



## DRILL STEM TEST REPORT

Prepared For: **Shelby Resources LLC**

2717 Canal Boulevard  
Suite C  
Hays, Kansas 67601

ATTN: Jeremy Schwartz

### **Ward-County Unit 3-1**

#### **3/22S/16W/Pawnee**

Start Date: 2013.11.02 @ 14:36:00

End Date: 2013.11.02 @ 23:22:30

Job Ticket #: 17061                      DST #: 2

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

Printed: 2013.11.02 @ 23:34:59

Shelby Resources LLC

3/22S/16W/Pawnee

Ward-County Unit 3-1

DST # 2

Simpson Sand

2013.11.02



# DRILL STEM TEST REPORT

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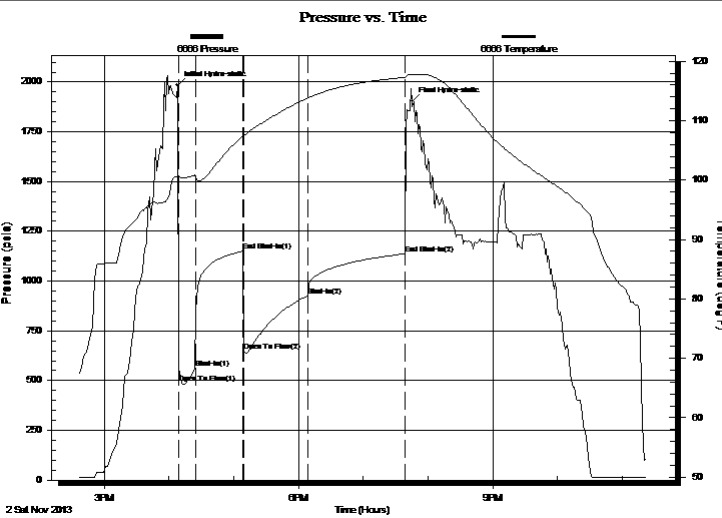
**3/22S/16W/Pawnee**  
**Ward-County Unit 3-1**  
 Job Ticket: 17061 **DST#: 2**  
 Test Start: 2013.11.02 @ 14:36:00

## GENERAL INFORMATION:

Formation: **Simpson Sand**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:08:30  
 Time Test Ended: 23:22:30  
 Interval: **3879.00 ft (KB) To 3919.00 ft (KB) (TVD)**  
 Total Depth: 3919.00 ft (KB) (TVD)  
 Hole Diameter: 7.80 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 3325 Great Bend/48  
 Reference Elevations: 1999.00 ft (KB)  
 1986.00 ft (CF)  
 KB to GR/CF: 13.00 ft

**Serial #: 6666 Outside**  
 Press @ Run Depth: 926.92 psia @ 3916.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2013.11.02 End Date: 2013.11.02 Last Calib.: 2013.11.02  
 Start Time: 14:36:00 End Time: 23:22:30 Time On Btm: 2013.11.02 @ 16:07:30  
 Time Off Btm: 2013.11.02 @ 19:45:00

**TEST COMMENT:** 1ST Open 15 Minutes/Strong blow /Blow built to bottom of bucket in 1 minute  
 1ST Shut In 45 Minutes/Blow back built to bottom of bucket in 5 minutes  
 2ND Open 60 Minutes/Strong blow /Blow built to bottom of bucket in 45 seconds/Gas to surface 2 minutes  
 2ND Shut In 90 Minutes/Blow back built to bottom of bucket in 3 min 30 seconds



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1982.37	100.71	Initial Hydro-static
1	487.10	100.20	Open To Flow (1)
17	560.22	100.92	Shut-In(1)
61	1150.37	107.39	End Shut-In(1)
62	648.18	107.53	Open To Flow (2)
122	926.92	113.80	Shut-In(2)
211	1136.90	117.26	End Shut-In(2)
218	1903.50	117.74	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
2425.00	Clean gassy Oil	31.01
0.00	Gas 10% Oil 90%	0.00
63.00	Mud cut Gassy Oil	0.88
0.00	Mud 10% Gas 10% Oil 80%	0.00
0.00	Corrected gravity of oil 38	0.00

Gas Rates			
	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.13	6.31	2.36
Last Gas Rate	0.13	10.18	3.81
Max. Gas Rate	0.13	11.97	4.48



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**TOOL DIAGRAM**

Shelby Resources LLC  
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## Tool Information

Drill Pipe:	Length: 3534.00 ft	Diameter: 3.80 inches	Volume: 49.57 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: 330.00 ft	Diameter: 2.25 inches	Volume: 1.62 bbl	Weight to Pull Loose: 88000.00 lb
			<u>Total Volume: 51.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 71000.00 lb
Depth to Top Packer:	3879.00 ft			Final 81000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	67.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Dropped bar and reversed out

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3857.00	
Hydraulic Tool	5.00			3862.00	
Jars	5.00			3867.00	
Safety Joint	2.00			3869.00	
Packer	5.00			3874.00	27.00 Bottom Of Top Packer
Packer	5.00			3879.00	
Anchor	35.00			3914.00	
Recorder	1.00	6749	Inside	3915.00	
Recorder	1.00	6666	Outside	3916.00	
Bullnose	3.00			3919.00	40.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>67.00</b>				



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**FLUID SUMMARY**

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## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 8400.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2425.00	Clean gassy Oil	31.010
0.00	Gas 10% Oil 90%	0.000
63.00	Mud cut Gassy Oil	0.884
0.00	Mud 10% Gas 10% Oil 80%	0.000
0.00	Corrected gravity of oil 38	0.000

Total Length: 2488.00 ft      Total Volume: 31.894 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:



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**GAS RATES**

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## Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
2	5	0.13	6.31	2.36
2	5	0.13	6.31	2.36
2	15	0.13	10.74	4.02
2	25	0.13	11.97	4.48
2	35	0.13	11.12	4.16
2	45	0.13	10.18	3.81
2	55	0.13	10.18	3.81

### Pressure vs. Time

