

عنوان مقاله:

Analysis of vertical, Horizontal and deviated wellbores stability

محل انتشار:

دومین کنفرانس بین المللی رویکردهای نوین در نگهداشت انرژی (سال: 1391)

تعداد صفحات اصل مقاله: 9

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خلاصه مقاله:

Prediction and analysis of wellbore stability is considered as a critical and significant issue in drilling engineering. Loss of well due to instability prompts high expenditure and ceases drilling operation. Effective parameters on wellbore stability are in situ stress, pore pressure, rock strength, drilling mud pressure, and well path. Wellbore instability controlling, needs understanding of rock strength and in situ stresses. In general, in situ stresses and rock strength are uncontrollable; therefore wellbore instability can be prevented by properly adjusting the mud pressure and well path that are controllable factors. In this paper we use 3D analytical model of Al-Ajmi and Zimmerman [2005] to estimate the mud pressure required to avoid borehole collapse for a well located in Iran oil field. It is then compared with Flac outputs, in order to show the accuracy of results and investigate the wellbore stability in different states of vertical, horizontal and deviated. We concluded that using these two methods simultaneously can assist in the stability of wellbores effectively which result cost savings and minimizing time overruns on drilling projects.

کلمات کلیدی:

wellbore stability, Failure criteria, FLAC, well path, drilling

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