



Oil & Gas Well Drilling
Water Wells
Geo-Loop Installation

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11 Lewis Drive Paola, KS 66071

WELL LOG

Petroleum Technologies, Inc.
Sawyer #12
API #15-091-24,319
July 14 - July 15, 2014

<u>Thickness of Strata</u>	<u>Formation</u>	<u>Total</u>
13	soil & clay	13
23	shale	36
11	lime	47
7	shale	54
13	lime	67
10	shale	77
16	lime	93
22	shale	115
26	lime	141
7	shale	148
14	lime	162
6	shale	168
34	lime	202
15	shale	217
9	lime	226
20	shale	246
5	lime	251
5	shale	256
7	lime	263
34	shale	297
2	lime	299
9	shale	308
23	lime	331
8	shale	339
25	lime	364
4	shale	368
14	lime	382 base of the Kansas City
171	shale	553
6	lime	559
2	shale	561
13	lime	574
5	shale	579 brown & green light oil show
4	broken sand	583
10	shale	593
3	lime	596
2	shale	598
1	coal	599
10	shale	609
4	lime	613

28	shale	641
2	lime	643
80	shale	723
5	broken sand	728
11	shale	739
1	coal	740
3	shale	743
3	lime	746
42	shale	788
10	sand	798
14	shale	812
1	coal	813
22	shale	835
9	broken sand	844
6	shale	850
3	broken sand	853
54	shale	907 TD

Drilled a 9 7/8" hole to 21.6'

Drilled a 5 5/8" hole to 907'

Set 21.6' of 7" casing cemented with 5 sacks cement.

Set 887' of 2 7/8" 8 round upset tubing including 3 centralizers, 1 float shoe, and 1 clamp.