



## DRILL STEM TEST REPORT

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

9431 East Central Suite 100  
Wichita, Kansas 67206

ATTN: Renee Husted

**Calcara#2-19**

**19-19s-14w**

Start Date: 2017.09.27 @ 08:46:00

End Date: 2017.09.27 @ 00:00:00

Job Ticket #: 01195                      DST #: 3

Eagle Testers  
1309 Patton Road    Great Bend, Kansas 67530  
620-791-7394

Printed: 2017.09.27 @ 05:04:43



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Job Ticket: 01195

DST#: 3

ATTN: Renee Husted

Test Start: 2017.09.27 @ 08:46:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:00:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: 1

Interval: **3430.00 ft (KB) To 3550.00 ft (KB) (TVD)**

Reference Elevations: 1910.00 ft (KB)

Total Depth: 3550.00 ft (KB) (TVD)

1902.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 9139

Inside

Press@RunDepth: 1196.31 psig @ 3545.06 ft (KB)

Capacity: 5000.00 psig

Start Date: 2017.09.26

End Date:

2017.09.26

Last Calib.:

2017.09.27

Start Time: 08:46:00

End Time:

16:26:00

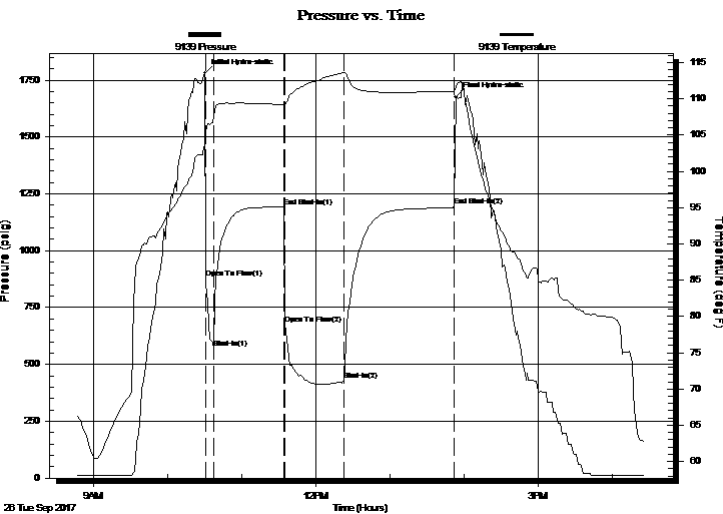
Time On Btm:

2017.09.26 @ 10:30:00

Time Off Btm:

2017.09.26 @ 13:53:00

TEST COMMENT: 1st Opening 5 Minutes strong blow bottom of a 5 gallon bucket in 30 seconds  
 1st Shut-in 60 Minutes good blow back  
 2nd Opening 45 Minutes strong blow gas to surface  
 2nd Shut-In 90 Minutes good b;pw back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1780.36	103.59	Initial Hydro-static
1	882.01	103.96	Open To Flow (1)
7	570.21	107.73	Shut-In(1)
64	1191.71	109.25	End Shut-In(1)
65	675.39	109.25	Open To Flow (2)
113	431.73	113.64	Shut-In(2)
202	1196.31	111.06	End Shut-In(2)
203	1675.49	111.67	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
210.00	Mud w with a trace of oil	2.95
240.00	oil and gas cut muddy water	3.37
0.00	10%Gas 25%Oil 40%Mud 25%Water	0.00
120.00	oil and gas cut muddy water	1.68
0.00	20%Gas 20%Oil 10%Mud 50%Water	0.00
120.00	oil and gas cut muddy w ater	1.68

## Gas Rates

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



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Job Ticket: 01195

DST#: 3

ATTN: Renee Husted

Test Start: 2017.09.27 @ 08:46:00

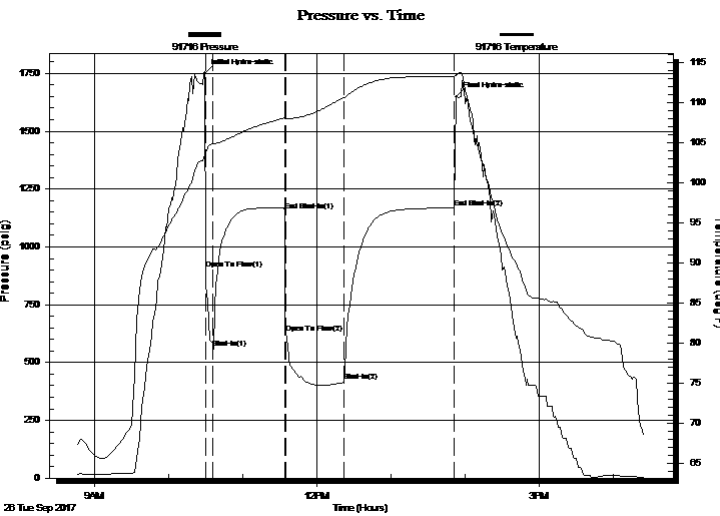
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:00:00  
 Time Test Ended: 00:00:00  
 Interval: **3430.00 ft (KB) To 3550.00 ft (KB) (TVD)**  
 Total Depth: 3550.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Gene Budig  
 Unit No: 1  
 Reference Elevations: 1910.00 ft (KB)  
 1902.00 ft (CF)  
 KB to GR/CF: 8.00 ft

