

# **Geological Report**

American Warrior, Inc.

**Shank #5-11**

950' FNL & 1830' FWL

Sec. 11 T20s R21w

Ness County, Kansas



**American Warrior, Inc.**

## General Data

Well Data: American Warrior, Inc.  
Shank #5-11  
950' FNL & 1830' FWL  
Sec. 11 T20s R21w  
Ness County, Kansas  
API # 15-135-25835-0000

Drilling Contractor: Discovery Drilling Rig #3

Geologist: Jason T Alm

Spud Date: January 26, 2015

Completion Date: February 1, 2015

Elevation: 2262' Ground Level  
2270' Kelly Bushing

Directions: Bazine KS, 4 mi East on Hwy 96 to the HH Rd. 8  
mi South to 50 Rd. East 1/4 mi, South into location.

Casing: 220' 8 5/8" surface casing  
4429' 5 1/2" production casing

Samples: 10' wet and dry, 4000' to RTD

Drilling Time: 3700' to RTD

Electric Logs: None

Drillstem Tests: Two, Trilobite Testing, Inc. "Cody Bloedorn"

Problems: Test tool slid to bottom and plugged on DST #1.  
Tool was out of stage during Initial Shut In for DST  
#2.

Remarks: Readings from Initial Shut In for DST #2 are  
invalid.

## Formation Tops

<b>Formation</b>	<b>American Warrior, Inc. Shank #5-11 Sec. 11 T20s R21w 950' FNL &amp; 1830' FWL</b>
Anhydrite	<b>1475', +795</b>
Base	<b>1505', +765</b>
Heebner	<b>3786', -1516</b>
Lansing	<b>3831', -1561</b>
BKc	<b>4169', -1899</b>
Pawnee	<b>4296', -2026</b>
Fort Scott	<b>4328', -2058</b>
Cherokee	<b>4346', -2076</b>
Mississippian	<b>4414', -2144</b>
RTD	<b>4430', -2160</b>

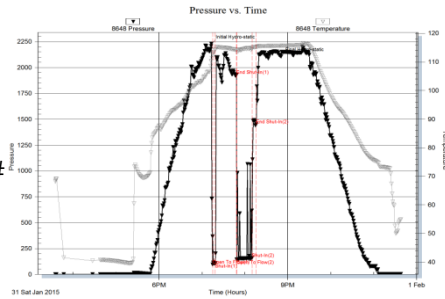
## Sample Zone Descriptions

- Fort Scott (4328', -2058): Not Tested**  
 Ls – Fine to sub-crystalline with poor pinpoint inter-crystalline porosity. Light brown oil stain with spotted saturation, no show of free oil, light odor, 14 units hotwire.
- Mississippian Osage (4414', -2144): Covered in DST #1, 2**  
 Δ – White, Triptolic, weathered with good vuggy porosity, slightly dolomitic with light spotted oil stain, slight show of free oil on cup, light odor, 15 units hotwire.

**Drill Stem Tests**  
Trilobite Testing, Inc.  
“Cody Bloedorn”

**DST #1      Mississippian Osage**

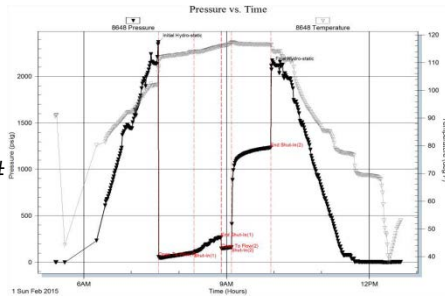
Interval (4416' – 4430') Anchor Length 14'  
 IHP – 2228 #  
 IFP – 05” – B.O.B. 1 min.                      94-108 #  
 ISI – 30” – Dead                                      1929 #  
 FFP – 45” – Built to 8 ¼ in.                      143-160 #  
 FSI – 45” – Dead                                      1452 #  
 FHP – 2107 #  
 BHT – 115°F



Recovery:      250' Mud      100% Mud  
 \*Tool slid to bottom, plugged and packers failed. Tool slid again on final flow.

**DST #2      Mississippian Osage**

Interval (4417' – 4430') Anchor Length 13'  
 IHP – 2367 #  
 IFP – 45” – Built to 8 in.                              56-103 #  
 ISI – 30” – Built to 2 in.                              268 #  
 FFP – 15” – Built to 3 in.                              147-160 #  
 FSI – 45” – Dead                                      1235 #  
 FHP – 2116 #  
 BHT – 117°F



Recovery:      10' Clean Oil                              5% Oil, 25% Water  
                     102' SOCWM                                      5% Oil, 90% Water  
                     124' SOCMW                                      5% Oil, 90% Water  
                     62' SOCWM                                      5% Oil, 45% Water  
 \*Tool was out of stage causing readings from the Initial Shut In to be invalid.

## Structural Comparison

	American Warrior, Inc. Shank #5-11 Sec. 11 T20s R21w 950' FNL & 1830' FWL	American Warrior, Inc. Shank #1-11 Sec. 11 T20s R21w 1250' FNL & 1500' FWL		American Warrior, Inc. Shank #4-11 Sec. 11 T20s R21w 900' FNL & 950' FWL	
<b>Formation</b>					
Anhydrite	<b>1475', +795</b>	1466', +794	<b>(+1)</b>	1459', +796	<b>(-1)</b>
Base	<b>1505', +765</b>	NA	<b>NA</b>	1492', +763	<b>(+2)</b>
Heebner	<b>3786', -1516</b>	3776', -1516	<b>FL</b>	3771', -1516	<b>FL</b>
Lansing	<b>3831', -1561</b>	3823', -1563	<b>(+2)</b>	3816', -1561	<b>FL</b>
BKc	<b>4169', -1899</b>	NA	<b>NA</b>	4154', -1899	<b>FL</b>
Pawnee	<b>4296', -2026</b>	4286', -2026	<b>FL</b>	4281', -2026	<b>FL</b>
Fort Scott	<b>4328', -2058</b>	4314', -2054	<b>(-4)</b>	4313', -2058	<b>FL</b>
Cherokee	<b>4346', -2076</b>	4333', -2073	<b>(-3)</b>	4334', -2079	<b>(+3)</b>
Mississippian	<b>4414', -2144</b>	4394', -2134	<b>(-10)</b>	4399', -2144	<b>FL</b>

## Summary

The location for the Shank #5-11 was found via 3-D seismic survey. The new well ran structurally as expected via the survey. Two Drill Stem Tests were conducted one of which recovered commercial amounts of oil from the Mississippian Osage Formation. After all gathered data had been examined the decision was made to run 5 ½ inch production casing to further evaluate the Shank #5-11 well.

## Recommended Perforations

**Primary:**

**Mississippian Osage**                      **(4414' – 4424')**                      **DST #1,2**

**Before Abandonment:**

**Fort Scott**                                      **(4331' – 4335')**                                      **Not Tested**

Respectfully Submitted,

Jason T Alm  
Hard Rock Consulting, Inc.