Following Elements In Real Time Of Drilling Parameters That Provide Indications On The Possible Wellbore Instability

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ABSTRACT
The importance of knowing the state of in-situ stresses to which a rock is subjected in depth lies in the fact that depending on the present stress regime, the mechanical behavior of the same varies considerably for all possible scenarios. The efforts to which a rock is subjected, in addition to its intrinsic properties that determine its elastic moduli, play an extremely important role when a phenomenon of failure or collapse occurs. Knowing the condition of in-situ stresses and the mechanical properties of the rocks, it is possible to determine how to carry out successful drilling operations, determining the best conditions both for parameters to be used and trajectories and drilling fluid properties that minimize risks associated with wellbore stability.

Real time monitoring of operation parameters and present events in the development of well drilling activities is the first direct source of tangible information on the behavior of what happens at the bottom of the hole, taking as a starting point in the decision making to modify the conditions that have and each of the variables. Therefore, the main objective of this project is focused on the analysis of different parameters of drilling and monitoring of variables that provide a relationship or information about the degree of well stability under different scenarios of stress regimes that determine its mechanism of failure in the face or vicinity of the well.

INFLUENCE OF THE GEOMECHANICAL MODEL ON STABILITY CONTROL
The importance and necessity of using Geomechanics is based on the fact that it provides certain operational parameters necessary to achieve a high optimization of the activities that will be carried out from the exploration of the deposit to the production stage and subsequent abandonment.

OVERVIEW AND BENEFITS OF REAL TIME CAVINGS MONITORING
The way the rock fails and its fault geometry depends on the stress regime to which it is subjected. Also, the failure of the rock will be caused to a great extent according to the control that is had on the wall of the well, that is to say, the effect of the column of mud.

FACTORS CAUSING WELL INSTABILITY AND EFFECT OF THE DRILLING PATH
Some authors affirm that the instability of wells is the result of the combination of several factors that appear during the drilling.

CASE STUDY: PROBLEMS ASSOCIATED WITH WELL INSTABILITY
In many occasions, drilling at a higher ROP sacrifices travel times to surface. Also, the decision to increase the weight of mud must be made with great care, because no formation invasion must be generated in order to control the instability of the well.

References:

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