

Polymer gel design, production and injection into oil producing interval of a sandstone reservoir to prevent extra produced water



Abdollah Esmaeili

National Iranian Oil Company (NIOC), Iran

Abstract

In this paper, according to actual condition of this oil field, a suitable polymer will be designed and built, then, its optimum composition with least amount of additives, best thermal resistance property, resistant to salt and acid and long life time will be determined using rheological tests as a standard method to specify polymer gel properties. Finally, performance of this optimized polymer gel will be tested experimentally using several cores of this sandstone reservoir. Rheological properties of polymer gel and its relationship to reservoir rock permeability will be investigated. For this purpose, a set of experimental tests based on rheological, swelling and core flooding tests on sandstones will be designed. So, by deriving mathematical relationships, effect of concentration and type of polymer and ratio of networking factor concentration to polymer on total visco-elastic properties and three dimensional network parameters of polymer gel will be stated.

Biography

Abdollah Esmaeili was born in 1969 in Iran. He graduated in petroleum engineering. He has more than 28 years of industry expertise in the Middle East, amongst others as Senior Petroleum Engineer at National Oil Companies and course lecturer for Petroleum Engineering at universities in the Middle East, Europe, Asia and Africa. Furthermore, he is leading international workshops and master classes and has presented numerous papers as expert speaker at international conferences throughout the Middle East, Asia, Europe, Latin America and Africa. He is author of numerous articles published in international journals covering the wider range of gas production, exploration, and processing in great depth.



[3rd World Congress on Bio-Polymers and Polymer Chemistry](#) | Rome, Italy | February 24-25, 2020

Citation: Abdollah Esmaeili, *Polymer gel design, production and injection into oil producing interval of a sandstone reservoir to prevent extra produced water*, Polymer Chemistry 2020, 3rd World Congress on Bio-Polymers and Polymer Chemistry, Rome, Italy, February 24-25, 2020, 01