



## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company Inc.**

1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637

ATTN: Kevin Kessler

### **R&M Miller #1-14**

### **14-16S-37W Wichita,KS**

Start Date: 2018.03.27 @ 07:47:00

End Date: 2018.03.27 @ 15:17:02

Job Ticket #: 63068                      DST #: 1

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

Printed: 2018.04.04 @ 15:08:29



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Company Inc.  
 1700 N Waterfront Pkwy Bldg1200  
 Wichita, KS 67206+6637  
 ATTN: Kevin Kessler

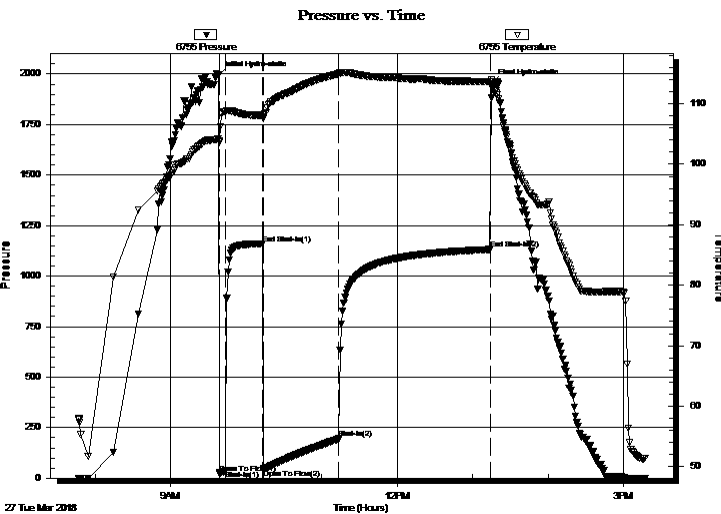
**14-16S-37W Wichita, KS**  
**R&M Miller #1-14**  
 Job Ticket: 63068 **DST#: 1**  
 Test Start: 2018.03.27 @ 07:47:00

## GENERAL INFORMATION:

Formation: **LKC C**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 09:39:02 Tester: Ken Swinney  
 Time Test Ended: 15:17:02 Unit No: 72  
 Interval: **4080.00 ft (KB) To 4130.00 ft (KB) (TVD)** Reference Elevations: 3352.00 ft (KB)  
 Total Depth: 4130.00 ft (KB) (TVD) 3340.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 12.00 ft

**Serial #: 6755 Inside**  
 Press@RunDepth: 194.95 psig @ 4081.00 ft (KB) Capacity: psig  
 Start Date: 2018.03.27 End Date: 2018.03.27 Last Calib.: 2018.03.27  
 Start Time: 07:47:01 End Time: 15:17:02 Time On Btm: 2018.03.27 @ 09:38:02  
 Time Off Btm: 2018.03.27 @ 13:15:02

**TEST COMMENT:** IF 5 Minutes Blow built to 1/2"  
 ISI 30 Minutes No blow back  
 FF 60 Minutes Blow built to BOB in 22 minutes  
 FSI 120 Minutes No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1991.54	104.18	Initial Hydro-static
1	23.62	103.92	Open To Flow (1)
6	37.47	108.67	Shut-In(1)
36	1160.35	108.10	End Shut-In(1)
36	43.45	107.90	Open To Flow (2)
96	194.95	114.95	Shut-In(2)
216	1132.32	113.67	End Shut-In(2)
217	1952.39	113.09	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
387.00	MW w/few spots of oil Mud 10% Water	5.43

## Gas Rates

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



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1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637  
ATTN: Kevin Kessler

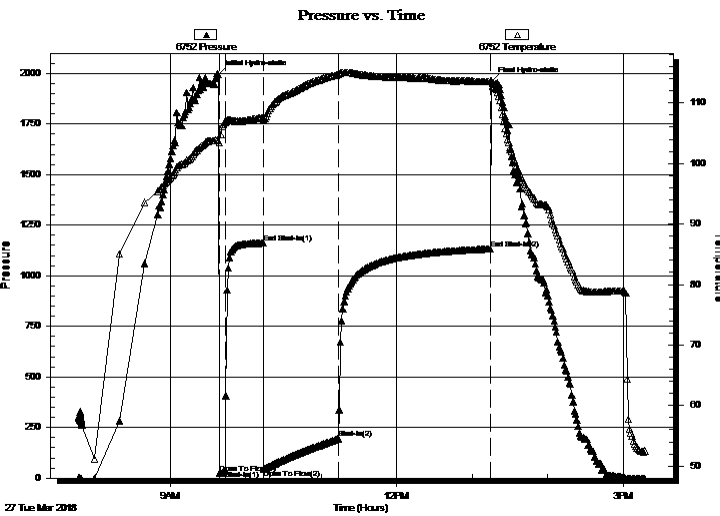
**14-16S-37W Wichita, KS**  
**R&M Miller #1-14**  
Job Ticket: 63068 **DST#: 1**  
Test Start: 2018.03.27 @ 07:47:00

## GENERAL INFORMATION:

Formation: **LKC C**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 09:39:02  
Time Test Ended: 15:17:02  
Interval: **4080.00 ft (KB) To 4130.00 ft (KB) (TVD)**  
Total Depth: 4130.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Ken Swinney  
Unit No: 72  
Reference Elevations: 3352.00 ft (KB)  
3340.00 ft (CF)  
KB to GR/CF: 12.00 ft

**Serial #: 6752 Outside**  
Press@RunDepth: 1133.16 psig @ 4082.00 ft (KB) Capacity: psig  
Start Date: 2018.03.27 End Date: 2018.03.27 Last Calib.: 2018.03.27  
Start Time: 07:47:01 End Time: 15:17:02 Time On Btm: 2018.03.27 @ 09:38:02  
Time Off Btm: 2018.03.27 @ 13:15:02

**TEST COMMENT:** IF 5 Minutes Blow built to 1/2"  
ISI 30 Minutes No blow back  
FF 60 Minutes Blow built to BOB in 22 minutes  
FSI 120 Minutes No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1992.56	103.81	Initial Hydro-static
1	24.61	103.41	Open To Flow (1)
6	37.84	106.84	Shut-In(1)
36	1161.09	107.52	End Shut-In(1)
36	44.72	107.22	Open To Flow (2)
96	195.02	114.73	Shut-In(2)
217	1133.16	113.55	End Shut-In(2)
217	1957.70	113.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
387.00	MW w/few spots of oil Mud 10% Water	5.43

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Company Inc.

**14-16S-37W Wichita,KS**

1700 N Waterfront Pkw y Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

Job Ticket: 63068

**DST#: 1**

ATTN: Kevin Kessler

Test Start: 2018.03.27 @ 07:47:00

## Tool Information

Drill Pipe:	Length: 4064.00 ft	Diameter: 3.80 inches	Volume: 57.01 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: 72000.00 lb
			<u>Total Volume: 57.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4080.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.36 ft			
Tool Length:	78.36 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			4057.00	
Hydraulic tool	5.00			4062.00	
Jars	6.00			4068.00	
Safety Joint	2.00			4070.00	
Top Packer	5.00			4075.00	
Packer	5.00			4080.00	28.00 Bottom Of Top Packer
Recorder	1.00	6755	Inside	4081.00	
Recorder	1.00	6752	Outside	4082.00	
Anchor	12.00			4094.00	
Change Over Sub	1.00			4095.00	
Drill Pipe	31.36			4126.36	
Change Over Sub	1.00			4127.36	
Bullnose	3.00			4130.36	50.36 Anchor Tool

**Total Tool Length: 78.36**



**TRILOBITE  
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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drilling Company Inc.

**14-16S-37W Wichita,KS**

1700 N Waterfront Pkw y Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

Job Ticket: 63068

**DST#: 1**

ATTN: Kevin Kessler

Test Start: 2018.03.27 @ 07:47:00

## 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:

13000 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
387.00	MW w/few spots of oil Mud 10% Water 90%	5.429

Total Length: 387.00 ft      Total Volume: 5.429 bbl

Num Fluid Samples: 0

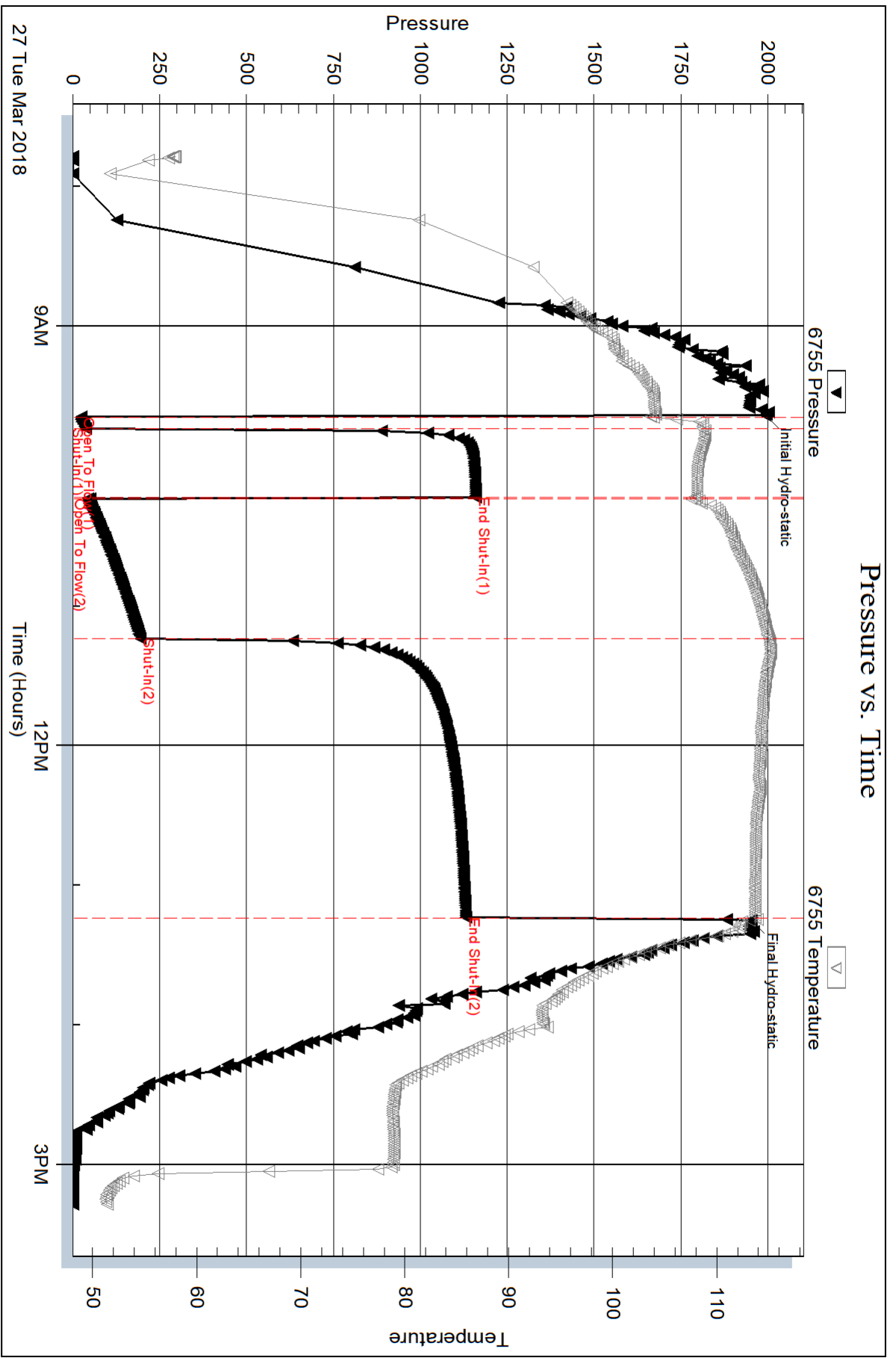
Num Gas Bombs: 0

Serial #:

