



DRILL STEM TEST REPORT

Prepared For: **F.G. Holl Company LLC**

9431 E Central STE 100 Wichita Kansas
67206-2563

ATTN: Frank Greenbaum

Wolf #3-12

12-20s-15w/ Barton

Start Date: 2013.02.16 @ 22:15:00

End Date: 2013.02.17 @ 08:11:00

Job Ticket #: DST #: 9

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

Printed: 2013.02.16 @ 08:35:34



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F.G. Holl Company LLC

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Job Ticket: **DST#: 9**

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Test Start: 2013.02.16 @ 22:15:00

GENERAL INFORMATION:

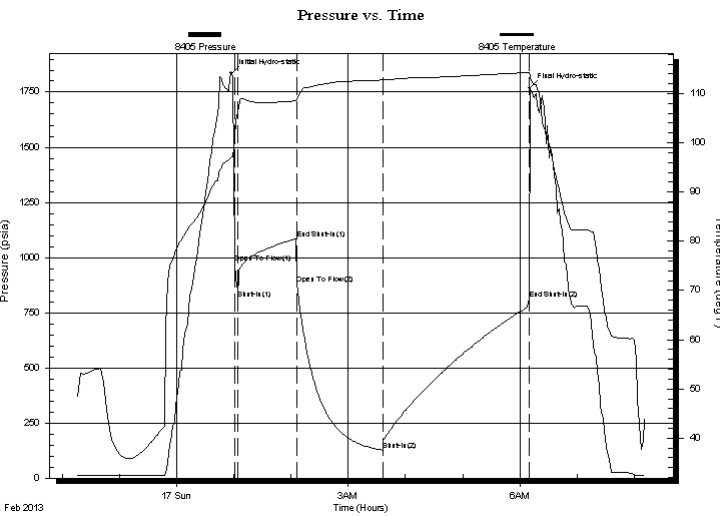
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:00:30
 Time Test Ended: 08:11:00
 Interval: **3637.00 ft (KB) To 3651.00 ft (KB) (TVD)**
 Total Depth: 3651.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Shane Konzem
 Unit No: 3330-20/ Great Bend
 Reference Elevations: 1980.00 ft (KB)
 1972.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8405

Inside

Press @ Run Depth: 127.31 psia @ 3647.00 ft (KB) Capacity: 5000.00 psia
 Start Date: 2013.02.16 End Date: 2013.02.17 Last Calib.: 2013.02.16
 Start Time: 22:15:00 End Time: 08:11:00 Time On Btm: 2013.02.17 @ 00:57:30
 Time Off Btm: 2013.02.17 @ 06:10:30

TEST COMMENT: 1st Open/ 5 minutes. Strong blow built to bottom of bucket in less than 1 minutes.
 1st Shut In/ 60 minutes. Weak blow back to surface.
 2nd Open/ 60 minutes Strong blow built to bottom of bucket in less than 1 minute. Gas to surface in less than 1 minute.



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1835.70	97.15	Initial Hydro-static
3	976.20	100.70	Open To Flow (1)
7	812.66	106.61	Shut-In(1)
68	1085.42	108.54	End Shut-In(1)
69	880.85	108.84	Open To Flow (2)
159	127.31	112.78	Shut-In(2)
312	810.11	114.31	End Shut-In(2)
313	1769.26	113.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	100% muddy water	0.14

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	65.65	1887.36
Last Gas Rate	1.00	9.20	264.49
Max. Gas Rate	1.00	74.45	2140.35



