



## 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: 2014.11.19 @ 00:00:00

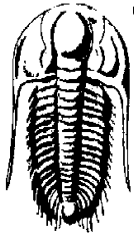
End Date:

Job Ticket #: 62054

DST #: 8

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.11.19 @ 22:31:38



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

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

**31-18s-13w**

9431 East Central Suite 100  
Wichita, Kansas 67206 2563

**Millard Trust #1-31**

Job Ticket: 62054

**DST#: 8**

ATTN: Ryan Greenbaum

Test Start: 2014.11.19 @ 00:00:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended:

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: S-4

**Interval: 3426.00 ft (KB) To 3435.00 ft (KB) (TVD)**

Reference Elevations: 1888.00 ft (KB)

Total Depth: 2325.00 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 @ Run Depth: 649.66 psig @ 3430.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.19 End Date: 2014.11.19

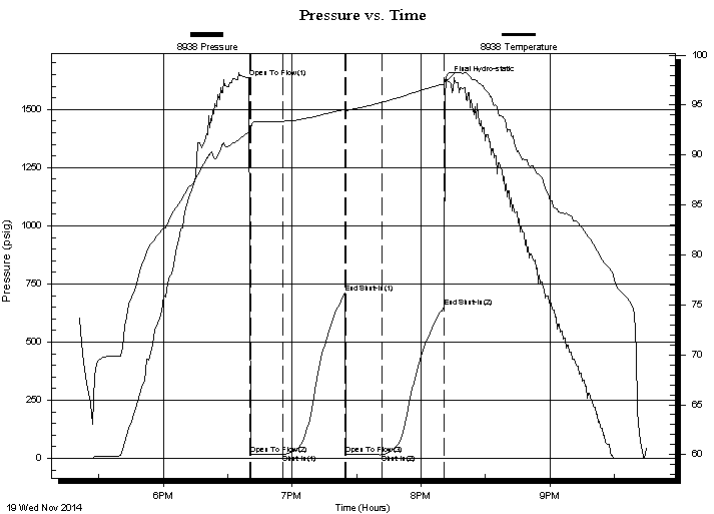
Last Calib.: 2014.11.19

Start Time: 17:21:00 End Time: 21:45:00

Time On Btm:

Time Off Btm: 2014.11.19 @ 20:12:00

**TEST COMMENT:** 1st Opening 15 Minutes Weak blow for 11 minutes and died  
1st Shut-In 30 Minutes  
2nd Opening 15 Minutes No blow  
2nd Shut-In 30 Minutes



## PRESSURE SUMMARY

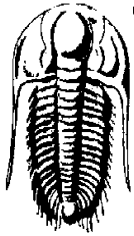
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1636.82	92.31	Open To Flow (1)
1	16.08	92.66	Open To Flow (2)
16	16.36	93.39	Shut-In(1)
45	709.61	94.59	End Shut-In(1)
45	16.15	94.30	Open To Flow (3)
62	16.22	95.27	Shut-In(2)
91	649.66	97.12	End Shut-In(2)
92	1624.76	98.09	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Drilling Mud	0.07

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**31-18s-13w**

9431 East Central Suite 100  
Wichita, Kansas 67206 2563

**Millard Trust #1-31**

Job Ticket: 62054

**DST#: 8**

ATTN: Ryan Greenbaum

Test Start: 2014.11.19 @ 00:00:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended:

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: S-4

**Interval: 3426.00 ft (KB) To 3435.00 ft (KB) (TVD)**

Reference Elevations: 1888.00 ft (KB)

Total Depth: 2325.00 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 @ Run Depth: 649.52 psig @ 3430.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.19 End Date: 2014.11.19

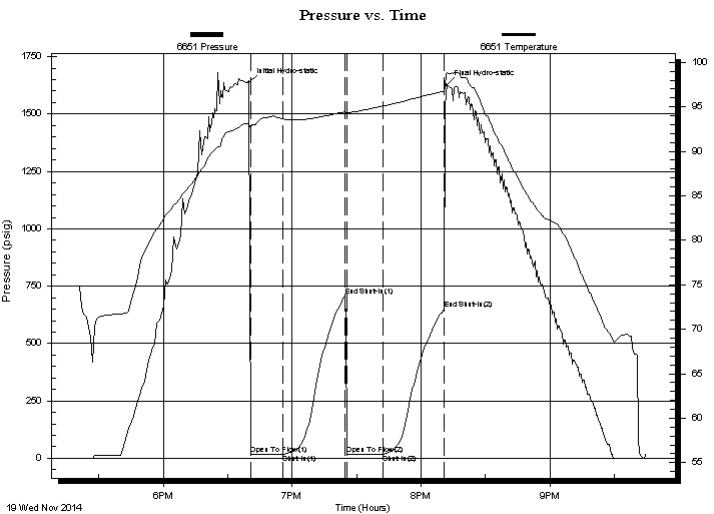
Last Calib.: 2014.11.19

Start Time: 17:20:00 End Time: 21:45:00

Time On Btm: 2014.11.19 @ 18:40:00

Time Off Btm: 2014.11.19 @ 20:12:00

**TEST COMMENT:** 1st Opening 15 Minutes Weak blow for 11 minutes and died  
1st Shut-In 30 Minutes  
2nd Opening 15 Minutes No blow  
2nd Shut-In 30 Minutes



## PRESSURE SUMMARY

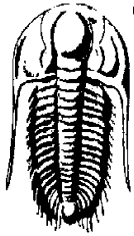
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1637.68	93.12	Initial Hydro-static
1	16.82	92.58	Open To Flow (1)
16	17.27	93.64	Shut-In(1)
45	709.29	94.45	End Shut-In(1)
46	17.28	94.29	Open To Flow (2)
62	17.95	95.09	Shut-In(2)
91	649.52	96.77	End Shut-In(2)
92	1626.21	98.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Drilling Mud	0.07

