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Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Muir #1
Location: Phillips County
License Number: API #15-147-20742-00-00
Spud Date: 9/5/14
Surface Coordinates: Section 31 - Township 5 South - Range 17 West
560' FSL & 2,140' FEL
Bottom Hole Coordinates: Vertical well with minimal deviation, same as above
Ground Elevation (ft): 1,847' **K.B. Elevation (ft):** 1,855'
Logged Interval (ft): 2,800' **To:** 3,321' **Total Depth (ft):** 3,325
Formation: LKC
Type of Drilling Fluid: Chemical (Mud-Co.)

Region: Kansas
Drilling Completed: 9/9/14

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

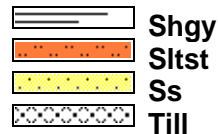
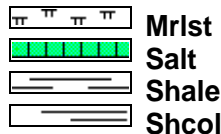
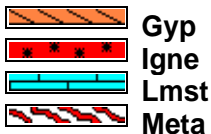
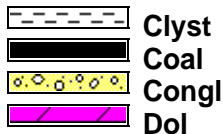
Company: John O. Farmer, Inc.
Address: P.O. Box 352
Russell, KS 67665-0352

Comments

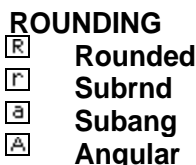
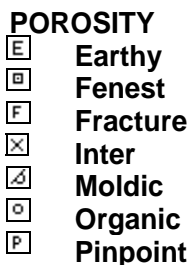
The Muir #1 well was drilled by WW Drilling Rig #12 (Tool Pusher: Calvin Pfannenstiel).

The location for the Muir #1 well was found via 3-D seismic survey. Geologic samples were collected and evaluated from 2,780'-3,325'. Structurally, the Muir #1 ran 22' low to our correlation well at the Lansing. Due to low structural position, no bottom-hole tests were conducted. After all sample and log data was gathered and evaluated, the decision was made to plug and abandon the Muir #1 well on 9/9/14.

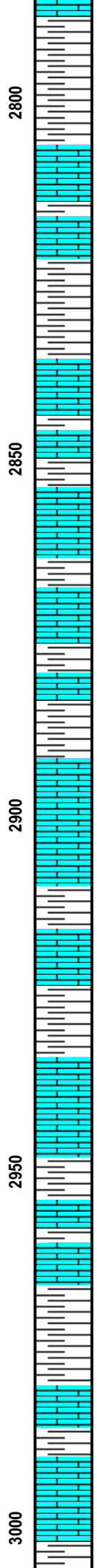
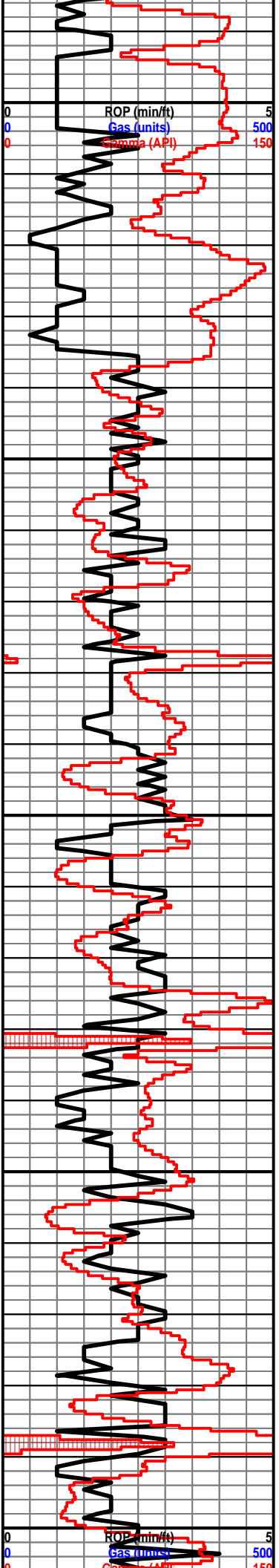
ROCK TYPES



