



## DRILL STEM TEST REPORT

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

9431 East Central Suite 100  
Wichita, Kansas 67206-2563

ATTN: Rene Husted

### **Kufeld #1-19**

### **19-19s18w Barton**

Start Date: 2014.09.16 @ 00:00:00

End Date:

Job Ticket #: 60379

DST #: 13

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

Printed: 2014.09.16 @ 10:18:39



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

F.G. Holl Company LLC  
9431 East Central Suite 100  
Wichita, Kansas 67206-2563  
ATTN: Rene Husted

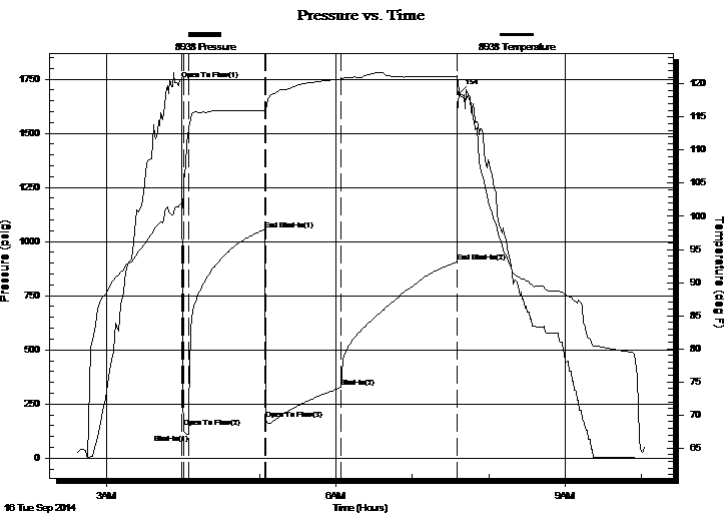
**19-19s18w Barton**  
**Kufeld #1-19**  
Job Ticket: 60379      **DST#: 13**  
Test Start: 2014.09.16 @ 00:00:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No      Whipstock:      ft (KB)  
Time Tool Opened:  
Time Test Ended:  
**Interval: 3562.00 ft (KB) To 3570.00 ft (KB) (TVD)**  
Total Depth: 3570.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches      Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Gene Budig  
Unit No: S4  
Reference Elevations: 1915.00 ft (KB)  
1907.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 8938      Inside**  
Press@RunDepth: 906.34 psig @ 3566.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.09.16      End Date: 2014.09.16      Last Calib.: 2014.09.16  
Start Time: 02:36:00      End Time: 10:03:00      Time On Btm:  
Time Off Btm:

**TEST COMMENT:** 1st Opening 5 Minutes-Strong blow gas to surface in 5 minutes-See gas flow report  
1st Shut-In 60 Minute-Fair blow back  
2nd Opening 60 Minutes-Strong blow  
2nd Shut-In- 90 Minutes-Fair blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1746.54	101.99	Open To Flow (1)
1	142.92	104.20	Open To Flow (2)
5	111.97	112.95	Shut-In(1)
65	1054.91	115.94	End Shut-In(1)
66	179.99	116.08	Open To Flow (3)
125	327.26	120.71	Shut-In(2)
216	906.34	121.17	End Shut-In(2)
218	1682.82	118.96	154

## Recovery

Length (ft)	Description	Volume (bbl)
1475.00	Clean Gassy Oil 15% Gas 85% Oil	20.69
0.00	Gravity 32 corrected	0.00

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	41.00	87.89
Last Gas Rate	0.25		
Max. Gas Rate	0.25	41.00	87.89



