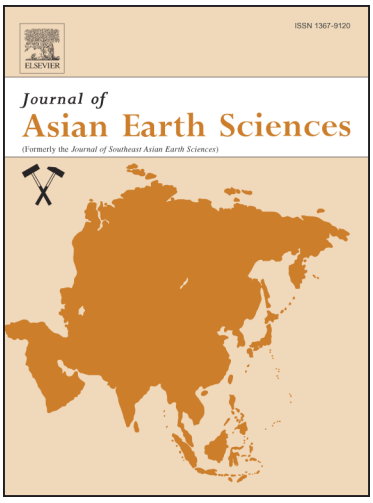

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ABSTRACT

Lamina induced fractures (LF) are abundant in lacustrine formations, playing an important role for the tight oil resource exploration. Studies of controlling factors of the LF are still lacking, especially for the heterogeneous formations characterized with complex combinations of the lamina and surrounding rock. Therefore, 28 long column samples for triaxial compression tests, 37 short column samples for Brazil split tests and 12 powder samples for mineral component analysis and isotopes analysis (carbon and oxygen) are made from 6 cores in 4 petrophysical faces. The experiments are designed to study the LF propagation process, considering the controlling factors in terms of mineral component, the lamina angle and the petrophysical faces. Our results show that: Clay content and dolomite cement degree more significantly control the LF propagation than the other minerals; The LF