

Light, Cheryl

From: Diana Burn - DNR <diana.burn@state.co.us>
Sent: Wednesday, December 31, 2014 11:42 AM
To: Nilemo, Jon
Cc: Sollee, Michael; Light, Cheryl; Spence, Nick; Clausen, Cliff; Beale, Ila; Mark Schlagenhauf - DNR; Barbara Westerdale - DNR; Penny Garrison - DNR
Subject: RE: Greenleaf 16N-15HZX Sidetrack Plan/Procedure

Please proceed as proposed – the APD needs to be approved prior to starting operations.

Thanks,
Diana

From: Nilemo, Jon [mailto:Jon.Nilemo@anadarko.com]
Sent: Wednesday, December 31, 2014 11:30 AM
To: diana.burn@state.co.us
Cc: Sollee, Michael; Light, Cheryl; Spence, Nick; Clausen, Cliff; Beale, Ila
Subject: Greenleaf 16N-15HZX Sidetrack Plan/Procedure
Importance: High

Diana,

Per our discussion regarding the upcoming sidetrack well for Xtreme 23 on the Greenleaf 16N-15HZX, below is the sidetrack procedure. Please review the material and let me know if you need any additional information.

- a. Well name and API
 - i. Greenleaf 16N-15HZ
 - ii. API: 05-123-37937
- b. Explanation of situation and why you need to sidetrack
 - i. Upon drilling out the intermediate casing shoe, we encountered a larger fault than anticipated placing us well within the SSPG formation. We drilled approximately 450' of SSPG. Drilling continued operations for another couple hundred feet until unable to drill ahead efficiently. Decision was made to trip for a slick BHA assembly to try and drill ahead. Once drilling commenced with the new assembly, they were unable to drill past the fault at 7680' MD. Decision was then made to trip out of hole and prepare a temporary abandonment procedure.
- c. Total measured depth reached (also have TVD)
 - i. MD Reached: 8,783'
 - ii. TVD: ~6,953'
- d. Casing sizes set and measured depth
 - i. Surface Casing:
 1. OD- 9.625"
 2. ID- 8.921"
 3. Set Depth- 779' MD; 779' TVD
 - ii. Intermediate Casing:
 1. OD- 7"
 2. ID- 6.276"
 3. Set Depth- 7,516' MD; ~6,940' TVD

- e. Description of fish-including top and bottom
 - i. N/A
- f. Type of cement you will be using including weight, yield, and sacks. If an openhole sidetrack make that point clear
 - i. Per our previous conversation with Diana Burn, we already set a 600' 17# 0.99 yield (129 sack) cement plug from 7660' MD to approximately 7060' MD. We then tripped up to above KOP and set a composite bridge plug at approximately 6150' MD as a second form of isolation for the well during the T&A.
 - ii. For the sidetrack itself, we will be performing a cased hole whipstock sidetrack using a 7" Baker Hughes PathMaker Whipstock and a PathMaster PDC Formation Mill. We will mill our casing window, trip for a drilling assembly and drill curve and lateral to TD using SBM.
- g. Measured depth and TVD of sidetrack point
 - i. MD of Sidetrack: ~5,635'
 - ii. TVD of Sidetrack: ~5,402'
- h. Proposed target formation of sidetrack hole if different than permitted
 - i. Targeting the Niobrara "C" Chalk formation
- i. BHL of sidetrack hole. Note if this is a change from permit
 - i. Drill to the planned TD of 11,711' MD. BHL changed 100' to the West for AC concerns (460' FSL & 805' FEL).
- j. A hand drawing of wellbore including where cement will be, fish is, and sidetrack will be
 - i. Attached

Regards,

Jon Nilemo

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