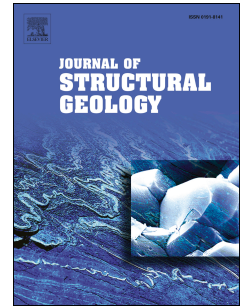


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Quantifying opening-mode fracture spatial organization in horizontal wellbore image logs, core and outcrop: Application to Upper Cretaceous Frontier Formation tight gas sandstones, USA

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13
14 **Highlights**

- 15
16 • Fractures of a tight-gas sandstone are characterized for both surface and subsurface
17 • Clustered subsurface fracture patterns differ from regularly spaced surface patterns
18 • Clusters are likely fractal with 35 m-wide clusters separated by 50 to 100 m gaps
19 • Rapid horizontal image log clustering analysis is feasible with correlation count
20 • Cluster patterns can account for gas and water production anomalies
21

22 Special Issue: *Spatial arrangement of fractures and faults*

23 8192 words; 12 figures; 3 tables

24

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