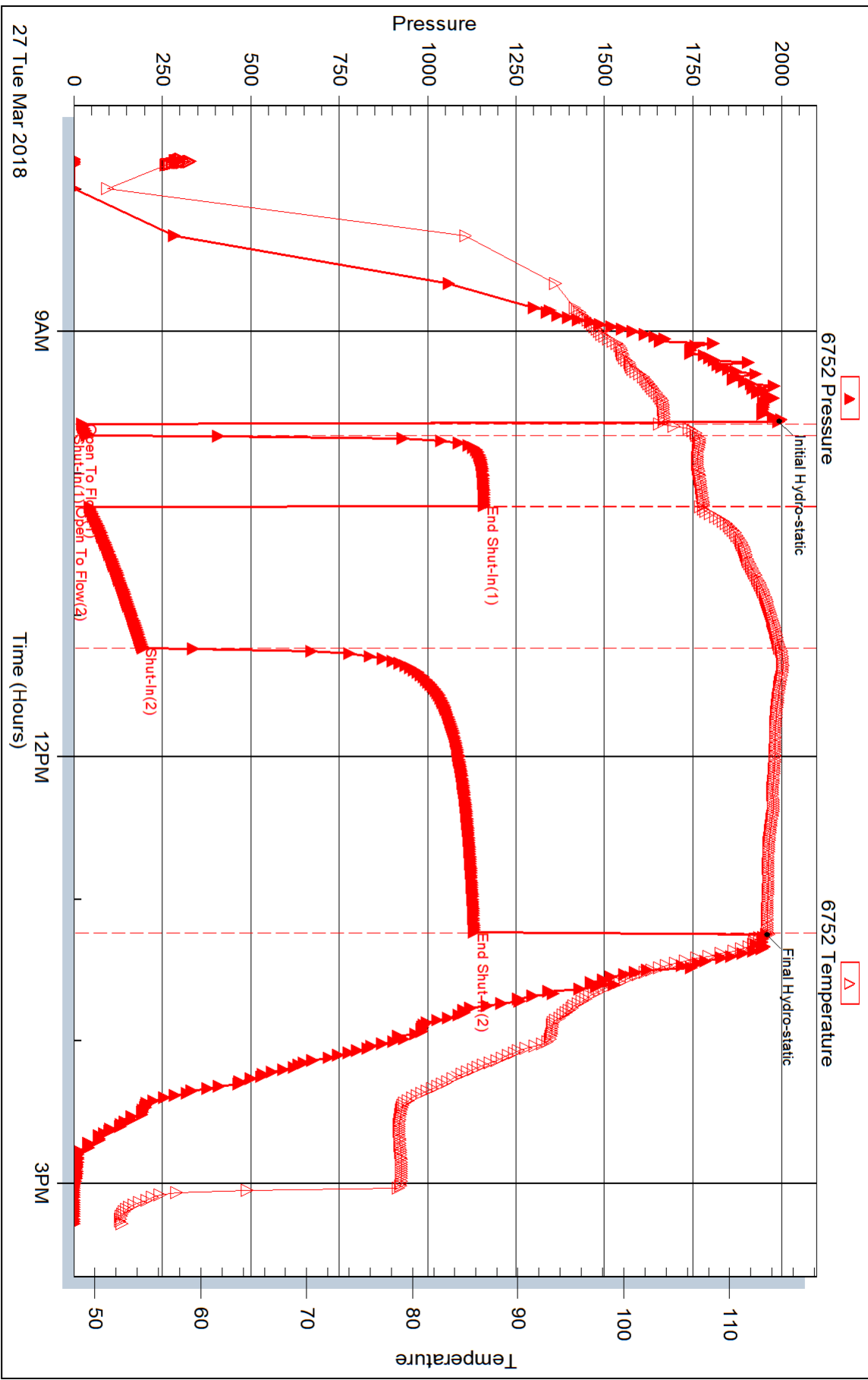
Laboratory Name:

Laboratory Location:

Recovery Comments: Recovery Resistivity .57 ohms @ 61 deg.



### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company Inc.**

1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637

ATTN: Kevin Kessler

### **R&M Miller #1-14**

### **14-16S-37W Wichita,KS**

Start Date: 2018.03.28 @ 11:19:00

End Date: 2018.03.28 @ 18:23:02

Job Ticket #: 63069                      DST #: 2

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

Printed: 2018.04.04 @ 15:08:03

Mull Drilling Company Inc.  
14-16S-37W Wichita,KS  
R&M Miller #1-14  
DST # 2  
LKC I - J  
2018.03.28





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Company Inc.

**14-16S-37W Wichita, KS**

1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

Job Ticket: 63069

**DST#: 2**

ATTN: Kevin Kessler

Test Start: 2018.03.28 @ 11:19:00

## GENERAL INFORMATION:

Formation: **LKC I - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:46:47

Time Test Ended: 18:23:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

**Interval: 4270.00 ft (KB) To 4325.00 ft (KB) (TVD)**

Reference Elevations: 3352.00 ft (KB)

Total Depth: 4325.00 ft (KB) (TVD)

3340.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

**Serial #: 6755 Inside**

Press@RunDepth: 96.65 psig @ 4271.00 ft (KB)

Capacity: psig

Start Date: 2018.03.28

End Date:

2018.03.28

Last Calib.:

2018.03.28

Start Time: 11:19:01

End Time:

18:23:02

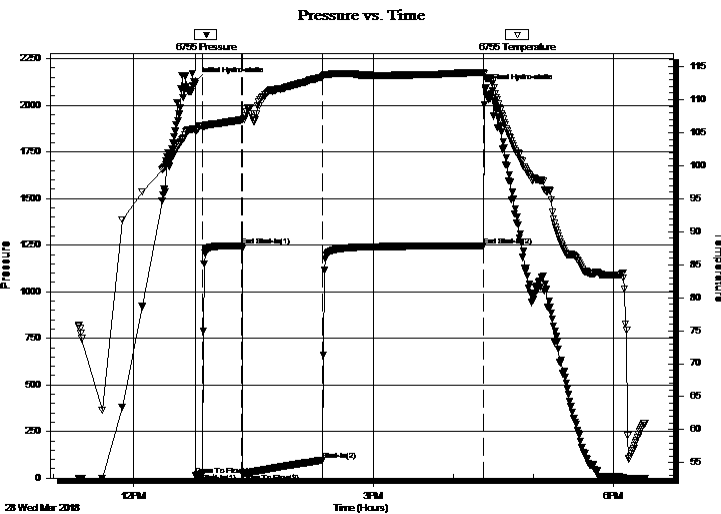
Time On Btm:

2018.03.28 @ 12:46:32

Time Off Btm:

2018.03.28 @ 16:23:32

**TEST COMMENT:** IF 5 Minutes Blow built to 1 1/2"  
ISI 30 Minutes No blow back  
FF 60 Minutes Blow built to 3 1/2"  
FSI 120 Minutes No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2125.58	105.57	Initial Hydro-static
1	16.92	105.27	Open To Flow (1)
6	23.28	105.86	Shut-In(1)
35	1247.01	106.92	End Shut-In(1)
36	24.89	106.98	Open To Flow (2)
96	96.65	113.47	Shut-In(2)
216	1246.37	114.09	End Shut-In(2)
217	2091.51	113.35	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
169.00	VSOCWM Oil 2% Water 43% Mud 55%	2.37

## Gas Rates

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



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**14-16S-37W Wichita, KS**

1700 N Waterfront Pkwy Bldg1200  
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**R&M Miller #1-14**

Job Ticket: 63069

**DST#: 2**

ATTN: Kevin Kessler

Test Start: 2018.03.28 @ 11:19:00

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Formation: **LKC I - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:46:47

Time Test Ended: 18:23:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

**Interval: 4270.00 ft (KB) To 4325.00 ft (KB) (TVD)**

Reference Elevations: 3352.00 ft (KB)

Total Depth: 4325.00 ft (KB) (TVD)

3340.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

**Serial #: 6752 Outside**

Press@RunDepth: 1247.26 psig @ 4272.00 ft (KB)

Capacity: psig

Start Date: 2018.03.28

End Date:

2018.03.28

Last Calib.:

2018.03.28

Start Time: 11:19:01

End Time:

18:23:02

Time On Btm:

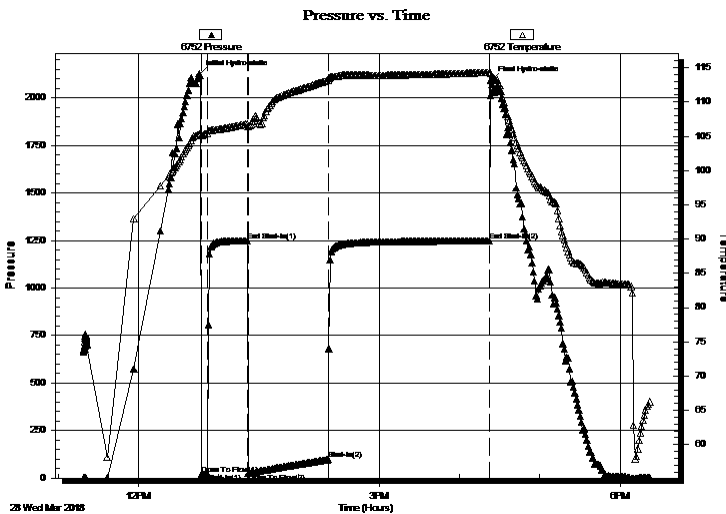
2018.03.28 @ 12:45:47

Time Off Btm:

2018.03.28 @ 16:23:32

**TEST COMMENT:** IF 5 Minutes Blow built to 1 1/2"  
ISI 30 Minutes No blow back  
FF 60 Minutes Blow built to 3 1/2"  
FSI 120 Minutes No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2122.80	105.39	Initial Hydro-static
1	18.23	105.08	Open To Flow (1)
6	24.27	105.46	Shut-In(1)
36	1247.90	106.75	End Shut-In(1)
37	26.18	106.45	Open To Flow (2)
96	97.77	113.20	Shut-In(2)
217	1247.26	114.30	End Shut-In(2)
218	2092.42	114.11	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
169.00	VSOCWM Oil 2% Water 43% Mud 55%	2.37

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Company Inc.

