

Prediction of Mineral Diagenesis by Numerical Modeling

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Diagenetic transformations in sedimentary basins result from the influence of several parameters. The governing processes can be coupled in a complex way. Multi-component reactive transport modeling is a way to better understand such a complexity. With simplification assumptions dimensionless numbers can be defined, which help in appraising the dominant mechanisms. Applications of a water-rock interaction software are shown in the context of subarkosic sandstone diagenesis. Problems relevant to clay minerals, silicification and shale / sand transfers are discussed.