

Pickford, Katherine, EMNRD

30.045-27350

From: Pickford, Katherine, EMNRD
Sent: Thursday, April 23, 2015 11:53 AM
To: 'Colvin, Toya'
Subject: FW: Kernaghan B007 Mud Log
Attachments: BP Kernaghan B 007 FT Mud Log pdf.pdf

Toya,
The mud log for the Kernaghan B 007 indicates that gas was encountered in the Pictured Cliffs formation. Please evaluate the gas in the Pictured Cliffs formation and, if it is determined to be necessary, apply for a DHC for this well and determine the appropriate allocation for the P.C.
Thanks,
Kate

From: Swarts, Justin (Sierra Engineering) [<mailto:Justin.Swarts@bp.com>]
Sent: Thursday, April 23, 2015 2:38 AM
To: Pickford, Katherine, EMNRD
Subject: Kernaghan B007 Mud Log

Ms. Pickford,

I apologize for the delay in sending you the mud log for the Kernaghan B007. I assure you in future projects they will be delivered in a timely manner. Thank you.

Justin Swarts



Well-Site Geologists

Geoff Bousum
Clinton Holnback

Laramide Geoservices, LLC

PO BOX 20658
Albuquerque, NM 87154

Software: HMG Strata Log
Horizontal Mudlog & Geosteering, Inc
PO Box 20658, Albuquerque, NM 87154
505-320-3432 www.horizontalmudlog.com

Operator

BP America Production Company

Well Name

Kernaghan B 007 FT

Operator Address

2906 CR 307
Durango, CO 81303

Well Information

Field: Navajo Dam

Region: San Juan Basin

Coordinates: LAT 36° 52' 20.211" LONG 107° 42'
4.758"

Location: 1440' FNL & 1040' FEL Unit H, Sec 30, T31N, R06W

State: New Mexico / San Juan County

API Index: 30-045-27350

Rig Operator: Aztec 840

Ground Elevation(ft): 6541.0

KB Elevation(ft): 6553.0

Spud Date: April 17, 2015

Drilling Concluded: April 17, 2015

BP America Production Company Geologist(s):

Mark Durio

Rig Supervisor(s):

Justin Swarts

Hole Data

Casing Data

Legend - Scale 1:240 (1" = 20')

Moore A 008-FT

Log Images

-  Bit Trip
-  Midnight
-  Gas Show
-  Oil Show
-  Casing Show
-  AM Report
-  PM Report
-  Tight Connection
-  Fracture
-  Formation Tops
-  Formation Members
-  Pressure Test
-  Carbonaceous
-  Calcite
-  Kaolinite
-  Survey
-  Pyrite
-  Fossil
-  Connection

Lithology

-  Anhydrite
-  Bentonite
-  Breccia
-  Carbonaceous Shale
-  Cement
-  Chert
-  Claystone
-  Coal
-  Conglomerate
-  Dolomite
-  Fault or Fracture
-  Glauconite
-  Gypsum
-  Limestone
-  Marlstone
-  Mudstone
-  Salt
-  Sandstone
-  Shale
-  Siltstone

Graph Curves

- Graph #1
- ROP (min/ft)
- Graph #2
- Total Gas (Units)
- Methane (ppm)
- Ethane (ppm)
- Propane (ppm)
- Isobutane (ppm)
- N-Butane (ppm)

Intervals

-  Show
-  Connections
-  Tops
-  Slide
-  Rotate
-  Core
-  Recovered Core

Graph #1	Sample %	Depths (ft)	Cut	Stratigraphy	Fluorescence	Descriptions	Graph #2																		
		3300				<p>Laramide Geoservices on location and rigged up at 03:00 on April 17, 2014. Commence logging at 17:20 on April 17, 2015 from 3368' MD taking 10' lagged samples. Gas detection with MSI red box w/ chromatograph.</p> <p>8 3/4" hole drilled to 3164", open hole w/ liner to 3368'. Pull liner, trip in hole, wash to bottom and drill 82' into the Pictured Cliffs</p>																			
		3350				<p>NOTE: losing circulation while cleaning out open hole and drilling new hole, variable amounts of sample available in returns</p> <p>COAL: dull to jet black, subearthy flat luster and rare glossy to satiny in places, brittle and weak to moderately firm, no visible cleat structures, no visible bleeding gas, grades to carb shale in places, SHALE: medium to dark gray and brownish gray, subearthy, sub platy, firm to hard, non calcareous, occasional gritty-silty texture</p> <p>Pictured Cliffs SS: 3404' MD, 3149' SS</p>	<p>Drilling w/ air-water foam</p>																		
		3400				<p>SANDSTONE (Pictured Cliffs): white and very light gray w/ s&p throughout, predominately translucent to frosted/milky quartz grains, fine grained well to very well sorted, subangular and sub rounded, moderately to well cemented, mostly firm clusters becoming slightly weak and brittle in places, common s&p carb flakes in all SS clusters, no fluor, no cut, large amounts of COAL, SHALE and CARB SHALE from up-hole</p> <p>Lost Circ @ 3430' reduce CFM to 575 to regain circ.</p> <p>Lost circulation at 3430', down for 4.5 hrs, reduce CFM and PSI to regain circ.</p> <p>Abundant coal and shale in last 2 samples, likely from uphole cavings due to working pipe while trying to regain circulation</p>	<p>129u</p> <p>CG 123u</p> <table border="1"> <tr> <td>0</td> <td>Units</td> <td>750</td> </tr> <tr> <td>0</td> <td>ppm</td> <td>75000</td> </tr> <tr> <td>0</td> <td>ppm</td> <td>50000</td> </tr> <tr> <td>0</td> <td>ppm</td> <td>30000</td> </tr> <tr> <td>0</td> <td>ppm</td> <td>20000</td> </tr> <tr> <td>0</td> <td>ppm</td> <td>20000</td> </tr> </table> <p>Gas content= 100% Methane (C1)</p>	0	Units	750	0	ppm	75000	0	ppm	50000	0	ppm	30000	0	ppm	20000	0	ppm	20000
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0	ppm	20000																							
		3450				<p>TD: 3450' MD</p> <p>TD 3450' REACHED AT 23:30 ON APRIL 17, 2015. CIRCULATE AND TOOH TO RUN LINER AND PUMP</p>																			

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3368-3450