



## DRILL STEM TEST REPORT

Prepared For: **Valhalla Exploratoin LLC.**

8100 East 22nd St. N BLDG.  
1800-2 Wichita Kansas  
67226

ATTN: Adam Nighswonger

### **Hullman 1-14**

### **14-22s-13w-Stafford**

Start Date: 2013.10.31 @ 02:27:00

End Date: 2013.10.31 @ 08:26:00

Job Ticket #: 18531                      DST #: 4

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2013.10.31 @ 18:40:53



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Test Start: 2013.10.31 @ 02:27:00

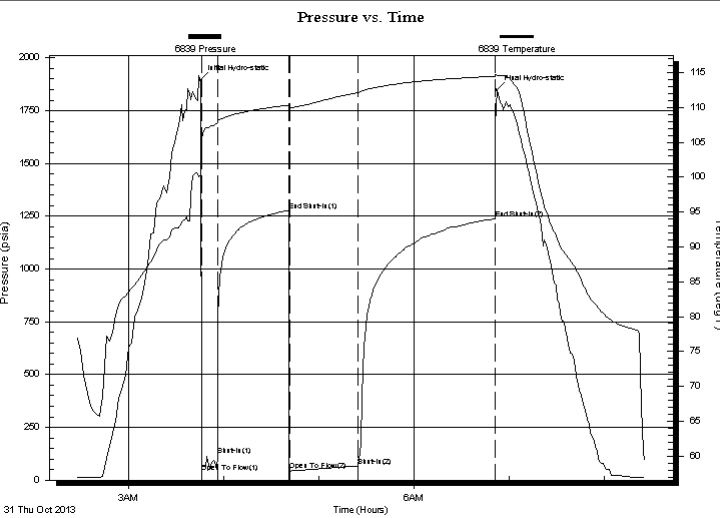
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 03:46:00  
 Tester: Dustin Ellis  
 Time Test Ended: 08:26:00  
 Unit No: 3315-Great Bend-35  
**Interval: 3808.00 ft (KB) To 3816.00 ft (KB) (TVD)**  
 Reference Elevations: 1897.00 ft (KB)  
 Total Depth: 3816.00 ft (KB) (TVD) 1889.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 8.00 ft

## Serial #: 6839

Press @ RunDepth: 67.56 psia @ ft (KB) Capacity: 5000.00 psia  
 Start Date: 2013.10.31 End Date: 2013.10.31 Last Calib.: 2013.10.31  
 Start Time: 02:27:00 End Time: 08:26:00 Time On Btm: 2013.10.31 @ 03:45:30  
 Time Off Btm: 2013.10.31 @ 06:52:30

**TEST COMMENT:** 1st Open 10 minutes Fair building blow reached 2 inches into a 5 gallon bucket of water.  
 1st Shut in 45 minutes No blow back  
 2nd Open 45 minutes Fair building blow built ot 2.5 inches then died back off to 1 inch.  
 2nd Shut in 90 minutes No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1896.43	100.39	Initial Hydro-static
1	36.52	102.33	Open To Flow (1)
11	116.77	107.82	Shut-In(1)
56	1276.92	110.33	End Shut-In(1)
56	44.75	110.02	Open To Flow (2)
99	67.56	112.11	Shut-In(2)
186	1238.79	114.46	End Shut-In(2)
187	1848.37	114.63	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	Clean oil 100%	0.84
60.00	Oil cut mud Oil 90% Mud 10%	0.84
0.00	Gravity of oil 29 corrected	0.00

## Gas Rates

Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)



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Job Ticket: 18531

**DST#: 4**

Test Start: 2013.10.31 @ 02:27:00

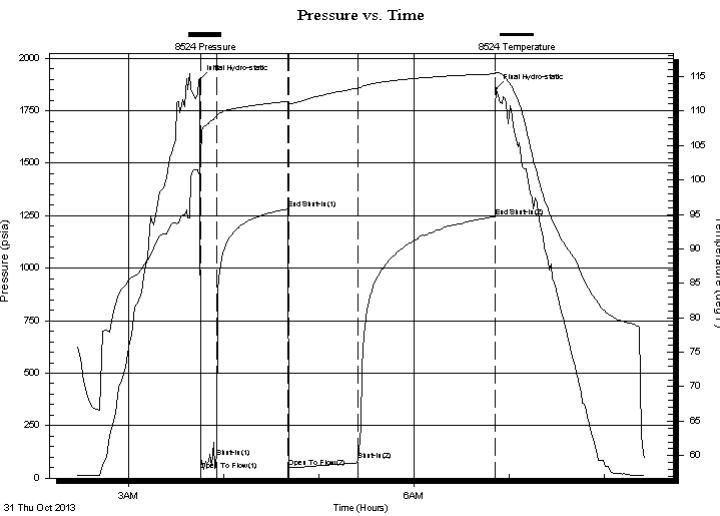
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 03:46:00 Tester: Dustin Ellis  
 Time Test Ended: 08:26:00 Unit No: 3315-Great Bend-35  
 Interval: **3808.00 ft (KB) To 3816.00 ft (KB) (TVD)** Reference Elevations: 1897.00 ft (KB)  
 Total Depth: 3816.00 ft (KB) (TVD) 1889.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

## Serial #: 8524

Press @ RunDepth: 1244.04 psia @ ft (KB) Capacity: 5000.00 psia  
 Start Date: 2013.10.31 End Date: 2013.10.31 Last Calib.: 2013.10.31  
 Start Time: 02:27:00 End Time: 08:26:00 Time On Btm: 2013.10.31 @ 03:45:00  
 Time Off Btm: 2013.10.31 @ 06:52:00

**TEST COMMENT:** 1st Open 10 minutes Fair building blow reached 2 inches into a 5 gallon bucket of water.  
 1st Shut in 45 minutes No blow back  
 2nd Open 45 minutes Fair building blow built ot 2.5 inches then died back off to 1 inch.  
 2nd Shut in 90 minutes No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1897.40	101.33	Initial Hydro-static
1	36.09	102.97	Open To Flow (1)
11	101.49	109.20	Shut-In(1)
56	1281.74	111.39	End Shut-In(1)
56	49.39	111.10	Open To Flow (2)
100	84.64	113.31	Shut-In(2)
186	1244.04	115.40	End Shut-In(2)
187	1853.97	115.60	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	Clean oil 100%	0.84
60.00	Oil cut mud Oil 90% Mud 10%	0.84
0.00	Gravity of oil 29 corrected	0.00

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Valhalla Exploratoion LLC.

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Test Start: 2013.10.31 @ 02:27:00

## Tool Information

Drill Pipe:	Length: 3797.00 ft	Diameter: 3.80 inches	Volume: 53.26 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 53.26 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	3808.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	8.00 ft			
Tool Length:	36.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3785.00	
Hydraulic Tool	5.00			3790.00	
Jars	6.00			3796.00	
Safety Joint	2.00			3798.00	
Packer	5.00			3803.00	28.00 Bottom Of Top Packer
Packer	5.00			3808.00	
Anchor	3.00			3811.00	
Recorder	1.00	8524	Inside	3812.00	
Recorder	1.00	6839	Outside	3813.00	
Bull Plug	3.00			3816.00	8.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>36.00</b>				



# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 72.00 sec/qt  
Water Loss: 11.59 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 12800.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psia

Oil API: deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	Clean oil 100%	0.842
60.00	Oil cut mud Oil 90% Mud 10%	0.842
0.00	Gravity of oil 29 corrected	0.000

Total Length: 120.00 ft      Total Volume: 1.684 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

