



DRILL STEM TEST REPORT

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

9431 East Central suite 100
Wichita, Kansas 67206-2563

ATTN: Renee Hustain

Calcara #4-19

19-19s-14w Barton

Start Date: 2019.07.12 @ 06:05:00

End Date: 2019.07.12 @ 01:15:00

Job Ticket #: 01366 DST #: 3

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

Printed: 2019.07.12 @ 13:34:35



DRILL STEM TEST REPORT

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19-19s-14w Barton

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Wichita, Kansas 67206-2563

Calcara #4-19

Job Ticket: 01366

DST#: 3

ATTN: Renee Hustean

Test Start: 2019.07.12 @ 06:05:00

GENERAL INFORMATION:

Formation: **Kansas City "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:52:00

Time Test Ended: 01:15:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: 1

Interval: 3380.00 ft (KB) To 3398.00 ft (KB) (TVD)

Reference Elevations: 1911.00 ft (KB)

Total Depth: 3398.00 ft (KB) (TVD)

1903.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 8.00 ft

Serial #: 9119

Inside

Press@RunDepth: 1089.66 psig @ 3393.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2019.07.12

End Date: 2019.07.12

Last Calib.: 2019.07.12

Start Time: 06:05:55

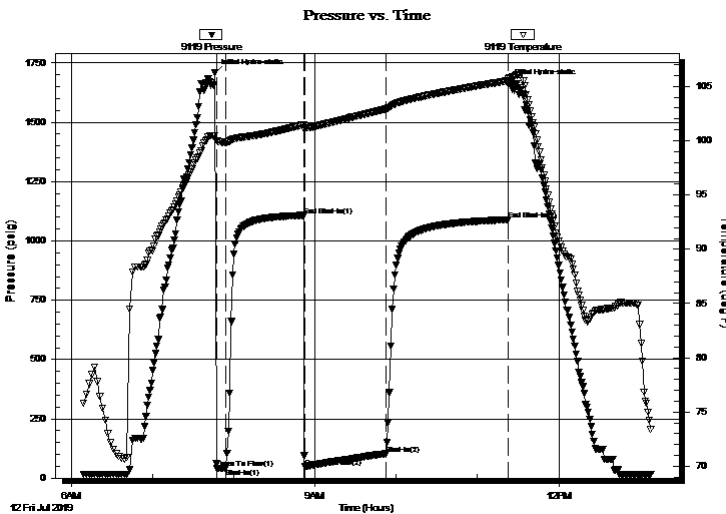
End Time: 13:08:25

Time On Btm: 2019.07.12 @ 07:45:55

Time Off Btm: 2019.07.12 @ 11:22:55

TEST COMMENT: 1st Opening 5 Minutes built to the bottom of a 5 gallon bucket in 1 minute
1st Shut-In 60 Minutes no blow back
2NDOpening 60 Minutes strong Blow gas to surface in 33 Minutes
2nd Shut-In 90 Minutes weak blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1707.39	100.47	Initial Hydro-static
2	42.22	99.98	Open To Flow (1)
8	43.30	99.85	Shut-In(1)
66	1108.08	101.47	End Shut-In(1)
67	47.43	101.18	Open To Flow (2)
126	102.39	102.91	Shut-In(2)
217	1089.66	105.52	End Shut-In(2)
217	1663.37	105.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
220.00	Clean Gassy Oil 20%Gas 80% Oil	3.09
0.00	gravity 44 corrected	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	0.01	5.39
Last Gas Rate	0.13	1.30	5.88
Max. Gas Rate	0.13	1.30	5.88



