



11 Lewis Drive

Paola, KS 66071

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

Phone: 913-557-9083

Fax: 913-557-9084

WELL LOG

Petroleum Technologies, Inc.

Sawyer #9A

API #15-091-24,318

July 1 - July 2, 2014

| <u>Thickness of Strata</u> | <u>Formation</u> | <u>Total</u> |
|----------------------------|------------------|-----------------------------|
| 11 | soil & clay | 11 |
| 19 | shale | 30 |
| 4 | lime | 34 |
| 3 | shale | 37 |
| 16 | lime | 53 |
| 8 | shale | 61 |
| 9 | lime | 70 |
| 8 | shale | 78 |
| 23 | lime | 101 |
| 17 | shale | 118 |
| 25 | lime | 143 |
| 5 | shale | 148 |
| 53 | lime | 201 |
| 19 | shale | 220 |
| 8 | lime | 228 |
| 19 | shale | 247 |
| 6 | lime | 253 |
| 6 | shale | 259 |
| 7 | lime | 266 |
| 44 | shale | 310 |
| 9 | lime | 319 |
| 4 | shale | 323 |
| 16 | lime | 339 |
| 8 | shale | 347 |
| 22 | lime | 369 |
| 4 | shale | 373 |
| 17 | lime | 390 base of the Kansas City |
| 166 | shale | 556 |
| 11 | lime | 567 |
| 4 | shale | 571 |
| 2 | lime | 573 |
| 3 | shale | 576 |
| 1 | lime | 577 |
| 14 | shale | 591 |
| 4 | lime | 595 |
| 3 | shale | 598 |
| 1 | coal | 599 |
| 1 | shale | 600 |
| 11 | lime | 611 |

| | | |
|------|-----------------|-------|
| 77 | shale | 688 |
| 2 | lime | 690 |
| 21 | shale | 711 |
| 13 | broken sand | 724 |
| 96 | shale | 820 |
| 2 | lime | 822 |
| 9 | shale | 831 |
| 5 | limey sand | 836 |
| 2.5 | broken oil sand | 838.5 |
| 10 | shale | 848.5 |
| 1 | coal | 849.5 |
| 50.5 | shale | 900 |
| 30 | sand | 930 |
| | | TD |

Drilled a 9 7/8" hole to 21.6'

Drilled a 5 5/8" hole to 930'

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

Set 901.2' of 2 7/8" 8 round upset tubing including 3 centralizers, 1 float shoe, and 1 clamp.