

Saman Sharifaie

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY: **Martin Drilling Co., Inc.**
LEASE: **Culwell - #1-14**

FIELD: **Wildcat**
LOCATION: **330' ENL & 660' FWL**
SEC: **14** TWP: **1S** RGE: **37W**
COUNTY: **Cheyenne** STATE: **Kansas**

CONTRACTOR: **Martin Drilling #2**
RTPD: **04/06/15** COMP: **04/15/15**
SPUD: **4/7/15** TYPE MUD: **Chemical**
MUD UP: **3.252** LTD: **4742'**

SAMPLES SAVED FROM: **3310'** TO RTD
DRILLING TIME KEPT FROM: **3510'** TO RTD
SAMPLES EXAMINED FROM: **3310'** TO RTD

GEOLOGICAL SUPERVISION FROM: **3210'**
REFERENCE WELL: **MDCT - Therton #3-10**

CASING
CONDUCTOR: **8-5/8" at 221'**
SURFACE: **5-1/2" at 4731'**
PRODUCTION: **5-1/2" at 4731'**

ELECTRICAL SURVEYS
CND: **D.L. MEL. Somic**
Pioneer Wireline

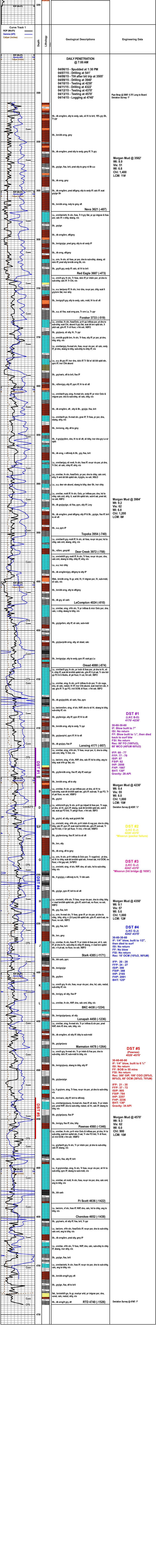
ELEVATIONS
KB 3214'

Formation	Sample Tops	E-log Tops	Strat Pos.
Anhydrite	3165 (+49)	3162 (+52)	-3
Base Anhydrite	3300 (+14)	3195 (+19)	-6
Neva	3611 (-397)	3621 (-407)	8
TOPEKA	3942 (-728)	3954 (-740)	-9
Oredal	4078 (-864)	4088 (-876)	-9
Starke	4158 (-944)	4171 (-957)	-8
Stark	4373 (-1161)	4385 (-1171)	-5
Pawnee	4554 (-1340)	4560 (-1346)	-1
Cherokee	4640 (-1426)	4652 (-1438)	-2

REMARKS Due to poor to fair shows of oil in multiple pay zones and positive DST results, it is recommended and agreed upon by all parties that production casing be set to further evaluate this well.

Respectfully Submitted,
API #15-023-21424
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*Tops have been adjusted to electric logs



Pipe Strap @ 3505'; 0.78' Long to Board Deviation Survey: 1"

Morgan Mud @ 3582'
WT: 8.9
Vis: 51
WI: 6.8
Chl: 1,400
LCM: 11#

Morgan Mud @ 3984'
WT: 9.2
Vis: 62
WI: 6.8
Chl: 1,200
LCM: 8#

Morgan Mud @ 4230'
WT: 9.4
Vis: 55
WI: 8.0
Chl: 1,000
LCM: 10#
Deviation Survey @ 4230': 1/2"

Morgan Mud @ 4350'
WT: 9.1
Vis: 57
WI: 5.6
Chl: 1,000
LCM: 12#

Morgan Mud @ 4570'
WT: 8.3
Vis: 62
WI: 6.0
Chl: 900
LCM: 10#
Deviation Survey @ 4740': 1"

DST #1 (LKC B-D) 4170'-4230'
30-60-30-60
IF: Blow built to 7"
ISI: No return
FF: Blow built to 1/4", then died back to surf blw
FSI: No return
Rec: 80' FO (100%O), 80' MCO (40%M 60%O)

DST #2 (LKC E-J) 4226'-4370'
*Missrun (packer failure)

DST #3 (LKC G-J) 4242'-4370'
*Missrun (hit bridge @ 1650')

DST #4 (LKC G-J) 4242'-4370'
30-60-30-60
IF: 1/4" blow, built to 1/2", then died to surf
FF: No blow
FSI: No return
Rec: 10' OCM (10%O, 90%M)

DST #5 (Pawnee) 4528'-4570'
30-60-60-90
IF: 1/4" blow, built to 6 1/2"
ISI: No return
FF: BOB in 55 mins
FSI: No return
Rec: 300' GIP, 100' CGO (20%G, 80%O), 60' OCM (30%O, 70%M)