

Ber. Inst. Erdwiss. K.-F.-Univ. Graz	ISSN 1608-8166	Band 20/1	Graz 2014
PANGEO AUSTRIA 2014	Graz, 14. September 2014 – 19. September 2014		

## **Nb-Ta-bearing spodumene pegmatites in the Eastern Alps**

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Pegmatites of Permian age are widespread in the Austroalpine Unit of the Eastern Alps. They mostly occur as deformed dykes and bodies with a thickness from a few decimetres up to more than 12 m in various metaclastic to metabarbonate host rocks. Some of the pegmatites are spodumene bearing. In this master thesis four of these spodumene bearing pegmatite areas in Styria have been investigated. These areas are Hohenwart, Lachtal, Mitterberg and Garrach. Fieldwork (small scale mapping, outcrop documentation) revealed that larger pegmatite bodies are usually zoned. Individual zones can be subdivided on the basis of mineral paragenesis and / or grain size of the major minerals

From the samples polished thin sections, polished sections of heavy mineral concentrates and sections of muscovite separates were prepared and investigated. For heavy minerals separation different beneficiation methods were tested and compared to each other. The heavy mineral concentrates, especially the Nb-Ta-minerals, were analysed by EPMA at Montanuniversitaet Leoben and by MLA at the BGR in Hannover. The muscovite separates were analysed with EPMA for the major elements and with LA-ICP-MS at Karl-Franzens University of Graz for trace elements. Results of these analyses and their implications on the Nb-Ta potential of these pegmatites will be presented in this contribution.