

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

WELL LOG
 Lakeshore Operating, LLC
 Sturdivan 3 LOI-9

August 12, 2016

<u>Thickness of Strata</u>	<u>Formation</u>	<u>Total</u>	
3.00	Soil	3.00	
5.00	Clay	8.00	
3.00	Shale	11.00	
2.00	Lime	13.00	
3.00	Shale	16.00	
5.00	Broken lime/	21.00	mix shale
16.00	Gray shale	37.00	
5.00	Lime	42.00	
135.00	Shale	177.00	
11.00	Lime	188.00	
25.00	Sandstone	213.00	
12.00	Lime	225.00	
5.00	Sandstone	230.00	
46.00	Lime	276.00	
18.00	Shale	294.00	
121.00	Lime	415.00	
17.00	Shale	432.00	
9.00	Lime	441.00	
47.00	Shale	488.00	
7.00	Coal	495.00	
20.00	Shale	515.00	
7.00	Red bed shale	522.00	
29.00	Gray shale	551.00	
106.00	Lime	657.00	
119.00	Shale	776.00	
8.00	Lime	784.00	
76.00	Shale	860.00	
6.00	Lime	866.00	
122.00	Shale	988.00	
8.00	Lime	996.00	
5.00	Shale	1,001.00	
2.00	Lime	1,003.00	
4.00	Shale	1,007.00	

1.00	Lime	1,008.00	
11.00	Oil sand	1,019.00	
25.00	Shale	1,044.00	
2.00	Lime	1,046.00	
13.00	Oil sand	1,059.00	
27.00	Shale	1,086.00	
2.00	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

No seating nipple

Cemented on 8/16/16

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