

Thematic Session 21

Authigenic clays in petroleum exploration

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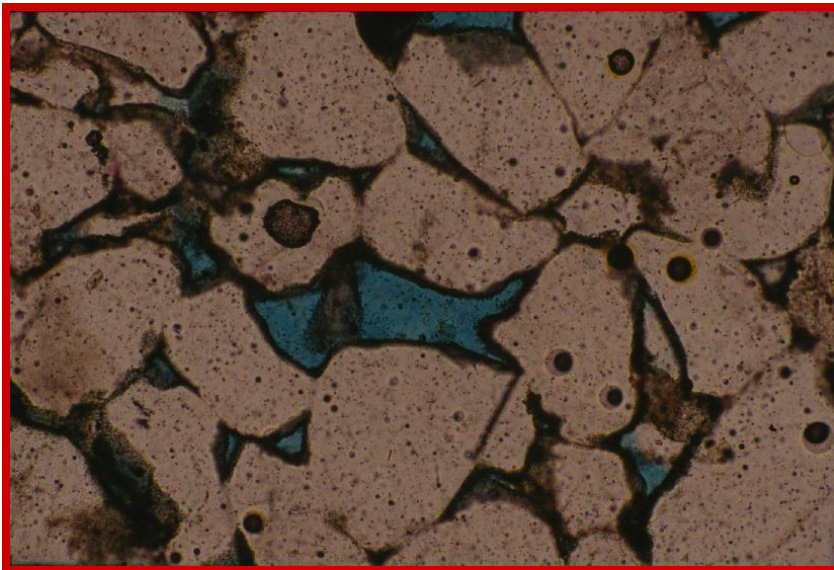
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Authigenic clay minerals that form during the diagenesis of sediments have unique properties that are important in petroleum exploration. Authigenic clays can concentrate organic matter through adsorption and possess catalytic properties that may significantly influence the maturation and production of petroleum. Authigenic clays may also significantly impact reservoir quality by their influence on rock permeability and porosity. This session seeks contributions that improve our understanding of (1) the relationship between clay diagenesis and organic reactions involved in the maturation of kerogen and production of petroleum and (2) the relationship between authigenic clay formation and the production potential of petroleum reservoirs.

Keywords: Authigenic clays, Diagenesis, Reservoir porosity, Reservoir permeability, Pore bridging clays, Petroleum exploration.

Potential Journals: Sedimentary Geology, Applied Geochemistry, AAPG Bulletin, Clays and Clay Minerals.



A typical thin section from the Pennsylvanian Spiro reservoirs in the Arkoma Basin, Southern Oklahoma. The Chamosite-rich facies of the reservoir exhibit highly distinctive diagenetic patterns. Preservation of primary porosity occurs in all chamositic Spiro sandstone Reservoirs.