**14-16S-37W Wichita,KS**

1700 N Waterfront Pkw y Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

Job Ticket: 63069

**DST#: 2**

ATTN: Kevin Kessler

Test Start: 2018.03.28 @ 11:19:00

## Tool Information

Drill Pipe:	Length: 4252.00 ft	Diameter: 3.80 inches	Volume: 59.64 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: 85000.00 lb
			<u>Total Volume: 59.64 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4270.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.36 ft			
Tool Length:	83.36 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			4247.00	
Hydraulic tool	5.00			4252.00	
Jars	6.00			4258.00	
Safety Joint	2.00			4260.00	
Top Packer	5.00			4265.00	
Packer	5.00			4270.00	28.00 Bottom Of Top Packer
Recorder	1.00	6755	Inside	4271.00	
Recorder	1.00	6752	Outside	4272.00	
Anchor	17.00			4289.00	
Change Over Sub	1.00			4290.00	
Drill Pipe	31.36			4321.36	
Change Over Sub	1.00			4322.36	
Bullnose	3.00			4325.36	55.36 Anchor Tool

**Total Tool Length: 83.36**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Mull Drilling Company Inc.

**14-16S-37W Wichita,KS**

1700 N Waterfront Pkw y Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

Job Ticket: 63069

**DST#: 2**

ATTN: Kevin Kessler

Test Start: 2018.03.28 @ 11:19:00

### 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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
169.00	VSOCWM Oil 2% Water 43% Mud 55%	2.371

Total Length: 169.00 ft      Total Volume: 2.371 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

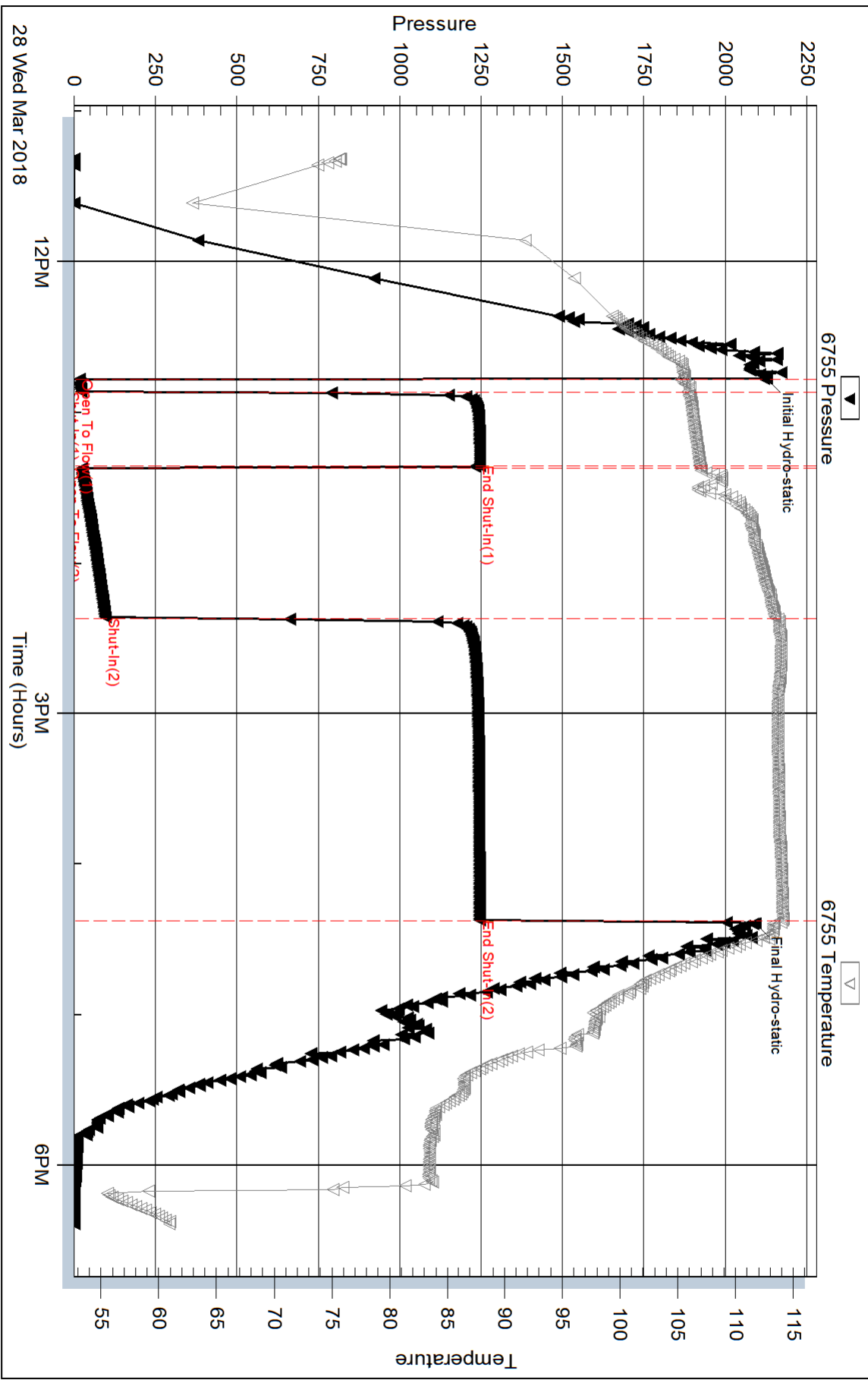
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

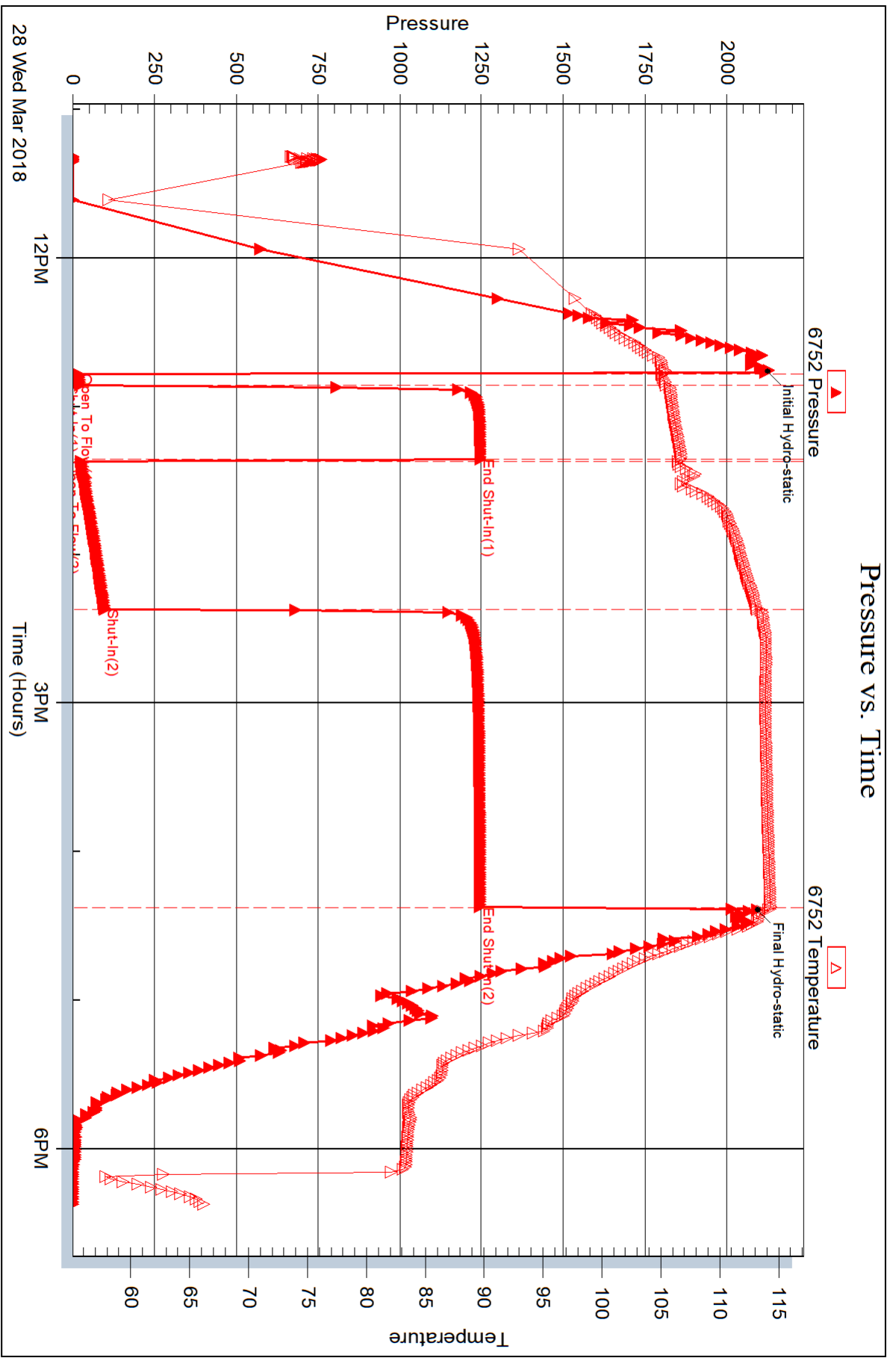


28 Wed Mar 2018

12PM

3PM

6PM





## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company Inc.**

1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637

ATTN: Kevin Kessler

### **R&M Miller #1-14**

### **14-16S-37W Wichita,KS**

Start Date: 2018.03.29 @ 02:46:00

End Date: 2018.03.29 @ 11:54:00

Job Ticket #: 65298                      DST #: 3

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

Printed: 2018.04.04 @ 15:07:39



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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 1700 N Waterfront Pkwy Bldg1200  
 Wichita, KS 67206+6637  
 ATTN: Kevin Kessler

