

# **Geological Report**

**LN #2-18**

2140' FNL & 2310' FEL

Sec. 18 T19s R21w

Ness County, Kansas



**American Warrior, Inc.**

## General Data

Well Data: American Warrior, Inc.  
LN #2-18  
2140' FNL & 2310' FEL  
Sec. 18 T19s R21w  
Ness County, Kansas  
API # 15-135-25968-0000

Drilling Contractor: Discovery Drilling Co., Inc. Rig #4

Geologist: Jason T Alm

Spud Date: September 6, 2017

Completion Date: September 13, 2017

Elevation: 2263' Ground Level  
2271' Kelly Bushing

Directions: Bazine KS, Intersection of Austin St. and Hwy 96,  
South 3 mi. to 100 Rd. East 1/2 mi. South into  
location.

Casing: 220' 8 5/8" surface casing

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

Drilling Time: 3700' to RTD

Electric Logs: Pioneer Energy Services "Dan Schmidt"  
CNL/CDL, DIL

Drillstem Tests: Four, Trilobite Testing, Inc. "Ken Swinney"

Problems: None

Remarks: None

## Formation Tops

	American Warrior, Inc.
	LN #2-18
	Sec. 18 T19s R21w
<b>Formation</b>	<b>2140' FNL &amp; 2310' FEL</b>
Anhydrite	<b>1495' +776</b>
Base	<b>1530' +741</b>
Heebner	<b>3737' -1466</b>
Lansing	<b>3782' -1511</b>
BKC	<b>4083' -1812</b>
Pawnee	<b>4194' -1923</b>
Fort Scott	<b>4270' -1999</b>
Cherokee	<b>4289' -2018</b>
Mississippian	<b>4364' -2193</b>
Osage	<b>4372' -2101</b>
LTD	<b>4393' -2122</b>
RTD	<b>4392' -2121</b>

## Sample Zone Descriptions

**Cherokee Sand (4293', -2022): Covered in DST #1**  
 Ss – Quartz, slightly frosted, fine to medium grained, poorly sorted, fairly rounded, fairly cemented with poor to fair visible inter-granular porosity in cluster, light spotted oil stain with very slight show of free oil, very light odor, fair cut fluorescents, many loose grains, heavily pyritic, 36 units hotwire.

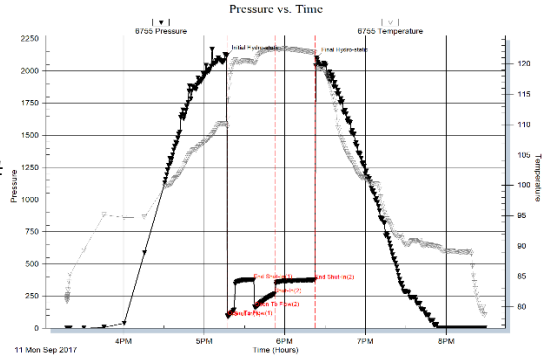
**Mississippian Osage (4372', -2101): Covered in DST #2,3,4**  
 Δ – Dolo – Weathered, mostly triptolic with fair to good vuggy porosity, slightly dolomitic with scattered poor inter-crystalline porosity, light to fair oil stain in porosity, slight show of free oil on cup, light yellow fluorescents.

**Drill Stem Tests**  
 Trilobite Testing, Inc.  
 "Ken Swinney"

**DST #1 Cherokee "A" Sand**

Interval (4285' – 4310') Anchor Length 25'

IHP	- 2118 #	
IFP	- 5" – B.O.B. 4 ½ min.	95-145 #
ISI	- 15" – Dead	380 #
FFP	- 15" – Built to 6 in.	159-272 #
FSI	- 30" – Dead	377 #
FHP	- 2088 #	
BHT	- 121°F	

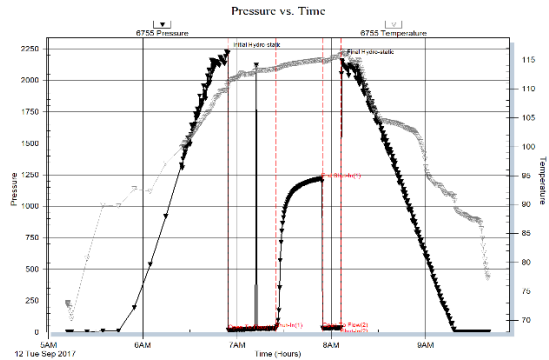


Recovery: 62' GIP  
 186' VSOCMW 3% Oil, 57% Water  
 372' MW 90% Water

**DST #2 Mississippian Osage**

Interval (4374' – 4382') Anchor Length 8'