OTHER SYMBOLS



Curve Track 1		Depth	Lithology	Geological Descriptions	Drill Stem Tests																														
ROP (min/ft)	Gas (units)					Gamma (API)																													
0	500	0		<p>The open-hole logging was performed by Mr. M. Beougher with Pioneer Wireline, LLC (Hays, KS). Logs included: Compensated Density/Compensated Neutron, Dual Induction, and Micro Resistivity.</p> <p>Formation tops and datums from the open-hole logs include the following:</p> <table border="1"> <tr><td>Anhydrite</td><td>1347</td><td>508</td></tr> <tr><td>Topeka</td><td>2837</td><td>-982</td></tr> <tr><td>Heebner</td><td>3041</td><td>-1186</td></tr> <tr><td>Toronto</td><td>3065</td><td>-1210</td></tr> <tr><td>Lansing</td><td>3082</td><td>-1227</td></tr> <tr><td>B/KC</td><td></td><td></td></tr> <tr><td>Arbuckle</td><td></td><td></td></tr> <tr><td>Reagan</td><td></td><td></td></tr> <tr><td>RTD</td><td></td><td></td></tr> <tr><td>LTD</td><td>3321</td><td>-1466</td></tr> </table>	Anhydrite	1347	508	Topeka	2837	-982	Heebner	3041	-1186	Toronto	3065	-1210	Lansing	3082	-1227	B/KC			Arbuckle			Reagan			RTD			LTD	3321	-1466	<p>Mud Engineer: Gary Schmidtberger No DST's</p>
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0	150	0																																	
		9/5/14 @ 3:15pm	Spud																																
		9/6/14 @ 7:00am	470' Drlg																																
		9/7/14 @ 7:00am	2,175' Drlg																																
		9/8/14 @ 7:00am	2,950' Drlg																																
		9/9/14 @ 7:00am	3,280' Work on pump																																
		9/10/14 @ 7:00am	3,325' Completed																																



Sh: lt gry-drk gry

Ls: tan-gry, fn xln, no visible porosity

Sh: lt-drk gry

Sh: ala, soft

Topeka 2836' (-978)

Ls: tan-lt gry, fn-sub xln, mostly DNS

Sh: lt-drk gry

Ls: tan-lt gry, fn xln, scat int xln porosity, scat chert-off wh, NSFO

Sh: drk gry-brn

Sh: drk gry-blk

Ls: off wh-tan-gry, fn-sub xln, mostly DNS, scat chalk, chert-off wh

Ls: tan-buff, fn xln, scat fossil, poor int xln and vuggy porosity, chert-off wh

Ls: ala

Sh: lt-drk gry-grn, soft

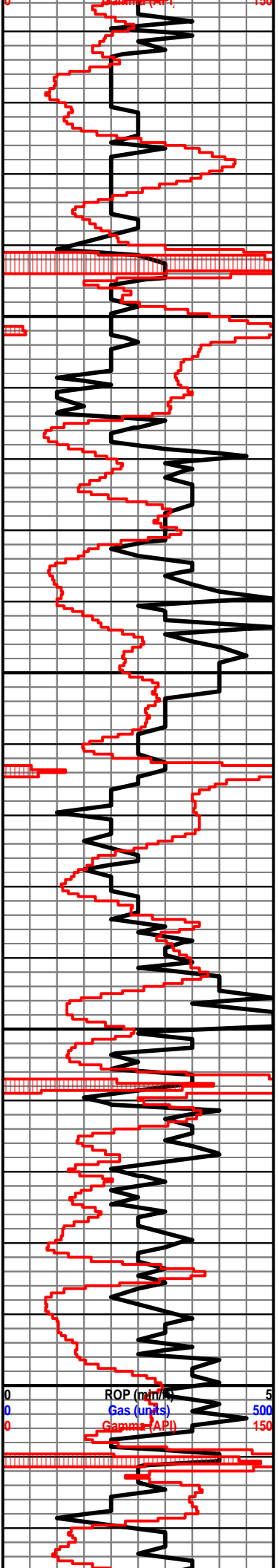
Ls: off wh-tan, fn xln, poor int xln & vuggy porosity, sl oil st, chalky