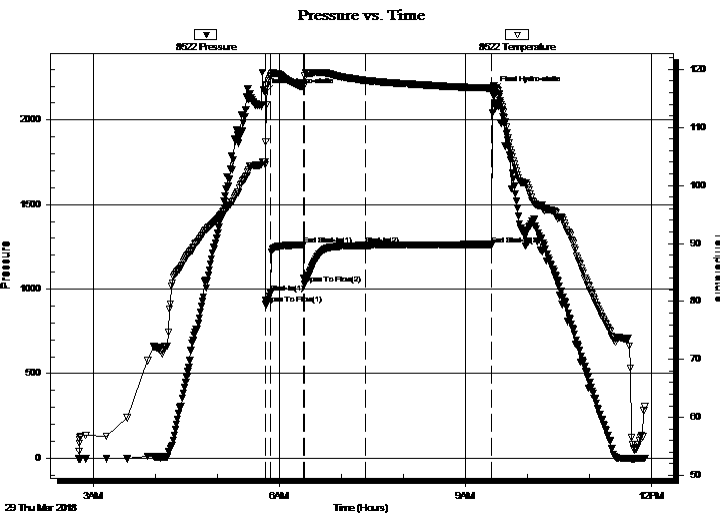
**14-16S-37W Wichita, KS**  
**R&M Miller #1-14**  
 Job Ticket: 65298 **DST#: 3**  
 Test Start: 2018.03.29 @ 02:46:00

## GENERAL INFORMATION:

Formation: **LKC K**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:47:15  
 Time Test Ended: 11:54:00  
 Interval: **4320.00 ft (KB) To 4365.00 ft (KB) (TVD)**  
 Total Depth: 4365.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Bradley Walter  
 Unit No: 78  
 Reference Elevations: 3352.00 ft (KB)  
 3340.00 ft (CF)  
 KB to GR/CF: 12.00 ft

**Serial #: 8522 Inside**  
 Press@RunDepth: 1258.83 psig @ 4321.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.03.29 End Date: 2018.03.29 Last Calib.: 2018.03.29  
 Start Time: 02:46:05 End Time: 11:54:00 Time On Btm: 2018.03.29 @ 05:46:30  
 Time Off Btm: 2018.03.29 @ 09:27:15

**TEST COMMENT:** IF: BOB @ 30 sec.  
 IS: No return.  
 FF: BOB @ 40 sec, receded to 3" blow.  
 FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2163.44	104.06	Initial Hydro-static
1	910.65	107.52	Open To Flow (1)
6	974.40	118.96	Shut-In(1)
37	1261.60	116.94	End Shut-In(1)
38	1027.65	117.31	Open To Flow (2)
98	1258.83	118.08	Shut-In(2)
220	1264.17	116.78	End Shut-In(2)
221	2172.49	117.00	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2770.00	smcw 2m 98w	38.86
0.00	oil spots on top	0.00

\* Recovery from multiple tests

## Gas Rates

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





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# DRILL STEM TEST REPORT

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 1700 N Waterfront Pkwy Bldg1200  
 Wichita, KS 67206+6637  
 ATTN: Kevin Kessler

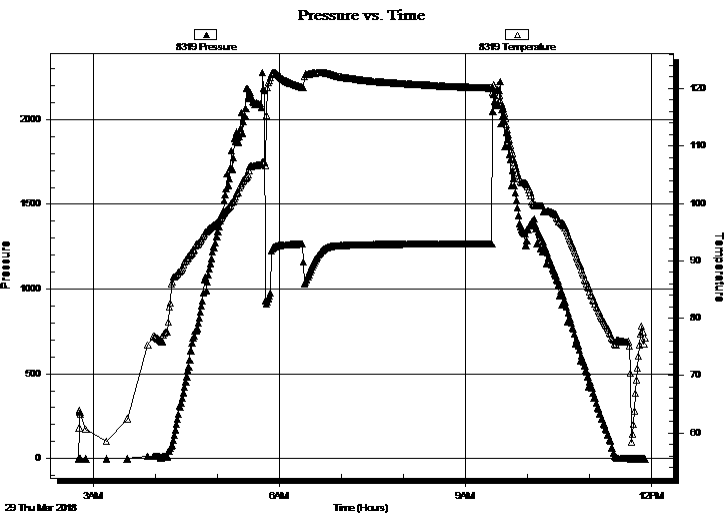
**14-16S-37W Wichita, KS**  
**R&M Miller #1-14**  
 Job Ticket: 65298 **DST#: 3**  
 Test Start: 2018.03.29 @ 02:46:00

## GENERAL INFORMATION:

Formation: **LKC K**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:47:15  
 Time Test Ended: 11:54:00  
**Interval: 4320.00 ft (KB) To 4365.00 ft (KB) (TVD)**  
 Total Depth: 4365.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Bradley Walter  
 Unit No: 78  
 Reference Elevations: 3352.00 ft (KB)  
 3340.00 ft (CF)  
 KB to GR/CF: 12.00 ft

**Serial #: 8319 Outside**  
 Press@RunDepth: psig @ 4321.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.03.29 End Date: 2018.03.29 Last Calib.: 2018.03.29  
 Start Time: 02:46:05 End Time: 11:54:00 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF: BOB @ 30 sec.  
 IS: No return.  
 FF: BOB @ 40 sec, receded to 3" blow.  
 FS: No return.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
2770.00	smcw 2m 98w	38.86
0.00	oil spots on top	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Company Inc.

**14-16S-37W Wichita,KS**

1700 N Waterfront Pkw y Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

Job Ticket: 65298

**DST#: 3**

ATTN: Kevin Kessler

Test Start: 2018.03.29 @ 02:46:00

## Tool Information

Drill Pipe:	Length: 4316.00 ft	Diameter: 3.80 inches	Volume: 60.54 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 60.54 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4320.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	72.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4294.00	
Shut In Tool	5.00			4299.00	
Hydraulic tool	5.00			4304.00	
Jars	5.00			4309.00	
Safety Joint	2.00			4311.00	
Packer	5.00			4316.00	27.00 Bottom Of Top Packer
Packer	4.00			4320.00	
Stubb	1.00			4321.00	
Recorder	0.00	8522	Inside	4321.00	
Recorder	0.00	8319	Outside	4321.00	
Perforations	8.00			4329.00	
Change Over Sub	1.00			4330.00	
Drill Pipe	31.00			4361.00	
Change Over Sub	1.00			4362.00	
Bullnose	3.00			4365.00	45.00 Bottom Packers & Anchor

**Total Tool Length: 72.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drilling Company Inc.

**14-16S-37W Wichita,KS**

1700 N Waterfront Pkw y Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

Job Ticket: 65298

**DST#: 3**

ATTN: Kevin Kessler

Test Start: 2018.03.29 @ 02:46:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

60000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2770.00	smcw 2m 98w	38.856
0.00	oil spots on top	0.000