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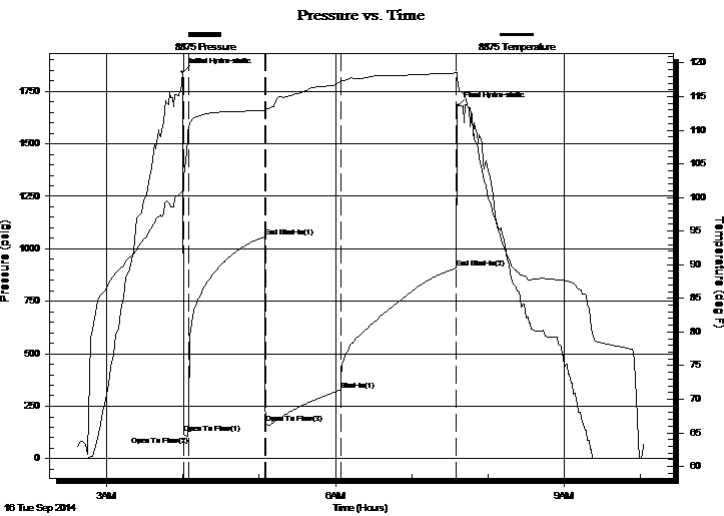
**19-19s18w Barton**  
**Kufeld #1-19**  
Job Ticket: 60379      **DST#: 13**  
Test Start: 2014.09.16 @ 00:00:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No      Whipstock:      ft (KB)  
Time Tool Opened:  
Time Test Ended:  
Interval: **3562.00 ft (KB) To 3570.00 ft (KB) (TVD)**  
Total Depth: 3570.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches      Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Gene Budig  
Unit No: S4  
Reference Elevations: 1915.00 ft (KB)  
1907.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 8875      Outside**  
Press@RunDepth: 908.38 psig @ 3567.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.09.16      End Date: 2014.09.16      Last Calib.: 2014.09.16  
Start Time: 02:36:00      End Time: 10:03:30      Time On Btm: 2014.09.16 @ 03:59:30  
Time Off Btm: 2014.09.16 @ 07:36:00

**TEST COMMENT:** 1st Opening 5 Minutes-Strong blow gas to surface in 5 minutes-See gas flow report  
1st Shut-In 60 Minute-Fair blow back  
2nd Opeing 60 Minutes-Strong blow  
2nd Shut-In- 90 Minutes-Fair blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1840.26	100.81	Initial Hydro-static
1	121.49	103.00	Open To Flow (1)
5	108.90	109.75	Open To Flow (2)
65	1056.92	112.91	End Shut-In (1)
66	168.73	113.17	Open To Flow (3)
125	328.45	117.20	Shut-In (1)
216	908.38	118.50	End Shut-In (2)
217	1678.32	117.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1475.00	Clean Gassy Oil 15% Gas 85% Oil	20.69
0.00	Gravity 32 corrected	0.00

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	41.00	87.89
Last Gas Rate	0.25		
Max. Gas Rate	0.25	41.00	87.89



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F.G. Holl Company LLC

**19-19s18w Barton**

9431 East Central Suite 100  
Wichita, Kansas 67206-2563

**Kufeld #1-19**

Job Ticket: 60379

**DST#: 13**

ATTN: Rene Husted

Test Start: 2014.09.16 @ 00:00:00

## Tool Information

Drill Pipe:	Length: 3552.00 ft	Diameter: 3.80 inches	Volume: 49.83 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: 49.83 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3562.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	8.00 ft			
Tool Length:	31.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3544.00	
Hydraulic Tool	5.00			3549.00	
Jars	6.00			3555.00	
Safety Joint	2.00			3557.00	
Packer	5.00			3562.00	23.00 Bottom Of Top Packer
Anchor	3.00			3565.00	
Recorder	1.00	8938	Inside	3566.00	
Recorder	1.00	8875	Outside	3567.00	
Bull Plug	3.00			3570.00	8.00 Anchor Tool
<b>Total Tool Length:</b>	<b>31.00</b>				



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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Wichita, Kansas 67206-2563  
ATTN: Rene Husted

**19-19s18w Barton**  
**Kufeld #1-19**  
Job Ticket: 60379      **DST#: 13**  
Test Start: 2014.09.16 @ 00:00:00

## Mud and Cushion Information

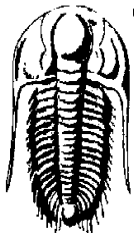
Mud Type: Gel Chem	Cushion Type:	Oil API: 32 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl	
Water Loss: 10.40 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 7700.00 ppm		
Filter Cake: 1.00 inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1475.00	Clean Gassy Oil 15% Gas 85% Oil	20.690
0.00	Gravity 32 corrected	0.000

Total Length: 1475.00 ft      Total Volume: 20.690 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:



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## DRILL STEM TEST REPORT

**GAS RATES**

F.G. Holl Company LLC

**19-19s18w Barton**

9431 East Central Suite 100  
Wichita, Kansas 67206-2563

**Kufeld #1-19**

Job Ticket: 60379

**DST#: 13**

ATTN: Rene Husted

Test Start: 2014.09.16 @ 00:00:00

### 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 (psig)	Gas Rate (Mcf/d)
2	5	0.25	41.00	87.89
2	10	0.25	19.20	53.30
2	20	0.25	12.00	41.88
2	30	0.25	5.70	31.89
2	40	0.25	0.50	23.64
2	-	0.25	-999999.00	-999999.00

### Pressure vs. Time

