API #15-103-21151

Saman Sharifaie Petroleum Geologist

GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

WELL: Morgan Wud #3947	Field: Morgan Wud
LEASE: Bradley A Unit	
COUNTY: Ellis	STATE: Kansas
COORDINATES: 1320' FSL & 1320' FEL	
SECTION: 4	TWP: 15S
RANGE: 19W	
GL: 2101	KB: 2109
Date Commenced: 09/24/15	Date Completed: 09/25/15
Drilling Contractor: Red Tiger Drilling Co. Rig #4	
Total Depth: 3800'	
Casing: 8 5/8" @ 215' w/ 150 sks	
Mud Type: Chemical	
Bit Type: 7 7/8" Rock Bit	
Samples Saved From: 3300' to RTD	
Drlg Time Kept From: 3300' to RTD	
Samples Examined From: 3300' to RTD	
Geological Supervision From: 3300' to RTD	
Hole Size: 7 7/8"	
Electrical Log By: Petrologs	
Mud Logging By: Petrologs	
Mud Logging Unit: 2 Man Unit	
Mud Logging Unit Operator: Saman Sharifaie	
Mud Logging Unit Location: Hays, Kansas	

Formations	Sample Tops	Log Tops	Sub Sea
Anhydrite	3268		(-1159)
Base Anhydrite	3293		(-1184)
Topeka	4072		(-1963)
Heebner	4242		(-2133)
Toronto	4263		(-2154)
Lansing-Kansas City	4281		(-2172)
Muncie Creek	4463		(-2354)
Stark	4545		(-2436)
Hushpuckney	4583		(-2474)
Base Kansas City	4625		(-2516)
Cherokee	4736		(-2627)
Mississippian	4800		(-2691)
Reagan Sand	3800		(-1691)
Granite Wash	3800		(-1691)
Granite	3800		(-1691)

ELECTRICAL CHANNELS
CH. 1 GR
CH. 2 DIFF. TEMP.
CH. 3 DIFF. PRESS.
CH. 4 SPEED

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

Respectfully Submitted,

Saman Sharifaie
Petroleum Geologist

API #15-103-21151

*Tops have been adjusted to electric logs

Curve Track 1
IDF (Red?)
Gamma (API)
Caliper (inches)

Curve Track 2
IDF (Red?)
Gamma (API)
Caliper (inches)

Depth	Lithology	Geological Descriptions	Engineering Data
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300		Anhydrite 3268 (-1152)	
400		Base 3293 (-1185)	
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DAILY PENETRATION
@ 7:00 AM
09/21/15 - Spudded at 3:45 PM
09/22/15 - Drlg at 1000'
09/23/15 - Drlg at 2532'
09/24/15 - Drlg at 3532'
09/25/15 - Drlg at 4000'
09/26/15 - Drlg at 4500'
09/27/15 - Drlg at 4800'
09/28/15 - Drlg at 4947'
09/29/15 - Drlg at 4947

Anhydrite 3268 (-1152)

Base 3293 (-1185)

Topeka 4072 (-1963)

Heebner 4242 (-2133)

Toronto 4263 (-2154)

Lansing-Kansas City 4281 (-2172)

Muncie Creek 4463 (-2354)

Stark 4545 (-2436)

Hushpuckney 4583 (-2474)

Base Kansas City 4625 (-2516)

Cherokee 4736 (-2627)

Mississippian 4800 (-2691)

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Drlg Time Kept From: 3300' to RTD

Samples Examined From: 3300' to RTD

Geological Supervision From: 3300' to RTD

Hole Size: 7 7/8"

Electrical Log By: Petrologs

Mud Logging By: Petrologs

Mud Logging Unit: 2 Man Unit

Mud Logging Unit Operator: Saman Sharifaie

Mud Logging Unit Location: Hays, Kansas

Geological Descriptions

Engineering Data

Pad Rig @ 500' 1-8' Dust to Dust
Smoke during 7'

Morgan Wud @ 3947
Wt: 9.2
Vis: 52
Wl: 8.2
Ch: 700
LCM: 60

DST #1
(LKC A-G)
ECIP 4480'
30-60-30-60
IF: BOB in 4 mins
FF: BOB in 2 mins
ISI: 1127 units
Rec: 612' MW (11%W, 89%M)
IHP: 2066 (2015#, 0015#)

IFP: 61 - 124
FFP: 124 - 184
ISIP: 1127
FHP: 1966
IBHP: 1127
FBHP: 1066
BHT: 108°

DST #2
(LKC H)
ECIP: 4420'

19-60-19-60
IF: BOB in 1 min
FF: Surf return, died at 40 mins
ISI: No return
FSI: No return
Rec: 90' GOCW (1%O, 99%M)
IHP: 2154 (2108#, 0015#)
IFP: 37 - 37
FFP: 37 - 37
ISIP: 1127
FHP: 2154
IBHP: 1127
BHT: 108°

DST #3
(LKC K-L)
ECIP: 4510'

30-60-45-90
IF: Blow built to 8 ½"
FF: BOB in 5 mins
FF: BOB in 37 mins
FSI: No return
Rec: 90' GOCW (1%O, 19%M)
IHP: 2234 (2188#, 0015#)

IFP: 23 - 100
FFP: 100 - 145
ISIP: 1145
FHP: 1988
IBHP: 1145
BHT: 108°

Morgan Wud @ 4201'
Wt: 9.1
Vis: 52
Wl: 7.6
Ch: 1,100
LCM: 60

Deviation Survey @ 4240: 1/2°

Morgan Wud @ 4510'
Wt: 9.2
Vis: 52
Wl: 8.2
Ch: 1,100
LCM: 60

Deviation Survey @ 4510: 1/2°

Morgan Wud @ 4580'
Wt: 9.2
Vis: 52
Wl: 8.0
Ch: 1,000
LCM: 60

Deviation Survey @ 4580: 1/2°