

Permafrost phenomenas at the vertebrate digging filed Bromacker (Lower Permian) near Tambach-Dietharz (Thuringian Forest, Germany)

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Abstract

Doubtless non-stratiform Pleistocene solifluidal deposits beneath the heavily affected and partial destroyed fossiliferous Bromacker Horizon (Tambach Sandstone, Upper Rotliegend, Lower Permian) near Tambach-Dietharz (Thuringian Forest) are developed along the east-trench of the Bromacker digging-field. The approximately 25 m wide outcrop has been traced out and interpreted in detail.

Statements to the genesis and stratigraphy of the phenomenon of glacial affection and deformation of the hard-rock layers are put up for discussion.

The excessive deformation of the 0,6 m thick and near-surface sandstone, cracking and splitting up to isolated blocks and boulders, de facto rendered channelling of solifluidal surficial sediments into the hard-rock formation. It is supposed to be originated by cryocenic processes, i. e. cycles of freezing and thawing, during glacial periods and within the periglacial region of the inland ice-cap in northern Europe.

Processtypical phenomenons of permafrost as frost-heave and thawing-phases within the “active layer” which brought about cavities among the lying silt-/claystone complex by melting of ice-wedges and ice-bulks are considered to be reason of the recorded glacial formation. (SOIL ATLAS ... 2010).

The stratigraphical age of the permafrost affected processes has been related to the young Quarternary “Weichselglazial” basing on the morphological conditions of the surroundings.