



DRILL STEM TEST REPORT

Prepared For: **F.G. Holl Company L.L.C.**

9431 East Central Suite 100
Wichita, Kansas 67206 2563

ATTN: Ryan Greenbaum

Millard Trust #1-31

31-18s-13w

Start Date: 2014.11.20 @ 16:18:00

End Date: 2014.11.20 @ 00:00:00

Job Ticket #: 62076 DST #: 10

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.11.20 @ 23:35:56



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TESTING, INC.**

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Millard Trust #1-31

Job Ticket: 62076

DST#: 10

ATTN: Ryan Greenbaum

Test Start: 2014.11.20 @ 16:18:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:54:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: S-4

Interval: 3433.00 ft (KB) To 3443.00 ft (KB) (TVD)

Reference Elevations: 1888.00 ft (KB)

Total Depth: 3443.00 ft (KB) (TVD)

1880.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6651 Outside

Press@RunDepth: 985.02 psig @ 3440.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.20 End Date: 2014.11.20

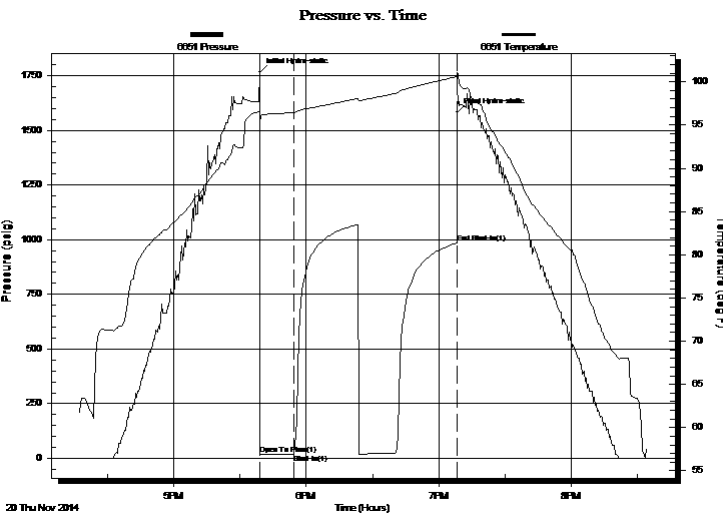
Last Calib.: 2014.11.20

Start Time: 03:35:00 End Time: 20:34:32

Time On Btm: 2014.11.20 @ 17:38:58

Time Off Btm: 2014.11.20 @ 19:08:25

TEST COMMENT: 1st Opening 15 Minutes Weak blow for 13 minutes and died
1st Shut-In 30 Minutes
2nd Opening 15 Minutes No blow
2nd Shut-In 30 Minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1765.12	96.64	Initial Hydro-static
1	17.85	95.21	Open To Flow (1)
16	19.94	96.46	Shut-In(1)
90	985.02	100.61	End Shut-In(1)
90	1581.49	101.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	Drilling Mud with a slight show of oil between the tools	0.21

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



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Reference Elevations: 1888.00 ft (KB)

Total Depth: 3443.00 ft (KB) (TVD)

1880.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8938 Inside

Press@RunDepth: 983.96 psig @ 3439.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.20 End Date: 2014.11.20

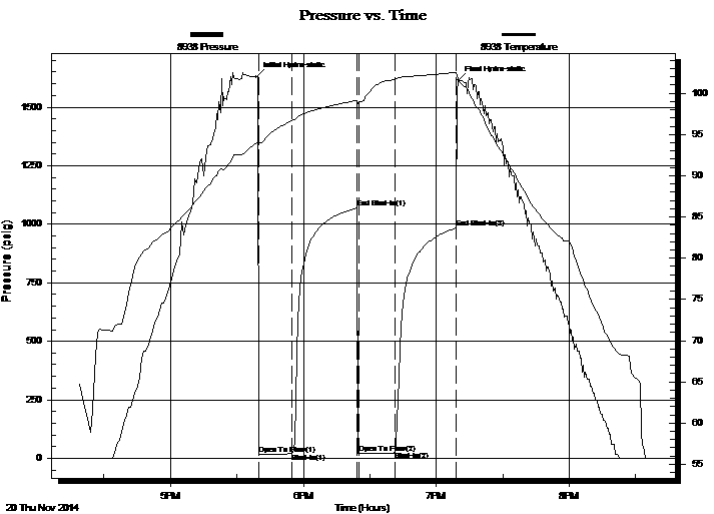
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Start Time: 16:18:00 End Time: 20:35:00

Time On Btm: 2014.11.20 @ 17:39:00

Time Off Btm: 2014.11.20 @ 19:10:00

TEST COMMENT: 1st Opening 15 Minutes Weak blow for 13 minutes and died
1st Shut-In 30 Minutes
2nd Opening 15 Minutes No blow
2nd Shut-In 30 Minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1630.13	94.03	Initial Hydro-static
1	17.01	93.76	Open To Flow (1)
16	19.71	96.71	Shut-In(1)
45	1068.40	99.14	End Shut-In(1)
46	20.05	98.94	Open To Flow (2)
63	31.87	101.74	Shut-In(2)
90	983.96	102.54	End Shut-In(2)
91	1614.99	101.62	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	Drilling Mud with a slight show of oil between the tools	0.21

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



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TOOL DIAGRAM

F.G. Holl Company L.L.C.

