

RECEIVED SEP 16 2014
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Jackman Oilfield Services
1 West Mulberry St.
Colony, KS 66015
620-852-3350

WELL LOG
Kansas Resource Exploration & Development, LLC
Cartwright KRI-23

September 8, 2014

<u>Thickness of Strata</u>	<u>Formation</u>	<u>Total</u>	
9	soil/clay	9	
16	lime	25	
22	shale	47	
2	lime	49	
42	shale	91	
16	lime	107	
9	shale	116	
8	lime	124	
12	shale	136	
7	lime	143	
7	shale	150	
25	lime	175	
4	shale	179	
5	lime	184	
3	sandy lime	187	
4	lime	191	
135	shale	326	
1	coal	327	
5	shale	332	
3	grey sand with	335	lime streaks
6	grey sand	341	
12	sandy shale	353	
3	shale	356	
9	lime	365	
3	grey sand	368	slight gas smell
3	lime	371	
13	grey sand/sandy shale	384	
24	shale	408	
3	coal	411	
3	shale	414	
3	lime	417	
7	lime/sandy lime	424	

10	shale	434	
1	lime	435	
1	coal	436	
14	shale	450	
2	lime	452	
12	sandy lime/lime	464	
12	shale	476	
1	lime	477	
2	coal	479	
1	shale	480	
5	lime	485	
5	shale	490	
2	broken sand	492	light bleed
1	oil sand	493	good bleed
1.50	lime	494.50	
10.50	oil sand/broken sand	505	good bleed
75	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 577.15' of 2 7/8" round upset tubing. Baffle @ 544.50'

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