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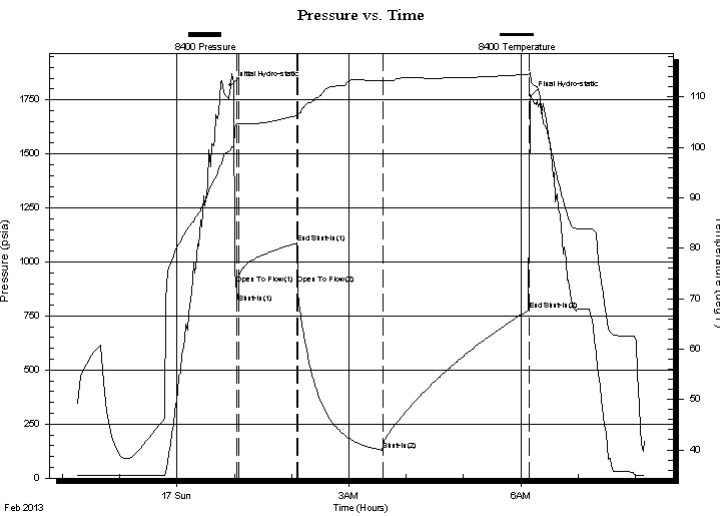
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 Tester: Shane Konzem
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 Interval: **3637.00 ft (KB) To 3651.00 ft (KB) (TVD)**
 Reference Elevations: 1980.00 ft (KB)
 Total Depth: 3651.00 ft (KB) (TVD)
 1972.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 KB to GR/CF: 8.00 ft

Serial #: 8400 Outside
 Press @ RunDepth: 778.36 psia @ 3648.00 ft (KB) Capacity: 5000.00 psia
 Start Date: 2013.02.16 End Date: 2013.02.17 Last Calib.: 2013.02.16
 Start Time: 22:15:00 End Time: 08:10:30 Time On Btm: 2013.02.17 @ 00:56:00
 Time Off Btm: 2013.02.17 @ 06:10:30

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 1st Shut In/ 60 minutes. Weak blow back to surface.
 2nd Open/ 60 minutes Strong blow built to bottom of bucket in less than 1 minute. Gas to surface in less than 1 minute.



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1816.92	99.62	Initial Hydro-static
6	897.95	104.56	Open To Flow (1)
9	807.93	104.69	Shut-In(1)
70	1086.29	106.31	End Shut-In(1)
70	898.60	106.34	Open To Flow (2)
160	129.33	113.19	Shut-In(2)
313	778.36	114.51	End Shut-In(2)
315	1768.85	113.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	100% muddy water	0.14

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	65.65	1887.36
Last Gas Rate	1.00	9.20	264.49
Max. Gas Rate	1.00	74.45	2140.35



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TOOL DIAGRAM

F.G. Holl Company LLC

12-20s-15w/ Barton

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DST#: 9

ATTN: Frank Greenbaum

Test Start: 2013.02.16 @ 22:15:00

Tool Information

Drill Pipe:	Length: 3617.00 ft	Diameter: 3.80 inches	Volume: 50.74 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: 58000.00 lb
			<u>Total Volume: 50.74 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3637.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	14.00 ft			
Tool Length:	42.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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SHut-InTool	5.00		Inside	3614.00	
Hydraulic Tool	5.00			3619.00	
Jars	6.00			3625.00	
Safety Joint	2.00			3627.00	
Packer	5.00			3632.00	28.00 Bottom Of Top Packer
Packer	5.00			3637.00	
Anchor	9.00			3646.00	
Recorder	1.00	8405	Inside	3647.00	
Recorder	1.00	8400	Outside	3648.00	
Bullnose	3.00			3651.00	14.00 Bottom Packers & Anchor
Total Tool Length:	42.00				



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FLUID SUMMARY

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Job Ticket:

DST#: 9

ATTN: Frank Greenbaum

Test Start: 2013.02.16 @ 22:15:00

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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.20 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 6800.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	100% muddy water	0.140

Total Length: 10.00 ft Total Volume: 0.140 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	1.00	65.65	1887.36
2	10	1.00	74.45	2140.35
2	20	1.00	56.56	1626.03
2	30	1.00	39.07	1123.22
2	40	1.00	39.07	1123.22
2	50	1.00	26.60	764.72
2	60	1.00	26.60	764.72
2	70	1.00	18.75	539.04
2	80	1.00	17.18	493.91
2	85	1.00	9.20	264.49

Pressure vs. Time

