

Geological Report

American Warrior, Inc.

Denise #1-33

1850' FSL & 2240' FWL

Sec. 33 T17s R21w

Ness County, Kansas



American Warrior, Inc.

General Data

Well Data: American Warrior, Inc.
Denise #1-33
1850' FSL & 2240' FWL
Sec. 33 T17s R21w
Ness County, Kansas
API # 15-135-25700-0000

Drilling Contractor: Discovery Drilling Co., Inc. Rig #3

Geologist: Jason T Alm

Spud Date: November 25, 2013

Completion Date: December 3, 2013

Elevation: 2146' Ground Level
2154' Kelly Bushing

Directions: Bazine KS, 2 mi. East to FF Rd. 5 ½ mi. North, East
into location.

Casing: 222' 8 5/8" surface casing
4211' 5 1/2" production casing

Samples: 10' wet and dry, 3900' to RTD

Drilling Time: 3500' to RTD

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

Drillstem Tests: Two, Trilobite Testing, Inc. "Andy Carreira"

Problems: None

Remarks: Test tool plugged during DST #1. Tool was flushed
but there was still plugging action throughout the
final flow.

Formation Tops

	American Warrior, Inc.
	Denise #1-33
	Sec. 33 T17s R21w
	1850' FSL & 2240' FWL
Formation	
Anhydrite	1425', +729
Base	1462', +692
Heebner	3594', -1440
Lansing	3638', -1484
BKc	3952', -1798
Pawnee	4024', -1870
Fort Scott	4100', -1946
Cherokee	4117', -1963
Mississippian	4195', -2041
LTD	4212', -2055
RTD	4210', -2053

Sample Zone Descriptions

Mississippian Osage (4195', -2041): Covered in DST #1,2

Δ-Dolo- Fine sucrosic crystalline with fair to good inter-crystalline porosity, very heavy slightly trip mostly fresh chert, weathered in part with good scattered vuggy porosity, light to fair oil stain and saturation in dolomite, good show of free oil, good odor, bright yellow fluorescents, 75 units hotwire.

Drill Stem Tests
 Trilobite Testing, Inc.
 "Andy Carreira"

DST #1

Mississippian Osage

Interval (4199' – 4205') Anchor Length 6'

IHP	– 2095 #	
IFP	– 30" – Built to 1 in.	18-20 #
ISI	– 30" – Dead	1244 #
FFP	– 45" – Built to 4 ½ in.	25-29 #
FSI	– 45" – Dead	1248 #
FHP	– 2028 #	
BHT	– 115°F	

Recovery: 30' GIP
 30' OGCM 10% Oil

DST #2

Mississippian Osage

Interval (4200' – 4208') Anchor Length 8'

IHP	– 2081 #	
IFP	– 30" – B.O.B. 8 min.	22-58 #
ISI	– 30" – Dead	1215 #
FFP	– 30" – B.O.B. 6 min.	58-97 #
FSI	– 30" – Built to 3 in.	1248 #
FHP	– 1999 #	
BHT	– 117°F	

Recovery: 850' GIP
 95' GCO
 60' OCGW 40% Oil, 50% Water
 60' OCMW 10% Oil, 60% Water

Structural Comparison

	American Warrior, Inc. Denise #1-33 Sec. 33 T17s R21w 1850' FSL & 2240' FWL		Mull Drilling Co. Casey #1 Sec. 33 T17s R21w C NW SW		Ensign Operating Co. Casey #1-33 Sec. 33 T17s R21w 2310' FSL & 1650' FWL	
Formation						
Anhydrite	1425', +729		1434', +734	(-5)	1440', +729	FL
Base	1462', +692		NA	NA	NA	NA
Heebner	3594', -1440		3607', -1439	(-1)	3607', -1438	(-2)
Lansing	3638', -1484		3654', -1486	(+2)	3651', -1482	(-2)
BKc	3952', -1798		NA	NA	NA	NA
Pawnee	4024', -1870		4037', -1869	(-1)	4040', -1871	(+1)
Fort Scott	4100', -1946		4113', -1945	(-1)	4116', -1947	(+1)
Cherokee	4117', -1963		4128', -1960	(-3)	4133', -1964	(+1)
Mississippian	4195', -2041		4208', -2040	(-1)	NA	NA

Summary

The location for the Denise #1-33 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 the Denise #1-33 well.

Recommended Perforations

Primary:

Mississippian Osage	(4196' – 4210')	DST #1,2
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Before Abandonment:

Cherokee "B" Sand	(4136' – 4139')	Not Tested
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Fort Scott	(4104' – 4107')	Not Tested
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Respectfully Submitted,

Jason T Alm
Hard Rock Consulting, Inc.