

عنوان مقاله:

Sanding Potential Evaluation Based on a New True-Triaxial Failure Criterion

محل انتشار:

اولین کنفرانس بین المللی نفت، گاز، پتروشیمی و نیروگاهی (سال: 1391)

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خلاصه مقاله:

Sand production is an important challenge in upstream oil and gas industry, causing operational and safety problems. Selection of an appropriate failure criterion is necessary in analytical sand prediction studies. Various failure criteria have been used in sand onset modeling. Mohr-Coulomb is most applied failure criterion but it is conservative in sand initiation prediction because it does not consider effect of intermediate principal stress. Recently Al-Ajmi and Zimmerman have developed three dimensions Mogi-Coulomb failure criterion and applied it in stability analysis during drilling condition. Based on good results of this criterion instability analysis, this research present an analytical sand prediction model using Mogi-Coulomb failure criterion for determination of maximum sand free drawdown for the first time. The developed model is applied in open hole completion to determine the optimum wellbore trajectory. The results show that in different in situ stress regimes the inclination and azimuth have a significant role in wellbore stability during production. Also effect of reservoir depletion is considered and concluded that it increases sanding potential

کلمات کلیدی:

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