Ls: tan-gry, fn-sub xln, mostly DNS, hvy chert-off wh, no visible porosity, NSFO

Sh: drk gry

Ls: tan-gry, fossil, mostly DNS, scat chalk, chert-off wh

Ls: off wh-tan, fn xln, poor int xln porosity, scat oil st, VSSFO, fair odor



Ls: tan-lt gry, fn-sub xln, mostly DNS, NSFO, scat chert-off wh

Ls: tan-lt gry, fn-sub xln, mostly DNS, scat chalk, chert-off wh

Sh: lt gry-drk gry

Heebner 3038' (-1180)

Sh: blk, carb, fissile

Ls: tan-lt gry, fn-sub xln, mostly DNS, NSFO

Sh: drk gry-drk brn

Toronto 3063' (-1205)

Ls: off wh-tan, fn xln, scat int xln porosity, scat oil st, NSFO

Sh: lt gry-drk gry

Lansing 3080' (-1225)

Ls: off wh-tan, fn xln, poor int xln and ool porosity, scat oil st, VSSFO

Ls: off wh-lt gry, fn xln, no visible porosity, DNS, NSFO

Sh: drk gry-drk brn

Ls: off wh-tan, fn xln, poor int xln and vuggy porosity, scat oil st, SSFO, sl odor, hvy chalky

Sh: lt gry-drk gry

Ls: off wh-tan, fn xln, mostly DNS, no visible porosity, NSFO

Sh: drk gry-blk

Ls: off wh-lt gry, fn-sub xln, mostly DNS, scat fossil, chert-off wh

Ls: off wh-tan, fn xln, poor int xln & vuggy porosity, scat oil st, SSFO, sl odor

Sh: drk gry

Ls: tan-lt gry, fn xln, no visible porosity, NSFO, hvy chert-off wh, scat chalk

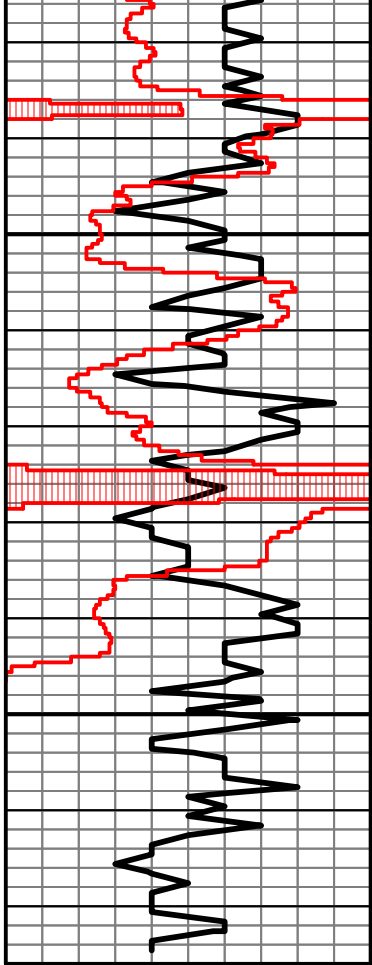
Sh: drk gry-brn

Sh: blk, carb

Sh: drk gry-brn, scat blk

Ls: off wh-tan, fn xln, vry DNS, no visible

ROP (min/ft) 5
 Gas (units) 500
 Gamma (API) 150



3250

3300

porosity, hvy chert-oft wh, NSFO, chalky

Sh: drk gry-grn, soft

Ls: off wh-tan, fn xln, poor int xln & vuggy porosity, scat fossil, poor oil st, VSSFO, sl odor

Sh: drk gry-brn-grn, vry soft

Ls: off wh-tan, fn xln, poor int xln & vuggy porosity, fossil, scat chert, scat-fair oil st, SSFO, sl odor

Sh: drk gry-drk brn-grn

Ls: off wh-tan, fn xln, poor int xln & vuggy porosity, scat oil st, NSFO, no odor

Sh: drk gry

Ls: off wh-tan, fn xln, mostly DNS, NSFO, scat fossil

B/KC 3315' (-1460)

Sh: drk gry-drk brn, soft