Stogner, Michael

From: Stogner, Michael
Sent: Thursday, September 23, 2004 4:17 PM
To: 'Corley, Mary L'
Cc: Hayden, Steven; William F. Carr (E-mail); Chavez, Frank; Fesmire, Mark
Subject: RE: NSL Application

Re: Riddle C-LS #3B
W/2 sec. 29-T31N-R9W, Blanco-Mesaverde Pool, San Juan County.

Ms. Corley,

I've reviewed your application and the well record sometime ago. I have been contemplating what I was going to do and how any action taken can assure that BP does not allow this to happen again.

BP's original APD dated 4/25/2002 showed the initial intended BHL was to be 1600' FSL & 860' FWL of Sec. 29. By Sundry dated 7/2/2002 BP changed the intended BHL to 2500' FSL & 660' FWL of Section 29. TD was reached 8/17/2002. The directional/geodetic survey for this well was dated 8/26/2002. The resulting BHL is 2569' FSL & 543' FWL, a distance of 136 feet from the intended target, 117 feet closer to the West line of Section 29 then allowed. On 10/16/2002 first gas was delivered. Your application was submitted on June 17, 2004, almost two years after BP was aware that the BHL was unorthodox. Your application gives no indication as to the reason why the BHL missed its intended target by so much, nor why BP waited so long to comply with the special pool rules by applying for a location exception.

I've thought several times about bring this matter to hearing to have BP explain these questions.

Please assist me in this matter and explain to me why BP should be allowed to keep this well on production, and why this application should not be docketed so that BP could come to a Division hearing and explain its actions and explore these questions. Also how can the Division be assured that BP can adequately met the setback requirements with future directionally drilled wells?

Stogner, Michael

From: Corley, Mary L [corleyml@bp.com]
Sent: Thursday, September 30, 2004 6:43 AM
To: Stogner, Michael
Cc: Hayden, Steven; William F. Carr (E-mail); Chavez, Frank; Fesmire, Mark
Subject: NSL Application - Riddle C LS 3B

Mr. Stogner,

In response to your inquiry I offer the following information in support of our application for a non-standard well location exception for the Riddle C LS #3B. Please advise if you desire us to submit this information in a formal letter:

The Riddle C LS #3B (sec 29-31N-9W) was drilled by BP America Production Company in August 2002 as a Mesa Verde in-fill production well to the depth of 5875' (measured depth) from a surface location of 2180 FSL, 1425' FWL. The intended bottom hole location (BHL) for this well was 2500' FSL, 660' FWL. The actual BHL for the well, measured by directional tools subsequent to drilling, is 2569 FSL, 543 FWL, placing the well out of compliance by 117'.

Following standard practice for BP when drilling directional wells, this well built inclination angle in the shallow portion of the well, in this case beginning in the Nacimiento Formation (@ 977'), and reaching maximum build angle, 22.27 degrees, in the middle Fruitland Formation (@2850'). At that point the inclination of the drilling hole was allowed to drop angle naturally to a point approaching vertical. That rate of inclination drop, based upon the results from measurements obtained in several wells drilled by BP in the area, averages about 3 degrees/100' measured depth. According to prognosis this well should have reached vertical at approximately 3600' measured depth. However, post-drill surveys clearly show that the inclination at that point is about 4.75 degrees. Further, the inclination did not drop below 0.5 degrees (approaching the meaningful resolution of the tool) until about 4100'. Below that point the inclination remained well below 0.5 degrees, but never reaching and sustaining 0.0 degrees.

In hindsight, it is apparent that the build-angle of the shallow portion of well was too aggressive, departing from the maximum build-angle of 20.31 degrees in the prognosis of the original drilling plan. According to that prognosis, however, the actual BHL for the well is within the BP-defined 150' radius target cylinder meant to represent the directional uncertainty. BP Subsequent to the drilling of this well, BP has adopted two important changes in the bottom-hole location selection procedure:

1) for all wells requiring deviation the BHL will be not less than 800' from a section boundary (or ¼ section boundary, where applicable),

2) the radius of the target cylinder used in well planning has been increased from 150' to 200'.

In addition, the selection process has incorporated several levels of crosschecks that occur prior to the submittal of any applications for drilling permission. For example, as part of that procedure maps are generated based upon the drilling deviation plan and show the location of the intended TD in relation to the drill-block boundaries.

Additionally, the post drilling process now includes the review of directional surveys immediately upon receipt for all directionally drilled wells to determine the actual BHL and if necessary request an exception to the spacing requirements prior to the completion of the well.

Sincerely

Mary Corley
Senior Regulatory Analyst
San Juan Performance Unit
281-366-4491