., TINDLE, A. (1984): *Journal of Petrology*, 25, 956-983.

PECCERILLO, R., TAYLOR, S. (1976): *Contrib. Mineral. Petrol.*, 58, 63-81.

SHAND, S. (1943): *The Eruptive Rocks*, 2nd edn., John Wiley, New York.