



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300  
Wichita KS 67206

ATTN: Robert Hendrix

### **Sutton A #1-18**

#### **18-1s-35w RawlinsKS**

Start Date: 2015.10.29 @ 06:40:00

End Date: 2015.10.29 @ 14:00:30

Job Ticket #: 62787                      DST #: 1

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

Printed: 2015.11.04 @ 14:58:47

Murfin Drilling Co. 18-1s-35w RawlinsKS Sutton A #1-18 DST # 1 Foraker 2015.10.29



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62787

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2015.10.29 @ 06:40:00

## GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:16:10

Time Test Ended: 14:00:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 78

**Interval: 3698.00 ft (KB) To 3748.00 ft (KB) (TVD)**

Reference Elevations: 3235.00 ft (KB)

Total Depth: 3748.00 ft (KB) (TVD)

3224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 6752 Inside**

Press@RunDepth: 18.91 psig @ 3699.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.10.29

End Date:

2015.10.29

Last Calib.: 2015.10.29

Start Time: 06:40:01

End Time:

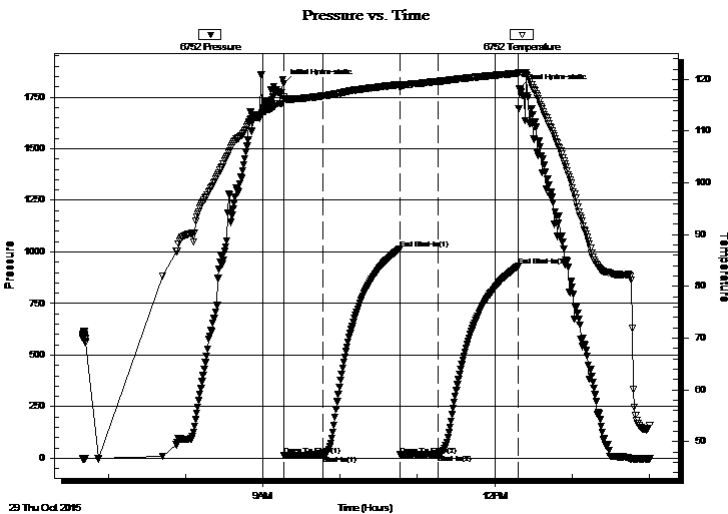
14:00:30

Time On Btm: 2015.10.29 @ 09:16:00

Time Off Btm: 2015.10.29 @ 12:19:09

TEST COMMENT: 30 IF - 1/4" blow  
60 ISI - No return  
30 FF - No blow  
60 FSI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1814.13	116.61	Initial Hydro-static
1	13.42	116.22	Open To Flow (1)
31	15.41	116.78	Shut-In(1)
91	1015.14	119.00	End Shut-In(1)
91	16.58	118.36	Open To Flow (2)
121	18.91	119.62	Shut-In(2)
183	930.13	121.18	End Shut-In(2)
184	1789.41	121.36	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
4.00	Mud w / oil spots 100%M	0.02

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

18-1s-35w RawlinsKS

250 N. Water STE 300  
Wichita KS 67206

Sutton A #1-18

Job Ticket: 62787

DST#: 1

ATTN: Robert Hendrix

Test Start: 2015.10.29 @ 06:40:00

## GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:16:10

Time Test Ended: 14:00:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 78

Interval: **3698.00 ft (KB) To 3748.00 ft (KB) (TVD)**

Reference Elevations: 3235.00 ft (KB)

Total Depth: 3748.00 ft (KB) (TVD)

3224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

## Serial #: 8322

Outside

Press@RunDepth: psig @ 3699.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.10.29 End Date: 2015.10.29

Last Calib.: 2015.10.29

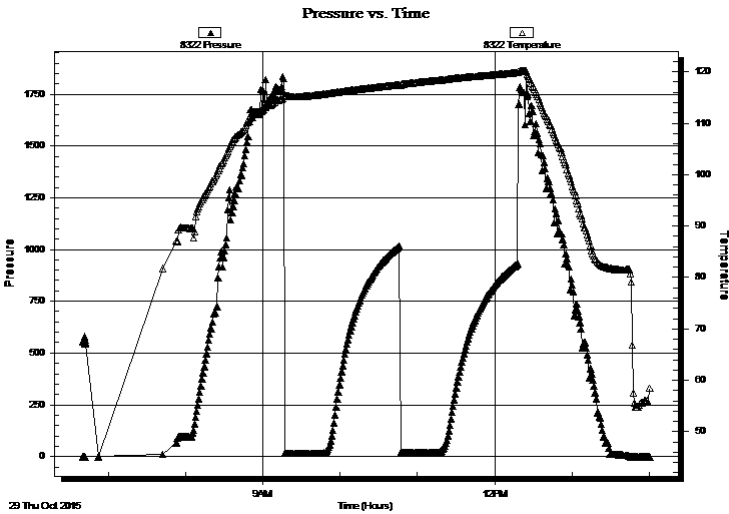
Start Time: 06:40:01 End Time: 14:00:30

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 IF - 1/4" blow  
60 ISI - No return  
30 FF - No blow  
60 FSI - No return

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
4.00	Mud w / oil spots 100%M	0.02

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62787

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2015.10.29 @ 06:40:00

## Tool Information

Drill Pipe:	Length: 3497.00 ft	Diameter: 3.80 inches	Volume: 49.05 bbl	Tool Weight: 2500.00 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: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 49.93 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3698.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	77.00 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			3672.00	
Shut In Tool	5.00			3677.00	
Hydraulic tool	5.00			3682.00	
Jars	5.00			3687.00	
Safety Joint	2.00			3689.00	
Packer	5.00			3694.00	27.00 Bottom Of Top Packer
Packer	4.00			3698.00	
Stubb	1.00			3699.00	
Recorder	0.00	6752	Inside	3699.00	
Recorder	0.00	8322	Outside	3699.00	
Perforations	13.00			3712.00	
Change Over Sub	1.00			3713.00	
Drill Pipe	31.00			3744.00	
Change Over Sub	1.00			3745.00	
Bullnose	3.00			3748.00	50.00 Bottom Packers & Anchor

**Total Tool Length: 77.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62787

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2015.10.29 @ 06:40:00

### 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: 5.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
4.00	Mud w / oil spots 100%M	0.020

Total Length: 4.00 ft      Total Volume: 0.020 bbl

Num Fluid Samples: 0

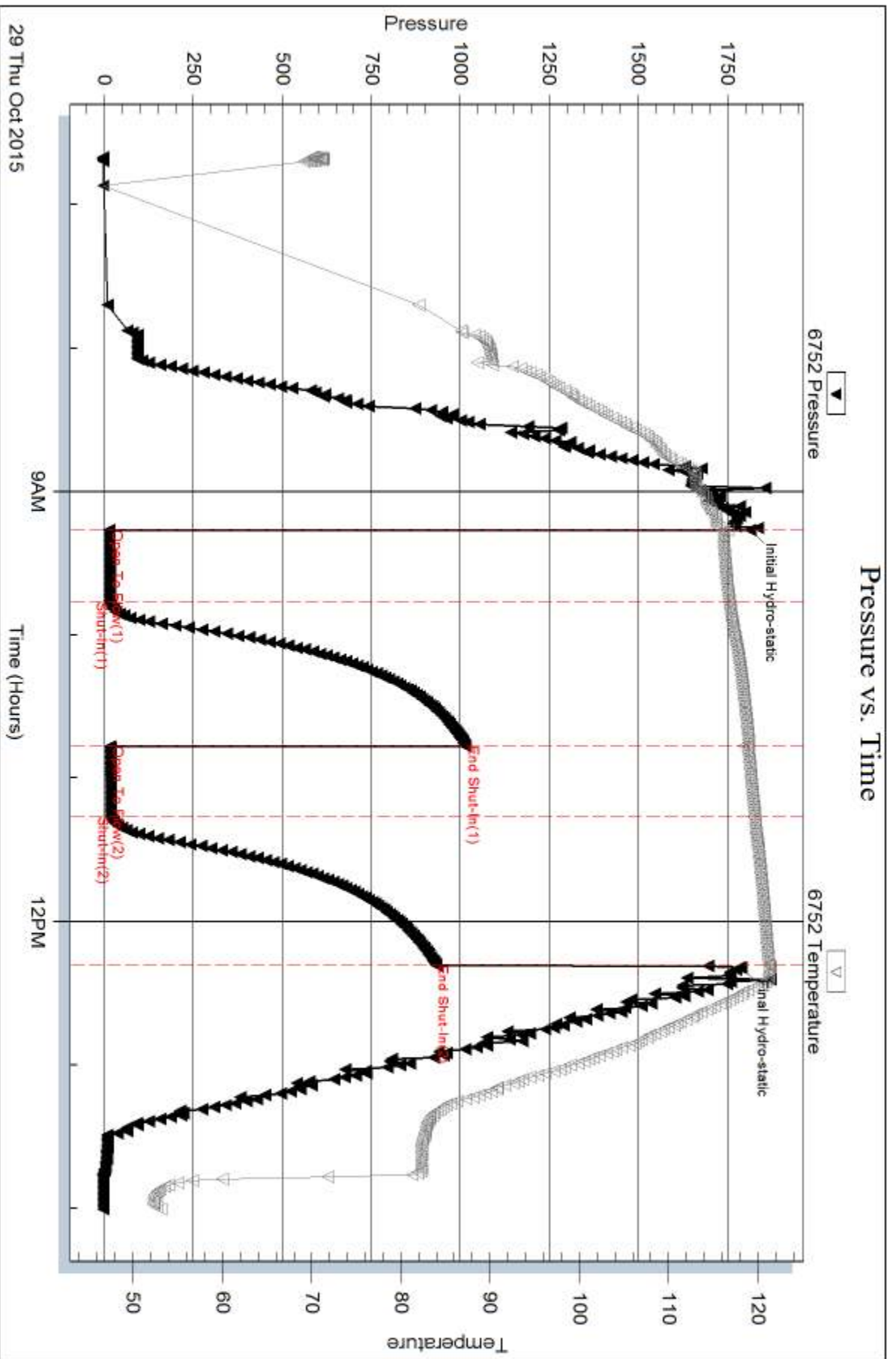
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

