

عنوان مقاله:

Optimizing and Stabilizing the Gas Lift Operation by Controlling the Lift Gas Specific Gravity

محل انتشار:

مجله علوم و فن آوری نفت، دوره 9، شماره 3 (سال: 1398)

تعداد صفحات اصل مقاله: 18

نویسندگان:

Ehsan Khomehchi - *Department of Petroleum Engineering, Amirkabir University of Technology*

Mohammad Reza Mahdiani - *Department of Petroleum Engineering, Amirkabir University of Technology*

(Amir Abolfazl Suratgar - *Amirkabir University of Technology (Tehran Polytechnic)*)

خلاصه مقاله:

One of the factors which affects the gas lift performance is specific gravity of a lift gas (or the Molecular weight), which can influence the gas solubility in oil and has a direct effect on the gas lift performance. There are some previous researches which have included the lift gas specific gravity in their modeling, but in none of them, a comprehensive research about the effect of lift gas specific gravity in gas allocation optimization, gas lift stability, economic factors, and some other aspects of gas lift is done. This research, concentrating on lift gas specific gravity, introduces an easy and inexpensive method for increasing the oil production in gas lifted wells. In addition, the effect of injection gas specific gravity in some phenomena such as the stability of the flow in a single well and in a gas allocation optimization has been studied, and an easy way to escape the unstable flow introduced. Moreover, the result shows that changing the gas composition causes three different behaviors based on the range of changes. In a group of wells, changing the specific gravity of gas causes a different injection pattern, but its effect on total production is not huge. Finally, similar to the case of single wells, changing the specific gravity of a group of wells has changed the production in three regions and has its specific sensitivity to the change of the injection gas specific gravity in each region.

کلمات کلیدی:

Gas Lift, Molecular Weight, Gas Allocation, Optimization

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1859550>

