



11 Lewis Drive

Paola, KS 66071

**Oil & Gas Well Drilling  
Water Wells  
Geo-Loop Installation**

Phone: 913-557-9083

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**WELL LOG**

D & Z Exploration, Inc.

Andrew A #21

API # 15-091-24,406

December 19 - December 23, 2014

<u>Thickness of Strata</u>	<u>Formation</u>	<u>Total</u>
19	soil & clay	19
11	clay & gravel	30
17	sandstone	47
16	lime	63
6	shale	69
8	lime	77
11	shale	88
15	lime	103
20	shale	123
71	lime	194
36	shale	230
9	lime	239
20	shale	259
8	lime	267
6	shale	273
16	lime	289
20	shale	309
6	lime	315
4	shale	319
10	lime	329
2	shale	331
18	lime	349
5	shale	354
22	lime	376
3	shale	379
16	lime	395 base of the Kansas City
173	shale	568
6	lime	574
9	shale	583
5	lime	588
4	shale	592
6	sand	598 green, no oil
11	shale	609
3	lime	612
17	shale	629
2	lime	631
40	shale	671
8	sand	679 green, no oil
59	shale	738

4	silty shale	742
9.5	broken sand	751.5 brown & grey, a couple bleeding seams
8.5	silty shale	760
10	shale	770
2	lime	772
45	shale	817
10	sand	827 white, no oil
21	shale	848
5	sand	853 white, no oil
10	shale	863
1	limey sand	864 white, no oil
1	limey oil sand	865 black & white, 90% bleeding
1	limey sand	866 black & white 10% bleeding
9	limey oil sand	875 black & white, 80% bleeding
5	silty shale	880
65	shale	945
15	silty shale	960 TD

Drilled a 9 7/8" hole to 45.5'

Drilled a 5 5/8" hole to 960'

Set 45.5' of 7" surface casing, cemented by Consolidated Oil Well Service.

Set 923' of 2 7/8" 8 round upset tubing including 3 centralizers, 1 float shoe, 1 clamp, 1 seating nipple

	<u>Minutes</u>	<u>Seconds</u>		<u>Minutes</u>	<u>Seconds</u>
743		53	864	1	48
744		35	865		22
745		38	866		56
746		36	867		40
747		31	868		41
748		34	869		33
749		33	870		29
750		33	871		28
751		35	872		26
752		35	873		24
753		42	874		27
754		41	875		<u>32</u>
755		34	876		35
756		34	877		35
757		34			
758		34			