

# **Geological Report**

American Warrior, Inc.  
**Congdon #12-28**  
1380' FSL & 2566' FEL  
Sec. 28, T23s, R32w  
Finney County, Kansas



**American Warrior, Inc.**

## General Data

Well Data: American Warrior, Inc.  
Congdon #12-28  
1380' FSL & 2566' FEL  
Sec. 28, T23s, R32w  
Finney County, Kansas  
API # 15-055-22274-00-00

Drilling Contractor: Duke Drilling Co. Rig #1

Geologist: Kevin Timson

Spud Date: January 25, 2014

Completion Date: February 5, 2014

Elevation 2840' G.L.  
2852' K.B.

Directions: From Garden City, KS, at the intersection of Mary St. and Jennie Barker St. Go North on Jennie Barker 2 miles to Rodkey Rd. Go West ¼ mile on Rodkey and NNW into location.

Casing: 1703' 8 5/8" #24 Surface Casing  
4897' 5 ½" #17 Production Casing

Samples: 4400' to RTD 10' Wet & Dry

Drilling Time: 3800' to RTD

Electric Logs: Pioneer Energy Services "C. Desaire"  
Full Sweep

Drillstem Tests: Three-Trilobite Testing "Shane McBride"

Problems: Hit bridge with bit twice around 2000'.

## Formation Tops

Congdon #12-28

Sec. 28, T23s, R32w

1380' FSL & 2566' FEL

<b>Anhydrite</b>	<b>1871' +981</b>
<b>Base</b>	<b>1958' +894</b>
<b>Heebner</b>	<b>3841' -989</b>
<b>Lansing</b>	<b>3884' -1032</b>
<b>Stark</b>	<b>4252' -1400</b>
<b>Bkc</b>	<b>4407' -1555</b>
<b>Marmaton</b>	<b>4448' -1596</b>
<b>Pawnee</b>	<b>4486' -1634</b>
<b>Fort Scott</b>	<b>4515' -1663</b>
<b>Cherokee</b>	<b>4527' -1675</b>
<b>Morrow</b>	<b>4694' -1842</b>
<b>Mississippian</b>	<b>4722' -1870</b>
<b>RTD</b>	<b>4900' -2048</b>
<b>LTD</b>	<b>4904' -2052</b>

### Sample Zone Descriptions

**Morrow** (4694', -1842): Covered in DST #2

Ss. Grey glauconitic. Fine to medium grain. Poor to moderately rounded. Dirty. Poor stain. Poor saturation. No show of free oil. Poor odor. 15 Unit gas kick.

**St. Louis** (4722', -1870): Covered in DST #3

Ls. Off-White, Tan. Sub-Med crystalline. Fair oolycastic and oomodlic porosity. Fair stain and fair saturation in porosity. Show of free oil when broken. Fair odor. 70 Unit gas kick.

**Drill Stem Tests**  
 Trilobite Testing  
 “Shane McBride”

**DST #1**

**Cherokee**

Interval (4503’ - 4540’) Anchor Length 37’

IHP - 2223 #  
 IFP - 30” – ¼” blow died in 8 min 17-18 #  
 ISI - 30” – No return 28 #  
 FFP - 10” – No blow 17-18 #  
 FSIP - Pull Tool NA  
 FHP - 2214 #  
 BHT - 104° F  
 Recovery: 1’ Mud

**DST #2**

**Morrow**

Interval (4684’ – 4711’) Anchor Length 27’

IHP - 2349 #  
 IFP - 30” – ¼” blow died in 6 min 22-23 #  
 ISI - 30” – No return 41 #  
 FFP - 10” – No blow 24-23 #  
 FSIP - Pull Tool NA  
 FHP - 2274 #  
 BHT - Not Recorded  
 Recovery: 3’ Mud

**DST #3**

**St. Louis**

Interval (4780’ – 4796’) Anchor Length 16’

IHP - 2420 #  
 IFP - 30” – BOB in 8.5 min 25-89 #  
 ISI - 45” – 2.5” return blow 1506 #  
 FFP - 45” – BOB in 10 min 93-171 #  
 FSIP - 60” – 9.5” return blow 1475 #  
 FHP - 2390 #  
 BHT - 117° F

Recovery: 31’ CGO (85% Oil) Gravity: 32  
 93’ GOMCW (15% Oil)  
 93’ GSMCW & 124’ GW & 1023’ GIP

## Structural Comparison

	American Warrior, Inc. Congdon #12-28 Sec. 28, T23s, R32w 1380' FSL & 2566' FEL		American Warrior, Inc. Congdon #10-28 Sec. 28, T23s, R32w 335' FSL & 1248' FEL		American Warrior, Inc. Congdon #6-28 Sec 28, T23s, R32w 942' FSL & 1745' FEL
<b>Formation</b>					
Heebner	3841' -989	+12	3859' -1001	+3	3845' -992
Lansing	3884' -1032	+11	3901' -1043	+4	3889' -1036
Stark	4252' -1400	+4	4262' -1404	-1	4252' -1399
BKC	4407' -1555	FL	4413' -1555	-8	4400' -1547
Marmaton	4448' -1596	-14	4440' -1582	-22	4427' -1574
Pawnee	4486' -1634	+1	4493' -1635	-8	4479' -1626
Fort Scott	4515' -1663	+6	4527' -1669	-3	4513' -1660
Cherokee	4527' -1675	+6	4539' -1681	-2	4526' -1673
Morrow	4694' -1842	+7	4707' -1849	-2	4693' -1840
Miss	4722' -1870	+60	4788' -1930	-11	4712' -1859

### Summary

The location for the Congdon #12-28 well was found via 3-D seismic survey. The new well ran structurally as expected. Three drill stem test was conducted, one of which recovered commercial quantities of oil from the St. Louis Limestone formation. After all the gathered data had been examined, the decision was made to run 5 1/2" production casing to further evaluate the Congdon #12-28 well.

### Perforations

**Primary:**

**St. Louis      (4791' - 4795')**

Respectfully Submitted,

Kevin Timson  
American Warrior, Inc.

