

Mineralogie a geneze horninových úlomků s pegmatitovou texturou z eluvia serpentinitu u Nové Vsi u Oslavan

Mineralogy and genesis of rock fragments with pegmatite texture from serpentinite eluvium at Nová Ves near Oslavany

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Abstract

The studied locality belongs to peridotite body in the Gföhl Unit (Moldanubian Zone). These peridotites underwent high degree of serpentinisation and are locally penetrated by pegmatites. Rock fragments with pegmatite texture were found in eluvia of isolated serpentinite body situated at Nová Ves. Three groups of samples (NV1, NV2 and NV3) distinct in their internal structure, mineral assemblages and chemical composition of minerals were distinguished:

- i. NV1 Kfs + Qtz + Plg ± Tur ± Chl ± Sme ± Tit ± (Zrn, Xtm, Mon)
- ii. NV2 Plg ± Amf ± Preh ± Chl ± Czo ± Kfs ± Zrn ± (Ab, Ser, Tur)
- iii. NV3 Plg + Tur ± Preh ± Chl ± Pmp ± Zeo ± Ba-Fsp ± Ap ± Zrn ± (Mol)

These three assemblages can be clearly distinguished by the basicity of plagioclase. Plagioclase varies from almost pure albite (NV1, An₂₋₉), which is associated with quartz, through andesine (NV2, An₃₈₋₄₂) to labradorite-bytownite (NV3, An₆₉₋₈₂). The chemical composition of tourmalines and compositional trends from 3 distinct parageneses described above are also different. Tourmalines from NV1 samples are enriched in Al and exhibit dravitic composition. The composition of NV3 tourmalines corresponds to strongly magnesian dravite-uvite solid solution. On the other hand tourmalines from NV2 samples, which are very rare, represent the transitional composition between tourmalines from the NV1 and NV3 samples.

The original melt was enriched in Mg and Ca derived from the wall rocks during the contamination process, which led both to increased Mg and Ca contents in tourmaline as well as higher Ca contents in plagioclase. Hydrothermal fluids gave rise to abundant quartz dissolution and widespread plagioclase and frequent tourmaline replacement. Typical hydrothermal minerals include prehnite, chlorite and secondary K-feldspar.

The characteristics of rock fragments from Nová Ves are unique in several aspects, which are similar to the features observed at other localities of contaminated pegmatites hosted by serpentinite rocks such as Drahonín u Tišnova, Věžná I and II, Smrček, Věchnov, Heřmanov, Mohelno, Hrubšice.

Key words: *tourmaline, plagioclase, prehnite, pegmatite, contamination, serpentinite, Moldanubian Zone, Moravia, Czech Republic*

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