



DRILL STEM TEST REPORT

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

9431 E. Central STE. 100
Wichita Ks, 67206

ATTN: Frank Greenbaum

Jost #1-29

29/21s/15w/Pawnee

Start Date: 2013.08.24 @ 15:15:00

End Date: 2013.08.24 @ 21:26:30

Job Ticket #: 18482 DST #: 9

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

Printed: 2013.08.24 @ 21:58:01



DRILL STEM TEST REPORT

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29/21s/15w/Pawnee

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Wichita Ks, 67206

Jost #1-29

Job Ticket: 18482

DST#: 9

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Test Start: 2013.08.24 @ 15:15:00

GENERAL INFORMATION:

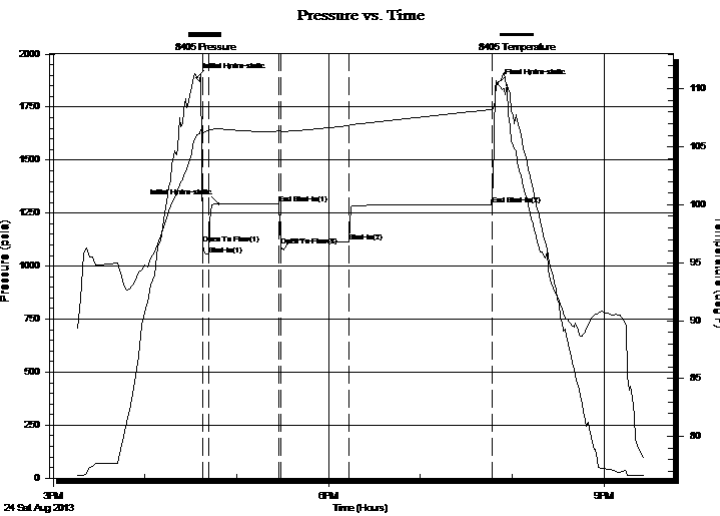
Formation: **Couglamorate**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 16:37:30
 Tester: Shane Konzem
 Time Test Ended: 21:26:30
 Unit No: 3330/66/GreatBend
 Interval: **3698.00 ft (KB) To 3800.00 ft (KB) (TVD)**
 Reference Elevations: 1978.00 ft (KB)
 Total Depth: 3800.00 ft (KB) (TVD)
 1970.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Poor
 KB to GR/CF: 8.00 ft

Serial #: 8405

Inside

Press @ Run Depth: 1114.14 psia @ 3796.50 ft (KB) Capacity: 5000.00 psia
 Start Date: 2013.08.24 End Date: 2013.08.24 Last Calib.: 2013.08.24
 Start Time: 15:15:00 End Time: 21:26:30 Time On Btm: 2013.08.24 @ 16:34:00
 Time Off Btm: 2013.08.24 @ 19:50:30

TEST COMMENT: 1st Open/ 5 Minutes. Strong blow built to bottom of five gallon bucket in 20 seconds.
 1st Shut In/ 45 Minutes. No blow back.
 2nd Open/ 45 Minutes. Strong blow built to bottom of 5 gallon bucket in 20 seconds. Gas to surface in 1 minutes.



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1888.03	106.04	Initial Hydro-static
4	1103.95	106.18	Open To Flow (1)
8	1054.60	106.40	Shut-In(1)
15	1292.34	106.52	Initial Hydro-static
54	1294.69	106.36	End Shut-In(1)
55	1095.54	106.30	Open To Flow (2)
100	1114.14	106.83	Shut-In(2)
193	1290.52	108.20	End Shut-In(2)
197	1860.64	110.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	3681feet of gas	0.00
0.00	No fluid	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	90.00	2587.39
Last Gas Rate	1.00	115.00	3306.11
Max. Gas Rate	1.00	115.00	3306.11



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Test Start: 2013.08.24 @ 15:15:00

GENERAL INFORMATION:

Formation: **Couglamorate**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:37:30

Time Test Ended: 21:26:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Shane Konzem

Unit No: 3330/66/GreatBend

Interval: 3698.00 ft (KB) To 3800.00 ft (KB) (TVD)

