عنوان مقاله:

CFD Analysis Of PDC Bit Heat Transfer By Drilling Mud Flow For Their Thermal Mortality

محل انتشار:

پنجمین کنفرانس ملی کاربرد CFD در صنایع شیمیایی و نفت (سال: 1393)

تعداد صفحات اصل مقاله: 13

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خلاصه مقاله:

In this study numerical simulation of thermohydrodynamic characteristics of mud flow and mortality threshold of PDC bits are investigated using computational fluid dynamic technics. Governing equations of fluid flow were discretized by FVM and solved by SIMPLE algorithm. Well wall temperature increased linearly and block-off method is used to model complex geometry of drill pipe, drill collar, bit and its nozzle. Cooling of PDC bits in different heat generation values were investigated. Finally it is found that due to complexity of geometry, high Reynolds number will not necessarily enhance heat removal to help PDC bits to remain in safe region.

کلمات کلیدی:

CFD, PDC bit, Forced convection heat transfer

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/278855