



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Jolen Operating Co  
 100 N Broadway Ave  
 Ste 2460  
 Oklahoma City, OK 73102  
 ATTN: Dennis Pope

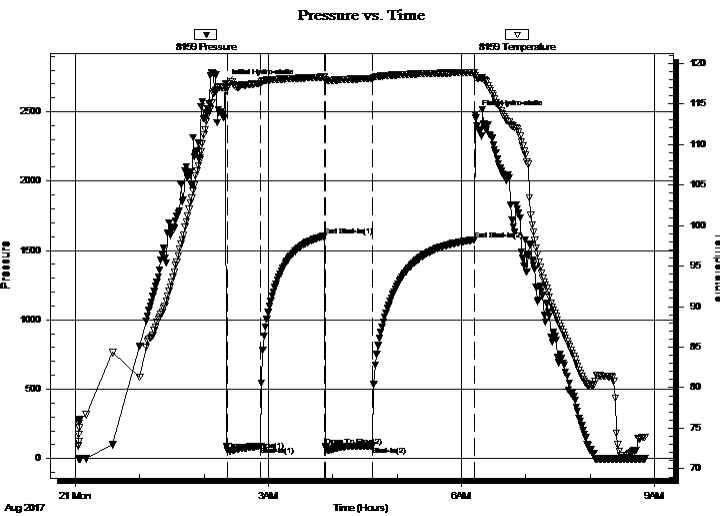
**16-30S-21W Clark,KS**  
**Evans #1-16**  
 Job Ticket: 63619      **DST#: 2**  
 Test Start: 2017.08.21 @ 00:03:01

## GENERAL INFORMATION:

Formation: **St Louis**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Straddle (Reset)  
 Time Tool Opened: 02:21:46  
 Tester: Leal Cason  
 Time Test Ended: 08:52:01  
 Unit No: 74  
 Interval: **5216.00 ft (KB) To 5240.00 ft (KB) (TVD)**  
 Reference Elevations: 2333.00 ft (KB)  
 Total Depth: 5358.00 ft (KB) (TVD)  
 2320.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 13.00 ft

**Serial #: 8159**      **Inside**  
 Press@RunDepth: 92.13 psig @ 5217.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2017.08.21      End Date: 2017.08.21      Last Calib.: 2017.08.21  
 Start Time: 00:03:02      End Time: 08:52:01      Time On Btm: 2017.08.21 @ 02:19:46  
 Time Off Btm: 2017.08.21 @ 06:13:01

**TEST COMMENT:** IF: Strong Blow , BOB in 15 seconds, GTS in 13 minutes, Gauged & Caught Sample  
 IS: No Blow Back  
 FF: Strong Blow , BOB & GTS Immediate, Gauged Gas  
 FS: No Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2699.54	117.10	Initial Hydro-static
2	56.87	116.99	Open To Flow (1)
33	86.60	117.54	Shut-In(1)
93	1603.24	118.31	End Shut-In(1)
94	85.31	117.92	Open To Flow (2)
138	92.13	118.13	Shut-In(2)
233	1577.71	118.88	End Shut-In(2)
234	2480.44	118.50	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
75.00	GOMCW 5%G 10%O 30%M 55%W	0.37

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	35.00	78.37
Last Gas Rate	0.25	55.00	110.10
Max. Gas Rate	0.25	55.00	110.10



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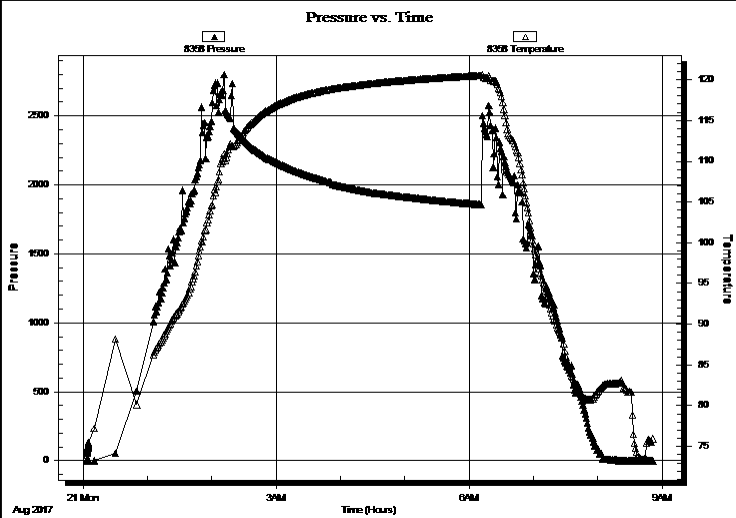
**16-30S-21W Clark,KS**  
**Evans #1-16**  
Job Ticket: 63619      **DST#: 2**  
Test Start: 2017.08.21 @ 00:03:01

## GENERAL INFORMATION:

Formation: **St Louis**  
Deviated: No Whipstock: ft (KB)      Test Type: Conventional Straddle (Reset)  
Time Tool Opened: 02:21:46      Tester: Leal Cason  
Time Test Ended: 08:52:01      Unit No: 74  
**Interval: 5216.00 ft (KB) To 5240.00 ft (KB) (TVD)**      Reference Elevations: 2333.00 ft (KB)  
Total Depth: 5358.00 ft (KB) (TVD)      2320.00 ft (CF)  
Hole Diameter: 7.88 inches      Hole Condition: Good      KB to GR/CF: 13.00 ft

