Special Issue

Siliciclastic Sandstone Diagenesis: Are Existing Models Correct?

Message from the Guest Editors

Geology is an exact science that is dependent on past and present observations. These observations, however, provide subjective results and interpretations that are biased by the observer. Thus, it seems that geological science is quite conservative and lethargic. Models and paradigms, and even the routines for deriving models, have remained largely the same. Until now, sandstone diagenesis has been case-specific, with an explanatory model, paragenesis, and a set of underlying factors for each case. If this is correct, any predictive power of the models, including the lateral and vertical extrapolation of measured properties within single sediment bodies and basin fills, will remain elusive. On the other hand, maybe the current approach is, at least partly, wrong. Amongst the topics to deal with are the following:

- Diagenetic paragenesis or timing of diagenetic processes.
- Changes in mineral assemblages (e.g., the pelletization or chlorination of smectites or kaolinite).
- Minerals assemblages, diagenetic effects, and provenance.
- Microquartz
- Geochemical data (SEM-EDS, Microprobe, ICP-MS, etc.).
- Stable isotope data.
- Fluid inclusion data.

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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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