

عنوان مقاله:

Molecular dynamics simulation of the interfacial behavior of scale deposition on the calcite surface during sea water injection

محل انتشار:

هفدهمین کنگره ملی مهندسی شیمی ایران (سال: 1400)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

During water flooding of the carbonate oil reservoir, deposition of sulfate scales on the pore surface causes formation damage and affects oil recovery efficiency. Thus, a clear understanding of this scale's early crystallization stage is crucial to optimize and control the scaling process. Molecular dynamics simulation is utilized in this study to obtain a fundamental insight into the interfacial phenomena responsible for the precipitation and deposition of mineral scales on the calcite surface to resemble the formation damage during smart water flooding of the carbonate oil reservoir. Providing the results of this work allows one to find the most effective inhibitors remediating this type of oil reservoir formation damage.

کلمات کلیدی:

Scale formation, Molecular dynamics simulation, Precipitation, Deposition, Calcite surface, Sulfate scale

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