



DRILL STEM TEST REPORT

Prepared For: **SHELBY RESOURCES LLC**

2717 CANAL BLVD SUITE C
HAYS , KnaA 67601

ATTN: JEREMY SCHWARTZ

FRICK FAMILY FARMS 1

18-22S-16W PAWNEE

Start Date: 2016.10.05 @ 10:44:00

End Date:

Job Ticket #: 01133

DST #: 3

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2016.10.05 @ 18:22:51



DRILL STEM TEST REPORT

SHELBY RESOURCES LLC

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ATTN: JEREMY SCHWARTZ

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DST#: 3

Test Start: 2016.10.05 @ 10:44:00

GENERAL INFORMATION:

Formation: **SIMPSON SAND**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:20:00

Time Test Ended:

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1

Interval: **3982.00 ft (KB) To 4034.00 ft (KB) (TVD)**

Reference Elevations: 2026.00 ft (KB)

Total Depth: 4034.00 ft (KB) (TVD)

2016.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 9139

Inside

Press@RunDepth: 1377.22 psia @ 4029.34 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.05

End Date:

2016.10.05

Last Calib.: 1899.12.30

Start Time: 10:44:00

End Time:

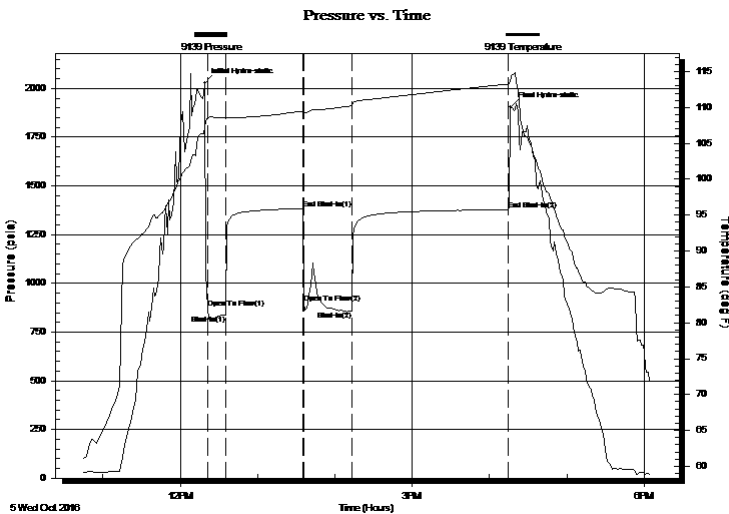
18:05:00

Time On Btm: 2016.10.05 @ 12:19:00

Time Off Btm: 2016.10.05 @ 16:16:30

TEST COMMENT: 1ST OPENING 15 MINUTES STRONG BLOW GAS TO SURFACE IN 2 MINUTES
1ST SHUT-IN 60 MINUTES
2ND OPENING 40 MINUTES STRONG BLOW
2ND SHUT-IN 120 MINUTES

PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2026.93	107.12	Initial Hydro-static
2	872.80	108.61	Open To Flow (1)
16	838.92	108.57	Shut-In(1)
76	1382.08	109.50	End Shut-In(1)
77	898.65	109.24	Open To Flow (2)
115	859.18	110.23	Shut-In(2)
236	1377.22	113.27	End Shut-In(2)
238	1903.84	114.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
150.00	MUD	1.28

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	98.00	2817.38
Last Gas Rate	1.00	113.75	3270.18
Max. Gas Rate	1.00	123.50	3550.48



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Job Ticket: 01133

DST#: 3

Test Start: 2016.10.05 @ 10:44:00

GENERAL INFORMATION:

Formation: **SIMPSON SAND**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:20:00

Time Test Ended:

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1

Interval: **3982.00 ft (KB) To 4034.00 ft (KB) (TVD)**

Reference Elevations: 2026.00 ft (KB)

Total Depth: 4034.00 ft (KB) (TVD)

2016.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: **91716** Outside

Press@RunDepth: 1369.07 psia @ 4029.34 ft (KB)

