

15-083-21809

Geological Report

DK Operating, Inc.
Sharon #1-24
1020' FSL & 850' FEL
Sec. 24 T23s R23w
Hodgeman County, Kansas



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DK Operating, Inc.

24-23s-23w

General Data

Well Data: DK Operating, Inc.
Sharon #1-24
1020' FSL & 850' FEL
Sec. 24 T23s R23w
Hodgeman County, Kansas
API # 15-083-21809-0000

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

Geologist: Jason T Alm

Spud Date: July 13, 2012

Completion Date: July 21, 2012

Elevation: 2368' Ground Level
2376' Kelly Bushing

Directions: Hanston KS, 4 mi. West on Hwy 156 to NW 224
Rd. 4 ½ mi. South, West and South into location.

Casing: 220' 8 5/8" surface casing
4615' 5 1/2" production casing

Samples: 10' wet and dry, 4200' to RTD

Drilling Time: 3800' to RTD

Electric Logs: None

Drillstem Tests: Two, Trilobite Testing, Inc. "Brian Fairbank"

Problems: None

Remarks: Bit Trips were made at 3912' and 4517'

Formation Tops

Formation	DK Operating, Inc. Sharon #1-24 Sec. 24 T23s R23w 1020' FSL & 850' FEL
Anhydrite	1470', +906
Base	1511', +865
Heebner	3887', -1511
Lansing	3955', -1579
Stark	4216', -1840
BKc	4321', -1945
Marmaton	4340', -1964
Pawnee	4437', -2061
Fort Scott	4484', -2108
Cherokee	4508', -2132
Mississippian	4564', -2188
Osage	4598', -2222
RTD	4616', -2240

Sample Zone Descriptions

- Fort Scott** (4484', -2108): **Not Tested**
Ls – Fine crystalline with poor scattered inter-crystalline and vuggy porosity, light spotted oil stain in porosity, mostly dense, no show of free oil.
- Miss. Warsaw** (4564', -2188): **Not Tested**
Dolo – Fine crystalline with poor vuggy porosity, light to fair oil stain in porosity, slight show of free oil when broken, fair yellow fluorescents, light odor.
- Miss. Osage** (4598', -2222): **Covered in DST #1,2**
Δ – Dolo – Fine sucrosic crystalline with fair inter-crystalline and vuggy porosity, very heavy slight triptolitic chert, weathered with fair to good vuggy porosity, light to heavy oil stain in porosity, good show of free oil, bright yellow fluorescents.

Drill Stem Tests
Trilobite Testing Inc.
"Brian Fairbank"

DST #1

Mississippian Osage

Interval (4599' – 4608') Anchor Length 9'

IHP	- 2322 #	
IFP	- 45" – Built to 7 ½ in.	17-39 #
ISI	- 45" – Dead	1414 #
FFP	- 45" – Built to 7 ½ in.	45-61 #
FSI	- 45" – Dead	1409 #
FHP	- 2236 #	
BHT	- 126°F	

Recovery: 150' GIP
 105' GCO
 15' OCM 20% Oil

DST #2

Mississippian Osage

Interval (4608' – 4616') Anchor Length 8'

IHP	- 2379 #	
IFP	- 15" – B.O.B. 7 min.	32-66 #
ISI	- 30" – Built to 2 ¼ in.	1394 #
FFP	- 15" – B.O.B. 9 min.	74-113 #
FSI	- 30" – Built to 2 ½ in.	1384 #
FHP	- 2219 #	
BHT	- 125°F	

Recovery: 270' GIP
 200' GCO
 40' WMO 87% Oil, 3% Water
 20' WHOCM 25% Oil, 5% Water

Structural Comparison

	DK Operating, Inc. Sharon #1-24 Sec. 24 T23s R23w 1020' FSL & 850' FEL	Pickrell Drilling Co. Law A #1 Sec. 24 T23s R23w C NW SE		American Warrior, Inc. Craighead #3-19 Sec. 19 T23s R22w 1529' FSL & 2027' FWL	
Formation					
Anhydrite	1470', +906	1478', +892	(+14)	1459', +907	(-1)
Base	1511', +865	NA	NA	1499', +867	(-2)
Heebner	3887', -1511	3896', -1526	(+15)	3896', -1530	(+19)
Lansing	3955', -1579	3971', -1601	(+22)	3968', -1602	(+21)
Stark	4216', -1840	4232', -1862	(+22)	NA	NA
BKc	4321', -1945	4338', -1968	(+23)	4326', -1960	(+15)
Marmaton	4340', -1964	4358', -1988	(+24)	4346', -1980	(+16)
Pawnee	4437', -2061	4451', -2081	(+20)	4440', -2074	(+13)
Fort Scott	4484', -2108	4504', -2134	(+26)	4493', -2127	(+19)
Cherokee	4508', -2132	4528', -2158	(+26)	4518', -2152	(+20)
Mississippian	4564', -2188	4591', -2221	(+33)	4526', -2210	(+22)
Osage	4598', -2222	4628', -2258	(+36)	4620', -2254	(+32)

Summary

The location for the Sharon #1-24 well was found via 3-D seismic survey. The new well ran structurally as expected via the survey. Two drill stem tests were conducted both 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 1/2 inch production casing to further evaluate the Sharon #1-24 well.

Recommended Perforations

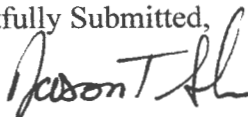
Primary:

Mississippian Osage (4598' – 4614') DST #1,2

Before Abandonment:

Mississippian Warsaw (4590' – 4595') Not Tested
Fort Scott (4500' – 4506') Not Tested

Respectfully Submitted,



Jason T Alm
Hard Rock Consulting, Inc.