

عنوان مقاله:

FORMATION DAMAGE DUE TO SCALE FORMATION IN POROUS MEDIA RESULTING WATER INJECTION

محل انتشار:

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نویسنده:

Hossein kazemi ardekani - Department of Chemical Engineering, Islamic Azad University, Mahshahr Branch,
Mahshahr, Iran

خلاصه مقاله:

Scale deposition is one of the most serious oil field problems that inflict water injection systems primarily when two incompatible waters are involved. Two waters are incompatible if they interact chemically and precipitate minerals when mixed. Typical examples are sea water, with high concentration of sulfate ion and formation waters, with high concentrations of calcium, barium, and strontium ions. Mixing of these waters, therefore, could cause precipitation of calcium sulfate, barium sulfate and/or strontium sulfate. This study was conducted to investigate the permeability reduction caused by deposition of calcium, strontium, and barium sulfates in sandstone cores from mixing of injected sea water and formation water that contained high concentration of calcium, barium, and strontium ions at various temperatures (05-05 °C) and differential pressures (455-655 psig). The solubility of common oil field scales formed .and how their solubility was affected by changes in salinity and temperatures (15-05 °C) were also studied

کلمات کلیدی:

scale deposition, scale solubility, scale concentration, temperature and pressure effects

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