Capacity: 5000.00 psia

Start Date: 2016.10.05

End Date: 2016.10.05

Last Calib.: 2016.10.05

Start Time: 10:44:00

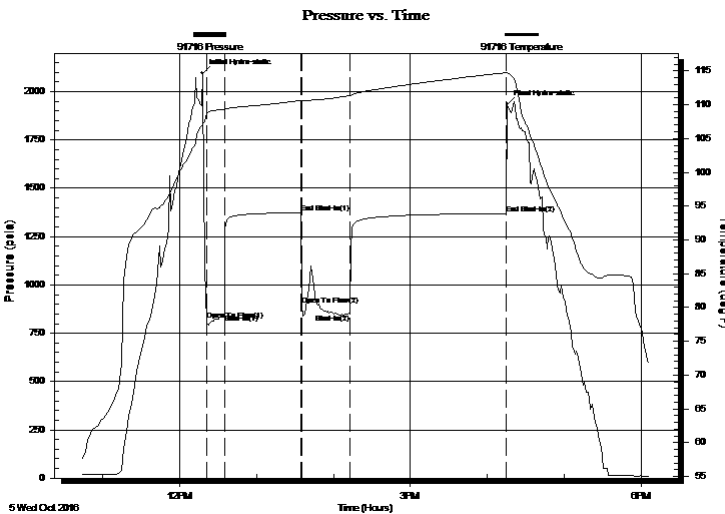
End Time: 18:06:30

Time On Btm: 2016.10.05 @ 12:18:00

Time Off Btm: 2016.10.05 @ 16:15:30

TEST COMMENT: 1ST OPENING 15 MINUTES STRONG BLOW GAS TO SURFACE IN 2 MINUTES
 1ST SHUT-IN 60 MINUTES
 2ND OPENING 40 MINUTES STRONG BLOW
 2ND SHUT-IN 120 MINUTES

PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2094.97	106.92	Initial Hydro-static
3	816.65	108.56	Open To Flow (1)
17	847.04	109.22	Shut-In(1)
77	1373.81	110.65	End Shut-In(1)
78	897.33	110.63	Open To Flow (2)
115	850.92	111.36	Shut-In(2)
237	1369.07	114.74	End Shut-In(2)
238	1933.81	114.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
150.00	MUD	1.28

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	98.00	2817.38
Last Gas Rate	1.00	113.75	3270.18
Max. Gas Rate	1.00	123.50	3550.48



DRILL STEM TEST REPORT

TOOL DIAGRAM

SHELBY RESOURCES LLC

18-22S-16W PAWNEE

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HAYS, KnaA 67601

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Job Ticket: 01133

DST#: 3

Test Start: 2016.10.05 @ 10:44:00

Tool Information

Drill Pipe:	Length: 3886.00 ft	Diameter: 3.80 inches	Volume: 54.51 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.76 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 90.00 ft	Diameter: 2.25 inches	Volume: 0.44 bbl	Weight to Pull Loose: 78000.00 lb
			Total Volume: 54.95 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3982.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.34 ft			
Tool Length:	81.34 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			3958.00	
Hydraulic tool	5.00			3963.00	
Jars	7.00			3970.00	
Safety Joint	2.00		Fluid	3972.00	
Top Packer	5.00			3977.00	
Packer	5.00			3982.00	29.00 Bottom Of Top Packer
Anchor	5.00			3987.00	
Change Over Sub	0.75			3987.75	
Drill Pipe	31.84			4019.59	
Change Over Sub	0.75			4020.34	
Anchor	9.00			4029.34	
Recorder	0.00	9139	Inside	4029.34	
Recorder	0.00	91716	Outside	4029.34	
Bullnose	5.00			4034.34	52.34 Anchor Tool

Total Tool Length: 81.34



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FLUID SUMMARY

SHELBY RESOURCES LLC

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Job Ticket: 01133

DST#: 3

ATTN: JEREMY SCHWARTZ

Test Start: 2016.10.05 @ 10:44:00

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: 65.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.20 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 4200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
150.00	MUD	1.284

Total Length: 150.00 ft Total Volume: 1.284 bbf

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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Test Start: 2016.10.05 @ 10:44:00

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 (psia)	Gas Rate (Mcf/d)
1	5	1.00	98.00	2817.38
1	10	1.00	123.50	3550.48
2	10	1.00	113.75	3270.18
2	20	1.00	113.75	3270.18
2	30	1.00	113.75	3270.18
2	40	1.00	113.75	3270.18

Pressure vs. Time