**Serial #: 8358 Below (Straddle)**  
Press@RunDepth: psig @ 5259.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2017.08.21      End Date: 2017.08.21      Last Calib.: 2017.08.21  
Start Time: 00:03:02      End Time: 08:51:31      Time On Btm:  
Time Off Btm:

**TEST COMMENT:** IF: Strong Blow , BOB in 15 seconds, GTS in 13 minutes, Gauged & Caught Sample  
IS: No Blow Back  
FF: Strong Blow , BOB & GTS Immediate, Gauged Gas  
FS: No Blow Back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
75.00	GOMCW 5%G 10%O 30%M 55%W	0.37

Gas Rates			
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	35.00	78.37
Last Gas Rate	0.25	55.00	110.10
Max. Gas Rate	0.25	55.00	110.10

\* Recovery from multiple tests



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**16-30S-21W Clark,KS**  
**Evans #1-16**  
 Job Ticket: 63619      **DST#: 2**  
 Test Start: 2017.08.21 @ 00:03:01

### GENERAL INFORMATION:

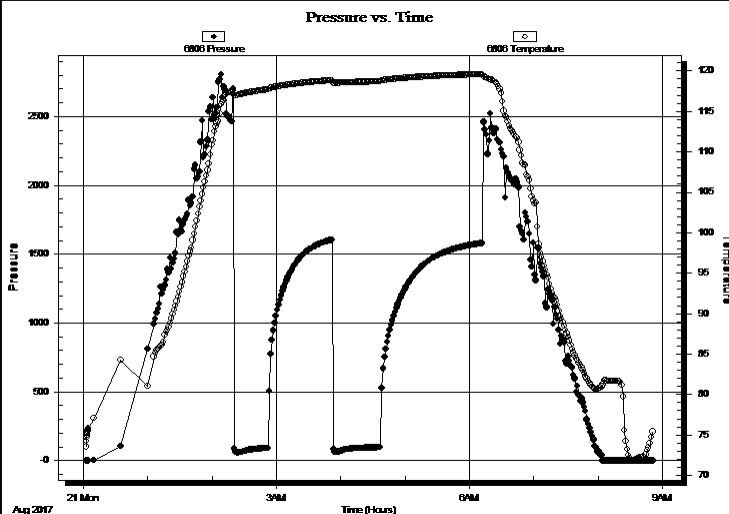
Formation: <b>St Louis</b>		Test Type: Conventional Straddle (Reset)
Deviated: No Whipstock:      ft (KB)		Tester: Leal Cason
Time Tool Opened: 02:21:46		Unit No: 74
Time Test Ended: 08:52:01		
<b>Interval: 5216.00 ft (KB) To 5240.00 ft (KB) (TVD)</b>		Reference Elevations: 2333.00 ft (KB)
Total Depth: 5358.00 ft (KB) (TVD)		2320.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Good	KB to GR/CF: 13.00 ft

### Serial #: 6806

Outside

Press@RunDepth:      psig @ 5217.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2017.08.21      End Date: 2017.08.21	Last Calib.: 2017.08.21
Start Time: 00:03:02      End Time: 08:52:01	Time On Btm:
	Time Off Btm:

TEST COMMENT: IF: Strong Blow , BOB in 15 seconds, GTS in 13 minutes, Gauged & Caught Sample  
 IS: No Blow Back  
 FF: Strong Blow , BOB & GTS Immediate, Gauged Gas  
 FS: No Blow Back



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
75.00	GOMCW 5%G 10%O 30%M 55%W	0.37

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	35.00	78.37
Last Gas Rate	0.25	55.00	110.10
Max. Gas Rate	0.25	55.00	110.10

\* Recovery from multiple tests



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Jolen Operating Co

**16-30S-21W Clark,KS**

100 N Broadway Ave  
Ste 2460  
Oklahoma City, OK 73102  
ATTN: Dennis Pope

**Evans #1-16**

Job Ticket: 63619

**DST#: 2**

Test Start: 2017.08.21 @ 00:03:01

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 50.00 sec/qt  
Water Loss: 7.20 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 6000.00 ppm  
Filter Cake: 0.02 inches

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

Oil API: deg API  
Water Salinity: 98000 ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	GTS	0.000
75.00	GOMCW 5%G 10%O 30%M 55%W	0.369

Total Length: 75.00 ft      Total Volume: 0.369 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW was .07 @ 80 degrees



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## DRILL STEM TEST REPORT

**GAS RATES**

Jolen Operating Co

**16-30S-21W Clark,KS**

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ATTN: Dennis Pope

**Evans #1-16**

Job Ticket: 63619

**DST#: 2**

Test Start: 2017.08.21 @ 00:03:01

### 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)
1	20	0.25	35.00	78.37
1	20	0.25	35.00	78.37
1	30	0.25	40.00	86.30
2	10	0.25	44.00	92.65
2	20	0.25	48.00	98.99
2	30	0.25	53.00	106.92
2	40	0.25	55.00	110.10

