



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

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Paola, KS 66071

WELL LOG

Kansas Resource Exploration & Development, LLC
Guetterman #KRI-19
API # 15-091-23,965
February 14 - February 18, 2013

| <u>Thickness of Strata</u> | <u>Formation</u> | <u>Total</u> |
|----------------------------|------------------|-----------------------------|
| 11 | soil & clay | 11 |
| 5 | sandstone | 16 |
| 13 | shale | 29 |
| 4 | lime | 33 |
| 6 | shale | 39 |
| 4 | lime | 43 |
| 6 | shale | 49 |
| 2 | lime | 51 |
| 6 | shale | 57 |
| 16 | lime | 73 |
| 10 | shale | 83 |
| 7 | lime | 90 |
| 10 | shale | 100 |
| 15 | lime | 115 |
| 19 | shale | 134 |
| 18 | lime | 152 |
| 8 | shale | 160 |
| 6 | lime | 166 |
| 3 | shale | 169 |
| 5 | lime | 174 |
| 6 | shale | 180 |
| 28 | lime | 208 |
| 25 | shale | 233 |
| 9 | lime | 242 |
| 18 | shale | 260 |
| 6 | lime | 266 |
| 4 | shale | 270 |
| 12 | lime | 282 |
| 3 | shale | 285 |
| 3 | lime | 288 |
| 39 | shale | 327 |
| 19 | lime | 346 |
| 9 | shale | 355 |
| 22 | lime | 377 |
| 3 | shale | 380 |
| 6 | lime | 386 |
| 4 | shale | 390 |
| 5 | lime | 395 base of the Kansas City |

| | | |
|-----|-------------|--|
| 173 | shale | 568 |
| 4 | lime | 572 |
| 8 | shale | 580 |
| 1 | coal | 581 |
| 6 | shale | 587 |
| 4 | lime | 591 |
| 18 | shale | 609 |
| 2 | lime | 611 |
| 3 | shale | 614 |
| 1 | coal | 615 |
| 10 | shale | 625 |
| 1 | lime | 626 |
| 24 | shale | 650 red |
| 2 | lime | 652 |
| 3 | shale | 655 |
| 1 | lime | 656 |
| 73 | shale | 729 |
| 7 | broken sand | 736 brown & grey, light bleeding (gassy) |
| 2 | oil sand | 738 brown, ok bleeding (gassy) |
| 1 | broken sand | 739 brown & grey, light bleeding (gassy) |
| 47 | shale | 786 |
| 1 | coal | 787 |
| 13 | shale | 800 |
| 3 | grey sand | 803 |
| 1 | coal | 804 |
| 48 | shale | 852 |
| 2 | silty shale | 854 |
| 1 | broken sand | 855 brown & white, good bleeding |
| 2 | oil sand | 857 brown, good bleeding |
| 3 | broken sand | 860 brown & white, good bleeding |
| 13 | shale | 873 |
| 1 | coal | 874 |
| 31 | shale | 905 TD |

Drilled a 9 7/8" hole to 22'
 Drilled a 5 5/8" hole to 905'

Set 22' of 7" surface casing cemented with 6 sacks of cement

Set 890' of 2 7/8" 8 round upset tubing with 3 centralizers, 1 float shoe and 1 clamp.