IHP	- 2216 #	
IFP	- 30" – Dead	16-31 #
ISI	- 30" – Dead	1221 #
FFP	- 10" – Dead	32-34 #
FHP	- 2158 #	
BHT	- 116°F	

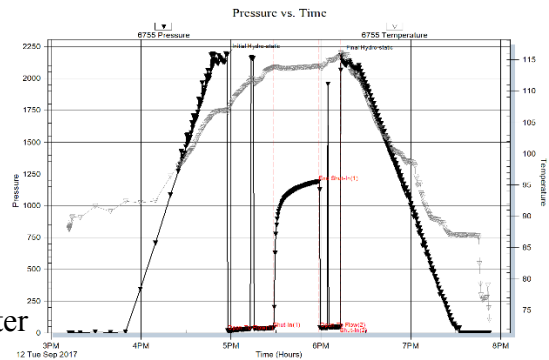


Recovery: 45' Mud w/ oil spots

**DST #3 Mississippian Osage**

Interval (4375' – 4387') Anchor Length 12'

IHP	- 2186 #	
IFP	- 30" – Dead	17-39 #
ISI	- 30" – Dead	1192 #
FFP	- 10" – Dead	40-47 #
FHP	- 2188 #	
BHT	- 116°F	



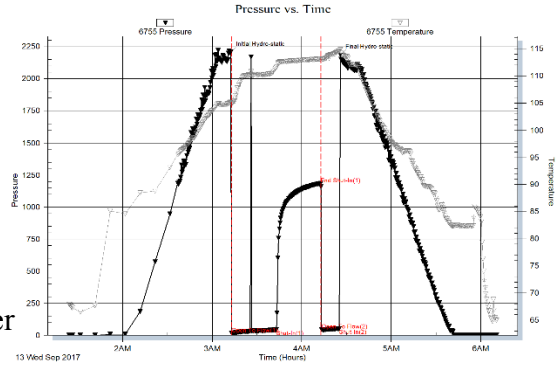
Recovery: 70' WCM w/ oil spots 10% Water

**DST #4      Mississippian Osage**

Interval (4376' – 4392') Anchor Length 16'

IHP    – 2203 #  
 IFP    – 30" – Dead      17-44 #  
 ISI    – 30" – Dead      1186 #  
 FFP    – 10" – Dead      45-53 #  
 FHP    – 2184 #  
 BHT    – 114°F

Recovery:      75' WM w/ oil spots 30% Water



**Structural Comparison**

	American Warrior, Inc. LN #2-18 Sec. 18 T19s R21w 2140' FNL & 2310' FEL	Paloma Oil & Gas Foos #1 Sec. 18 T19s R21w C SW NE 1491' +775		American Warrior, Inc. DeWald #2-18 Sec. 18 T19s R21w 2280' FNL & 2035' FWL	
<b>Formation</b>					
Anhydrite	1495' +776	1491' +775	(+1)	1469' +777	(-1)
Base	1530' +741	NA	NA	1504' +742	(-1)
Heebner	3737' -1466	3728' -1462	(-4)	3712' -1466	FL
Lansing	3782' -1511	3773' -1507	(-4)	3757' -1511	FL
BKC	4083' -1812	4080' -1814	(+2)	NA	NA
Pawnee	4194' -1923	4188' -1922	(-1)	4171' -1925	(+2)
Fort Scott	4270' -1999	4264' -1998	(-1)	4246' -2000	(+1)
Cherokee	4289' -2018	4286' -2020	(+2)	4265' -2019	(+1)
Mississippian	4364' -2193	4363' -2097	(+4)	4334' -2088	(-5)
Osage	4372' -2101	NA	NA	NA	NA

**Summary**

The location for the LN #2-18 was found via 3-D seismic survey. The new well ran slightly lower structurally than expected via the survey. Four Drill Stem Tests were conducted, all of which were negative. After all gathered data had been examined the decision was made to plug and abandon the LN #2-18 well.

Respectfully Submitted,

Jason T Alm  
 Hard Rock Consulting, Inc.