From: Johnston, Paul J (Houston)
Sent: Fri Mar 12 16:11:51 2010
To: De Jong, Hendrik Jan; Wydrinski, Ray; Nohavitza, Glenn R
Subject: Fw: Some Thoughts and Help Requested, PP detection, Macando
Importance: Normal

Puts what we did into perspectve doesn't it. Please don't forward on. Your feel good only

Paul

From: Bellow, Jonathan M
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Cc: Bodek, Robert; Johnston, Paul J (Houston); Vinson, Graham (Pinky); Sims, David C; Albertin, Martin L.; Wagner, Bruce E
Sent: Fri Mar 12 13:13:48 2010
Subject: Some Thoughts and Help Requested, PP detection, Macando

All: As we have some time while we recover from the Macando stuck pipe and kick event, I want to spend some time re-evaluating how we manage real time pore pressure detection for Macando type wells. By Macando type wells, I mean those wells without thick salt sections that usually have narrow drilling windows for a large part of the well. I believe that we can learn from Macando to allow these kind of wells to be successfully drilled without subsurface NPT events. To that end several conversations will take place over the next couple of weeks to assist us in making better pore pressure detections decisions as we drill the remaining hole sections at Macando.
In writing this note, I want to make sure that no one feels that we made poor decisions with these events. We have been spoiled in exploration on the Deepwater Horizon with having wells like Tiber, Freedom, Kodiak, Big Kahuna, Kaskida that have had salt sections thick enough to allow us a luxury of a wider drilling margin. We are very very good at salt exit now. We have not drilled a huge number of these "no salt narrow drilling window" wells. The purpose of this note is three fold. First I want to raise the issue, second, I want to provide some initial thoughts that we have come up with to assist with improved performance with pore pressure, and third, and most important, we are also asking for your help. This team has a huge amount of experience and we want to hear all of your inputs and suggestions. I am confident, that once we have these discussions and put refined procedures in place, we will be successful as we always are. Please regard these discussions as a huge learning opertunity
As for our initial thoughts, in looking at the kick events there were signs of pore pressure with all events. They were in some cases subtle and again, considering the type wells we usually drill, we get away with having some connection gas or sonic showing a PP increase. With these tighter margin wells, I want to get to a place where we are considering the all data suggesting PP change much more carefully in Macando type wells. We need to have larger conversations on all signs of PP change with these wells and as soon as the change is observed. We need to be prepared to use dummy connections, D exponent, sonic and any other indicator with more rigor. We can perhaps afford wait longer to raise the flag and watch for a PP trend we were confident in thick salt wells. However, in these narrow window wells, we believe we need to have PP conversations as soon as ANY indicator shows a change in PP. We also need to be prepared to have some false alarms and not be afraid of it. We need to have the entire team more aware and focused on ALL PP indicators with the mentality that a couple of dummy connections and a circulation time costs far less then three kick events.
Specifically to the Macando data, all three events are preceded by gas events. There are indications of a PP increase in the normalized gas values prior to the kicks. The first two kicks have elevated gas levels and occurrences of C2 and C3 levels prior to the kick event. This last event was preceded by two connections gas peaks. In this last event there was a significant event with the D exponent from the normal trend at least 150 feet below the kick. There were also cavings that although not PP related, gave us an indication of other issues that would require more mud weight.

The sonic data also showed an upward trend in PP. All of these signs were present but at 85 feet per hour, occur quickly in "real time". We just need to refine our process to allow quicker conversations to occur and ensure that we are monitoring all relevant PP trend data.
Once we recover from this event, Bobby Bodek is planning to be on the rig to asset with implementing the improvements thought of in this conversation. I would ask that all of you think of the last events and offer suggestions and improvements to our process. WE will capture these comments and suggestions and use these to create a better proceeds to allow us to drill Macando and future similar wells with the same low NPT that we drilled Tiber. Thanks for all of you help folks. This effort will not be successful without your help and input. We appreciate your help in starting this conversation.
Jon

Jonathan M. Bellow
Operations Coordinator