# Geological Report 

American Warrior, Inc.<br>Fritz \#1-29<br>1860’ FSL \& 1880' FEL<br>Sec. 29 T18s R21w<br>Ness County, Kansas



American Warrior, Inc.

## General Data

| Well Data: | American Warrior, Inc. <br> Fritz \#1-29 <br> 1860’ FSL \& 1880’ FEL <br> Sec. 29 T18s R21w <br> Ness County, Kansas <br> API \# 15-135-25769-0000 |
| :---: | :---: |
| Drilling Contractor: | Petromark Drilling, LLC. Rig \#1 |
| Geologist: | Jason T Alm |
| Spud Date: | May 27, 2014 |
| Completion Date: | June 4, 2014 |
| Elevation: | 2114’ Ground Level 2120’ Kelly Bushing |
| Directions: | Bazine KS, East $11 / 2 \mathrm{mi}$. to FF Rd. North $1 / 2 \mathrm{mi}$. West into location. |
| Casing: | 1373' $85 / 8^{\prime \prime}$ surface casing <br> 4223' 5 1/2" production casing |
| Samples: | 10' wet and dry, 3800' to RTD |
| Drilling Time: | 3500' to RTD |
| Electric Logs: | None |
| Drillstem Tests: | Two, Trilobite Testing, Inc. "Phillip Gage" |
| Problems: | None |
| Remarks: | None |

## Formation Tops

|  | American Warrior, Inc. <br> Fritz \#1-29 |
| :---: | :---: |
|  | Sec. 29 T18s R21w |
| Formation | 1860' FSL \& 1880' FEL |
| Anhydrite | 1357', +763 |
| Base | 1390', +730 |
| Heebner | 3590', -1470 |
| Lansing | 3636', -1516 |
| BKc | 3954', -1834 |
| Pawnee | 4036',-1916 |
| Fort Scott | 4112', -1992 |
| Cherokee | 4130', -2010 |
| Mississippian | 4201', -2081 |
| Osage | 4209', -2089 |
| RTD | 4224', -2104 |

## Sample Zone Descriptions

## Cherokee "A" Sand (4134', -2014): Covered in DST \#1

Ss - Fine to medium grained, fairly sorted, fairly cemented, subrounded with poor to fair inter-granular porosity, light to fair spotted oil stain in cluster, show of free oil, no odor, dull yellow fluorescents, many random grains, 15 units hotwire.

Mississippian Osage (4209’, -2089): Covered in DST \#2
$\Delta$ - Dolo - Fine sucrosic crystalline with poor to fair scattered inter-crystalline porosity, heavy slightly triptolic to triptolic chert, weathered with fair to good scattered vuggy porosity, light to good oil stain and saturation, good show of free oil, good odor, 102 units hotwire.

## Drill Stem Tests

Trilobite Testing, Inc.
"Phillip Gage"
DST \#1 Cherokee "A" Sand
Interval (4125’ - 4166’) Anchor Length 41’
IHP - 2100 \#
IFP - 30" - W.S.B. 18-21 \#
ISI - 30" - Dead
FFP - 10" - Dead 20 \#
FHP - 2102 \#
BHT $-111^{\circ} \mathrm{F}$

Recovery: 5’ VSOCM 1\% Oil


DST \#2 Mississippian Osage
Interval (4210' - 4219’) Anchor Length 9’
IHP - 2267 \#
IFP -45" - B.O.B. 39 min 18-73 \#
ISI $-45 "-$ W.S.B.
FFP - 15" - Built to $41 / 2 \mathrm{in}$. 101-94 \#
FSI -15" - Built to $1 / 4 \mathrm{in}$. 1245 \#
FHP - 2124 \#
BHT $-120^{\circ} \mathrm{F}$


Recovery: 171’ GIP
15' GCO
63' VSMOCG 40\% Oil
120’ VSWGOCM 10\% Oil, 5\% Water

## Structural Comparison



## Summary

The location for the Fritz \#1-29 was found via 3-D seismic survey. The new well ran structurally as expected. 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 $51 / 2$ inch production casing to further evaluate the Fritz \#1-29 well.

## Recommended Perforations

Mississippian Osage
(4209' - 4219')
DST \#1

Respectfully Submitted,

Jason T Alm
Hard Rock Consulting, Inc.