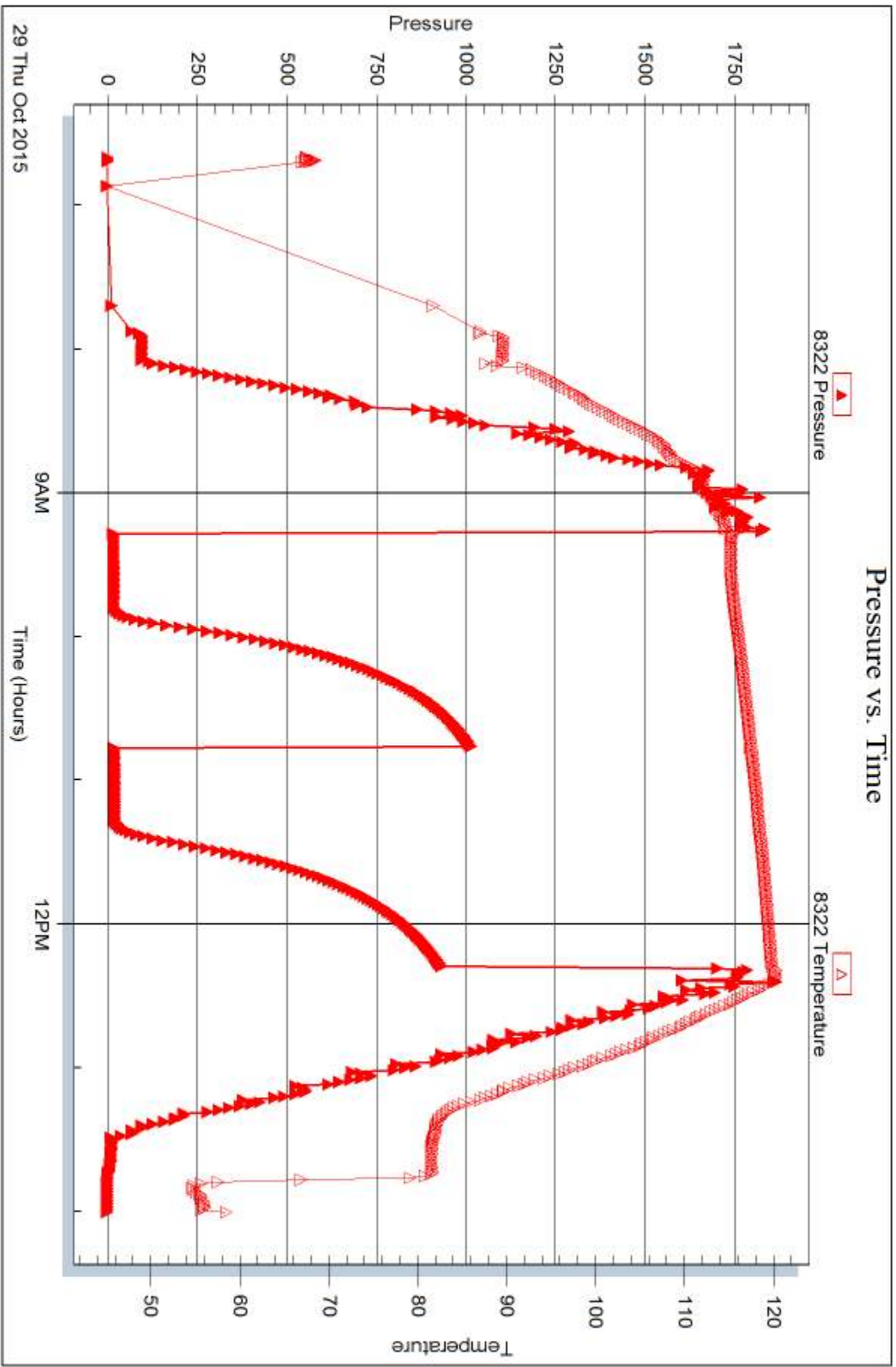


Serial #: 8322

Outside Murfin Drilling Co.

Sutton A #1-18

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 62787

Printed: 2015.11.04 @ 14:58:48



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300  
Wichita KS 67206

ATTN: Robert Hendrix

### **Sutton A #1-18**

#### **18-1s-35w RawlinsKS**

Start Date: 2015.10.30 @ 11:47:00

End Date: 2015.10.30 @ 18:43:00

Job Ticket #: 62789                      DST #: 2

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

Printed: 2015.11.04 @ 14:58:27





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62789

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2015.10.30 @ 11:47:00

## GENERAL INFORMATION:

Formation: **Stotler**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:52:10

Time Test Ended: 18:43:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

**Interval: 3858.00 ft (KB) To 3974.00 ft (KB) (TVD)**

Reference Elevations: 3235.00 ft (KB)

Total Depth: 3974.00 ft (KB) (TVD)

3224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 6752 Inside**

Press@RunDepth: 73.42 psig @ 3859.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.10.30

End Date:

2015.10.30

Last Calib.: 2015.10.30

Start Time: 11:47:01

End Time:

18:43:00

Time On Btm: 2015.10.30 @ 13:51:50

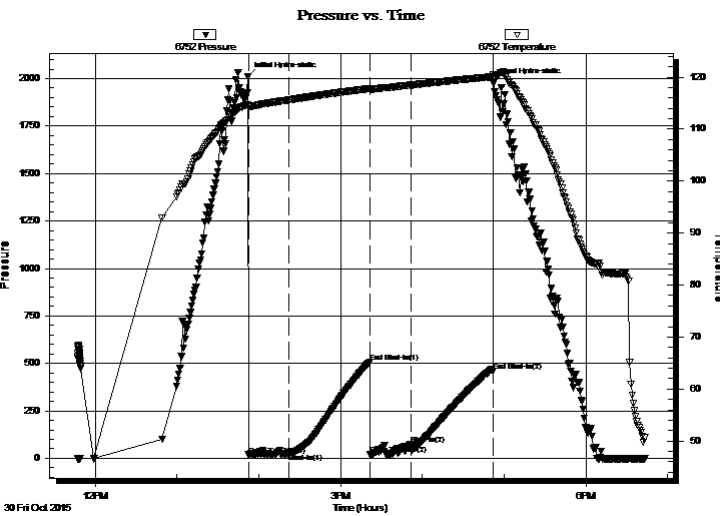
Time Off Btm: 2015.10.30 @ 16:52:09

TEST COMMENT: 30 IF - Surface blow built to 1/4"

60 ISI - No return

30 FF - No blow

60 FSI - No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2008.13	114.71	Initial Hydro-static
1	17.86	114.41	Open To Flow (1)
30	23.98	115.56	Shut-In(1)
90	507.48	117.78	End Shut-In(1)
90	20.90	117.52	Open To Flow (2)
120	73.42	118.46	Shut-In(2)
180	459.15	120.06	End Shut-In(2)
181	1977.05	120.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%M	0.02

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62789

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2015.10.30 @ 11:47:00

## GENERAL INFORMATION:

Formation: **Stotler**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:52:10

Time Test Ended: 18:43:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

**Interval: 3858.00 ft (KB) To 3974.00 ft (KB) (TVD)**

Reference Elevations: 3235.00 ft (KB)

Total Depth: 3974.00 ft (KB) (TVD)

3224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8322 Outside**

Press@RunDepth: psig @ 3859.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.10.30 End Date: 2015.10.30

Last Calib.: 2015.10.30

Start Time: 11:47:01 End Time: 18:43:00

Time On Btm:

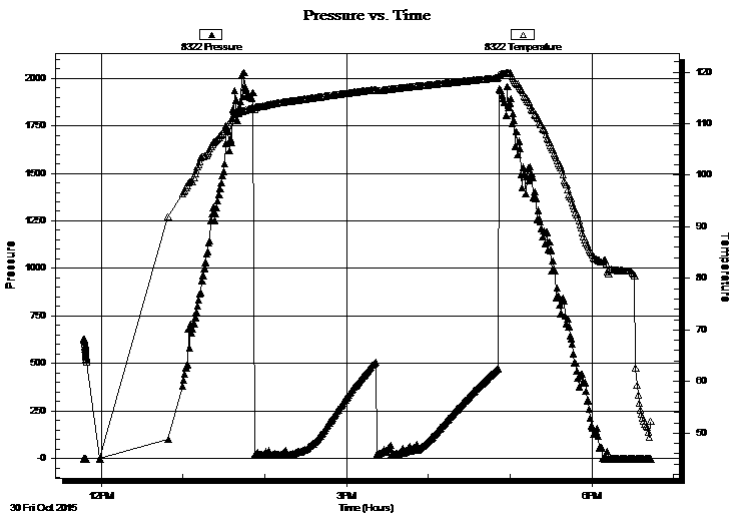
Time Off Btm:

TEST COMMENT: 30 IF - Surface blow built to 1/4"

60 ISI - No return

30 FF - No blow

60 FSI - No return



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%M	0.02

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62789

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2015.10.30 @ 11:47:00

## Tool Information

Drill Pipe:	Length: 3683.00 ft	Diameter: 3.80 inches	Volume: 51.66 bbl	Tool Weight: 2500.00 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: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 52.54 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3858.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	116.00 ft			
Tool Length:	143.00 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			3832.00	
Shut In Tool	5.00			3837.00	
Hydraulic tool	5.00			3842.00	
Jars	5.00			3847.00	
Safety Joint	2.00			3849.00	
Packer	5.00			3854.00	27.00 Bottom Of Top Packer
Packer	4.00			3858.00	
Stubb	1.00			3859.00	
Recorder	0.00	6752	Inside	3859.00	
Recorder	0.00	8322	Outside	3859.00	
Perforations	15.00			3874.00	
Change Over Sub	1.00			3875.00	
Drill Pipe	95.00			3970.00	
Change Over Sub	1.00			3971.00	
Bullnose	3.00			3974.00	116.00 Bottom Packers & Anchor

**Total Tool Length: 143.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62789

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2015.10.30 @ 11:47:00

### 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:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100%M	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