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9431 East Central Suite 100
Wichita, Kansas 67206 2563

Millard Trust #1-31

Job Ticket: 62076

DST#: 10

ATTN: Ryan Greenbaum

Test Start: 2014.11.20 @ 16:18:00

Tool Information

Drill Pipe:	Length: 3408.00 ft	Diameter: 3.80 inches	Volume: 47.81 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.86 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 47.81 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3433.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	38.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3410.00	
Hydraulic Tool	5.00			3415.00	
Jars	6.00			3421.00	
Safety Joint	2.00			3423.00	
Top Packer	5.00			3428.00	
Packer	5.00			3433.00	28.00 Bottom Of Top Packer
Anchor	5.00			3438.00	
Recorder	1.00	8938	Inside	3439.00	
Recorder	1.00	6651	Outside	3440.00	
Bull Plug	3.00			3443.00	10.00 Anchor Tool
Total Tool Length:	38.00				



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FLUID SUMMARY

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Test Start: 2014.11.20 @ 16:18:00

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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.00 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	Drilling Mud with a slight show of oil between the tools	0.210

Total Length: 15.00 ft Total Volume: 0.210 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

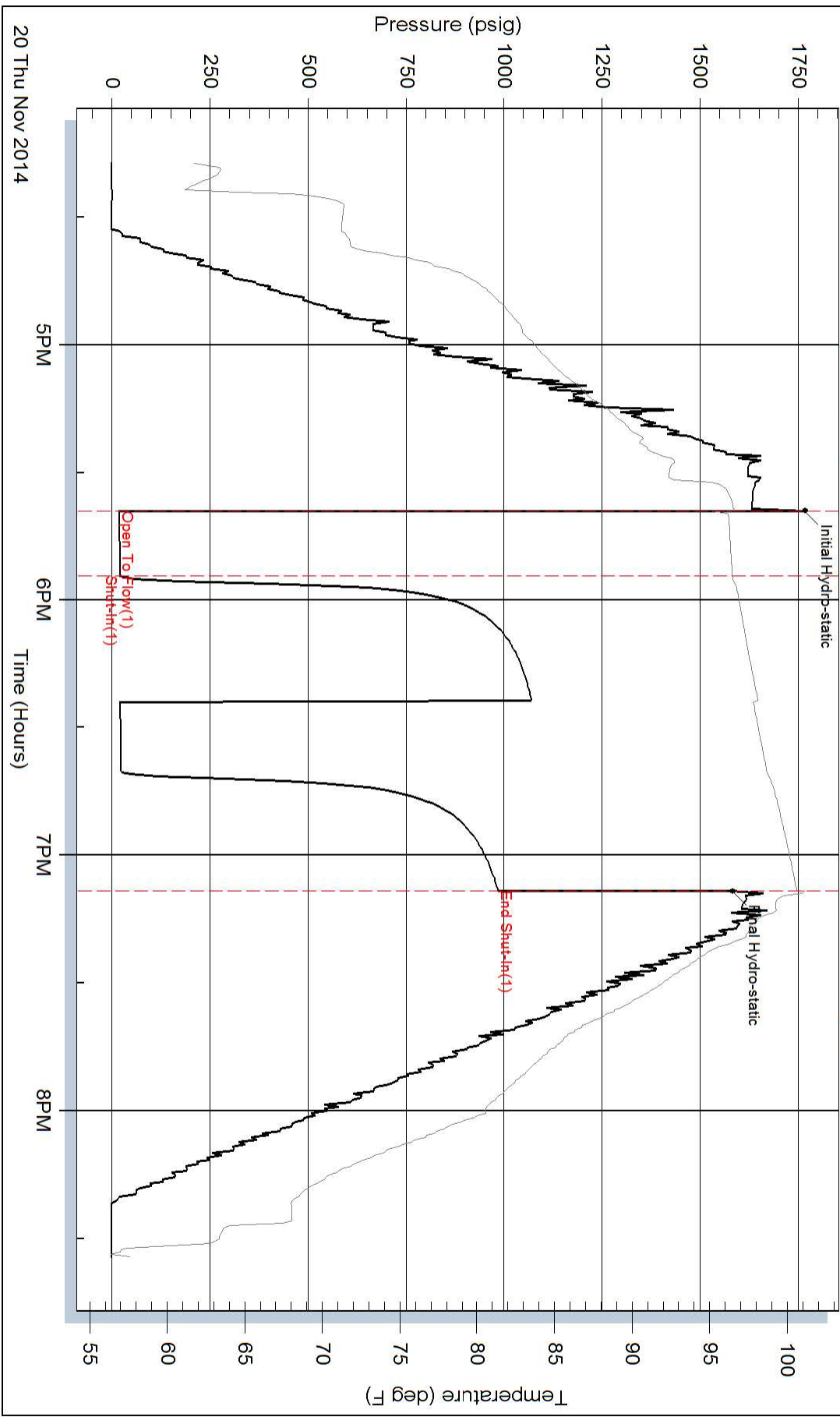
Serial #: 6651

Outside F.G. Holl Company L.L.C.

Millard Trust #1-31

DST Test Number: 10

Pressure vs. Time



Pressure vs. Time

