

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

WELL LOG
 Kansas Resource Exploration & Development, LLC
 Cartwright KR-33

May 7, 2014

<u>Thickness of Strata</u>	<u>Formation</u>	<u>Total</u>	
6	soil/clay	6	
22	lime	28	
8	shale	36	
4	lime	40	
5	red bed	45	
35	shale	80	
18	lime	98	
10	shale	108	
11	lime	119	
6	shale	125	
10	lime	135	
9	shale	144	
23	lime	167	
4	shale	171	
14	lime	185	
121	shale	306	
2	coal	308	
20	shale	328	
2	lime	330	
16	shale	346	
15	lime	361	
12	grey sand	373	light gas smell
24	shale	397	
3	coal	400	
8	shale	408	
4	lime	412	
13	shale	425	
4	lime	429	
11	shale	440	
12	lime	452	
14	shale	466	
2	lime	468	

4	coal	472	
7	lime	479	
4	shale	483	
1	broken sand	484	no bleed
2	oil sand	486	light bleed
2	oil sand	488	medium bleed
5	broken sand	493	light to no bleed
35	shale	528	
1	lime	529	
21	shale	550	
1	lime	551	
29	shale	580	TD

Drilled a 9 7/8" hole to 19'7"

Drilled a 5 7/8" hole to 580'

Set 20' of 7" surface casing cemented with 5 sacks of portland cement

Set 573.50' of 2 7/8" round upset tubing. Baffle @ 542'

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