عنوان مقاله:

Effects of Asphaltene Deposition on Porous Media properties Under Natural Depletion Conditions

محل انتشار:

دومین همایش ملی نفت ،گاز و پتروشیمی (سال: 1391)

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خلاصه مقاله:

Asphaltene deposition on the rock reservoir occurring during primary production and enhanced oil recovery processes reduces the effective pore space and causes oil mobility reduction. So Asphaltenedeposition constitutes formation damage and blockage of wellbore pipes. It is really necessary to reveal Asphaltene deposition mechanism and its effective parameters toprepare useful prevention methods. Therefore different natural depletion and EOR experiments mustbe performed on core samples. The present work focuses on the investigation of Asphaltene deposition effects on permeabilitydamage of reservoir rock during natural depletion process by dynamic flow tests. Two different live crude oils with given Asphaltene contents from Iranian oil reservoirs were used in this experiments. Inorder to calculate permeability reduction during experiments, injections of live crude oils wereperformed and pressure drop along core was recorded continuously. Permeability was calculated using Darcy equation by recorded pressure drop. For each test, permeability reduction mechanismidentified from damaged permeability graphs. During flooding, after any injection of a pore volume equal oil samples were gathered and their Asphaltene contents were measured using IP143 standardmethod. Deposited asphaltene in porous media was estimated from mass balance equation and plotted versus injected pore volumes.

کلمات کلیدی:

Asphaltene deposision, permeability reduction, core flooding, natural depletion

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