Total Length: 2770.00 ft      Total Volume: 38.856 bbl

Num Fluid Samples: 0

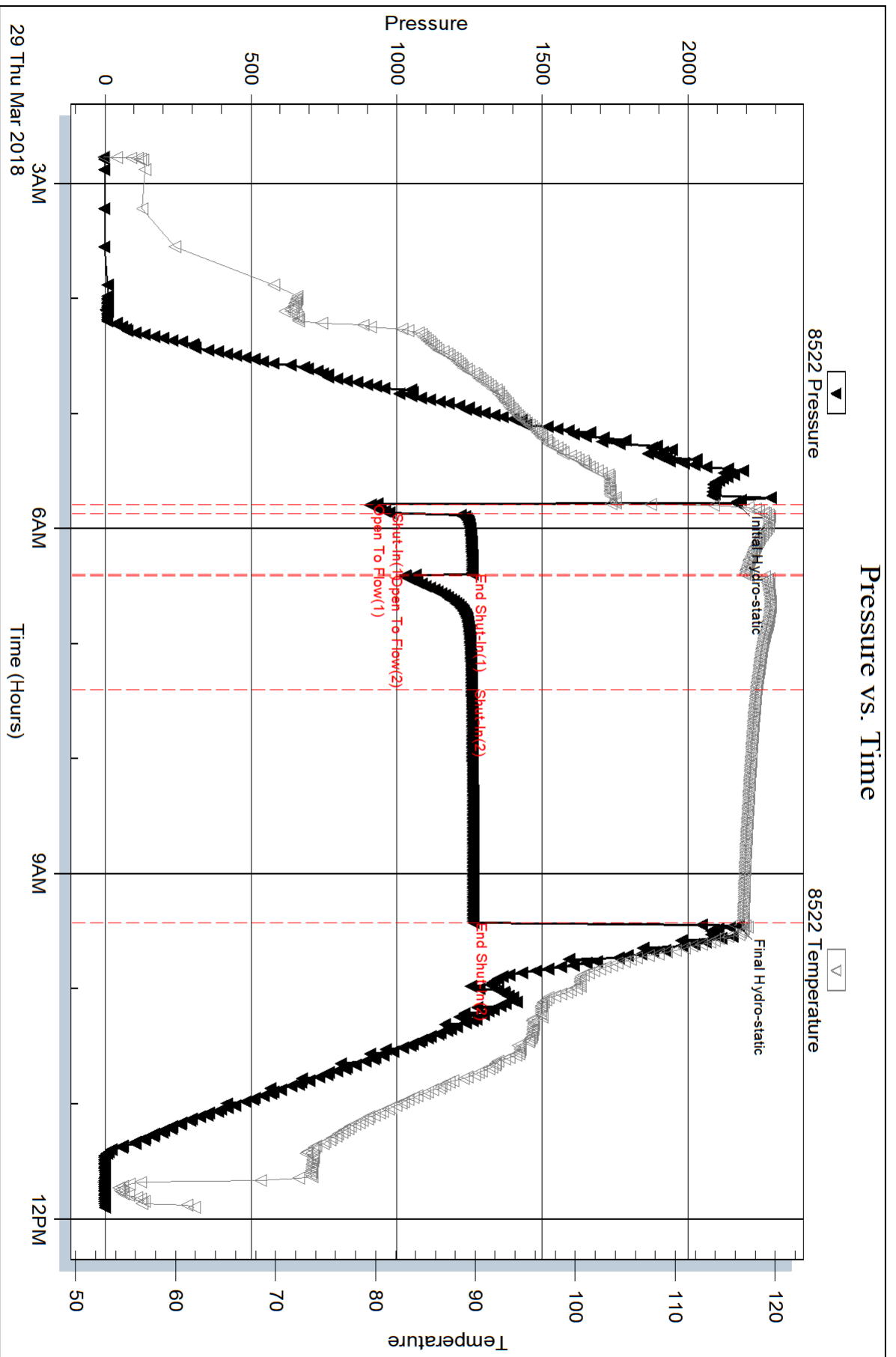
Num Gas Bombs: 0

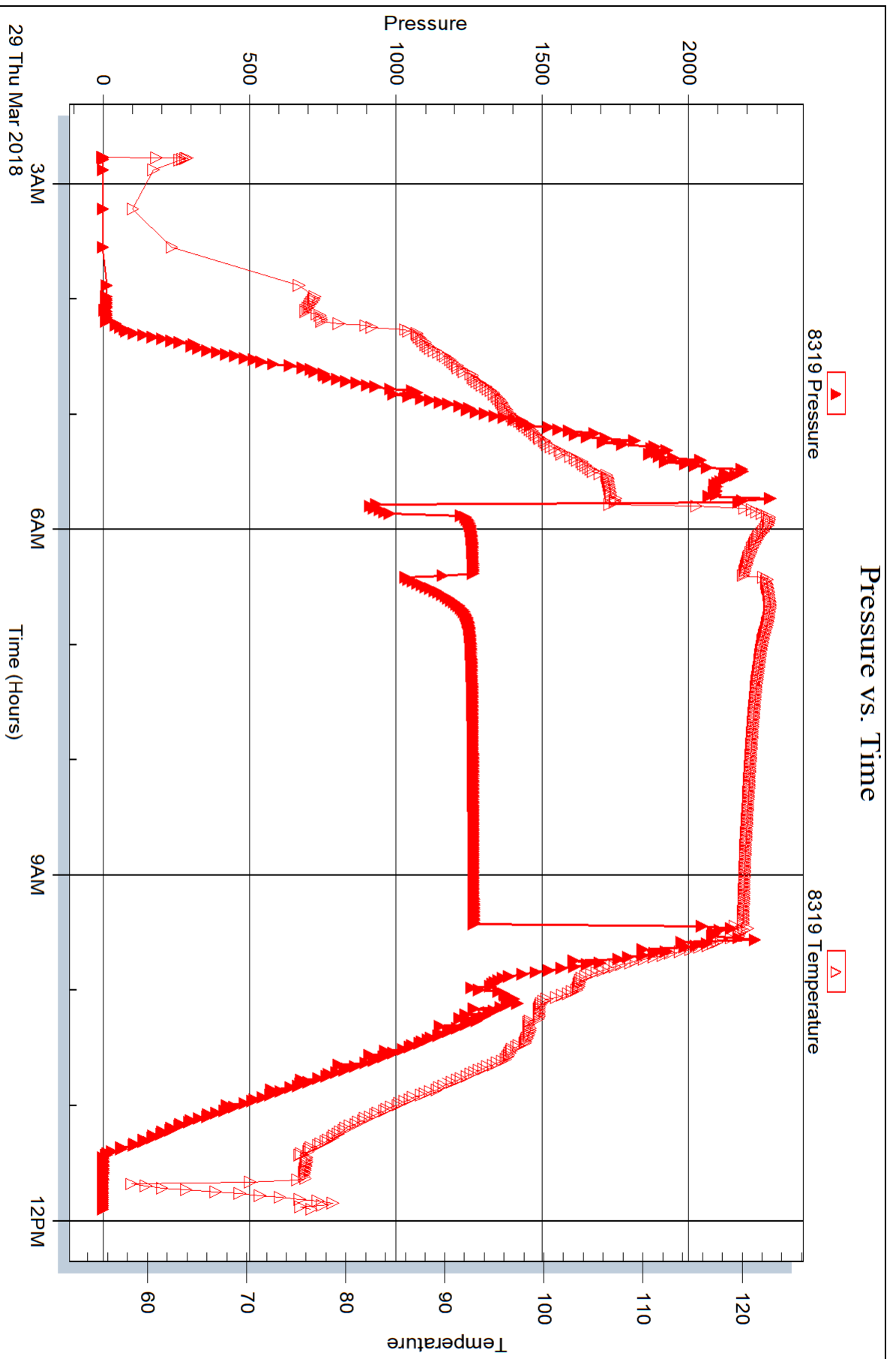
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .202 @ 44.5F = 60000ppm







## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company Inc.**

1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637

ATTN: Kevin Kessler

### **R&M Miller #1-14**

#### **14-16S-37W Wichita,KS**

Start Date: 2018.03.30 @ 04:20:00

End Date: 2018.03.30 @ 12:11:15

Job Ticket #: 65299                      DST #: 4

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

Printed: 2018.04.04 @ 15:07:15



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Company Inc.

**14-16S-37W Wichita, KS**

1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

Job Ticket: 65299

**DST#: 4**

ATTN: Kevin Kessler

Test Start: 2018.03.30 @ 04:20:00

## GENERAL INFORMATION:

Formation: **Marmaton A - B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:49:00

Time Test Ended: 12:11:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

**Interval: 4440.00 ft (KB) To 4520.00 ft (KB) (TVD)**

Reference Elevations: 3352.00 ft (KB)

Total Depth: 4520.00 ft (KB) (TVD)

3340.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

**Serial #: 8522**

**Inside**

Press@RunDepth: 60.25 psig @ 4441.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.30

End Date:

2018.03.30

Last Calib.:

2018.03.30

Start Time: 04:20:05

End Time:

12:11:14

Time On Btm:

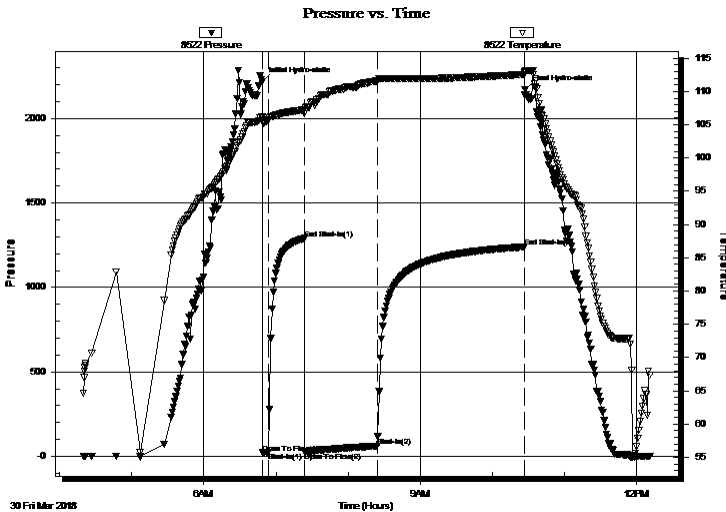
2018.03.30 @ 06:48:45

Time Off Btm:

2018.03.30 @ 10:27:00

**TEST COMMENT:** IF: 1" blow.  
IS: No return.  
FF: 3 1/2" blow.  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2218.15	106.14	Initial Hydro-static
1	20.37	105.40	Open To Flow (1)
6	24.18	105.66	Shut-In(1)
35	1289.49	107.23	End Shut-In(1)
35	25.89	106.69	Open To Flow (2)
96	60.25	111.58	Shut-In(2)
218	1239.97	112.55	End Shut-In(2)
219	2169.65	112.94	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	w cm 15w 85m (Oil spots)	1.26

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Company Inc.

1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637

ATTN: Kevin Kessler

**14-16S-37W Wichita, KS**

**R&M Miller #1-14**

Job Ticket: 65299

**DST#: 4**

Test Start: 2018.03.30 @ 04:20:00

### GENERAL INFORMATION:

Formation: **Marmaton A - B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:49:00

Time Test Ended: 12:11:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

**Interval: 4440.00 ft (KB) To 4520.00 ft (KB) (TVD)**

Total Depth: 4520.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3352.00 ft (KB)

3340.00 ft (CF)

KB to GR/CF: 12.00 ft

**Serial #: 8319 Outside**

Press@RunDepth: psig @ 4441.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.30

End Date: 2018.03.30

Last Calib.: 2018.03.30

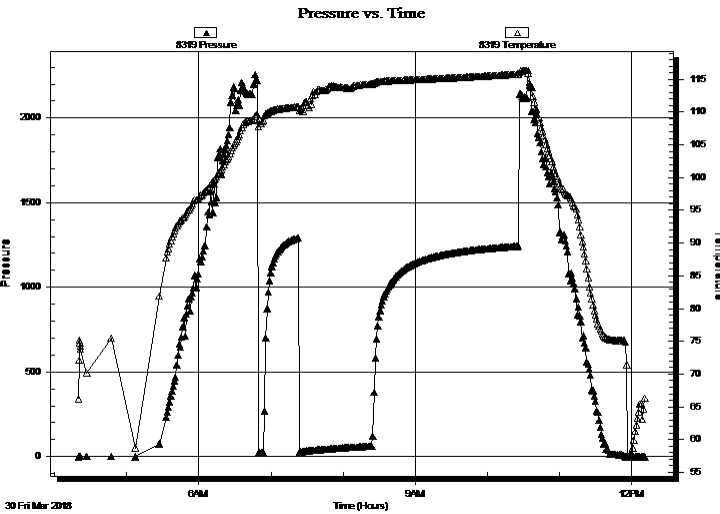
Start Time: 04:20:05

End Time: 12:11:14

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF: 1" blow.  
IS: No return.  
FF: 3 1/2" blow.  
FS: No return.



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
90.00	w cm 15w 85m (Oil spots)	1.26

### Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Company Inc.

**14-16S-37W Wichita,KS**

1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

Job Ticket: 65299

**DST#: 4**

ATTN: Kevin Kessler

Test Start: 2018.03.30 @ 04:20:00

## Tool Information

Drill Pipe:	Length: 4443.00 ft	Diameter: 3.80 inches	Volume: 62.32 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 62.32 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 67000.00 lb
Depth to Top Packer:	4440.00 ft			Final 67000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	107.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4414.00	
Shut In Tool	5.00			4419.00	
Hydraulic tool	5.00			4424.00	
Jars	5.00			4429.00	
Safety Joint	2.00			4431.00	
Packer	5.00			4436.00	27.00 Bottom Of Top Packer
Packer	4.00			4440.00	
Stubb	1.00			4441.00	
Recorder	0.00	8522	Inside	4441.00	
Recorder	0.00	8319	Outside	4441.00	
Perforations	12.00			4453.00	
Change Over Sub	1.00			4454.00	
Drill Pipe	62.00			4516.00	
Change Over Sub	1.00			4517.00	
Bullnose	3.00			4520.00	80.00 Bottom Packers & Anchor

**Total Tool Length: 107.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drilling Company Inc.

**14-16S-37W Wichita,KS**

1700 N Waterfront Pkw y Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

Job Ticket: 65299

**DST#: 4**

ATTN: Kevin Kessler

Test Start: 2018.03.30 @ 04:20:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	w cm 15w 85m (Oil spots)	1.262

Total Length: 90.00 ft      Total Volume: 1.262 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

