

Jackman Oilfield Services  
1 West Mulberry St.  
Colony, KS 66015  
620-852-3350

WELL LOG  
Lakeshore Operating, LLC  
Sturdivan 3 LO-50

July 22, 2016

<u>Thickness of Strata</u>	<u>Formation</u>	<u>Total</u>
3.00	Soil	3.00
4.00	Clay	7.00
4.00	Lime	11.00
3.00	Shale	14.00
3.00	Lime	17.00
20.00	Shale	37.00
6.00	Lime	43.00
127.00	Shale	170.00
102.00	Lime	272.00
17.00	Sandstone	289.00
143.00	Lime	432.00
43.00	Shale	475.00
26.00	Lime	501.00
16.00	Red Shale	517.00
22.00	Lime	539.00
4.00	Shale	543.00
109.00	Lime	652.00
2.00	Shale	654.00
5.00	Lime	659.00
196.00	Shale	855.00
8.00	Lime	863.00
69.00	Shale	932.00
12.00	Lime	944.00
44.00	Shale	988.00
3.00	Lime	991.00
2.00	Shale	993.00
4.00	Lime	997.00
2.00	Shale	999.00
1.00	Lime	1,000.00
8.00	Shale	1,008.00
14.00	Top oil sand	1,022.00
17.00	Shale	1,039.00
2.00	Lime	1,041.00

18.00	Oil sand	1,059.00	
26.00	Shale	1,085.00	
3.00	Lime	1,088.00	
4.00	Shale	1,092.00	TD

Drilled a 9 7/8" hole to 39'7"

Drilled a 5 7/8" hole to 1092'

Set 40' of 7" surface casing cemented with 10 sacks of portland cement

Ran 1085' of 2 7/8"

No cores

Seating nipple @ 1031'

Cemented on 7/26/16

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