



## DRILL STEM TEST REPORT

Prepared For: **Edison Operating Company LLC**

8100 e.22nd St N.bldg 1900  
Wichita,Kansas 67226

ATTN: Adam Kennedy

### **Curtis Unruh #1-5**

#### **5-31S-18W Commanche**

Start Date: 2017.10.07 @ 12:26:00

End Date: 2017.10.07 @ 00:00:00

Job Ticket #: 01197                      DST #: 1

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

Printed: 2017.10.07 @ 08:27:09



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Job Ticket: 01197

**DST#: 1**

ATTN: Adam Kennedy

Test Start: 2017.10.07 @ 12:26:00

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:52:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig1

Unit No: 1

**Interval: 50552.0 ft (KB) To 5100.0 ft (KB) (TVD)**

Reference Elevations: 2160.00 ft (KB)

Total Depth: 5100.00 ft (KB) (TVD)

2150.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 9119**

**Inside**

Press@RunDepth: 859.33 psig @ 5095.28 ft (KB)

Capacity: 5000.00 psig

Start Date: 2017.10.07

End Date:

2017.10.07

Last Calib.:

2017.10.07

Start Time: 12:26:00

End Time:

20:12:00

Time On Btm:

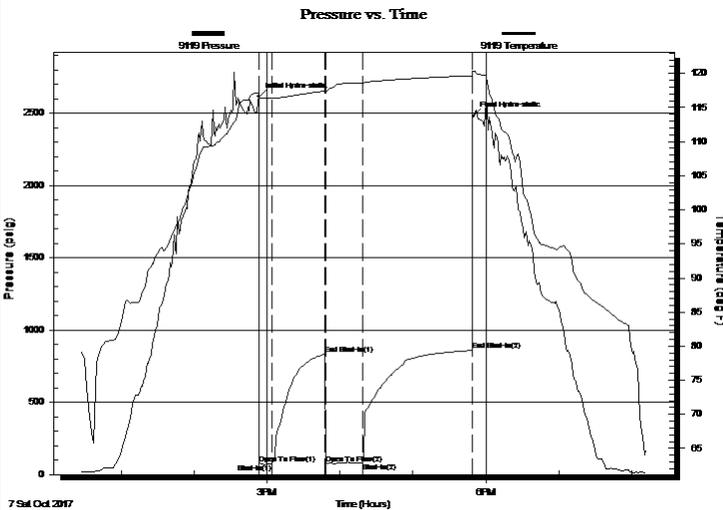
2017.10.07 @ 14:53:00

Time Off Btm:

2017.10.07 @ 17:50:00

**TEST COMMENT:** 1st Opening 10 Minutes weak blow built to 2 inches  
1st Shut-In 45 Minutes no blow back  
2nd Opening 30 Minutes weak blow built to 3 inches  
2nd shut-In 90 Minutes no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2615.13	117.12	Initial Hydro-static
1	76.99	116.44	Open To Flow (1)
11	73.86	116.34	Shut-In(1)
54	833.04	117.43	End Shut-In(1)
55	77.19	117.32	Open To Flow (2)
86	81.42	118.63	Shut-In(2)
176	859.33	119.68	End Shut-In(2)
177	2478.56	120.27	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
50.00	Drilling Mud	0.70

## Gas Rates

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



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Reference Elevations: 2160.00 ft (KB)

Total Depth: 5100.00 ft (KB) (TVD)

2150.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 9139 Outside**

Press@RunDepth: 870.31 psig @ 5095.28 ft (KB)

Capacity: 5000.00 psig

Start Date: 2017.10.07 End Date: 2017.10.07

Last Calib.: 2017.10.07

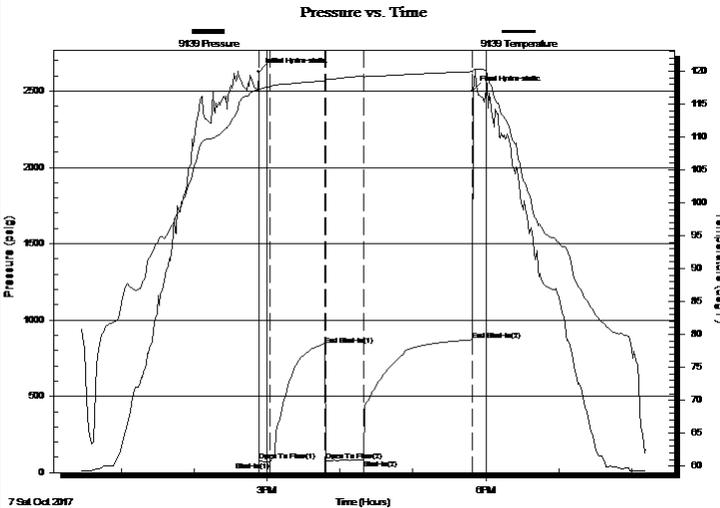
Start Time: 12:26:00 End Time: 20:12:00

Time On Btm: 2017.10.07 @ 14:53:00

Time Off Btm: 2017.10.07 @ 17:49:30

**TEST COMMENT:** 1st Opening 10 Minutes weak blow built to 2 inches  
1st Shut-In 45 Minutes no blow back  
2nd Opening 30 Minutes weak blow built to 3 inches  
2nd shut-In 90 Minutes no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2626.57	117.22	Initial Hydro-static
1	76.50	117.33	Open To Flow (1)
10	72.16	117.69	Shut-In(1)
55	835.96	118.54	End Shut-In(1)
55	77.42	118.71	Open To Flow (2)
86	82.66	119.25	Shut-In(2)
176	870.31	119.94	End Shut-In(2)
177	2505.48	120.15	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
50.00	Drilling Mud	0.70

