

Geological Report

Gillig-Rein #1

2541' FSL & 1180' FEL

Sec. 23 T19s R22w

Ness County, Kansas



American Warrior, Inc.

General Data

Well Data: American Warrior, Inc.
Gillig-Rein #1
2541' FSL & 1180' FEL
Sec. 23 T19s R22w
Ness County, Kansas
API # 15-135-25954-0000

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

Geologist: Jason T Alm

Spud Date: June 14, 2017

Completion Date: June 21, 2017

Elevation: 2253' Ground Level
2261' Kelly Bushing

Directions: Bazine KS, South 4 mi. to 90 rd. West 1 mi. South 2
½ mi. West into location.

Casing: 220' 8 5/8" surface casing
4408' 5 1/2" production casing

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

Drilling Time: 3650' to RTD

Electric Logs: Pioneer Energy Services "J. Hendrickson"
CNL/CDL, DIL

Drillstem Tests: Two, Trilobite Testing, Inc. "Spencer Staab"

Problems: None

Remarks: None

Formation Tops

Formation	American Warrior, Inc. Gillig-Rein #1 Sec. 23 T19s R22w 2541' FSL & 1180' FEL
Anhydrite	1496' +765
Base	1533' -728
Heebner	3730' -1469
Lansing	3776' -1515
BKC	4088' -1827
Pawnee	4199' -1938
Fort Scott	4276' -2015
Cherokee	4296' -2035
Mississippian	4372' -2111
LTD	4409' -2148
RTD	4409' -2148

Sample Zone Descriptions

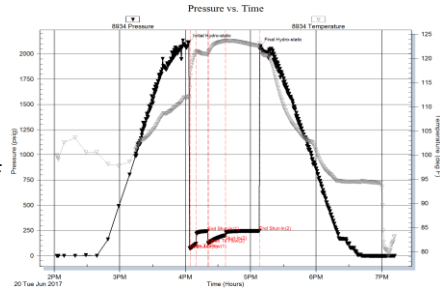
- Cherokee "A" Sand (4300' -2039):** **Covered in DST #1**
 Ss – Quartz, clear to frosted, fine grained, fairly sorted, sub-rounded, fair cementation with fair inter-granular porosity, light to fair spotted oil stain in cluster, show of free oil when broken, light odor, dull yellow fluorescents, fair cut, 55 units hotwire.
- Basil Cher. Sand (4365' -2104):** **Covered in DST #2**
 Ss – Quartz, slightly frosted, fine to medium grained, fairly sorted, Sub-rounded, fair to well cemented with poor inter-granular porosity, light to fair spotted oil stain in cluster, slight show of free oil when broken, 50 units hotwire.
- Mississippian (4372' -2111):** **Covered in DST #2**
 Δ – Dolo – Slightly triptolic, weathered in part with fair to good vuggy porosity, light to fair oil stain and saturation in porosity, show of free oil, fair odor, good yellow fluorescents, good cut, 65 units hotwire.

Drill Stem Tests
 Trilobite Testing, Inc.
 "Spencer Staab"

DST #1 Cherokee "A" Sand

Interval (4294' – 4315') Anchor Length 21'

IHP	– 2113 #	
IFP	– 5" – B.O.B. 2 min.	70-118 #
ISI	– 10" – Built to 1/8 in.	243 #
FFP	– 15" – B.O.B. 3 min.	123-201 #
FSI	– 30" – Dead	245 #
FHP	– 2076 #	
BHT	– 123°F	

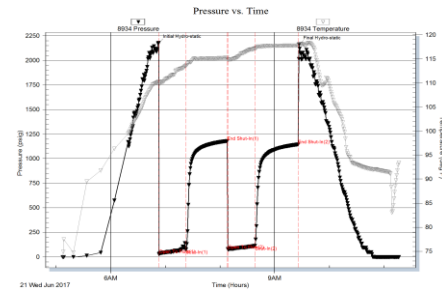


Recovery: 15' OCMW 5% Oil, 50% Water
 190' WCM
 185' MCW

DST #2 Mississippian Osage

Interval (4328' – 4404') Anchor Length 76'

IHP	– 2177 #	
IFP	– 30" – B.O.B. 14 min.	27-77 #
ISI	– 45" – S.B.	1180 #
FFP	– 30" – B.O.B. 10 min.	73-114 #
FSI	– 45" – Dead	1146 #
FHP	– 2161 #	
BHT	– 118°F	



Recovery: 315' GIP
 70' GCO
 20' OCM 20% Oil
 80' OCM 10% Oil
 60' GWMCO 55% Oil, 10% Water

Structural Comparison

	American Warrior, Inc. Gillig-Rein #1 Sec. 23 T19s R22w 2541' FSL & 1180' FEL	American Warrior, Inc. Rein #2-23 Sec. 23 T19s R22w 2150' FNL & 1300' FEL		American Warrior, Inc. Gillig #3-23 Sec. 23 T19s R22w 2030' FSL & 1660' FEL	
Formation					
Anhydrite	1496' +765	1496' +761	(+4)	1500' +763	(+2)
Base	1533' -728	NA	NA	NA	NA
Heebner	3730' -1469	3731' -1474	(+5)	3726' -1463	(-6)
Lansing	3776' -1515	3779' -1522	(+7)	3772' -1509	(-6)
BKC	4088' -1827	NA	NA	NA	NA
Pawnee	4199' -1938	4204' -1947	(+9)	NA	NA
Fort Scott	4276' -2015	4281' -2024	(+9)	4278' -2015	FL
Cherokee	4296' -2035	4300' -2043	(+8)	4298' -2035	FL
Mississippian	4372' -2111	4380' -2123	(+12)	4371' -2108	(-3)

Summary

The location for the Gillig-Rein #1 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 Gillig-Rein #1 well.

Recommended Perforations

Primary:

Mississippian Osage (4391' – 4407') DST #2

Before Abandonment:

Basil Cherokee Sand (4365' – 4368') DST #2

Respectfully Submitted,

Jason T Alm
Hard Rock Consulting, Inc.