

Thematic Session 26

Clay minerals studies in sedimentary basins predicting geotherms, fluid- and hydrocarbon migration systems

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The clastic sedimentary rocks host major economic resources (oil, gas, coal, ore deposits, geothermal energy) and are therefore subject of profound interest. Clay minerals in sedimentary basins may be formed in different and complex geodynamic settings. Very low-grade metamorphic and diagenetic studies are used to characterize pressure/temperature conditions, which ultimately lead to changes in rock mineral composition through the rock-water interaction, dissolution, precipitation, and transfers of mass and energy. Determination of geotherms and fluid dynamics is therefore of particular interest. The present-day thermal equilibrium in sedimentary basins and distribution of economic resources reflect their geology and re-distribution of heat. Studies of sedimentary basins based on clay mineral indices, used to unveil their thermal history, are especially welcome to this session.

Keywords: Clay mineral indices, Prospection of economic resources, Basin evolution, Basin analyses, Heat flow studies.

Potential Journal: Applied Clay Science.

