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# Low pressure granulites from the Bohemian Massif, Upper Austria

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Low pressure granulite facies rocks are commonly found in the Bohemian Massif in Upper Austria. They belong to the Moldanubian Unit and were metamorphosed during the last stage of the Variscan orogeny. The investigated granulites from the Donau valley (west of Linz), Lichtenberg (northwest of Linz), Sauwald (south of the river Danube) and Bad Leonfelden zone comprise mainly migmatic paragneisses. Most of these rocks underwent high degrees of melting forming meta- and diatexites ("Perlgneise)". Al-rich metapelites with partly cm-sized garnet porphyroblasts, which are suitable for precise PT and PT-path determinations, can be found in some localities of this unit.

In this study samples taken along the Danube valley between Linz and Wilhering, from Lichtenberg and from Bad Leonfelden (north of Linz) were sampled and investigated petrographically in detail. Since garnets are rare and usually consumed by cordierite, a sample with large garnets was investigated in detail. A chemical zoning profile across the c. 1cm large garnet displayed elevated Ca contents (Xgrs=0.06) in the central part which decreased discontinuously towards the rim to Xgrs=0.02. Almandine, pyrope and spessartine components do not show any pronounced zoning pattern. Most of the smaller garnet grains in other samples are also homogeneous in composition with a slight Xalm increase and Xprp decrease at the rims, typical for retrograde diffusional zoning. The cordierite–garnet–sillimanite–granulites as well as some mafic granulites were used for geothermobarometry. Metamorphic conditions of around 770°C to 850°C and 0.5–0.6 GPa could be obtained, which are similar to the values obtained by Tropper et al. (2006).

P. Tropper I. Deibl F. Finger R. Kaindl (2006). P–T–t evolution of spinel–cordierite–garnet gneisses from the Sauwald Zone (Southern Bohemian Massif, Upper Austria): is there evidence for two independent late-Variscan low-P / high-T events in the Moldanubian Unit? Int J Earth Sci (Geol Rundsch) (2006) 95: 1019–1037.