

## Brick kilns and clay pits of northeastern Lower Austria – History and mineralogical characteristics

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More than 500 brick kilns and clay pits are recorded as operating since the beginning of the 18<sup>th</sup> century in the districts of Mistelbach and Gänserndorf (RAMML, 2014).

A large variety of historical sources, along with the unique seal that each kiln impressed on the bricks it produced, enable us to trace the history of most of the kilns and their ownership. The brick industry has undergone dramatic changes since the end of World War II. Originally based largely on handcrafting, the production process was gradually transformed and is now almost fully automated and concentrated in big production sites. As the result of this process the last operating kiln in this district was shut down in 2009.

The studied area, covering approximately 2500 km<sup>2</sup> in total, belongs to the Molassezone in the west and to the Vienna Basin in the east. Both geological units are covered by loess in abundance.

From a historical point of view loess and loamy loess deposits provide by far the main source of raw material for all kind of bricks.

The sediments of Neogene age became more and more important as brick clays with the development of the ring kilns from the late 19<sup>th</sup> century onward.

In the Molassezone the most widely used material was the Karpatian marine Laa-Formation (PILLER et al., 2004). In the Vienna Basin the Lower Badenien marine Lanzhot Formation and the Pannonian limnic-fluvial Gbely-Formation (PILLER et al., 2004) were most important.

Bulk rock composition, clay mineralogy and grain size analyses were carried out in order to describe the diversity of the brick clays.

PILLER, W.E. et al. (2004): Die stratigraphische Tabelle von Österreich 2004 (sedimentäre Schichtfolgen). - Österr. Stratigr. Komm., Österr. Akad. Wiss., Wien.

RAMML, C.F. (2014): Ziegelöfen und Lehmabbau der politischen Bezirke Mistelbach und Gänserndorf (Niederösterreich): Geschichte und Geologie - Archiv für Lagerstättenforschung, 27, 384 S., Wien.