# **Geological Report**

American Warrior, Inc.

GS #2-33

540' FNL & 2305' FWL

Sec. 33 T18s R21w

Ness County, Kansas



American Warrior, Inc.

# **General Data**

Well Data:	American Warrior, Inc. GS #2-33 540' FNL & 2305' FWL Sec. 33 T18s R21w Ness County, Kansas API # 15-135-25833-0000
Drilling Contractor:	Discovery Drilling Rig #3
Geologist:	Jason T Alm
Spud Date:	December 6, 2014
Completion Date:	December 13, 2014
Elevation:	2112' Ground Level 2120' Kelly Bushing
Directions:	Bazine KS, East 1 ½ mi. to FF Rd. South ¼ mi. East and South into location.
Casing:	1350' 8 5/8" surface casing 4204' 5 1/2" production casing
Samples:	10' wet and dry, 3850' to RTD
Drilling Time:	3500' to RTD
Electric Logs:	None
Drillstem Tests:	Two, Trilobite Testing, Inc. "Brannan Lonsdale"
Problems:	None
Remarks:	After DST #1 the gas detector carried to much background to see the Mississippian gas kick due to oil in the drilling mud.

# **Formation Tops**

	American Warrior, Inc.		
	GS #2-33		
	Sec. 33 T18s R21w		
Formation	540' FNL & 2305' FWL		
Anhydrite	1339', +781		
Base	1374', +746		
Heebner	3571', -1451		
Lansing	3616', -1496		
BKc	3936', -1816		
Pawnee	4019', -1899		
Fort Scott	4090', -1970		
Cherokee	4105', -1985		
Mississippian	4176', -2056		
Osage	4193', -2073		
RTD	4205', -2085		

# **Sample Zone Descriptions**

### Fort Scott (4090', -1970): Covered in DST #1

Ls – Fine to sub-crystalline with poor scattered pinpoint intercrystalline porosity, light to fair oil stain and saturation in porosity, slight show of free oil, very light odor, good cut fluorescents, slightly fossiliferous, 58 units hotwire.

#### Mississippian Osage (4193', -2073): Covered in DST #2

Dolo –  $\Delta$  – Fine sucrosic crystalline with poor to fair intercrystalline and vuggy porosity, heavy triptolic chert, weathered with good vuggy porosity, light to fair oil stain and saturation, fair to good show of free oil, fair odor, good spotted yellow fluorescents.

### **Drill Stem Tests**

Trilobite Testing, Inc. "Brannan Lonsdale"

#### DST #1 Fort Scott

Interval (4065' – 4125') Anchor Length 60'

**IHP** -1988 #

-45" – Built to 5 ½ in. IFP 19-35 #

- 45" - Dead ISI

- 45" - Built to 6 in. FFP 28-46# 402 #

- 45" - Dead FSI

**- 1976 #** FHP BHT − 109°F

75' SOCM 10% Oil

#### Recovery: 239' GIP 1' Clean Oil

1105 #

1085 #

650#

#### **DST #1 Mississippian Osage**

Interval (4196' – 4205') Anchor Length 9'

**IHP** -2118 #

- 45" - Built to 10 in. IFP 19-63 #

- 45" - Dead ISI

FFP -45" – Built to 8 in.

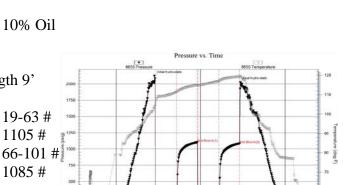
- 45" - Dead FSI

- 2023 # FHP

BHT – 119°F

45' Clean Oil Recovery:

> 160' SOCMW 5% Oil, 85% Water



Pressure vs. Time

# **Structural Comparison**

	American Warrior, Inc.	American Warrior, Inc.		American Warrior, Inc.	
	GS #2-33	Ryersee #4-33		GS #1-33	
	Sec. 33 T18s R21w	Sec. 33 T18s R21w		Sec. 33 T18s R21w	
Formation	540' FNL & 2305' FWL	300' FNL & 1975' FEL		740' FWL & 520' FWL	
Anhydrite	1339', +781	1338', +776	(+5)	1352', +768	(+13)
Base	1374', +746	1368', +746	FL	1386', +734	(+12)
Heebner	3571', -1451	3568', -1454	(+3)	3580', -1460	(+9)
Lansing	3616', -1496	3613', -1499	(+3)	3626', -1506	(+10)
BKc	3936', -1816	3930', -1816	FL	3948', -1828	(+12)
Pawnee	4019', -1899	4015', -1901	(+2)	4027', -1907	(+9)
Fort Scott	4090', -1970	4086', -1972	(+2)	4102', -1982	(+12)
Cherokee	4105', -1985	4102', -1988	(+3)	4118', -1998	(+13)
Mississippian	4176', -2056	NA	NA	4198', -2078	(+22)
Osage	4193', -2073	4184', -2070	(-3)	4204', -2084	<b>(+11)</b>

# **Summary**

The location for the GS #2-33 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 he GS #2-33 well.

#### **Recommended Perforations**

**Primary:** 

Mississippian Osage 4193' – 4199' DST #2

**Before Abandonment:** 

Fort Scott 4092' – 4096' DST #1

Respectfully Submitted,

Jason T Alm Hard Rock Consulting, Inc.