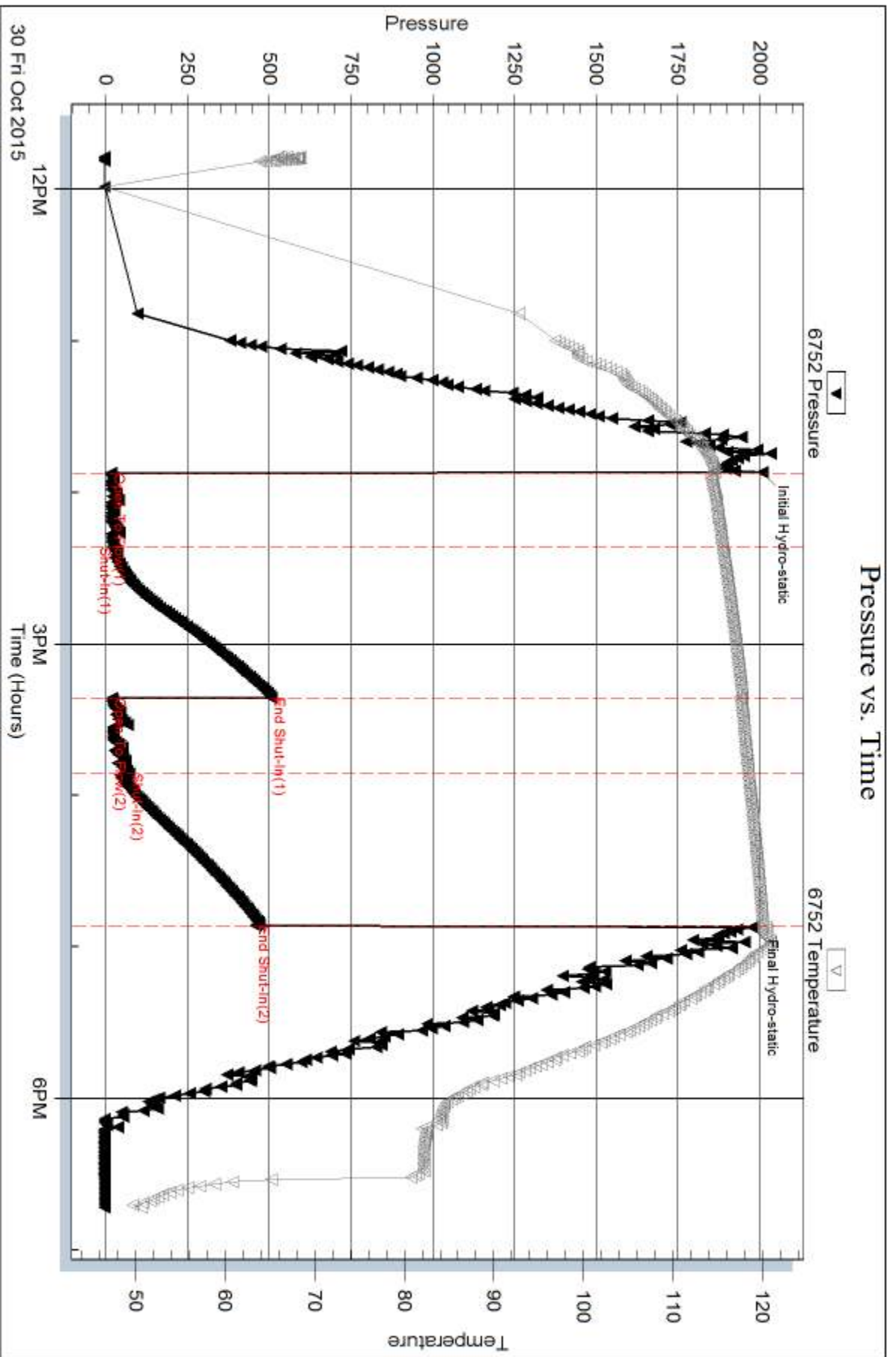
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

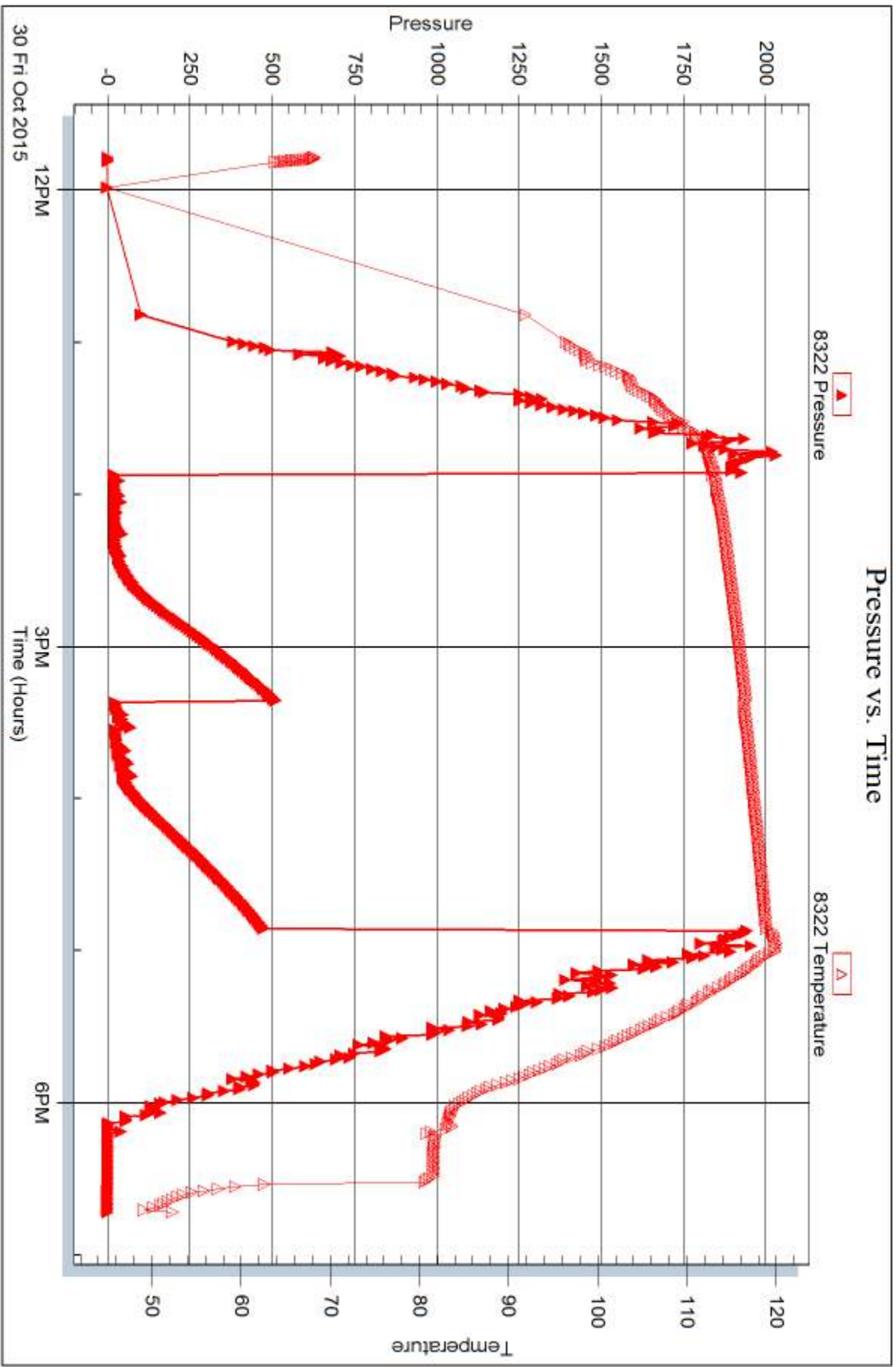


Serial #: 8322

Outside Murfin Drilling Co.

Sutton A #1-18

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 62789

Printed: 2015.11.04 @ 14:58:29



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300  
Wichita KS 67206

ATTN: Robert Hendrix

### **Sutton A #1-18**

#### **18-1s-35w RawlinsKS**

Start Date: 2015.10.31 @ 22:19:00

End Date: 2015.11.01 @ 05:09:30

Job Ticket #: 62790                      DST #: 3

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

Printed: 2015.11.04 @ 14:57:31



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62790

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2015.10.31 @ 22:19:00

## GENERAL INFORMATION:

Formation: **LKC " A - D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:12:20

Time Test Ended: 05:09:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

**Interval: 4119.00 ft (KB) To 4228.00 ft (KB) (TVD)**

Reference Elevations: 3235.00 ft (KB)

Total Depth: 4228.00 ft (KB) (TVD)

3224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 6752**

**Inside**

Press@RunDepth: 29.14 psig @ 4120.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.10.31

End Date:

2015.11.01

Last Calib.: 2015.11.01

Start Time: 22:19:01

End Time:

05:09:30

Time On Btm: 2015.11.01 @ 00:12:10

Time Off Btm: 2015.11.01 @ 03:13:09

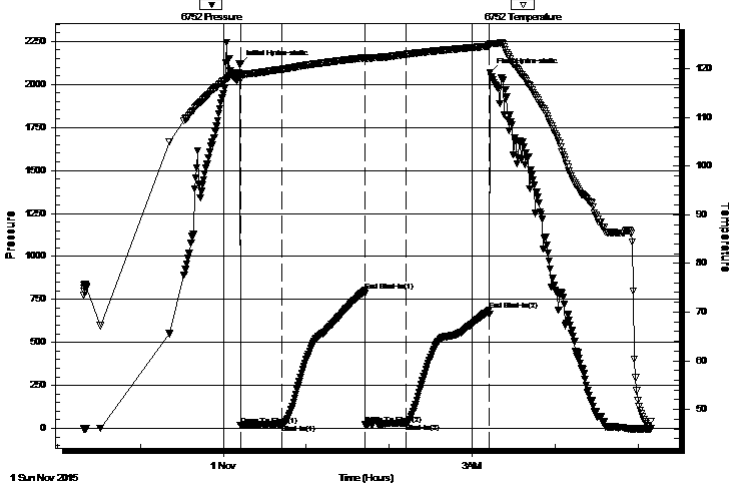
TEST COMMENT: 30 IF - Surface blow built to 1/4"

60 ISI - No return

30 FF - No blow

60 FSI - No return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2116.36	119.01	Initial Hydro-static
1	18.32	117.86	Open To Flow (1)
31	23.17	119.86	Shut-In(1)
91	801.22	122.24	End Shut-In(1)
91	24.77	122.01	Open To Flow (2)
121	29.14	122.94	Shut-In(2)
181	687.33	124.63	End Shut-In(2)
181	2067.51	125.21	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
7.00	Mud 100%M	0.03

Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N. Water STE 300  
 Wichita KS 67206  
 ATTN: Robert Hendrix

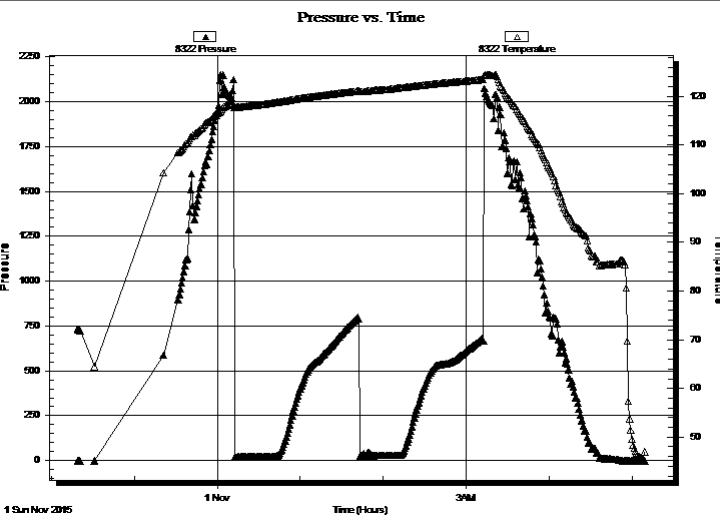
**18-1s-35w RawlinsKS**  
**Sutton A #1-18**  
 Job Ticket: 62790      **DST#: 3**  
 Test Start: 2015.10.31 @ 22:19:00

## GENERAL INFORMATION:

Formation: **LKC " A - D "**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 00:12:20 Tester: Ryan Nichols  
 Time Test Ended: 05:09:30 Unit No: 78  
**Interval: 4119.00 ft (KB) To 4228.00 ft (KB) (TVD)** Reference Elevations: 3235.00 ft (KB)  
 Total Depth: 4228.00 ft (KB) (TVD) 3224.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

**Serial #: 8322 Outside**  
 Press@RunDepth: psig @ 4120.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.10.31 End Date: 2015.11.01 Last Calib.: 2015.11.01  
 Start Time: 22:19:01 End Time: 05:09:30 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30 IF - Surface blow built to 1/4"  
 60 ISI - No return  
 30 FF - No blow  
 60 FSI - No return



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

Recovery		
Length (ft)	Description	Volume (bbl)
7.00	Mud 100%M	0.03

\* Recovery from multiple tests

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62790

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2015.10.31 @ 22:19:00

## Tool Information

Drill Pipe:	Length: 3937.00 ft	Diameter: 3.80 inches	Volume: 55.23 bbl	Tool Weight: 2500.00 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: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 56.11 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4119.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	109.00 ft			
Tool Length:	136.00 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			4093.00	
Shut In Tool	5.00			4098.00	
Hydraulic tool	5.00			4103.00	
Jars	5.00			4108.00	
Safety Joint	2.00			4110.00	
Packer	5.00			4115.00	27.00 Bottom Of Top Packer
Packer	4.00			4119.00	
Stubb	1.00			4120.00	
Recorder	0.00	6752	Inside	4120.00	
Recorder	0.00	8322	Outside	4120.00	
Perforations	8.00			4128.00	
Change Over Sub	1.00			4129.00	
Drill Pipe	95.00			4224.00	
Change Over Sub	1.00			4225.00	
Bullnose	3.00			4228.00	109.00 Bottom Packers & Anchor

**Total Tool Length: 136.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62790

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2015.10.31 @ 22:19:00

## 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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
7.00	Mud 100%M	0.034

Total Length: 7.00 ft      Total Volume: 0.034 bbl

Num Fluid Samples: 0

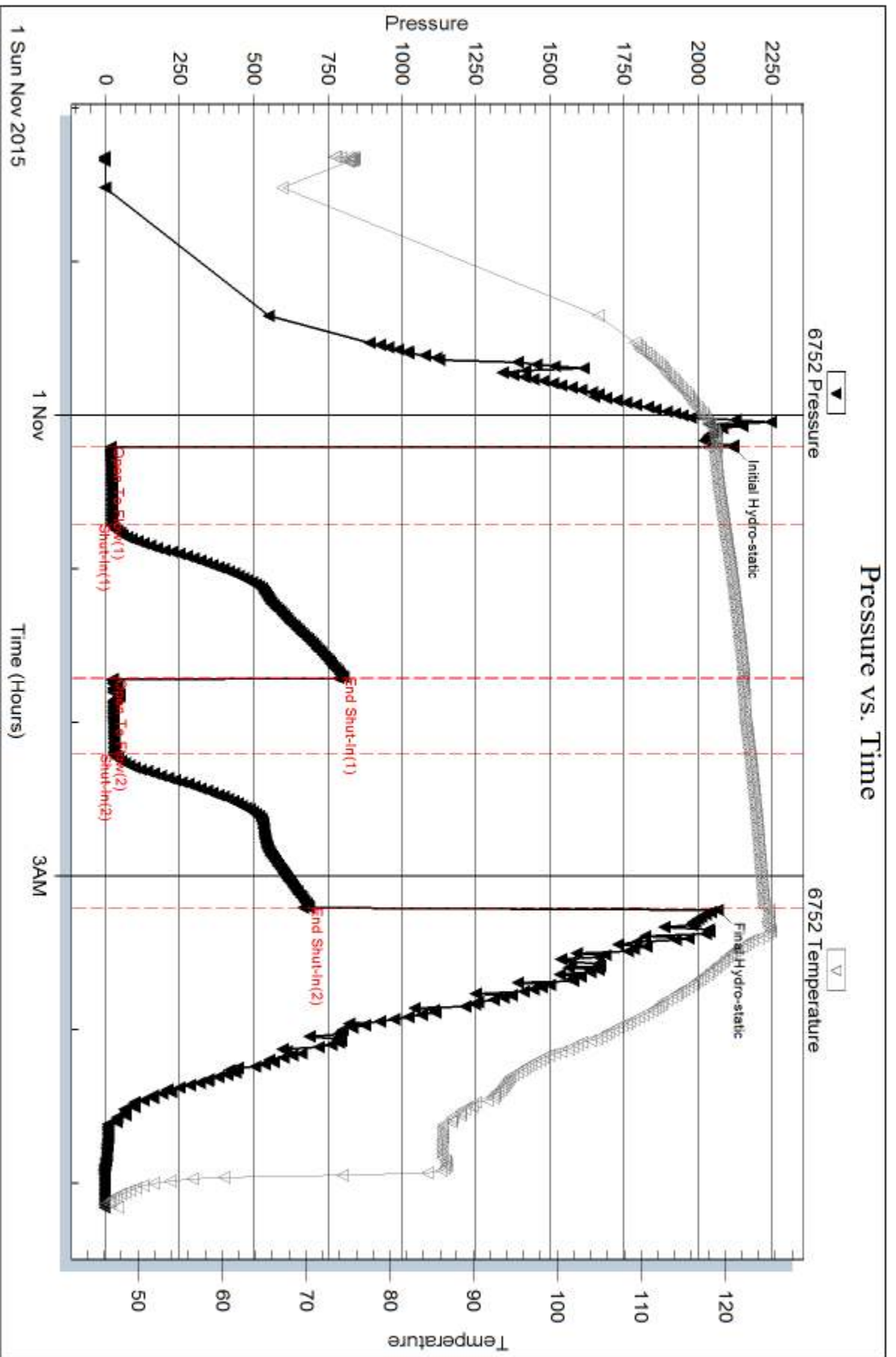
Num Gas Bombs: 0

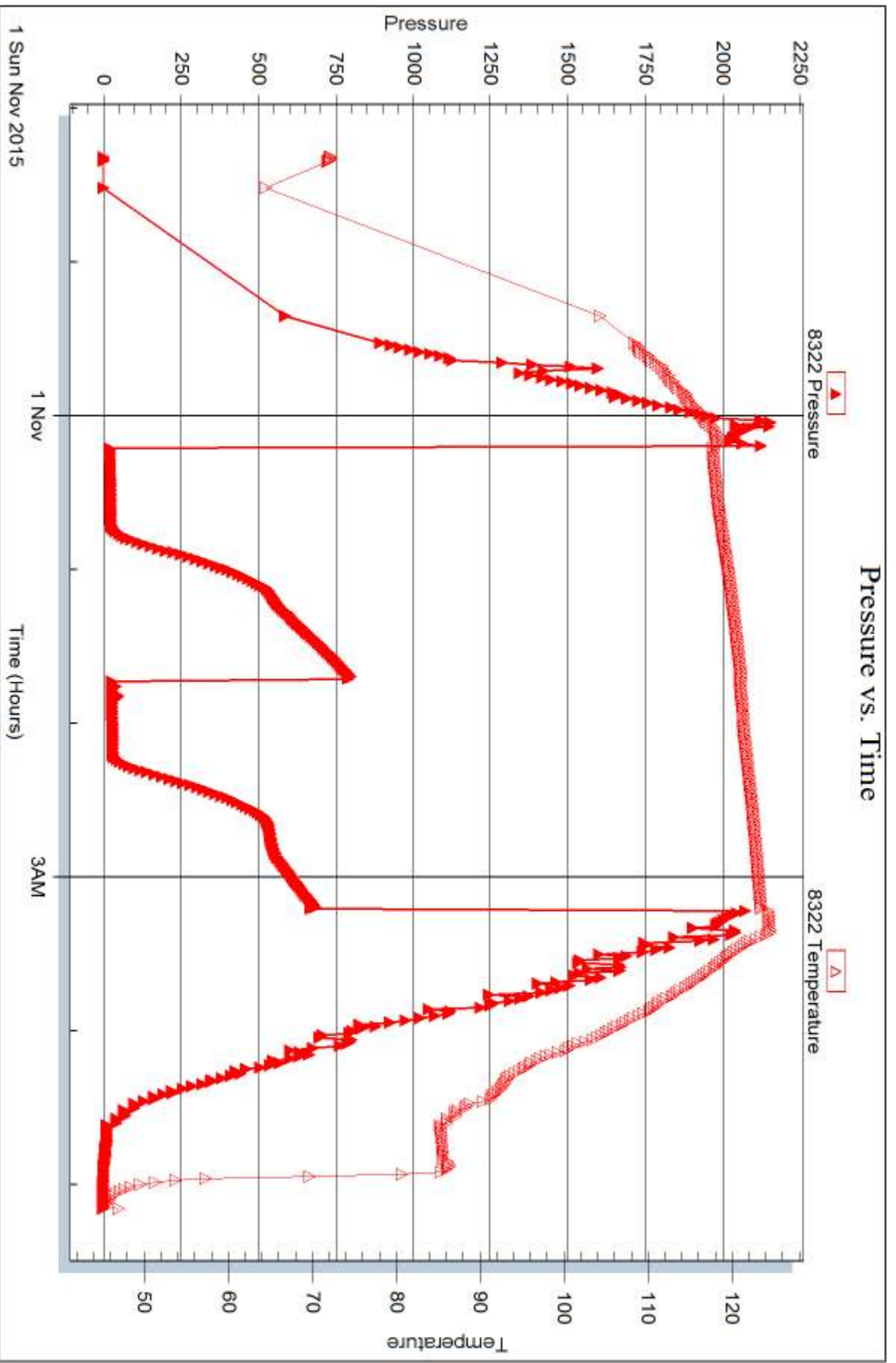
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300  
Wichita KS 67206

