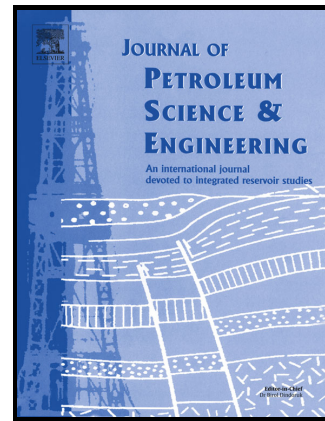


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A review of oilfield mineral scale deposits management technology for oil and gas production

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Abstract

The presence of formation water and the treatment methods (both water flooding and chemical treatments) employed during exploration and production operations have great potential for mineral scale formation. Scale deposition poses a lot of serious threat in field production and it is a menace to production flow assurance, which in turn reduces the production flow resulting in production losses. Although oilfield scale deposit is a long standing problem, oil and gas industry are facing new challenges in managing scale deposits created during offshore exploration activities in ultra-deepwater and other harsh environments. An ideal management program maximizes hydrocarbon production and minimizes the cost of scale deposits control, thereby maintaining the economic viability of the operations. This paper reviews various types of mineral scale deposits as well as the thermodynamics and kinetics prediction of mineral scale formation potentials. Also, the mitigation strategies of oilfield mineral scale deposits and chemical stimulation techniques used in oil industry to improve well productivity are discussed.

Keywords: Scale deposits, inhibitors, thermodynamics, kinetics, management, prediction,

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