عنوان مقاله:

New Analytical Approach for Reservoir Stress Approximation Based on Acid Fracturing Data

نویسندگان:

A.H Haghi - *Dept. of Petroleum Eng., NISOC, Ahwaz*

R Kharrat - *Petroleum University of Technology*

M.R Asef - *Faculty of Earth Sciences, Kharazmi University,Tehran, Iran*

خلاصه مقاله:

In this research attempts were made to estimate the in-situ stresses acting on a hydrocarbon reservoir based on routine activities of acid injection in oil reservoir. It was found that the relation between the re-opening pressure of fracture and principal in-situ stresses can be estimated using rock mechanics equations for the circular underground cavities. An appropriate relation between the maximum and minimum horizontal principal in-situ stresses and reservoir parameters such as permeability, reservoir pressure, Young's modulus, acid viscosity, injection flow rate and etc., was developed by using the well-known Darcy equations for fluid flow in porous media. Accordingly, knowing the flow rate of acid injection during well operations and some other reservoir parameters, in-situ stresses may be estimated. The method was then successfully applied to a large carbonate reservoir as a case study in south-west of Iran. Maximum and minimum effective horizontal stresses were calculated by employing the presented method.

کلمات کلیدی:

Rock mechanic; Acid fracturing; Re-opening pressure; In-situ stresses

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/487509