ATTN: Robert Hendrix

### **Sutton A #1-18**

#### **18-1s-35w RawlinsKS**

Start Date: 2015.11.01 @ 14:27:00

End Date: 2015.11.01 @ 22:58:30

Job Ticket #: 62791                      DST #: 4

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

Printed: 2015.11.04 @ 14:57:08



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62791

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2015.11.01 @ 14:27:00

## GENERAL INFORMATION:

Formation: **LKC " G "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:39:00

Time Test Ended: 22:58:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

**Interval: 4221.00 ft (KB) To 4283.00 ft (KB) (TVD)**

Reference Elevations: 3235.00 ft (KB)

Total Depth: 4283.00 ft (KB) (TVD)

3224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 6752 Inside**

Press@RunDepth: 164.11 psig @ 4222.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.11.01 End Date: 2015.11.01

Last Calib.: 2015.11.01

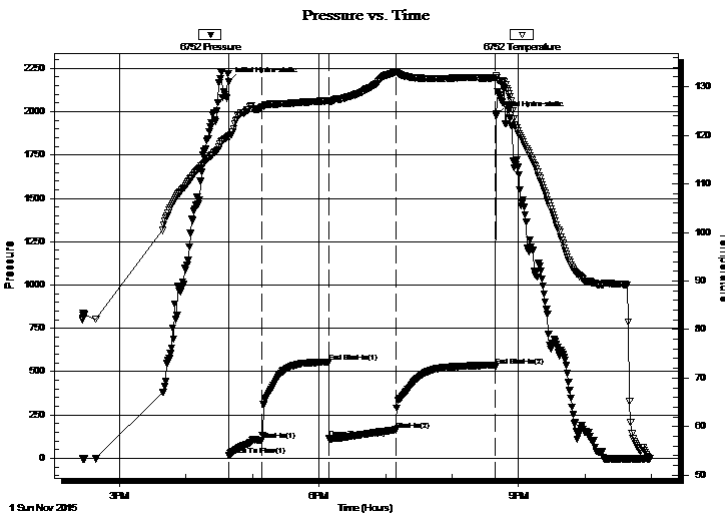
Start Time: 14:27:01 End Time: 22:58:30

Time On Btm: 2015.11.01 @ 16:38:50

Time Off Btm: 2015.11.01 @ 20:39:30

**TEST COMMENT:** 30 IF - Surface blow built to 9 1/2"  
60 ISI - No return  
60 FF - Surface blow started @ 1 min built to BoB @ 35 mins  
90 FSI - Surface blow started @ 6 mins died @ 50 mins

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2171.40	119.96	Initial Hydro-static
1	18.56	119.53	Open To Flow (1)
30	105.83	125.78	Shut-In(1)
90	555.56	127.08	End Shut-In(1)
91	113.39	126.92	Open To Flow (2)
151	164.11	132.94	Shut-In(2)
241	529.97	131.82	End Shut-In(2)
241	1974.63	132.17	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	OMCW - 2%o 78%W - 20%M	0.59
60.00	GOWCM - 5%G - 5%o - 40%W - 50%M	0.30
63.00	GOWCM - 10%G - 10%o - 10%W - 70%M	0.88
68.00	OWCM - 35%o - 5%W - 60%M	0.95
25.00	GO - 10%G - 90%o	0.35
0.00	157' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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



# DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N. Water STE 300  
 Wichita KS 67206  
 ATTN: Robert Hendrix

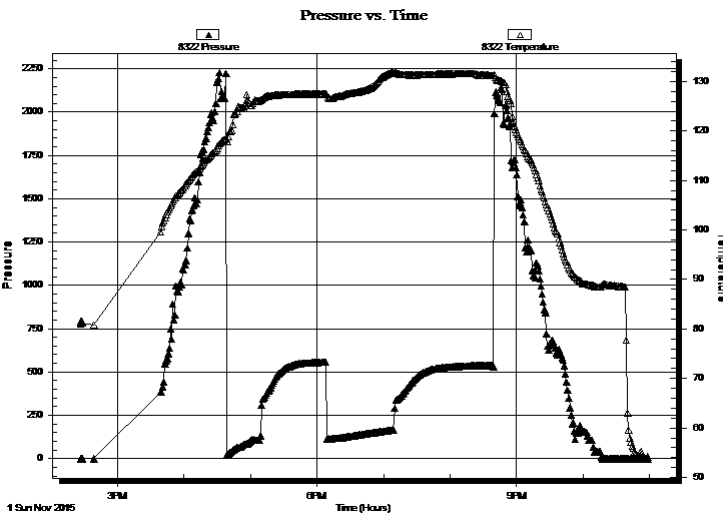
**18-1s-35w RawlinsKS**  
**Sutton A #1-18**  
 Job Ticket: 62791      **DST#: 4**  
 Test Start: 2015.11.01 @ 14:27:00

## GENERAL INFORMATION:

Formation: **LKC " G "**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:39:00  
 Time Test Ended: 22:58:30  
 Interval: **4221.00 ft (KB) To 4283.00 ft (KB) (TVD)**  
 Total Depth: 4283.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Nichols  
 Unit No: 78  
 Reference Elevations: 3235.00 ft (KB)  
 3224.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 8322      Outside**  
 Press@RunDepth: psig @ 4222.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2015.11.01      End Date: 2015.11.01      Last Calib.: 2015.11.01  
 Start Time: 14:27:01      End Time: 22:58:30      Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30 IF - Surface blow built to 9 1/2"  
 60 ISI - No return  
 60 FF - Surface blow started @ 1 min built to BoB @ 35 mins  
 90 FSI - Surface blow started @ 6 mins died @ 50 mins



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	OMCW - 2%G - 78%W - 20%M	0.59
60.00	GOWCM - 5%G - 5%O - 40%W - 50%M	0.30
63.00	GOWCM - 10%G - 10%O - 10%W - 70%M	0.88
68.00	OWCM - 35%O - 5%W - 60%M	0.95
25.00	GO - 10%G - 90%O	0.35
0.00	157' GIP	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**

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62791

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2015.11.01 @ 14:27:00

## Tool Information

Drill Pipe:	Length: 4032.00 ft	Diameter: 3.80 inches	Volume: 56.56 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 2500.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 57.44 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4221.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	89.00 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			4195.00	
Shut In Tool	5.00			4200.00	
Hydraulic tool	5.00			4205.00	
Jars	5.00			4210.00	
Safety Joint	2.00			4212.00	
Packer	5.00			4217.00	27.00 Bottom Of Top Packer
Packer	4.00			4221.00	
Stubb	1.00			4222.00	
Recorder	0.00	6752	Inside	4222.00	
Recorder	0.00	8322	Outside	4222.00	
Perforations	24.00			4246.00	
Change Over Sub	1.00			4247.00	
Drill Pipe	32.00			4279.00	
Change Over Sub	1.00			4280.00	
Bullnose	3.00			4283.00	62.00 Bottom Packers & Anchor

**Total Tool Length: 89.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62791

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2015.11.01 @ 14:27:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	OMCW - 2%o 78%W - 20%M	0.590
60.00	GOWCM - 5%G - 5%o - 40%W - 50%M	0.304
63.00	GOWCM - 10%G - 10%o - 10%W - 70%M	0.884
68.00	OWCM - 35%o - 5%W - 60%M	0.954
25.00	GO - 10%G - 90%o	0.351
0.00	157' GIP	0.000

Total Length: 336.00 ft Total Volume: 3.083 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

