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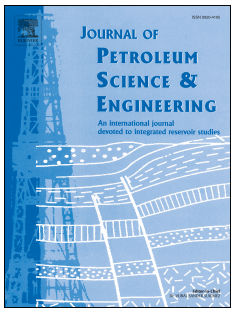

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PII: S0920-4105(18)30186-4

DOI: 10.1016/j.petrol.2018.03.002

Reference: PETROL 4743

To appear in: *Journal of Petroleum Science and Engineering*

Received Date: 25 September 2017

Revised Date: 13 January 2018

Accepted Date: 1 March 2018

Please cite this article as: Karimi, M., Shirazi, M.M., Ayatollahi, S., Investigating the effects of rock and fluid properties in Iranian carbonate matrix acidizing during pre-flush stage, *Journal of Petroleum Science and Engineering* (2018), doi: 10.1016/j.petrol.2018.03.002.

Investigating the Effects of Rock and Fluid Properties in Iranian Carbonate Matrix Acidizing during Pre-flush Stage

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Abstract:

Acidizing of carbonate oil-wet rocks saturated with oil and saline formation water is subjected failure in some cases due to acid-induced damage such as sludge and emulsion formations. This condition may also lead to mineral precipitation, oil film barrier between acid and rock and diversion chemical malfunctions. Therefore, pre-flush process has been proposed as one of the most efficient stage for oil-wells matrix acidizing to reduce these challenges significantly. Besides, the pre-flush stage would result in more clean rock as the reservoir fluids are pushed back from the near wellbore regions, restoring rock wettability to more water wet state, preventing direct acid-oil contact and cooling rock surface to control acid-rock reaction at high temperature reservoir.

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