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Edison Operating Company LLC

**5-31S-18W Commanche**

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**Curtis Unruh #1-5**

Job Ticket: 01197

**DST#: 1**

ATTN: Adam Kennedy

Test Start: 2017.10.07 @ 12:26:00

## Tool Information

Drill Pipe:	Length: 5038.00 ft	Diameter: 3.80 inches	Volume: 70.67 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:	100000.0 lb
			<u>Total Volume: 70.67 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	5052.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	48.28 ft				
Tool Length:	78.28 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			5027.00	
Hydraulic tool	5.00			5032.00	
Jars	5.00			5037.00	
Safety Joint	5.00			5042.00	
Packer	5.00			5047.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	5052.00	
Change Over Sub	0.75			5052.75	
Drill Pipe	31.78			5084.53	
Change Over Sub	0.75		Inside	5085.28	
Anchor	10.00			5095.28	
Recorder	0.00	9119	Inside	5095.28	
Recorder	0.00	9139	Outside	5095.28	
Bullnose	5.00			5100.28	48.28 Bottom Packers & Anchor

**Total Tool Length: 78.28**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

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ATTN: Adam Kennedy

Test Start: 2017.10.07 @ 12:26:00

### 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: 57.00 sec/qt

Cushion Volume: bbl

Water Loss: 9.60 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 60009.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	Drilling Mud	0.701

Total Length: 50.00 ft      Total Volume: 0.701 bbl

Num Fluid Samples: 0

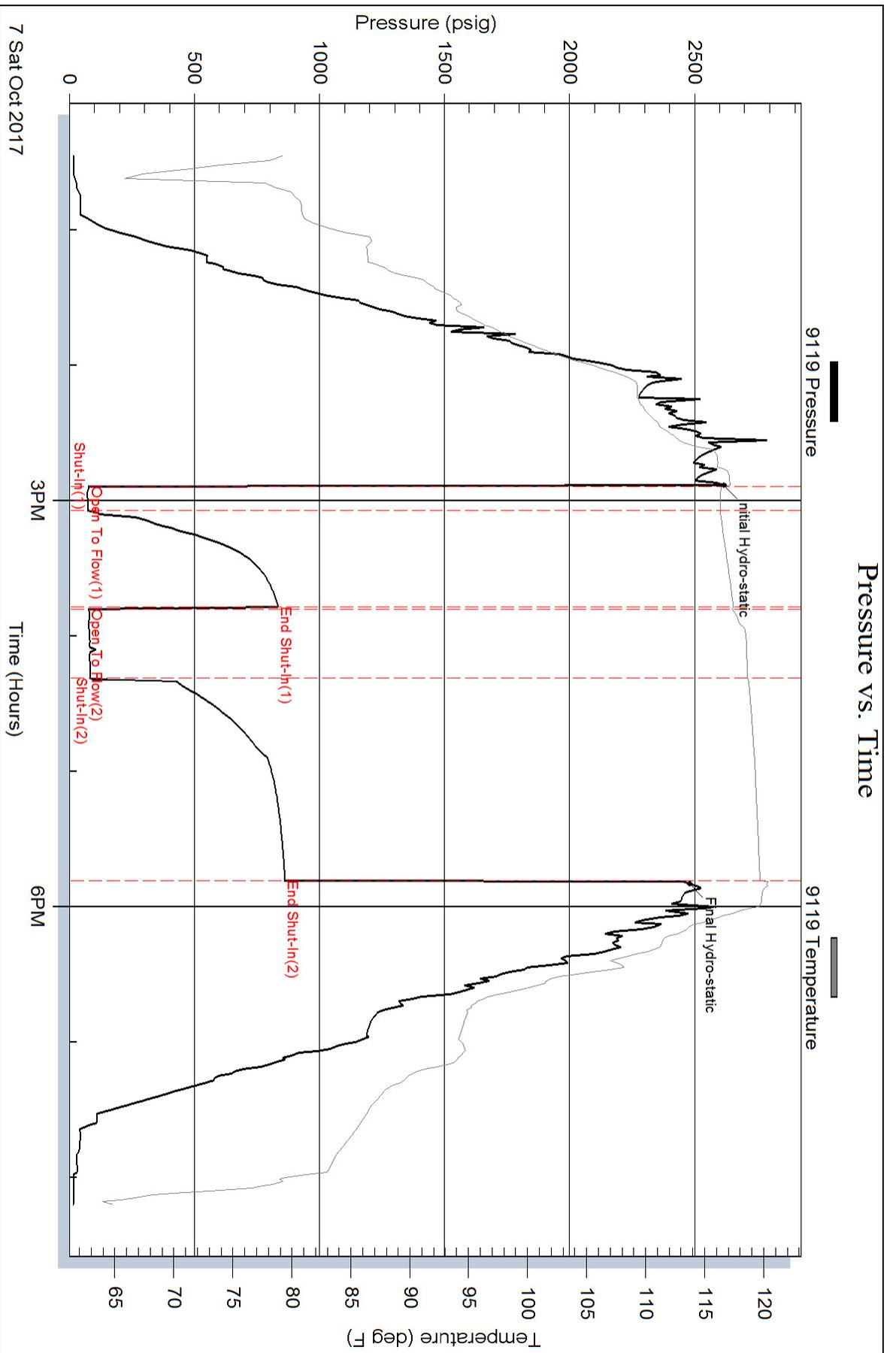
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



### Pressure vs. Time

