

## PETROLOGY OF WEAKLY DIFFERENTIATED ALKALINE, HIGH-LEVEL INTRUSIVE ROCKS IN THE Zahořany–Chotiněves Belt Near Litoměřice

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We report a brief petrological characteristic of a basaltic-trachyandesite sill located at the southern edge of the České středohoří Volcanic Complex. There, several smaller hills form a belt between Zahořany and Chotiněves. Following homogeneous petrography and chemical composition, all individual outcrops appear to form a single large sill, probably with the only exception of the westernmost occurrence. The sill is almost 5 km long (SW–NE) and up to ~3 km wide (NW–SE). The elongated shape of the sill, as well as its position suggest that the basaltic trachyandesite magma of the sill ascended along the Litoměřice Fault forming the south-eastern edge of the NE–SW trending Eger Rift.

The investigated rocks are basaltic trachyandesites in composition with 49.5–50.3 wt. % SiO<sub>2</sub>, and 7.8–8.1 wt. % alkalis (sum K<sub>2</sub>O + Na<sub>2</sub>O). All samples are characterized by relatively low contents of P<sub>2</sub>O<sub>5</sub> = 0.53–0.56 wt. %, Sr = 920–1080 ppm, Ba = 840–950 ppm, and ΣREE = 280–330 ppm. Based on the chemical composition, we suggest that the entire sill belongs to the České Středohoří Volcanic Complex, rather than to MgO-poor foidites of the Central Bohemian Volcanic Field.

Weakly differentiated rocks, such as basaltic trachyandesites, are rather rare in the České Středohoří Volcanic Complex. The single large Zahořany–Chotiněves sill appears to bridge the chemically bimodal volcanism and could thus fill a gap in a full differentiation trend between previously documented basanites to trachybasalts and trachyandesites to phonolites. This position is supported by concentrations of trace elements (15–23 ppm Cr, 490–570 ppm Zr), as well as by numerical modelling of fractional crystallization. Weak differentiation is also reflected in smooth chondrite-normalized REE-patterns with the absent Eu anomaly and MREE depletion.

The age of the intrusion has been determined by K–Ar method on a bulk-rock sample to 29.12 ± 0.63 Ma. The obtained age was also used for calculation of initial Sr–Nd isotope composition (<sup>87</sup>Sr/<sup>86</sup>Sr<sub>i</sub> = 0.70475; <sup>143</sup>Nd/<sup>144</sup>Nd<sub>i</sub> = 0.512092), which plot into a cluster of previously published radiogenic isotope compositions from České středohoří trachybasalts.