

عنوان مقاله:

Role of Fracture Network on the Performance of the VAPEX Process in Low-Permeability Heavy Oil Systems

محل انتشار:

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نویسندگان:

Reza Azin - *Department of Chemical and Petroleum Engineering, Sharif Univ. Technology, Tehran, Iran*

Riyaz Kharat - *Petroleum Univ. Technology Research Center, Tehran, Iran*

Cyrus Ghotbi - *Department of Chemical and Petroleum Engineering, Sharif Univ. Technology, Tehran, Iran*

Shapour Vossoughi - *Department of Chemical and Petroleum Engineering, Kansas University, Lawrence, KS*

خلاصه مقاله:

The vapor extraction (VAPEX) process, a solvent-based enhanced oil recovery process is found promising for some heavy oil reservoirs. In this work, the VAPEX process is studied using a compositional simulator on a number of single-block and multiple block fractured systems. PVT data of one of Iranian heavy oil reservoirs are used to tune the equation of state. Effects of fracture network and spacing on the performance of process were studied. It was found that the fracture network enhances the VAPEX process in low-permeability systems by increasing the contact area between solvent and oil contained in the matrix blocks. Also, the fracture network reduces the instabilities in the system pressure and damps pressure surges in the system during the VAPEX process. In addition, results showed that solvent traverse between fracture network delays the onset of solvent breakthrough and provides more residence time for the solvent to be in contact with heavy oil.

کلمات کلیدی:

Vapor Extraction, Heavy Oil, Fractured Reservoir, Solvent, Fracture Network

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