



## DRILL STEM TEST REPORT

Prepared For: **Shelby Resources L.L.C**

445 Union Blvd Suite 208 Lakewood CO 80228

ATTN: Keith Reavis

### **Vaughan Trust #1-27**

#### **27-21s-17w Pawnee**

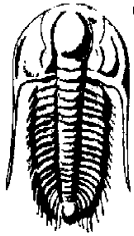
Start Date: 2014.08.05 @ 09:30:00

End Date: 2014.08.05 @ 16:41:30

Job Ticket #: 60353                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
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Printed: 2014.08.05 @ 19:07:29



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Shelby Resources L.L.C

**27-21s-17w Pawnee**

445 Union Blvd Suite 208 Lakewood CO 80228

**Vaughan Trust #1-27**

ATTN: Keith Reavis

Job Ticket: 60353

**DST#: 3**

Test Start: 2014.08.05 @ 09:30:00

## GENERAL INFORMATION:

Formation: **Lansing K zone**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:48:30

Time Test Ended: 16:41:30

Test Type: Conventional Straddle (Initial)

Tester: Jared Scheck

Unit No: S4-Great Bend-60 RT

**Interval: 3710.00 ft (KB) To 4209.00 ft (KB) (TVD)**

Reference Elevations: 2055.00 ft (KB)

Total Depth: 4209.00 ft (KB) (TVD)

2046.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

## Serial #: 6651

Press@RunDepth: 187.35 psig @ ft (KB)

Capacity: 5000.00 psig

Start Date: 2014.08.05

End Date: 2014.08.05

Last Calib.: 2014.08.05

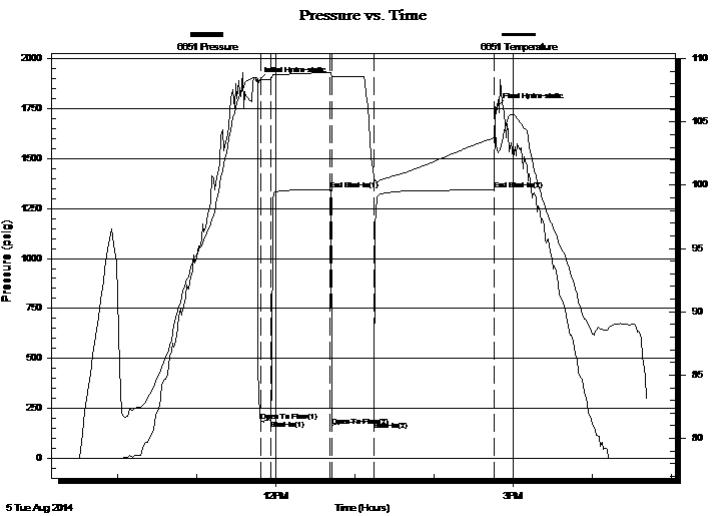
Start Time: 09:30:00

End Time: 16:41:30

Time On Btm: 2014.08.05 @ 11:46:00

Time Off Btm: 2014.08.05 @ 14:47:00

**TEST COMMENT:** 1st Opening 10 Minutes-Strong blow built bottom of bucket in 10 sec  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opening 30 Minutes-Strong blow built bottom of bucket in 10 sec gas to surface 3 minutes see gas report  
 2nd Shut-in 90 Minutes-Yes blow back



## PRESSURE SUMMARY

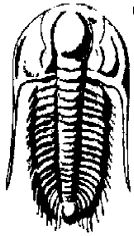
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1885.10	108.46	Initial Hydro-static
3	187.34	108.32	Open To Flow (1)
10	190.94	108.35	Shut-In(1)
55	1343.23	108.91	End Shut-In(1)
57	163.96	108.55	Open To Flow (2)
89	187.35	100.57	Shut-In(2)
180	1341.02	103.75	End Shut-In(2)
181	1752.92	103.62	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	mud w ater 30% mud 70% w ater	0.59
0.00	3360 gas in pipe	0.00
0.00	chlorides 38,000	0.00

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.50	0.30	898.74
Last Gas Rate	1.50	1.88	995.34
Max. Gas Rate	1.50	1.88	995.34



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## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shelby Resources L.L.C

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Job Ticket: 60353

**DST#: 3**

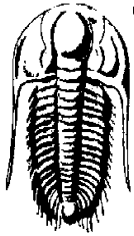
Test Start: 2014.08.05 @ 09:30:00

### Tool Information

Drill Pipe:	Length: 3480.00 ft	Diameter: 3.80 inches	Volume: 48.82 bbl	Tool Weight: 1000.00 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: 210.00 ft	Diameter: 2.25 inches	Volume: 1.03 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 49.85 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 86000.00 lb
Depth to Top Packer:	3710.00 ft			Final 88000.00 lb
Depth to Bottom Packer:	3740.00 ft			
Interval between Packers:	30.00 ft			
Tool Length:	514.50 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments: Gas to surface 3 minutes into 2nd open see gas report / 2 gas samples was taken

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3687.00	
Hydraulic tool	5.00			3692.00	
Jars	6.00			3698.00	
Safety Joint	2.00			3700.00	
Packer	5.00			3705.00	28.00 Bottom Of Top Packer
Packer	5.00			3710.00	
Anchor	27.50			3737.50	
Recorder	1.00		Inside	3738.50	
Recorder	1.00		Outside	3739.50	
Blank Off Sub	0.50			3740.00	30.00 Tool Interval
Packer	5.00			3745.00	
Change Over Sub	0.75			3745.75	
Drill Pipe	446.00			4191.75	
Change Over Sub	0.75			4192.50	
Recorder	1.00			4193.50	
Bullnose	3.00			4196.50	456.50 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>514.50</b>				



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Shelby Resources L.L.C

**27-21s-17w Pawnee**

445 Union Blvd Suite 208 Lakewood CO 80228

**Vaughan Trust #1-27**

Job Ticket: 60353

**DST#: 3**

ATTN: Keith Reavis

Test Start: 2014.08.05 @ 09:30:00

## 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: 45.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.40 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	mud w ater 30% mud 70% w ater	0.590
0.00	3360 gas in pipe	0.000
0.00	chlorides 38,000	0.000

Total Length: 120.00 ft      Total Volume: 0.590 bbl

Num Fluid Samples: 0

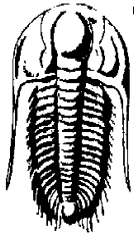
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gas to surface 3 minutes int 2nd open see gas report / 2 gas samples w as taken



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## DRILL STEM TEST REPORT

**GAS RATES**

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Test Start: 2014.08.05 @ 09:30:00

### 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 (psig)	Gas Rate (Mcf/d)
2	5	1.50	0.30	898.74
2	5	1.50	0.30	898.74
2	10	1.50	0.40	904.85
2	20	1.50	1.88	995.34