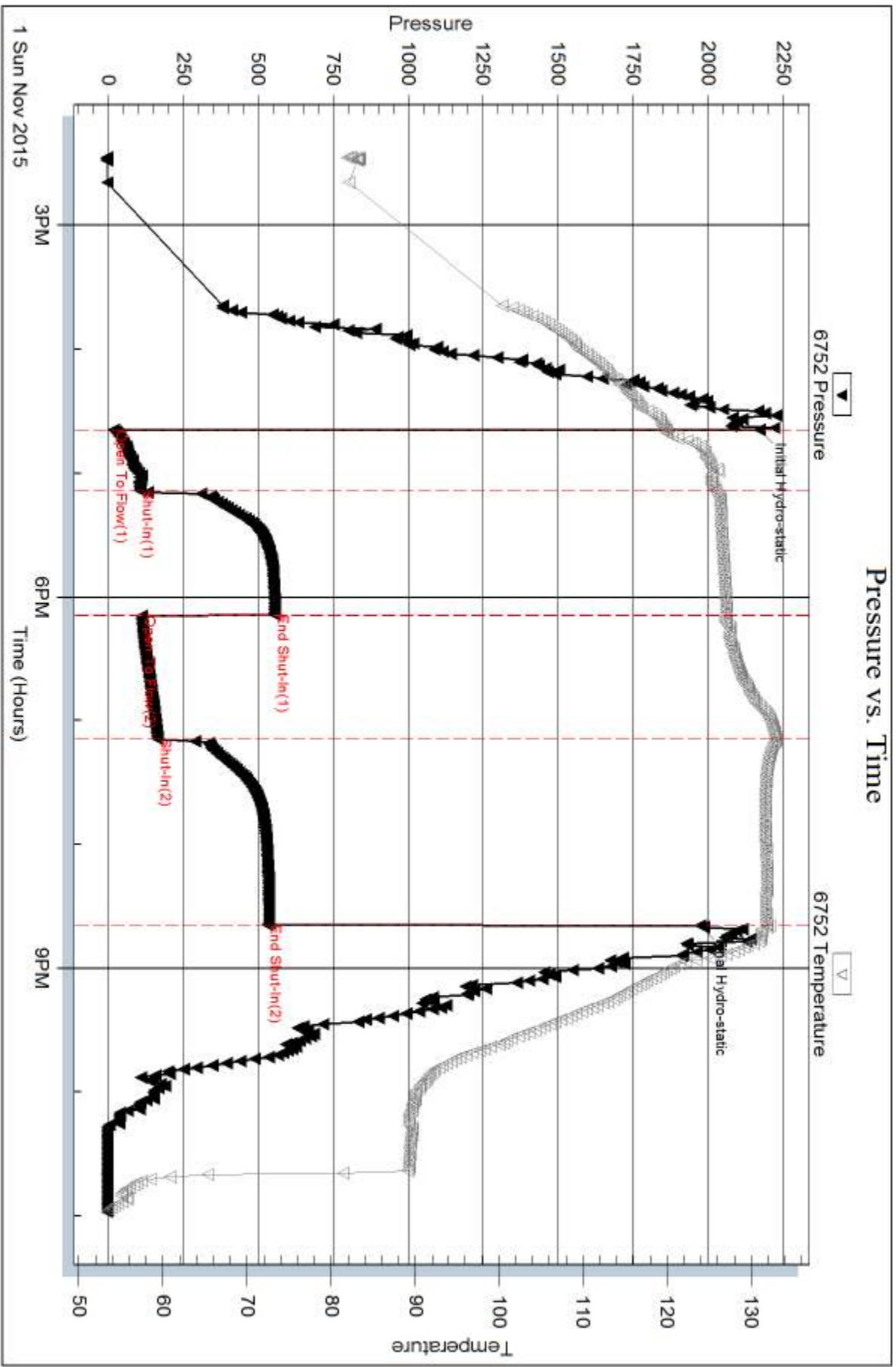
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .985 @ 51 DEG F CHLORIDES = 9,000 PPM

OIL API = 37 @ 70 DEG F - 36 COR 60 DEG F

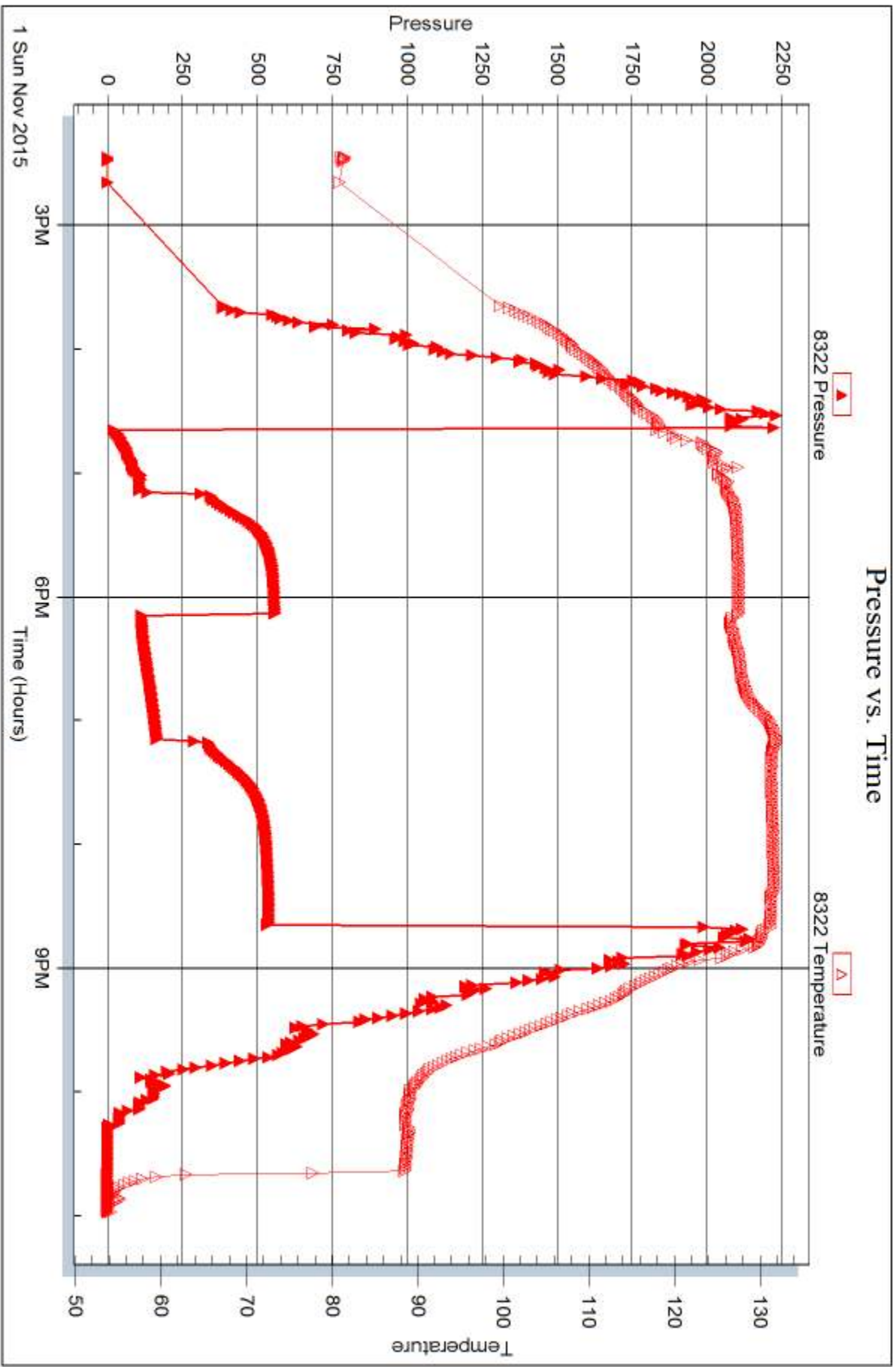


Serial #: 8322

Outside Murfin Drilling Co.

Sutton A #1-18

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 62791

Printed: 2015.11.04 @ 14:57:10



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300  
Wichita KS 67206

ATTN: Robert Hendrix

### **Sutton A #1-18**

#### **18-1s-35w RawlinsKS**

Start Date: 2015.11.02 @ 14:12:00

End Date: 2015.11.02 @ 23:22:49

Job Ticket #: 62792                      DST #: 5

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

Printed: 2015.11.04 @ 14:56:53



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62792

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2015.11.02 @ 14:12:00

## GENERAL INFORMATION:

Formation: **LKC " H - J "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:27:00

Time Test Ended: 23:22:49

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 78

**Interval: 4285.00 ft (KB) To 4376.00 ft (KB) (TVD)**

Total Depth: 4376.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3235.00 ft (KB)

3224.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 6752 Inside**

Press@RunDepth: 140.17 psig @ 4286.00 ft (KB)

Start Date: 2015.11.02

End Date:

2015.11.02

Start Time: 14:12:01

End Time:

23:22:49

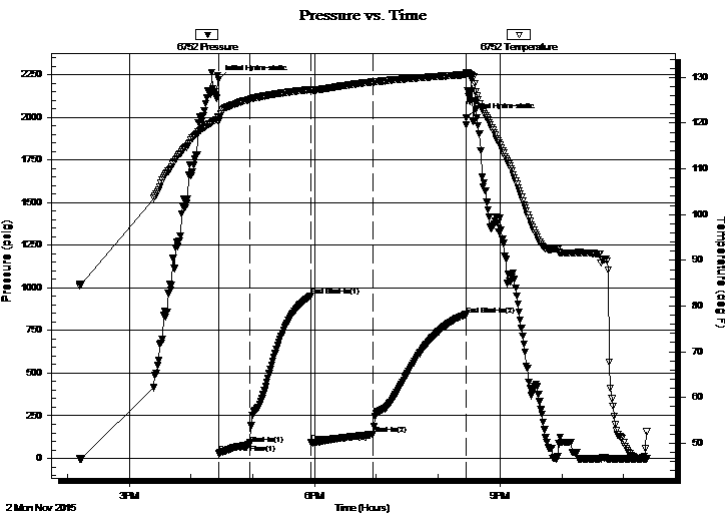
Capacity: 8000.00 psig

Last Calib.: 2015.11.02

Time On Btm: 2015.11.02 @ 16:26:50

Time Off Btm: 2015.11.02 @ 20:27:30

**TEST COMMENT:** 30 IF - 1/2" blow built to BoB @ 15 mins  
60 ISI - Surface blow started @ 3 mins built to 1"  
60 FF - Surface blow built to BoB @ 27 mins  
90 FSI - Surface blow started @ 3 mins built to 3" died back to 1 1/2"



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2221.87	121.18	Initial Hydro-static
1	27.16	120.28	Open To Flow (1)
31	81.43	125.18	Shut-In(1)
90	953.64	127.35	End Shut-In(1)
90	94.86	127.12	Open To Flow (2)
150	140.17	128.99	Shut-In(2)
240	842.90	130.59	End Shut-In(2)
241	1996.32	131.11	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM - 5%o - 95%M	0.30
60.00	OCM - 20%o - 80%M	0.30
189.00	GO - 40%G - 60%o	2.11
63.00	GO - 45%G - 55%o	0.88
30.00	GO - 20%G - 80%o	0.42
0.00	850 GIP	0.00

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita KS 67206  
ATTN: Robert Hendrix

