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Clay minerals from cambic soil derived from phonolite of Opolno-Zdroj area, Sudety Mts., SW Poland

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Phonolites are an igneous volcanic rocks with low silica content, indicating intermediate composition between felsic and mafic. Build up of feldspathoids (mainly nepheline) and alkali feldspar (mainly sanidine), phonolites are very rich in alkalis and aluminum with only a moderate amount of silica, while calcium, magnesium and iron oxides are present only in small quantity. Although eruptions of undersaturated lavas are not so frequent, phonolites are known from several localities in Scotland, Brazil, Canary Islands, Cape Verde Islands, Sardinia, British East Africa and New Zealand. Very locally they occur in Auvergne, Eifel, Cornwall and Bohemia. Nevertheless, the knowledge on weathering processes of phonolites are very poor, especially as regards clay minerals derived in temperate climate. The aim of this paper was to determine clay minerals developed during weathering processes of phonolite located in Opolno-Zdroj area, Sudety Mts, SW Poland. X-ray diffractograms of clay fraction separated from different horizons of cambic soil developed from phonolites will be presented and discussed at the poster.