

## Mineralogical properties of continental related pelites in the Eastern Alps

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Mineralogical properties of continental sediments and sedimentary intercalations in Alpine units from Austroalpine zones and Klippen belts were investigated to figure out depositional characteristics and lithofacial variations. Beside the occurrence of continental deposits as whole formations, intercalations of continental origin appear in Calcareous carbonate complexes and coarser grained layers of the Klippen belts and in Lower Austroalpine sequences.

For the analyses a desert related example of the Lower Triassic Werfen-Formation and the Upper Triassic continental Keuper development of the Lower Austro Alpine Semmering complex and intercalations within the Calcareous Alps and the Keuper of various Klippen belts were taken into account. For the detail analysis the sampling was focused on following locations: Lower Triassic sediments of the frontal zone of the Goeller Nappe, in the area of Hinterbrühl/Weissenbach, Upper Triassic Keuper sediments of the St. Veit Klippenbelt near Vienna, the shear slice within the base of the Goeller Nappe in the area of Hinterbruehl, an intercalation (“green layer”) in the Hauptdolomit of the Lunz Nappe in the quarry Kritsch near Vienna, and a red intercalation in the Hauptdolomit of the Reisalpen Nappe near Altenmarkt/Triesting.

Qualitative and quantitative mineralogical analyses were carried out by X-ray diffraction analysis with a specific focus on clay mineralogical characteristics. On the base of preliminary investigations the mineralogical differentiation of the investigated locations took place by the following mineral groups, representing main components of the analysed pelitic sediments: amount of quartz, the content of dolomite and/or calcite, the occurrence of feldspars, the composition of clay minerals represented by the mica group minerals, mixed layer clays (especially illite- and smectite), the presence of kaolinite and chlorite, and in red layers the occurrence of hematite. As a main result of the comparison between the analysed continental related objects, the source of the red intercalation within the Hauptdolomit of the Reisalpen Nappe near Altenmarkt/Triesting differs significantly concerning the lithofacial characteristics. For comparison reasons samples of limnic/lacustric sediments of the Lower Gosau group are analysed. The investigations turn out, that the mineralogical characteristics of the pelitic sediments allow to distinguish variations of the different locations concerning sedimentation areas and depositional conditions.