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Clay Smear: Review of Mechanisms and Applications

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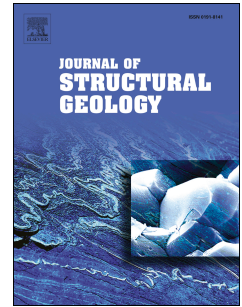
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# 1 Clay Smear: Review of Mechanisms and 2 Applications

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9 Keywords: clay smear, fault process, sedimentary rocks, experiments, fluid flow

## 10 **1 Abstract**

11 Clay smear is a collection of fault processes and resulting fault structures that form when normal  
12 faults deform layered sedimentary sections. These elusive structures have attracted deep interest  
13 from researchers interested in subsurface fluid flow, particularly in the oil and gas industry. In  
14 the four decades since the association between clay-smear structures and oil and gas  
15 accumulations was introduced, there has been extensive research into the fault processes that  
16 create clay smear and the resulting effects of that clay smear on fluid flow. We undertake a  
17 critical review of the literature associated with outcrop studies, laboratory and numerical  
18 modeling, and subsurface field studies of clay smear, and propose a comprehensive summary

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