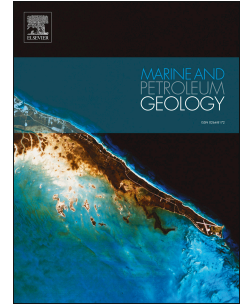


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# Subsurface aquifer heterogeneities of Lower Triassic clastic sediments in central Germany

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## Abstract

A combined study of facies and diagenesis variations was carried out with the aim to understand small-scale heterogeneities in porosity and permeability of sandstones within a 219 m completely cored Middle Buntsandstein succession from central Germany. The well Erfurt 1/12 (EF-FB 1/12) allows studying aquifer quality variations by taking 49 plug samples of fresh rock material for thin section analyses and petrophysical measurements.

This potential Buntsandstein aquifer is composed of varying portions of sandstones, mudstones and sandstone-mudstone interlayers, which were deposited on a large terminal fan system and in a large playa-lake in the basin centre.

A fluvial channel and a sandflat depositional environment can be distinguished. Both are composed of varying amounts of channel-, sandsheet- and floodplain sediments of mainly massive, cross-bedded, horizontally laminated and ripple cross-bedded sandstones. Best aquifer potential occurs in the horizontally laminated and

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