



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

Tailwater, Inc.

North Kempnich #19-IWU

API #15-003-26,243

August 29 - September 2, 2014

<u>Thickness of Strata</u>	<u>Formation</u>	<u>Total</u>
1	soil & clay	1
4	clay & gravel	5
88	shale	93
30	lime	123
67	shale	190
10	lime	200
6	shale	206
36	lime	242
5	shale	247
23	lime	270
3	shale	273
21	lime	294 base of the Kansas City
29	shale	323
27	sand	350 grey no oil
122	shale	472
3	lime	475
5	shale	480
8	lime	488 oil show
11	shale	499
5	sand	504 green no oil
6	oil sand	510 green ok bleeding
3	shale	513
1	coal	514
1	shale	515
16	oil sand	531 green good bleeding
6	shale	537
1	coal	538
7	shale	545
6	lime	551
14	shale	565
4	lime	569
19	shale	588
9	lime	597
3	shale	600
8	lime	608
11	shale	619
3	lime	622
23	shale	645

2	limey sand	647 green & white, no oil
2.5	broken sand	649.5 brown & green 30% bleeding
0.5	oil sand	650 brown 100% bleeding
1.5	broken sand	651.5 brown & grey 80% bleeding
18.5	shale	670 TD

Drilled a 9 7/8" hole to 21.3'

Drilled a 5 5/8" hole to 670'

Set 21.3' of 7" surface casing threaded and coupled cemented with 5 sacks of cement.

Set 665.75' of 2 7/8" 8 round upset tubing with 3 centralizers, 1 float shoe and 1 clamp.

Core Times

	<u>Minutes</u>	<u>Seconds</u>
648		45
649		30
650		56
651		32
652		30
653		30
654		24
655		35
656		35
657		34
658		36