

Abstract Submitted  
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**Transient pressure analysis of multiple fractured wells in stress-sensitive coal seam gas reservoirs with stimulated reservoir volume.**<sup>1</sup>  
ZUHAO KOU, University of Wyoming, HAITAO WANG, JINGJING GUO, Southwest Petroleum University, ZHUOTING CHEN, University of Wyoming — This study is an extension of previous works, which investigates the bottom-hole pressure performances of a multiple fractured well with finite-conductivity hydraulic fractures in a stress-sensitive coal seam gas reservoir with stimulated reservoir volume. The fluid flow in the matrix simultaneously considers adsorption–desorption and diffusion, whereas fluid flow in the natural fractures and the induced fracture networks obeys Darcy’s law. The results obtained in this study show that the main flow regimes for the proposed model are bilinear flow between adjacent radial hydraulic fractures, linear flow between adjacent radial hydraulic fractures, pseudo radial flow in stimulated region, and radial flow in un-stimulated region. The effects of the size of stimulated reservoir volume, permeability contrast between stimulated region and un-stimulated region, and the properties of hydraulic fractures on the well-bottom transient pressure responses are demonstrated. The findings of this study is able to gain a better understanding of the transient performances of multiple fractured vertical wells in unconventional reservoirs.

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