**18-1s-35w RawlinsKS**  
**Sutton A #1-18**  
Job Ticket: 62792 **DST#: 5**  
Test Start: 2015.11.02 @ 14:12:00

## GENERAL INFORMATION:

Formation: <b>LKC "H - J"</b>	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Ryan Nichols
Time Tool Opened: 16:27:00	Unit No: 78
Time Test Ended: 23:22:49	
<b>Interval: 4285.00 ft (KB) To 4376.00 ft (KB) (TVD)</b>	Reference Elevations: 3235.00 ft (KB)
Total Depth: 4376.00 ft (KB) (TVD)	3224.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good	KB to GR/CF: 11.00 ft

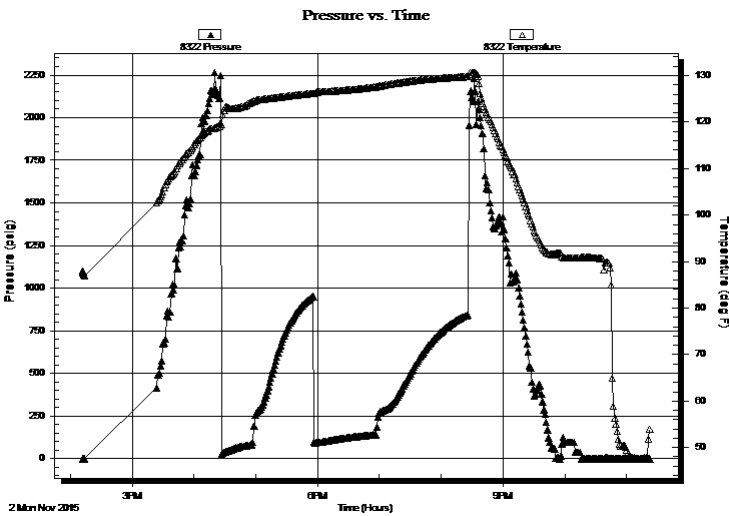
## Serial #: 8322

## Outside

Press@RunDepth: psig @ 4286.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2015.11.02	End Date: 2015.11.02
Start Time: 14:12:01	End Time: 23:22:49
	Last Calib.: 2015.11.02
	Time On Btm:
	Time Off Btm:

**TEST COMMENT:** 30 IF - 1/2" blow built to BoB @ 15 mins  
60 ISI - Surface blow started @ 3 mins built to 1"  
60 FF - Surface blow built to BoB @ 27 mins  
90 FSI - Surface blow started @ 3 mins built to 3" died back to 1 1/2"

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM - 5%o - 95%M	0.30
60.00	OCM - 20%o - 80%M	0.30
189.00	GO - 40%G - 60%o	2.11
63.00	GO - 45%G - 55%o	0.88
30.00	GO - 20%G - 80%o	0.42
0.00	850 GIP	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**

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62792

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2015.11.02 @ 14:12:00

## Tool Information

Drill Pipe:	Length: 4097.00 ft	Diameter: 3.80 inches	Volume: 57.47 bbl	Tool Weight: 2500.00 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: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 58.35 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4285.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	91.00 ft			
Tool Length:	118.00 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			4259.00	
Shut In Tool	5.00			4264.00	
Hydraulic tool	5.00			4269.00	
Jars	5.00			4274.00	
Safety Joint	2.00			4276.00	
Packer	5.00			4281.00	27.00 Bottom Of Top Packer
Packer	4.00			4285.00	
Stubb	1.00			4286.00	
Recorder	0.00	6752	Inside	4286.00	
Recorder	0.00	8322	Outside	4286.00	
Perforations	22.00			4308.00	
Change Over Sub	1.00			4309.00	
Drill Pipe	63.00			4372.00	
Change Over Sub	1.00			4373.00	
Bullnose	3.00			4376.00	91.00 Bottom Packers & Anchor

**Total Tool Length: 118.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co.

**18-1s-35w RawlinsKS**

250 N. Water STE 300  
Wichita KS 67206

**Sutton A #1-18**

Job Ticket: 62792

**DST#: 5**

ATTN: Robert Hendrix

Test Start: 2015.11.02 @ 14:12:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	OCM - 5%o - 95%M	0.295
60.00	OCM - 20%o - 80%M	0.295
189.00	GO - 40%G - 60%o	2.114
63.00	GO - 45%G - 55%o	0.884
30.00	GO - 20%G - 80%o	0.421
0.00	850 GIP	0.000

Total Length: 402.00 ft      Total Volume: 4.009 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: OIL API = 30 @ 70 DEG F = 29 COR 60 DEG F

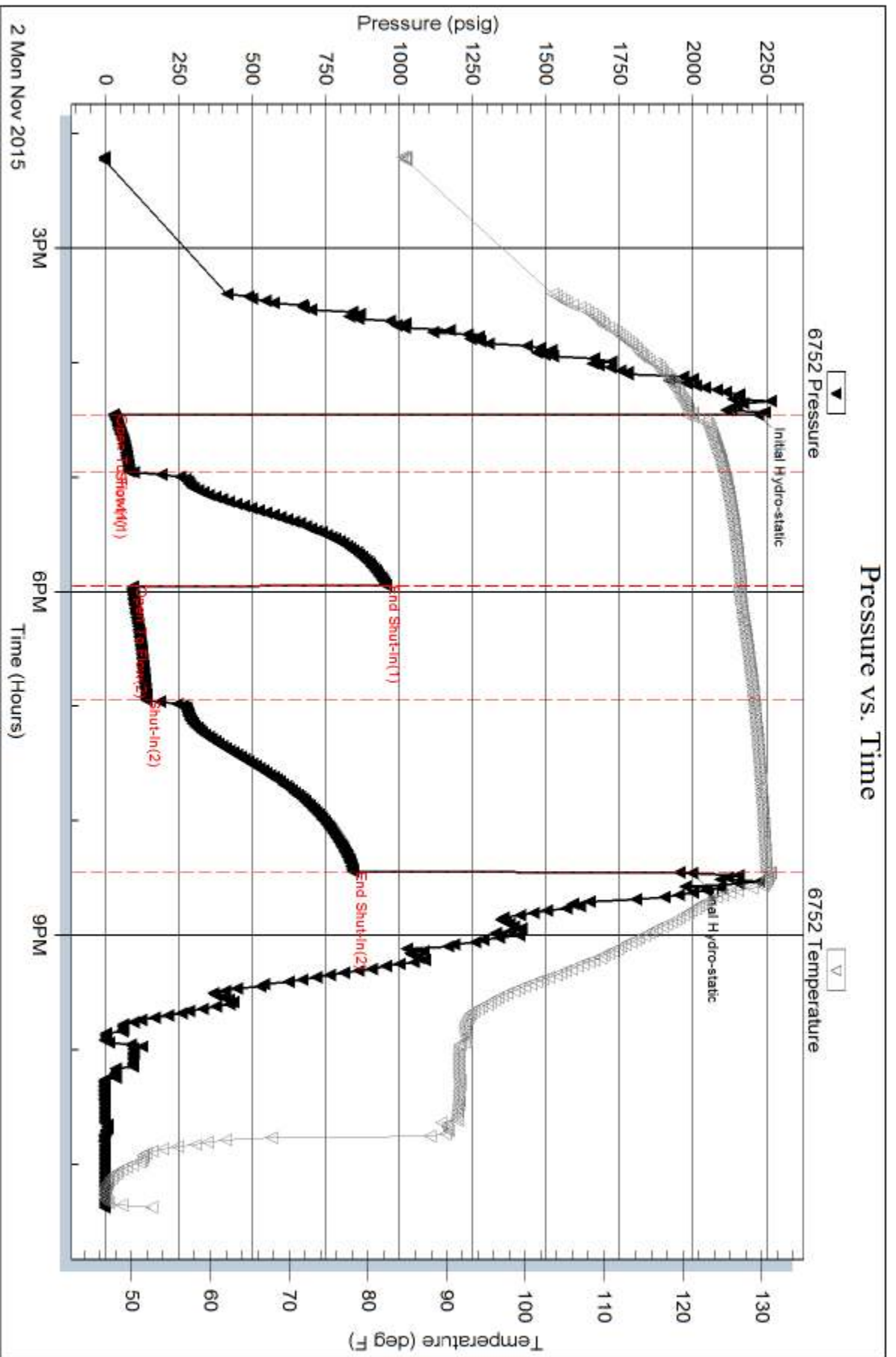
Serial #: 6752

Inside

Murfin Drilling Co.