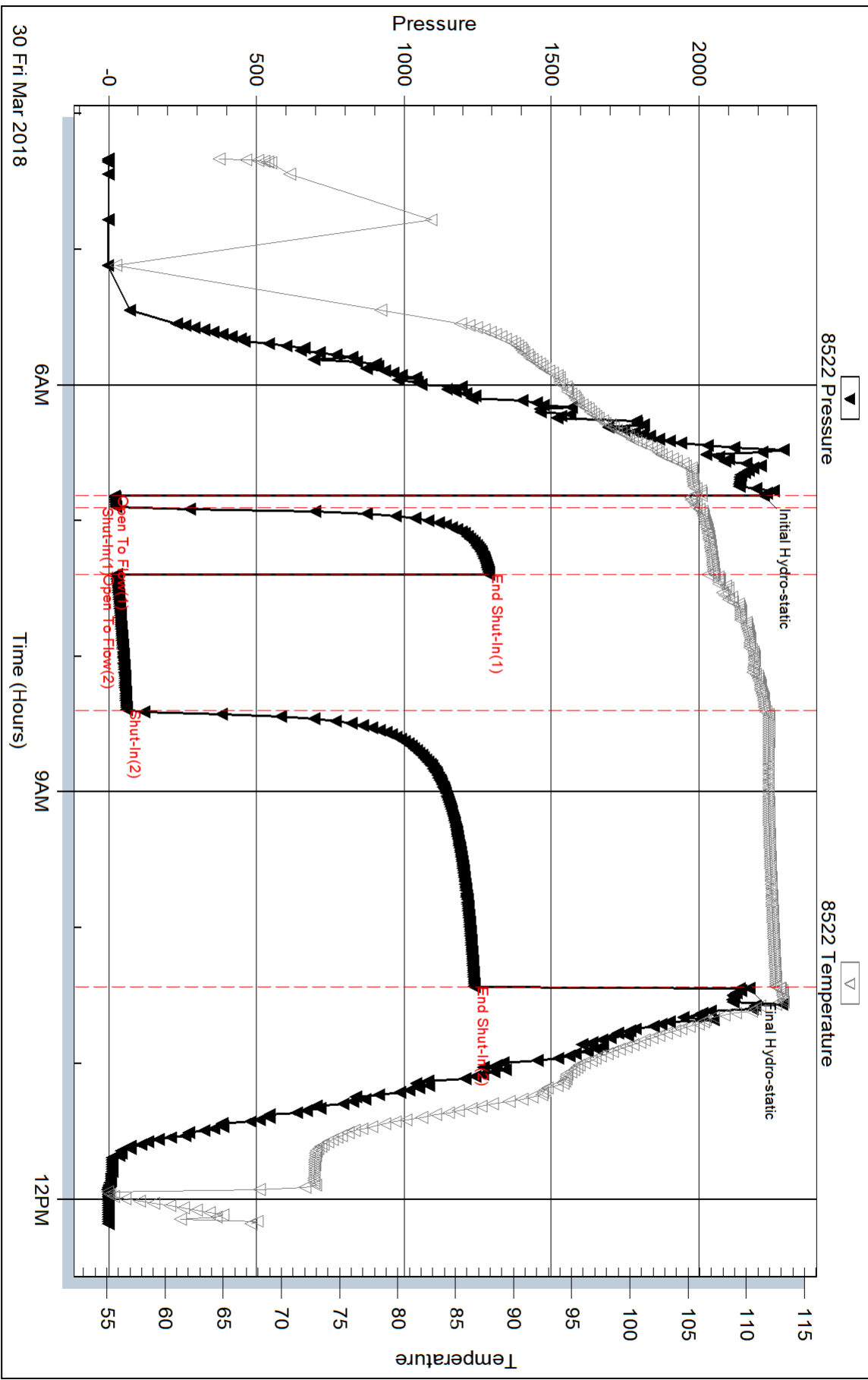
Serial #:

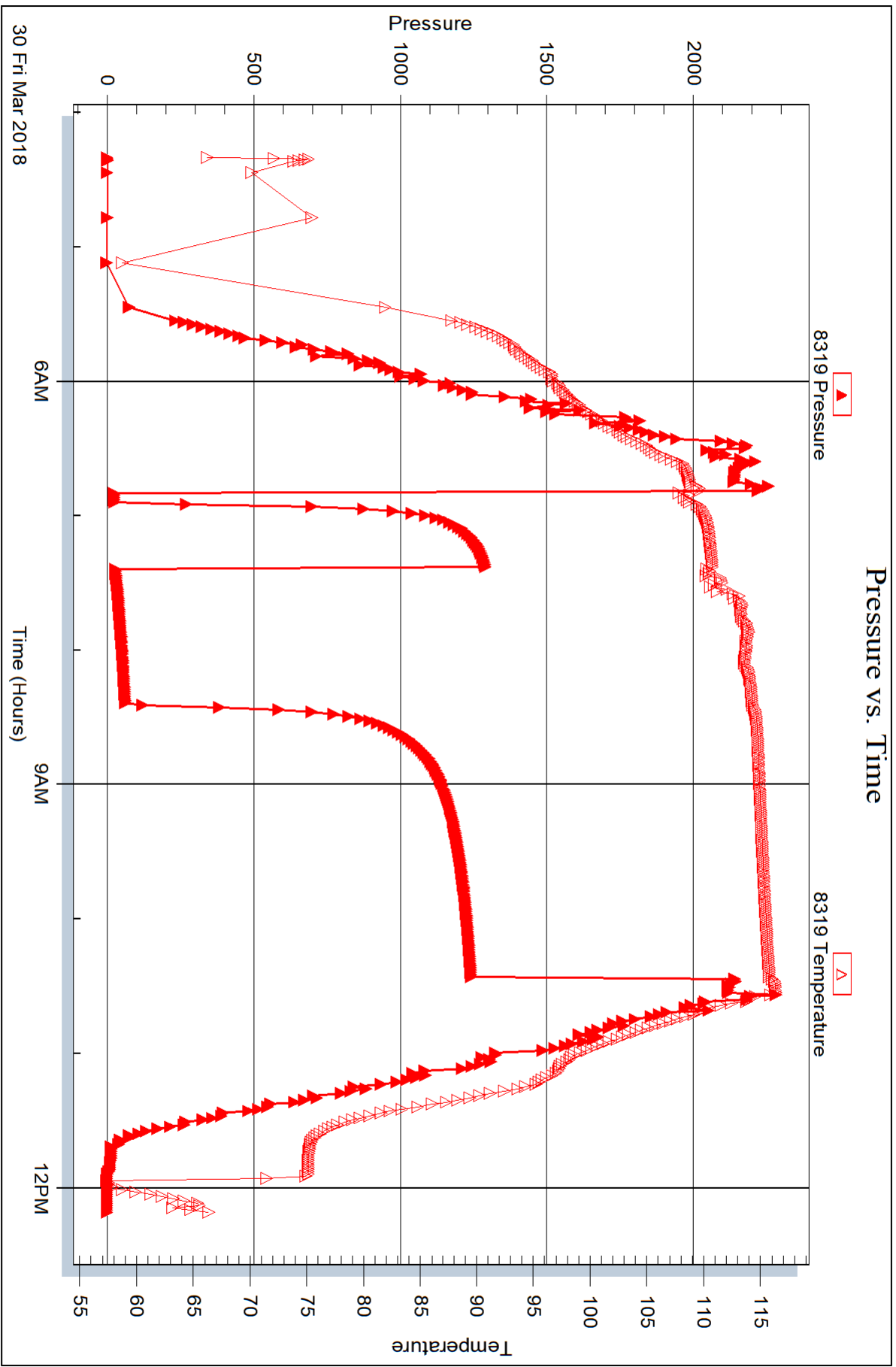
Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company Inc.**

1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637

ATTN: Kevin Kessler

### **R&M Miller #1-14**

### **14-16S-37W Wichita,KS**

Start Date: 2018.04.01 @ 04:56:00

End Date: 2018.04.01 @ 11:58:15

Job Ticket #: 65300                      DST #: 5

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

Printed: 2018.04.04 @ 15:05:21



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Company Inc.

**14-16S-37W Wichita, KS**

1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

ATTN: Kevin Kessler

Job Ticket: 65300

**DST#: 5**

Test Start: 2018.04.01 @ 04:56:00

## GENERAL INFORMATION:

Formation: **Morrow Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:24:15

Time Test Ended: 11:58:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: **4790.00 ft (KB) To 4900.00 ft (KB) (TVD)**

Reference Elevations: 3352.00 ft (KB)

Total Depth: 4900.00 ft (KB) (TVD)

3340.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

**Serial #: 8522 Inside**

Press@RunDepth: 42.79 psig @ 4791.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.04.01

End Date:

2018.04.01

Last Calib.: 2018.04.01

Start Time: 04:56:05

End Time:

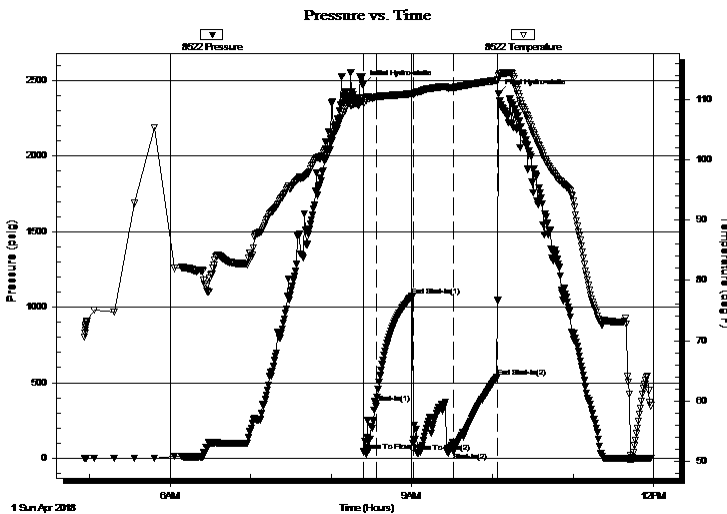
11:58:14

Time On Btm: 2018.04.01 @ 08:24:00

Time Off Btm: 2018.04.01 @ 10:04:45

TEST COMMENT: IF: 1" blow.  
IS: No return.  
FF: Surface blow, Died @ 15 min.  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2472.53	110.09	Initial Hydro-static
1	45.60	109.39	Open To Flow (1)
10	366.25	110.37	Shut-In(1)
36	1072.89	110.92	End Shut-In(1)
37	99.55	110.79	Open To Flow (2)
67	42.79	111.91	Shut-In(2)
100	535.06	113.13	End Shut-In(2)
101	2411.95	113.93	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	sw cm 5w 95m	0.49

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Mull Drilling Company Inc.