## Serial #: 91716 Outside

Press@RunDepth: 1168.42 psig @ 3545.06 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2017.09.26 End Date: 2017.09.26 Last Calib.: 2017.09.27  
 Start Time: 08:46:00 End Time: 16:25:29 Time On Btm: 2017.09.26 @ 10:29:30  
 Time Off Btm: 2017.09.26 @ 13:53:00

TEST COMMENT: 1st Opening 5 Minutes strong blow bottom of a 5 gallon bucket in 30 seconds  
 1st Shut-in 60 Minutes good blow back  
 2nd Opening 45 Minutes strong blow gas to surface  
 2nd Shut-In 90 Minutes good b;pw back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1750.68	103.41	Initial Hydro-static
1	903.65	103.57	Open To Flow (1)
7	563.99	104.78	Shut-In(1)
65	1154.67	108.04	End Shut-In(1)
66	625.53	108.03	Open To Flow (2)
113	420.00	110.59	Shut-In(2)
202	1168.42	113.23	End Shut-In(2)
204	1647.92	113.39	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
210.00	Mud w with a trace of oil	2.95
240.00	oil and gas cut muddy water	3.37
0.00	10%Gas 25%Oil 40%Mud 25%Water	0.00
120.00	oil and gas cut muddy water	1.68
0.00	20%Gas 20%Oil 10%Mud 50%Water	0.00
120.00	oil and gas cut muddy water	1.68

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

F.G.Holl Company LLC

**19-19s-14w**

9431 East Central Suite 100  
Wichita, Kansas 67206

**Calcara#2-19**

Job Ticket: 01195

**DST#: 3**

ATTN: Renee Husted

Test Start: 2017.09.27 @ 08:46:00

## Tool Information

Drill Pipe:	Length: 3425.00 ft	Diameter: 3.80 inches	Volume: 48.04 bbl	Tool Weight: 20900.00 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: 68000.00 lb
			<u>Total Volume: 48.04 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3430.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	120.06 ft			
Tool Length:	150.06 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 In Tool	5.00			3405.00	
Hydraulic tool	5.00			3410.00	
Jars	5.00			3415.00	
Safety Joint	5.00			3420.00	
Packer	5.00			3425.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3430.00	
Anchor	6.00			3436.00	
Change Over Sub	0.75			3436.75	
Drill Pipe	93.56			3530.31	
Change Over Sub	0.75		Inside	3531.06	
Anchor	14.00			3545.06	
Recorder	0.00	9139	Inside	3545.06	
Recorder	0.00	91716	Outside	3545.06	
Bullnose	5.00			3550.06	120.06 Bottom Packers & Anchor

**Total Tool Length: 150.06**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

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DST#: 3

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Test Start: 2017.09.27 @ 08:46:00

### Mud and Cushion Information

Mud Type: Gel Chem  
 Mud Weight: 9.00 lb/gal  
 Viscosity: 59.00 sec/qt  
 Water Loss: 9.20 in<sup>3</sup>  
 Resistivity: ohm.m  
 Salinity: 5700.00 ppm  
 Filter Cake: 1.00 inches

Cushion Type:  
 Cushion Length: ft  
 Cushion Volume: bbl  
 Gas Cushion Type:  
 Gas Cushion Pressure: psig

Oil API: deg API  
 Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
210.00	Mud with a trace of oil	2.946
240.00	oil and gas cut muddy water	3.367
0.00	10%Gas 25%Oil 40%Mud 25%Water	0.000
120.00	oil and gas cut muddy water	1.683
0.00	20%Gas 20%Oil 10%Mud 50%Water	0.000
120.00	oil and gas cut muddy water	1.683
0.00	10%Gas 5%Oil 5%Mud 75%Water	0.000
0.00	Gauge gauged fluxuated between	0.000
0.00	415mcf and 472mcf	0.000
0.00	chlorides 18000	0.000

Total Length: 690.00 ft      Total Volume: 9.679 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:

### Pressure vs. Time