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

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

**31-18s-13w**

9431 East Central Suite 100  
Wichita, Kansas 67206 2563

**Millard Trust #1-31**

Job Ticket: 62054

**DST#: 8**

ATTN: Ryan Greenbaum

Test Start: 2014.11.19 @ 00:00:00

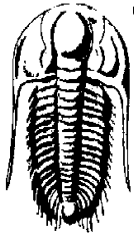
## Tool Information

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: 65000.00 lb
			<u>Total Volume: 47.81 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3426.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	9.00 ft			
Tool Length:	37.00 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			3403.00	
Hydraulic tool	5.00			3408.00	
Jars	6.00			3414.00	
Safety Joint	2.00			3416.00	
Top Packer	5.00			3421.00	
Packer	5.00			3426.00	28.00 Bottom Of Top Packer
Anchor	4.00			3430.00	
Recorder	0.00	8938	Inside	3430.00	
Recorder	0.00	6651	Outside	3430.00	
Bullnose	5.00			3435.00	9.00 Anchor Tool
<b>Total Tool Length:</b>	<b>37.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**31-18s-13w**

9431 East Central Suite 100  
Wichita, Kansas 67206 2563

**Millard Trust #1-31**

Job Ticket: 62054

**DST#: 8**

ATTN: Ryan Greenbaum

Test Start: 2014.11.19 @ 00:00:00

## 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: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.60 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Drilling Mud	0.070

Total Length: 5.00 ft      Total Volume: 0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

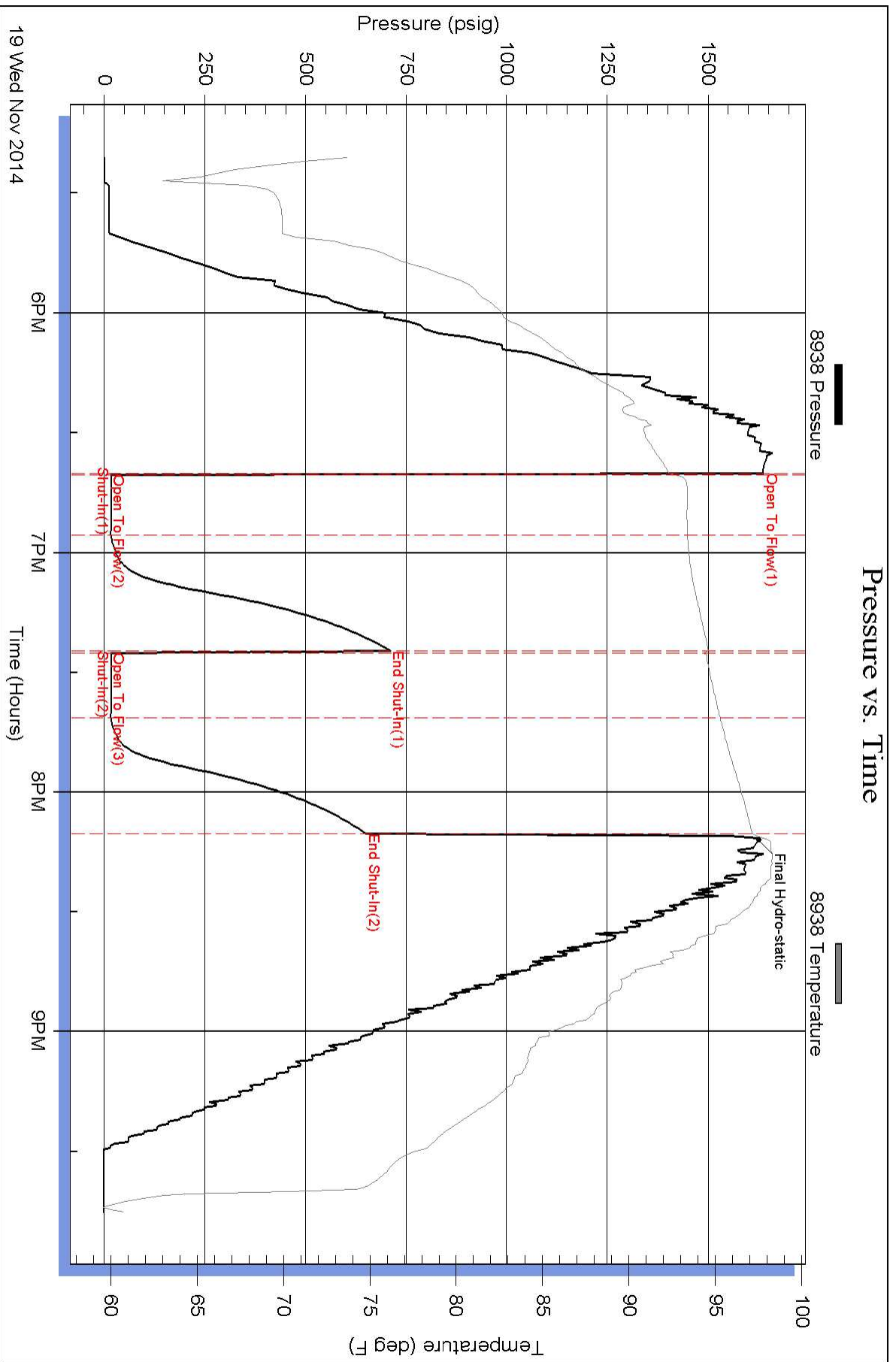
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



### Pressure vs. Time