**14-16S-37W Wichita,KS**

1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

ATTN: Kevin Kessler

Job Ticket: 65300

**DST#: 5**

Test Start: 2018.04.01 @ 04:56:00

### GENERAL INFORMATION:

Formation: **Morrow Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:24:15

Time Test Ended: 11:58:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

**Interval: 4790.00 ft (KB) To 4900.00 ft (KB) (TVD)**

Reference Elevations: 3352.00 ft (KB)

Total Depth: 4900.00 ft (KB) (TVD)

3340.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

**Serial #: 8319 Outside**

Press@RunDepth: psig @ 4791.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.04.01

End Date: 2018.04.01

Last Calib.: 2018.04.01

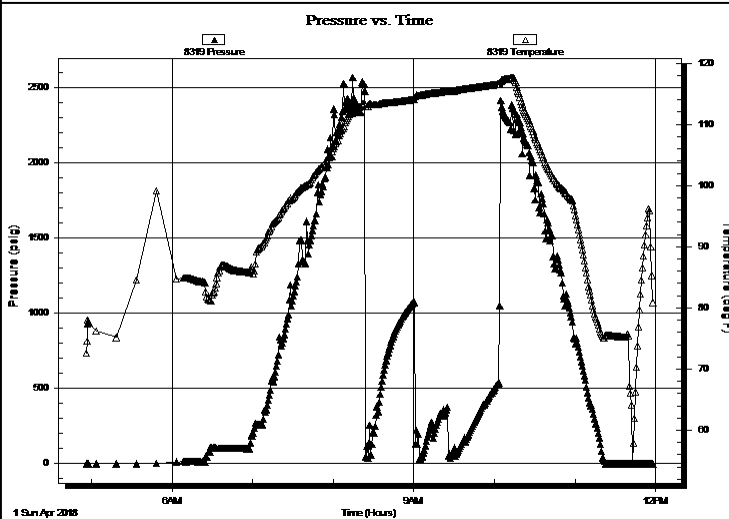
Start Time: 04:56:05

End Time: 11:58:29

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF: 1" blow.  
IS: No return.  
FF: Surface blow, Died @ 15 min.  
FS: No return.



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
35.00	sw cm 5w 95m	0.49

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Company Inc.

**14-16S-37W Wichita,KS**

1700 N Waterfront Pkwy Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

Job Ticket: 65300

**DST#: 5**

ATTN: Kevin Kessler

Test Start: 2018.04.01 @ 04:56:00

## Tool Information

Drill Pipe:	Length: 4790.00 ft	Diameter: 3.80 inches	Volume: 67.19 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 67.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4790.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	110.00 ft			
Tool Length:	137.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4764.00	
Shut In Tool	5.00			4769.00	
Hydraulic tool	5.00			4774.00	
Jars	5.00			4779.00	
Safety Joint	2.00			4781.00	
Packer	5.00			4786.00	27.00 Bottom Of Top Packer
Packer	4.00			4790.00	
Stubb	1.00			4791.00	
Recorder	0.00	8522	Inside	4791.00	
Recorder	0.00	8319	Outside	4791.00	
Perforations	10.00			4801.00	
Change Over Sub	1.00			4802.00	
Drill Pipe	94.00			4896.00	
Change Over Sub	1.00			4897.00	
Bullnose	3.00			4900.00	110.00 Bottom Packers & Anchor

**Total Tool Length: 137.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drilling Company Inc.

**14-16S-37W Wichita,KS**

1700 N Waterfront Pkw y Bldg1200  
Wichita, KS 67206+6637

**R&M Miller #1-14**

Job Ticket: 65300

**DST#: 5**

ATTN: Kevin Kessler

Test Start: 2018.04.01 @ 04:56:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7400.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
35.00	sw cm 5w 95m	0.491

Total Length: 35.00 ft      Total Volume: 0.491 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

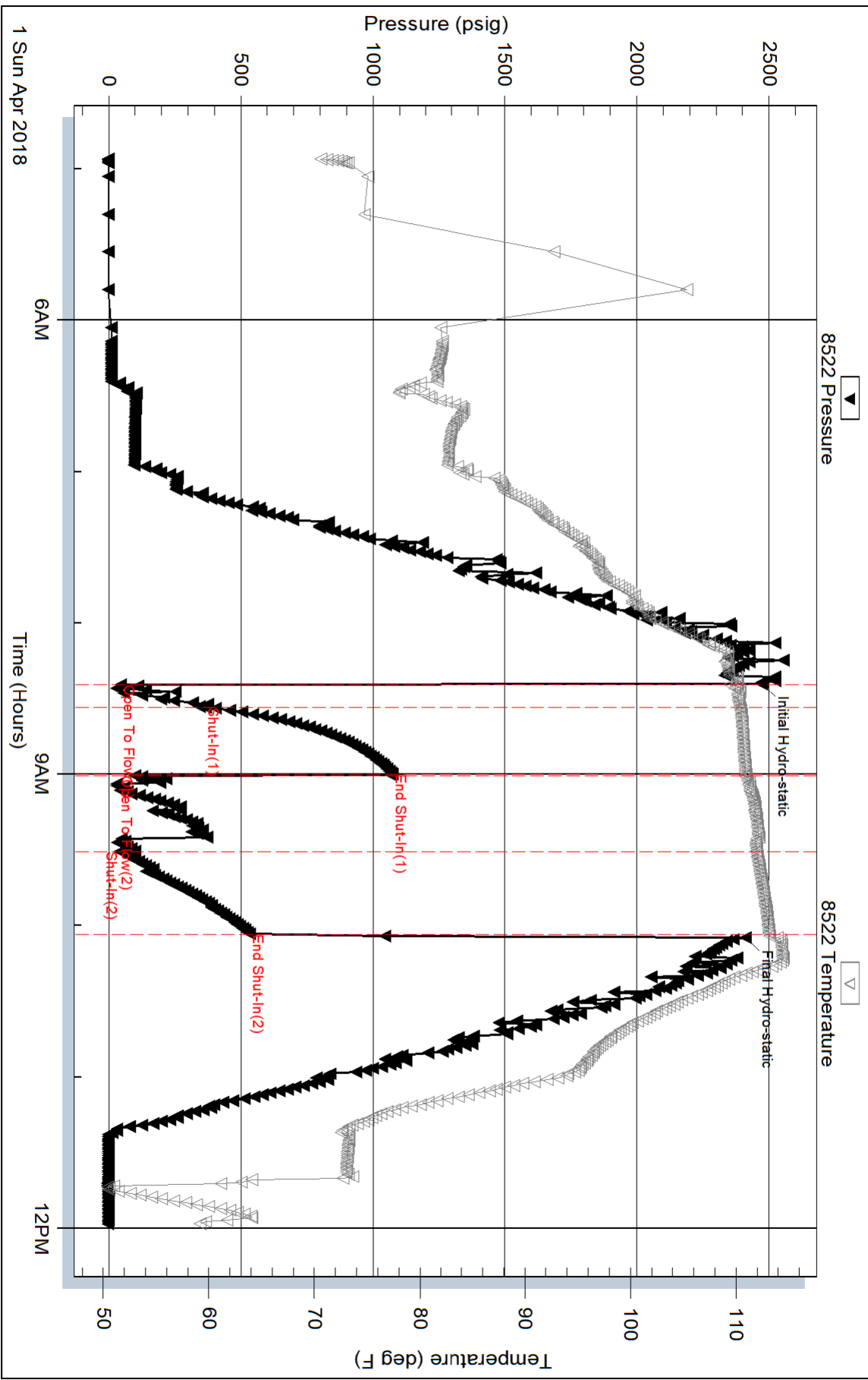
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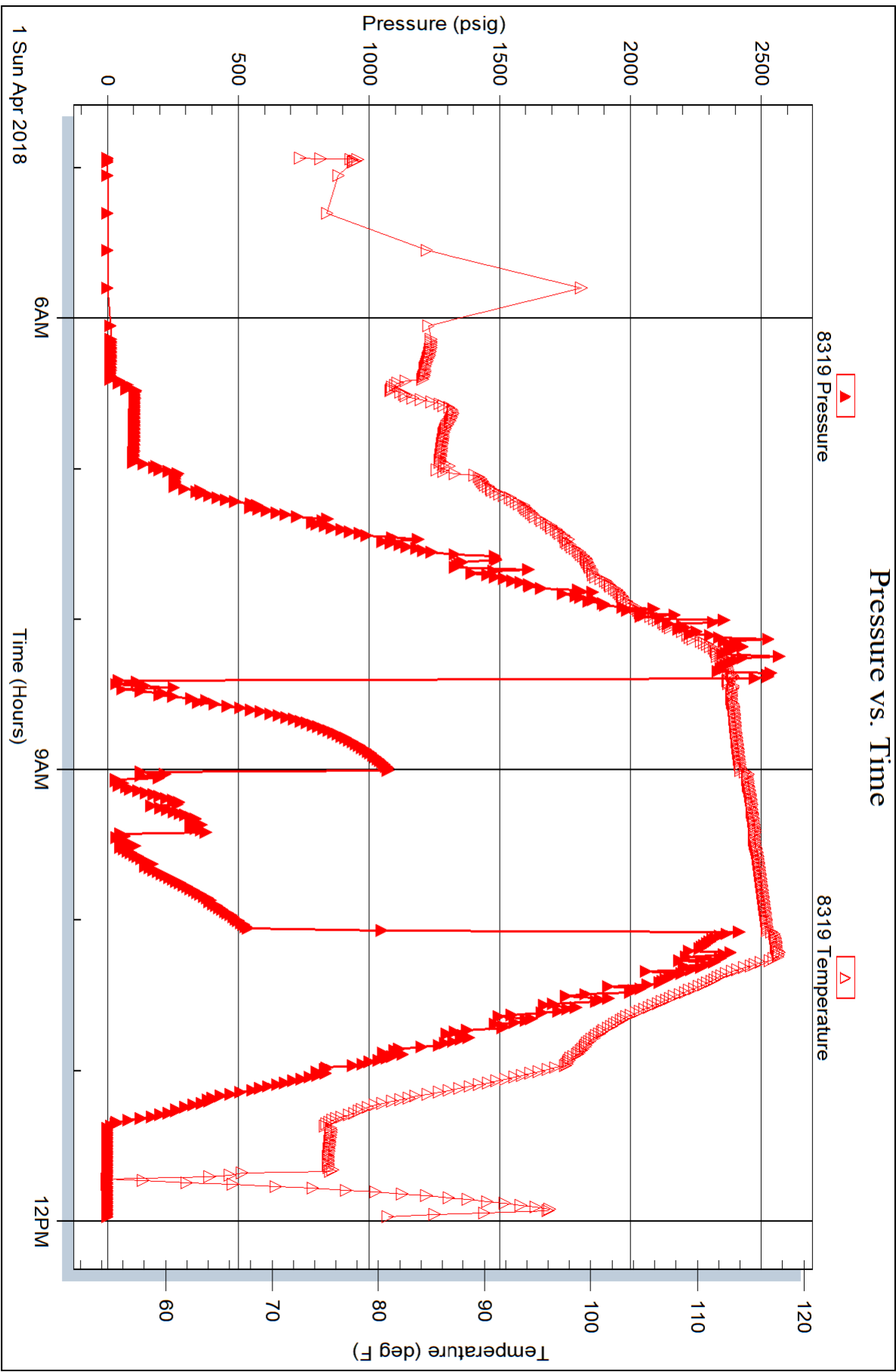
Laboratory Name:

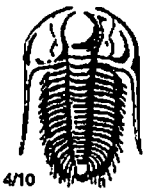
Laboratory Location:

Recovery Comments:

### Pressure vs. Time







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63068

Well Name & No. R4M Miller #1-14 Test No. 1 Date 27 MAR 18  
 Company Mull Drilling Company Inc. Elevation 3352 KB 3340 GL  
 Address 1700 N WaterPlant Parkway Bldg 1200 Wichita Kansas 67206+6637  
 Co. Rep / Geo. Kevin Kessler Rig Duke Rig 2  
 Location: Sec. 14 Twp. 16S Rge. 37W Co. Wichita State KS

Interval Tested 4080-4130 Zone Tested Lansing C  
 Anchor Length 50 Drill Pipe Run 4064 Mud Wt. 8.6  
 Top Packer Depth 4075 Drill Collars Run — Vis 63  
 Bottom Packer Depth 4080 Wt. Pipe Run — WL 6.4  
 Total Depth 3130 Chlorides 3000 ppm System LCM 2#

Blow Description I.F. Blow built to 1/2 inch  
I.S.I No blow back  
F.F. Blow built to BOB in 22 minutes  
F.S.I No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>387</u>	<u>Muddy Water w/ few spots of oil</u>			<u>90</u>	<u>10</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 387 BHT 113 Gravity — API RW .570 @ 61 °F Chlorides 13000 ppm

- (A) Initial Hydrostatic 1991
- (B) First Initial Flow 23
- (C) First Final Flow 37
- (D) Initial Shut-In 1160
- (E) Second Initial Flow 43
- (F) Second Final Flow 194
- (G) Final Shut-In 1132
- (H) Final Hydrostatic 1952

- Test 1150
- Jars 250
- Safety Joint 75
- Circ Sub
- Hourly Standby
- Mileage 76 76
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1551

T-On Location 7:47 am  
 T-Started 8:49 am  
 T-Open 10:40 am  
 T-Pulled 2:15 pm  
 T-Out 4:19 pm

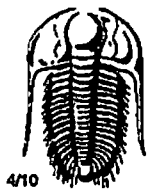
Comments \_\_\_\_\_  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 1551  
 MP/DST Disc't \_\_\_\_\_

Initial Open 5  
 Initial Shut-In 30  
 Final Flow 60  
 Final Shut-In 120

Approved By Kevin Kessler

Our Representative

[Signature]



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63069

Well Name & No. R4M Miller #1-14 Test No. 2 Date 28 MAR 18  
 Company Mull Drilling Company Inc Elevation 3352 KB 3340 GL  
 Address 1700 N Waterfront Parkway Bldg 1700 Wichita Kansas 67206+6657  
 Co. Rep / Geo. Kevin Kessler Rig Duke Rig 2  
 Location: Sec. 14 Twp. 16S Rge. 37W Co. Wichita State KS

Interval Tested 4270-4325 Zone Tested Lansing I+J  
 Anchor Length 55 Drill Pipe Run 4252 Mud Wt. 9.3  
 Top Packer Depth 4265 Drill Collars Run - Vis 54  
 Bottom Packer Depth 4270 Wt. Pipe Run - WL 7.2  
 Total Depth 4325 Chlorides 4500 ppm System LCM 2#

Blow Description I.F. Blow built to 1 1/2 inch  
T.S.I. No blow back  
F.F. Blow built to 3 1/2 inches  
F.S.I. No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>169</u>	<u>Slightly oil cut Watery Mud</u>	<u>2</u>	<u>4.3</u>	<u>55</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 169 BHT 114 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

- (A) Initial Hydrostatic 2125
- (B) First Initial Flow 16
- (C) First Final Flow 23
- (D) Initial Shut-In 1247
- (E) Second Initial Flow 24
- (F) Second Final Flow 96
- (G) Final Shut-In 1246
- (H) Final Hydrostatic 2091

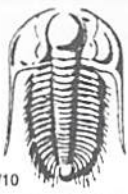
- Test 1150
- Jars 250
- Safety Joint 75
- Circ Sub \_\_\_\_\_
- Hourly Standby \_\_\_\_\_
- Mileage 76 76
- Sampler \_\_\_\_\_
- Straddle \_\_\_\_\_
- Shale Packer \_\_\_\_\_
- Extra Packer \_\_\_\_\_
- Extra Recorder \_\_\_\_\_
- Day Standby \_\_\_\_\_
- Accessibility \_\_\_\_\_
- Sub Total 1551

- T-On Location 10:09 am
- T-Started 11:19 am
- T-Open 12:19 pm
- T-Pulled 3:54 pm
- T-Out 5:56 pm
- Comments \_\_\_\_\_
- Ruined Shale Packer \_\_\_\_\_
- Ruined Packer \_\_\_\_\_
- Extra Copies \_\_\_\_\_
- Sub Total 0
- Total 1551
- MP/DST Disc't \_\_\_\_\_

Initial Open 5  
 Initial Shut-In 30  
 Final Flow 60  
 Final Shut-In 120

Approved By Kevin Kessler

Our Representative



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **65298**

Well Name & No. R&M Miller #1-14 Test No. 3 Date 3/29/2018  
 Company Mull Drilling Co, Inc. Elevation 5352 KB 3340 GL  
 Address 1700 N Waterfront Pkwy Bldg 1200 Wichita, KS 67206  
 Co. Rep / Geo. Kevin Kessler Rig Pulke #1  
 Location: Sec. 14 Twp. 16s Rge. 37w Co. Wichita State Ks

Interval Tested 4320 - 4365 Zone Tested LKC K  
 Anchor Length 45' Drill Pipe Run 4316 Mud Wt. 9.3  
 Top Packer Depth 4315 Drill Collars Run 0 Vis 54  
 Bottom Packer Depth 4320 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4365 Chlorides 4500 ppm System LCM 2#

Blow Description IF BOB @ 30 sec  
ISI No return.  
RF BOB @ 40 sec, receded to 3"  
FSI No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>2770</u>	<u>5 new</u>		<u>98</u>	<u>2</u>	
	<u>oil spots on top</u>				

Rec Total 2770 BHT 116 Gravity — API RW 202 @ 44.5° F Chlorides 60,000 ppm  
 (A) Initial Hydrostatic 2163  Test 1150 T-On Location 0140  
 (B) First Initial Flow 911  Jars 250 T-Started 0246  
 (C) First Final Flow 974  Safety Joint 75 T-Open 0543  
 (D) Initial Shut-In 1262  Circ Sub N/C T-Pulled 0918  
 (E) Second Initial Flow 1028  Hourly Standby \_\_\_\_\_ T-Out 1154  
 (F) Second Final Flow 1259  Mileage 80 ~~76~~ 76rt Comments ~~8/10 76/15 3/30~~  
 (G) Final Shut-In 1264  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2172  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 530  Extra Recorder \_\_\_\_\_  
 Initial Shut-In 30  Day Standby \_\_\_\_\_  
 Final Flow 60  Accessibility \_\_\_\_\_  
 Final Shut-In 120  Sub Total 0  
 Sub Total 1551 Total 1551  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative

TriLOBite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **65299**

Well Name & No. R & M Miller # 1-14 Test No. 4 Date 3/30/2018  
 Company Mull Drilling Co, Inc Elevation 3352 KB 3340 GL  
 Address 1700 N Waterfront Pkwy Bldg 1200 Wichita, KS 67206  
 Co. Rep / Geo. Kevin Kessler Rig Duke #1  
 Location: Sec. 14 Twp. 16S Rge. 37W Co. Wichita State KS

Interval Tested 4440 - 4520 Zone Tested Marmaton A & B  
 Anchor Length 50' Drill Pipe Run 4443 Mud Wt. 9.4  
 Top Packer Depth 4435 Drill Collars Run 0 Vis 60  
 Bottom Packer Depth 4440 Wt. Pipe Run 0 WL 8.0  
 Total Depth 4520 Chlorides 7000 ppm System LCM 2#  
 Blow Description IF 1" blow  
ISL No return  
FP 3 1/2" blow  
FSL No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>WCM</u>		<u>15</u>	<u>85</u>	
	<u>oil spots</u>				

Rec Total 90 BHT 113 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2218</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0330</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0420</u>
(C) First Final Flow <u>24</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0549</u>
(D) Initial Shut-In <u>1289</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1024</u>
(E) Second Initial Flow <u>26</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1211</u>
(F) Second Final Flow <u>60</u>	<input checked="" type="checkbox"/> Mileage <u>80</u> <del>ST</del> <u>76</u>	Comments
(G) Final Shut-In <u>1240</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2170</u>	<input type="checkbox"/> Straddle	
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1551</u>
	Sub Total <u>1551</u>	MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **65300**

Well Name & No. R & M Miller # 1-14 Test No. 5 Date 4/1/2018  
 Company Mall Drilling Co, Inc Elevation 3352 KB 3340 GL  
 Address 1700 N Waterfront Plaza Bldg 1200 Wichita, KS 67206  
 Co. Rep / Geo. Kevin Kessler Rig Duke #1  
 Location: Sec. 4 Twp. 16s Rge. 37W Co. Wichita State Ks

Interval Tested 4790 - 4900 Zone Tested Marrow Sand  
 Anchor Length 110 Drill Pipe Run 3790 Mud Wt. 9.4  
 Top Packer Depth 4785 Drill Collars Run 0 Vis 6.2  
 Bottom Packer Depth 4790 Wt. Pipe Run 0 WL 8.8  
 Total Depth 4900 Chlorides 7400 ppm System LCM 5#

Blow Description IF 1" blow  
ISI No return  
FF Surface blow, died @ 15 min.  
FSI No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>35</u>	<u>swc-m</u>		<u>5</u>	<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 35 BHT 113 Gravity — API RW — @ — °F Chlorides — ppm  
 (A) Initial Hydrostatic 2473 46  Test 1150 T-On Location 0145  
 (B) First Initial Flow 46 366  Jars 250 T-Started 0456  
 (C) First Final Flow 366 1073  Safety Joint 75 T-Open 0825  
 (D) Initial Shut-In 1073 100  Circ Sub N/C T-Pulled 1002  
 (E) Second Initial Flow 100 43  Hourly Standby \_\_\_\_\_ T-Out 1159  
 (F) Second Final Flow 43  Mileage 80 RT x 2 76+76 Comments Dy Tools 4/2  
 (G) Final Shut-In 535  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2417  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_

Shale Packer 250  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 5  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 30  Day Standby \_\_\_\_\_ Total 1877  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 30 Sub Total 1877

Approved By \_\_\_\_\_ Our Representative [Signature]

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