Reference Elevations: 1978.00 ft (KB)

Total Depth: 3800.00 ft (KB) (TVD)

1970.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8400 Outside

Press @ RunDepth: 1232.34 psia @ 3797.50 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.08.24

End Date:

2013.08.24

Last Calib.:

2013.08.24

Start Time: 15:15:00

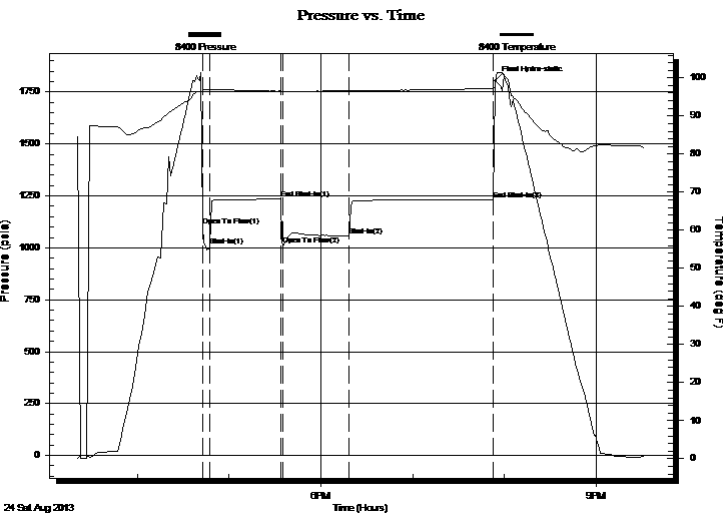
End Time:

21:31:30

Time On Btm:

Time Off Btm: 2013.08.24 @ 19:54:00

TEST COMMENT: 1st Open/ 5 Minutes. Strong blow built to bottom of five gallon bucket in 20 seconds.
1st Shut In/ 45 Minutes. No blow back.
2nd Open/ 45 Minutes. Strong blow built to bottom of 5 gallon bucket in 20 seconds. Gas to surface in 1 minutes.



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1104.16	96.28	Open To Flow (1)
5	1010.97	96.98	Shut-In(1)
51	1234.68	96.49	End Shut-In(1)
53	1015.72	96.50	Open To Flow (2)
96	1057.64	96.63	Shut-In(2)
191	1232.34	97.28	End Shut-In(2)
192	1803.24	98.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	3681feet of gas	0.00
0.00	No fluid	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	90.00	2587.39
Last Gas Rate	1.00	115.00	3306.11
Max. Gas Rate	1.00	115.00	3306.11



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TOOL DIAGRAM

F.G. Holl Company LLC.

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Test Start: 2013.08.24 @ 15:15:00

Tool Information

Drill Pipe:	Length: 3681.00 ft	Diameter: 3.80 inches	Volume: 51.63 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:	lb
			<u>Total Volume: 51.63 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	3698.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	102.50 ft				
Tool Length:	131.50 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3670.00	
Shut-In Tool	5.00			3675.00	
Hydroic Tool	5.00			3680.00	
Jars	6.00			3686.00	
Safety Joint	2.00			3688.00	
Packer	5.00			3693.00	29.00 Bottom Of Top Packer
Packer	5.00			3698.00	
Perforations	5.00			3703.00	
Change Over Sub	0.75			3703.75	
Drill Pipe	64.00			3767.75	
Change Over Sub	0.75			3768.50	
Perforations	27.00			3795.50	
Recorder	1.00	8405	Inside	3796.50	
Recorder	1.00	8400	Outside	3797.50	
Bullnose	3.00			3800.50	102.50 Bottom Packers & Anchor

Total Tool Length: 131.50



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FLUID SUMMARY

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Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 52.00 sec/qt

Water Loss: 9.59 in³

Resistivity: ohm.m

Salinity: 8000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psia

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	3681feet of gas	0.000
0.00	No fluid	0.000

Total Length: ft Total Volume: 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	90.00	2587.39
2	15	1.00	115.00	3306.11
2	25	1.00	115.00	3306.11
2	35	1.00	115.00	3306.11
2	45	1.00	115.00	3306.11

Pressure vs. Time

