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High injection rate stimulation for improving the fracture complexity in tight-oil sandstone reservoirs

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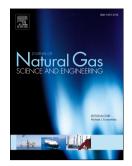
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14	Abstract: Successfully creating a large field fracture network is crucial for
15	achieving economic production of tight-oil sandstone reservoirs. In this paper, the
16	variations of in situ stress as well as the fracture network are studied based on a fully
17	coupled flow and mechanics model. A high injection rate stimulation technique is
18	extensively investigated as an effective method for improving the fracture complexity
19	in single or multiple stages of horizontal well. Sensitivity studies are conducted for
20	this stimulation method in improving the fracture complexity. The high injection rate
21	stimulation cannot efficiently promote the fracture network area for ductile rocks.
22	Initial in situ stress contrast plays an important role in the creation of fracture network.
23	The fracture aperture as well as stress perturbation is controlled by the minimum in
24	situ stress. The stress perturbation is accentuated in low permeability reservoirs,
25	which is helpful to achieve a large field of fracture network. The area of new created

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