API #15-153-21019

Saman Sharifaie
Petroleum Geologist

GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

WELL NAME	Ashby #1-10
LOCATION	1980' FSL & 1980' FEL
	Sec. 10, T. 21 S., R. 21 E.
COUNTY	Ness County, Kansas
API #	15-153-21019
OPERATOR	Petroleum Development Corporation
CONTRACTOR	Duke Drilling Co. Rig #8
SPUD	06/26/14
COMP. DATE	06/30/14
ELEVATION	2247' KB; 2242' GL
DIRECTIONAL CO.	None
MUD CO.	Chemical Solutions
MUD TYPE	Chemical Gel
CASING	Surface: 8 5/8" @ 215'
	Production: 4 1/2" @ 4494'
ELECTRICAL SURVEY	None
DST'S	3 DST's - Tim Pickrell
CORES	None
DRILL STEM TESTS	3
DAYS ON JOB	5
DEPTH: DRILLING BEGAN	0'
DEPTH: DRILLING FINISHED	4494'
DEPTH: DRILLING TIME RECORDED	2100' - 4494'
DEPTH: SAMPLES RECORDED	3600' - 4494'
GEOLOGICAL SUPERVISION FROM	3300' - 4494'
GEOLOGIST ON WELL	Saman Sharifaie
PETROLEUM GEOLOGIST	Saman Sharifaie

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REMARKS: Due to poor shows of oil, low relative structural position, and negative DST results, it is recommended and agreed upon by all parties that production casing be set in case this well be cold-water tested or completed.

Respectfully Submitted,

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*Depths have been adjusted to electric logs.

Curve Track 1
Drill depth
Gamma (API)
Chlorin (mg/l)

Curve Track 2
Drill depth
Total Gas (units)
C1
C2
C3
C4
C5

Lithology

Geological Descriptions

Engineering Data

Ashby#10 3119 (+152)

Base 3133 (+145)

DAILY PENETRATION
06/26/14 - 0'
06/26/14 - Spudded at 9:15 AM
06/27/14 - Drilling at 1168'
06/28/14 - Drilling at 2900'
06/29/14 - Drilling at 3800'
06/30/14 - Trenching at 4140'
06/30/14 - Drilling at 4494'
06/30/14 - Circulating at 4494'
06/30/14 - Drilling at 4494'
06/30/14 - Logging at 3000'

Plan Rise @ 0.86°, 1.4° Bent to Stand
Sweden Survey 17°

Stone Corral 3200 (+085)

Ss, wh-clr, vf-f gr, sbrnd-sr, pr srt, ptly cem, calc cmt, pr vis, pr int, dull yel fluor, no odor, no stain

Ss, gry-wh, fine-lf, abund bio fdsp

Base 3213 (+072)

Heebner 3270 (-023)

Ss, wh-clr, vf-f gr, sbrnd-sr, pr srt, ptly cem, calc cmt, pr vis, pr int, dull yel fluor, no odor, no stain

Ss, gry-wh, fine-lf, abund bio fdsp

Lansing 3300 (-053)

Ss, wh-clr, vf-f gr, sbrnd-sr, pr srt, ptly cem, calc cmt, pr vis, pr int, dull yel fluor, no odor, no stain

Ss, gry-wh, fine-lf, abund bio fdsp

Kansas City 3500 (-253)

Ss, wh-clr, vf-f gr, sbrnd-sr, pr srt, ptly cem, calc cmt, pr vis, pr int, dull yel fluor, no odor, no stain

Ss, gry-wh, fine-lf, abund bio fdsp

Stark 3577 (-1130)

Ss, wh-clr, vf-f gr, sbrnd-sr, pr srt, ptly cem, calc cmt, pr vis, pr int, dull yel fluor, no odor, no stain

Ss, gry-wh, fine-lf, abund bio fdsp

Pawnee 4511 (-1220)

Ss, wh-clr, vf-f gr, sbrnd-sr, pr srt, ptly cem, calc cmt, pr vis, pr int, dull yel fluor, no odor, no stain

Ss, gry-wh, fine-lf, abund bio fdsp

BKC 4427 (-1336)

Ss, wh-clr, vf-f gr, sbrnd-sr, pr srt, ptly cem, calc cmt, pr vis, pr int, dull yel fluor, no odor, no stain

Ss, gry-wh, fine-lf, abund bio fdsp

Mississippian 4554 (-1633)

Ss, wh-clr, vf-f gr, sbrnd-sr, pr srt, ptly cem, calc cmt, pr vis, pr int, dull yel fluor, no odor, no stain

Ss, gry-wh, fine-lf, abund bio fdsp

Arbuckle 4866 (-1745)

RTD 5000 (-1839)

Sweden Survey @ 5000 17°

DST #1
4.5-HOLE BHC
2114'-4040'

00-00-00-00
IF: Blow Dead in 5"
FF: Dead in 5"
FFI: Blow built to 2½"
FFF: Dead in 5"
Rec: 10' CMCW (1%G), 60'GW, 120'GCW (1%G), 60'GMCW (1%G), 120'GMC SLIP CMCW (5%G), 60'GW, 120'GCW (5%G), 60'GMW (5%G), 120'GMC

IFP: 42 - 75
ISIP: 1170 - 1176
FFP: 86 - 127
FSIP: 1170 - 1165
HYD: 2045 - 2045
BHT: 100°

Morgan Mud @ 4287
Wt: 9.0
Vis: 75
Wl: 7.2
Cl: 1000
LCM: 1#

Sweden Survey @ 4287 17°

DST #2
4.5-HOLE BHC
4270'-4350'

00-00-00-00
IF: Blow Dead, died @ 10 mins
FF: Dead
Rec: 10' M oil spots (100%M)

IFP: 17 - 22
ISIP: 27 - 37
FFP: 22 - 27
FSIP: 31 - 29
HYD: 2135 - 2135
FHP: 2045 - 2045
BHT: 100°

Morgan Mud @ 4270
Wt: 9.0
Vis: 75
Wl: 8.0
Cl: 900
LCM: 1#

Sweden Survey @ 4270 17°

DST #3
4.5-HOLE BHC
4500'-4540'

00-00-00-00
IF: Blow Dead, died @ 10 mins
FF: Dead
Rec: 10' M oil spots (100%M)

IFP: 17 - 22
ISIP: 27 - 37
FFP: 22 - 27
FSIP: 31 - 29
HYD: 2135 - 2135
FHP: 2045 - 2045
BHT: 100°

Morgan Mud @ 4500
Wt: 9.0
Vis: 75
Wl: 8.0
Cl: 900
LCM: 1#

Sweden Survey @ 4500 17°