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Impact of accompanying colourants in experimentally burnt feldspar raw material from Krásno feldspar (albitite-feldspatite) deposit

Tomáš Vrbický (1), Pavel Jedlička (2), and Richard Přikryl (1)

(1) Charles University in Prague, Institute of geochemistry, mineralogy and mineral resources, Karlovy Vary, Czech Republic (t.vrbicky@seznam.cz), (2) KMK GRANIT, a.s., Krásno, Czech Republic

Czech Republic is one of the major producers of feldspar raw materials on European ceramic market. The largest operating deposit at Krásno (Slavkov crystalline unit, Bohemian Massif) produced 150-230 kt annually during past years. Extracted material is used preferentially in local ceramic and/or glass industry; but substantial portion of production is exported in Poland and Germany. Presence of harmful colourants is one of the most critical and restrictive parameters in the feldspar raw material. Despite overall high quality of the raw material from Krásno deposit, presence of Fe-, Mn-, and Ti-rich phases, Li-micas, apatite, fluorite, and jasper is often encountered. In order to understand contribution of individual phases on colour properties of burnt product, a series of specimens have been prepared by mixing high-purity end product with known proportions of individual colouring phases prepared by previous separation. Laboratory experiments included experimental burning, colorimetric measurements, and SEM/EDS study of harmful colouring dots in a white-ware.