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Smectite Illitization

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Deadline for manuscript submissions:
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Message from the Guest Editor

Smectite illitization has been a widely researched process in different geological contexts: burial diagenesis, low-grade and contact metamorphism, hydrothermal and pedogenic alteration, etc. This process has been used as a prograde and retrograde marker in siliciclastic rocks and as a paleoenvironment and paleoclimatic proxy in various geological contexts. It has also been useful in soil fertility management research, in hydrocarbon exploration or in research on the long-term performance of bentonite barriers in radioactive waste deposits. The illitization reaction produces, in general terms, an increase in the TOT layer charge and the subsequent K fixation in the interlayer space. Therefore, structural adjustments are needed which affect not only the magnitude of the charge of the 2:1 expandable layers, but also their localization in the octahedral or tetrahedral layers. The process comprises a series of chemical reactions and structural changes that give rise to coherent domains intermediate between smectite and illite…We encourage you to submit original papers on identification, description, modeling, applications, and any other subject related to smectite illitization.

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Message from the Editor-in-Chief

Minerals welcomes submissions that report basic and applied research in mineralogy. Research areas of traditional interest are mineral deposits, mining, mineral processing and environmental mineralogy. The journal footprint also includes novel uses of elemental and isotopic analyses of minerals for petrology, geochronology and thermochronology, thermobarometry, ore genesis and sedimentary provenance. Contributions are encouraged in emerging research areas such as applications of quantitative mineralogy to the oil and gas, manufacturing, forensic science, climate change, geohazard and health sectors.

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