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DST#: 3

ATTN: Renee Hustean

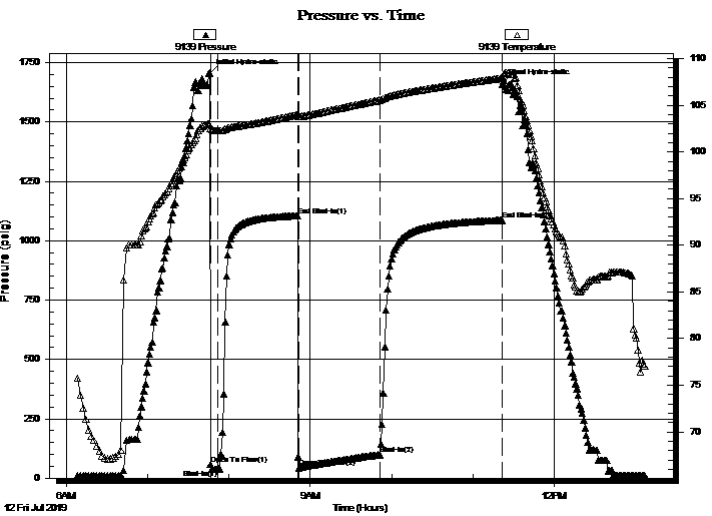
Test Start: 2019.07.12 @ 06:05:00

GENERAL INFORMATION:

Formation: **Kansas City "J"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 07:52:00 Tester: Gene Budig
 Time Test Ended: 01:15:00 Unit No: 1
 Interval: **3380.00 ft (KB) To 3398.00 ft (KB) (TVD)** Reference Elevations: 1911.00 ft (KB)
 Total Depth: 3398.00 ft (KB) (TVD) 1903.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: KB to GR/CF: 8.00 ft

Serial #: 9139 Outside
 Press@RunDepth: 1086.24 psig @ 3393.00 ft (KB) Capacity: 5000.00 psig
 Start Date: 2019.07.12 End Date: 2019.07.12 Last Calib.: 2019.07.12
 Start Time: 06:05:00 End Time: 13:07:30 Time On Btm: 2019.07.12 @ 07:45:30
 Time Off Btm: 2019.07.12 @ 11:22:00

TEST COMMENT: 1st Opening 5 Minutes built to the bottom of a 5 gallon bucket in 1 minute
 1st Shut-In 60 Minutes no blow back
 2NDOpening 60 Minutes strong Blow gas to surface in 33 Minutes
 2nd Shut-In 90 Minutes weak blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1705.43	102.92	Initial Hydro-static
1	57.28	102.50	Open To Flow (1)
6	38.43	102.25	Shut-In(1)
65	1104.81	103.99	End Shut-In(1)
66	43.78	103.77	Open To Flow (2)
126	98.83	105.53	Shut-In(2)
216	1086.24	107.90	End Shut-In(2)
217	1660.10	107.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
220.00	Clean Gassy Oil 20%Gas 80% Oil	3.09
0.00	gravity 44 corrected	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	0.01	5.39
Last Gas Rate	0.13	1.30	5.88
Max. Gas Rate	0.13	1.30	5.88



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TOOL DIAGRAM

F G Holl Company LLC

19-19s-14w Barton

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DST#: 3

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Test Start: 2019.07.12 @ 06:05:00

Tool Information

Drill Pipe:	Length: 3377.00 ft	Diameter: 3.80 inches	Volume: 47.37 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: 64000.00 lb
			<u>Total Volume: 47.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3380.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	48.00 ft			
Number of Packers:	2	Diameter: inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3355.00	
Hydraulic tool	5.00			3360.00	
Jars	5.00			3365.00	
Safety Joint	5.00			3370.00	
Packer	5.00			3375.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3380.00	
Anchor	13.00			3393.00	
Recorder	0.00	9119	Inside	3393.00	
Recorder	0.00	9139	Outside	3393.00	
Bullnose	5.00			3398.00	18.00 Bottom Packers & Anchor
Total Tool Length:	48.00				



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FLUID SUMMARY

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Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 95.00 lb/gal

Viscosity: 48.00 sec/qt

Water Loss: 9.60 in³

Resistivity: ohm.m

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
220.00	Clean Gassy Oil 20%Gas 80% Oil	3.086
0.00	gravity 44 corrected	0.000

Total Length: 220.00 ft Total Volume: 3.086 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 (psig)	Gas Rate (Mcf/d)
2	445	0.13	0.01	5.39
2	50	0.13	1.30	5.88
2	55	0.13	1.30	5.88
2	60	0.13	1.30	5.88

Pressure vs. Time

