

عنوان مقاله:

An Experimental Approach to Investigate Permeability Alteration Caused by Underbalanced Drilling in Oil Reservoirs

محل انتشار:

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نویسندگان:

Jamshid Moghadasi - Assistant Professor, Ahwaz Faculty of Petroleum Engineering, Petroleum University of Technology

Amin Kordestany - Master student of Petroleum Drilling Engineering, Petroleum University of Technology, Tehran, Iran

Mahdi Kakavandi - National Iranian South Oil Company

خلاصه مقاله:

The most prominent factor in using UBD is to eliminate or minimize formation damage provided that underbalanced condition maintained 100% of the time during drilling operation. However, during a UBD operation, it is difficult to guarantee that the drilling fluid pressure is always maintained in underbalanced condition. A series of return permeability tests have been conducted by using reservoir sensitivity core flood apparatus to investigate the permeability alteration due to transition of UBD condition to overbalance one during UBD operation. The results evinced significant permeability reduction when diesel was used as a drilling fluid without any extra additives. So, better plan of UBD operations is necessary for the industry to avoid undesired permeability reductions and it is crucial to develop ways to have an underbalanced condition at all times while drilling. In addition, completion should be planned to be conducted without exposing the formation to overbalanced pressure.

کلمات کلیدی:

Underbalanced Drilling, Return Permeability Test, Permeability Alteration, Invasion of Drilling Fluid

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