Sutton A #1-18

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 62792

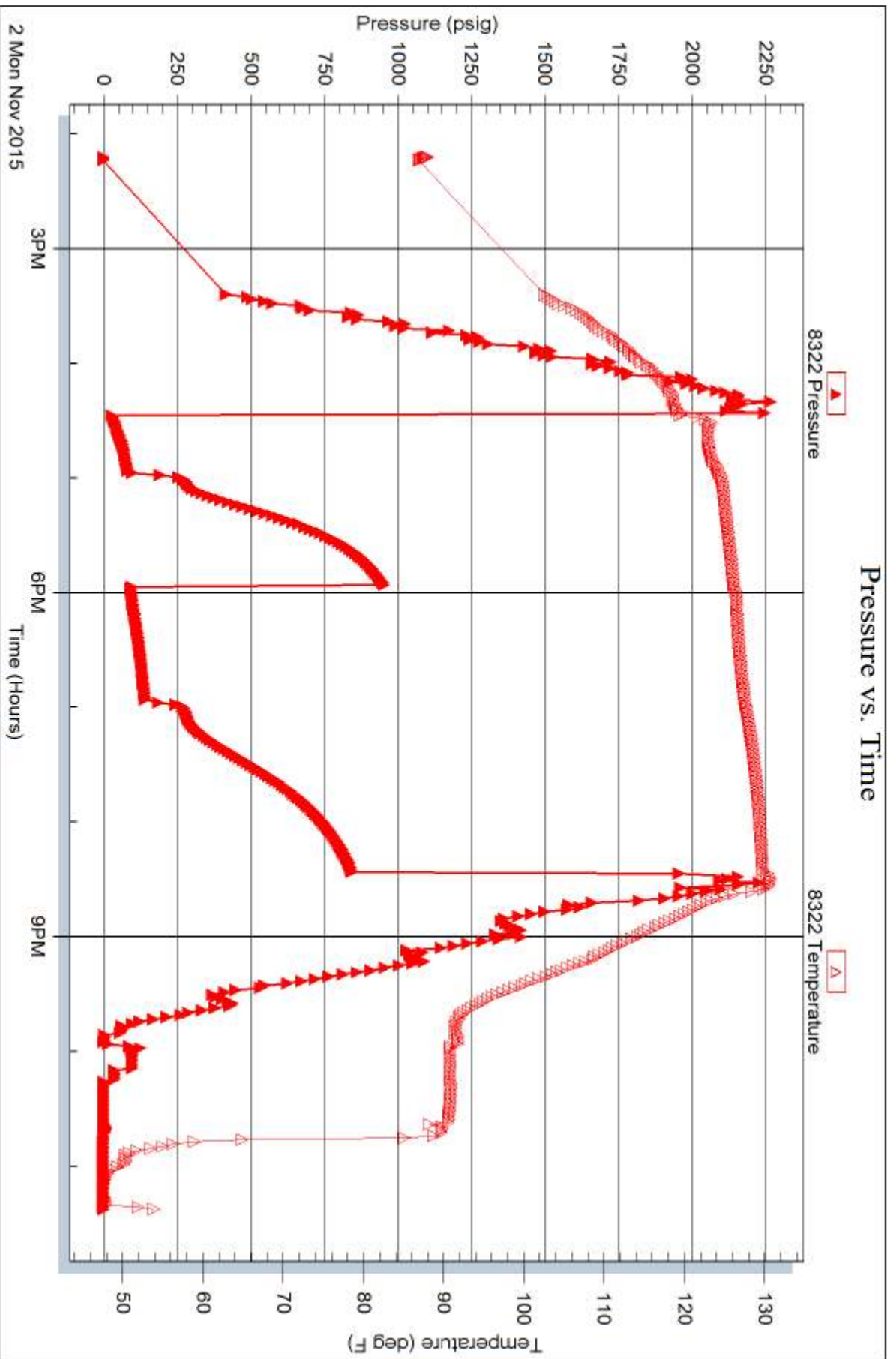
Printed: 2015.11.04 @ 14:56:55

Serial #: 8322

Outside Murfin Drilling Co.

Sutton A #1-18

DST Test Number: 5





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62787

Well Name & No. Sutton 'A' # 1-18 Test No. 1 Date 10/29/15  
 Company Martin Drilling Company Elevation 3235 KB 3225 GL  
 Address 250 N. Water STE 300 Wichita KS 67206  
 Co. Rep / Geo. Robert Hendrix Rig Martin # 2  
 Location: Sec. 18 Twp. 15 Rge. 35 W Co. Rawlins State KS

Interval Tested 3698-3748 Zone Tested Foreaker  
 Anchor Length 50' Drill Pipe Run 3497' Mud Wt. 8.9  
 Top Packer Depth 3693 Drill Collars Run 179' Vis 54  
 Bottom Packer Depth 3698 Wt. Pipe Run 0' WL 6.0  
 Total Depth 3748 Chlorides 700 ppm System LCM 8

Blow Description IF - 1/4" blow  
ISI - No return  
FF - No blow  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>4</u>	<u>Mud w/oil spots</u>	<u>Spots</u>		<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 4' BHT 121° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1814</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>06:00</u>
(B) First Initial Flow <u>13</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>06:40</u>
(C) First Final Flow <u>15</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>09:17</u>
(D) Initial Shut-In <u>1015</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>12:17</u>
(E) Second Initial Flow <u>17</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>14:00</u>
(F) Second Final Flow <u>19</u>	<input checked="" type="checkbox"/> Mileage <u>108 RT</u>	Comments
(G) Final Shut-In <u>930</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1789</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1483</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1483</u>	

Approved By \_\_\_\_\_

Our Representative [Signature]

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. **62789**

Well Name & No. Sutton A #1-18 Test No. 2 Date 10/30/15  
 Company Martin Drilling Company Elevation 3235 KB 3224 GL  
 Address 250 N. Water STE 300 Wichita KS 67206  
 Co. Rep / Geo. Robert Hendrix Rig Murfin # 2  
 Location: Sec. 18 Twp. 1S Rge. 35W Co. Rawlins State KS

Interval Tested 3858 - 3974 Zone Tested Statler  
 Anchor Length 116' Drill Pipe Run 3683' Mud Wt. 7.2  
 Top Packer Depth 3853 Drill Collars Run 179' Vis 56  
 Bottom Packer Depth 3858 Wt. Pipe Run 0' WL 6.8  
 Total Depth 3974 Chlorides 900 ppm System LCM 6

Blow Description IF - Surface built to 1/4"  
ISI - No return  
FF - No blow  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>Mud</u>			<u>100</u>	

Rec Total 5' BHT 120° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

- (A) Initial Hydrostatic 2008
- (B) First Initial Flow 18
- (C) First Final Flow 24
- (D) Initial Shut-In 507
- (E) Second Initial Flow 21
- (F) Second Final Flow 73
- (G) Final Shut-In 459
- (H) Final Hydrostatic 1977

- Test 1050
- Jars 250
- Safety Joint 75
- Circ Sub NC
- Hourly Standby \_\_\_\_\_
- Mileage 108 RT
- Sampler \_\_\_\_\_
- Straddle \_\_\_\_\_
- Shale Packer \_\_\_\_\_
- Extra Packer \_\_\_\_\_
- Extra Recorder \_\_\_\_\_
- Day Standby \_\_\_\_\_
- Accessibility \_\_\_\_\_
- Sub Total 1483

T-On Location 11:40  
 T-Started 11:47  
 T-Open 13:52  
 T-Pulled 18:52  
 T-Out 18:43

Comments \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1483  
 MP/DST Disc't \_\_\_\_\_

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

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

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1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62790

Well Name & No. Sutton 'A' #1-18 Test No. 3 Date 10/31/15  
 Company Martin Drilling Company Elevation 3235 KB 3224 GL  
 Address 250 N. Water STE 300 Wichita KS 67206  
 Co. Rep / Geo. Robert Hendrix Rig Martin #3  
 Location: Sec. 18 Twp. 15 Rge. 35W Co. Rawlins State KS

Interval Tested 4119-4228 Zone Tested LKC "A-D"  
 Anchor Length 109' Drill Pipe Run 3937' Mud Wt. 9.1  
 Top Packer Depth 4114 Drill Collars Run 179' Vis 51  
 Bottom Packer Depth 4119 Wt. Pipe Run 0' WL 6.0  
 Total Depth 4228 Chlorides 800 ppm System LCM 7  
 Blow Description IF - Surface blow built to 1"  
ISI - No return  
FF - No blow  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>7'</u>	<u>Mud</u>			<u>100%</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 7' BHT 125° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2116</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>022:00</u>
(B) First Initial Flow <u>14</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>22:19</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>00:12</u>
(D) Initial Shut-In <u>801</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>03:12</u>
(E) Second Initial Flow <u>25</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>05:09</u>
(F) Second Final Flow <u>29</u>	<input checked="" type="checkbox"/> Mileage <u>108KT</u>	Comments
(G) Final Shut-In <u>687</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2068</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1583</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1583</u>	

Approved By \_\_\_\_\_

Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

62791

NO.

Well Name & No. Sutton 'A' #1-18 Test No. 4 Date 11/1/15  
 Company Martin Drilling Company Elevation 3235 KB 3224 GL  
 Address 250 N. Water STE 300 Wichita KS 67206  
 Co. Rep / Geo. Robert Hendrix Rig Martin #2  
 Location: Sec. 18 Twp. 15 Rge. 35W Co. Rawlins State KS

Interval Tested 4221 - 4283 Zone Tested LKC "G"  
 Anchor Length 62' Drill Pipe Run 4032' Mud Wt. 9.1  
 Top Packer Depth 4216 Drill Collars Run 179' Vis 58  
 Bottom Packer Depth 4221 Wt. Pipe Run 0' WL 6.0  
 Total Depth 4283 Chlorides 700 ppm System LCM 8

Blow Description IF - Surface blow built to 9 1/2" mins  
ISL - No return  
FF - Surface blow started @ 1 min built to BoB @ 35 mins  
FSI - Surface blow started @ 6 mins died @ 50 mins

Rec	Feet of	%gas	%oil	%water	%mud
<u>25'</u>	<u>GO</u>	<u>10</u>	<u>90</u>		
<u>68'</u>	<u>OWCM</u>	<u>35</u>	<u>5</u>	<u>60</u>	
<u>63'</u>	<u>GOWCM</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>70</u>
<u>60'</u>	<u>GOWCM</u>	<u>5</u>	<u>5</u>	<u>40</u>	<u>50</u>
<u>120'</u>	<u>OMCW</u>		<u>2</u>	<u>78</u>	<u>20</u>

Rec Total 336' BHT 132° Gravity 36 API RW 985 @ 51 °F Chlorides 9,000 ppm

(A) Initial Hydrostatic 2171  Test 1150 T-On Location 14:00  
 (B) First Initial Flow 19  Jars 250 T-Started 14:27  
 (C) First Final Flow 106  Safety Joint 75 T-Open 16:39  
 (D) Initial Shut-In 556  Circ Sub NC T-Pulled 20:39  
 (E) Second Initial Flow 113  Hourly Standby \_\_\_\_\_ T-Out 22:58  
 (F) Second Final Flow 164  Mileage 108 RT Comments 157' GIP  
 (G) Final Shut-In 530  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1975  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1583

Initial Open 30  
 Initial Shut-In 20  
 Final Flow 60  
 Final Shut-In 90

Sub Total 1583

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62792

Well Name & No. Sutton 'A' # 1-18 Test No. 5 Date 11/2/15  
 Company Martin Drilling Company Elevation 3235 KB 3224 GL  
 Address 250 N. Water STE 300 Wichita KS 67206  
 Co. Rep / Geo. Robert Hendrix Rig Martin # 2  
 Location: Sec. 18 Twp. 15 Rge. 35W Co. Rawlins State KS

Interval Tested 4285 - 4376 Zone Tested 2KC "H-J"  
 Anchor Length 91' Drill Pipe Run 4097' Mud Wt. 9.3  
 Top Packer Depth 4280 Drill Collars Run 179' Vis 5.6  
 Bottom Packer Depth 4285 Wt. Pipe Run 0' WL 8.4  
 Total Depth 4376 Chlorides 1000 ppm System LCM 7

Blow Description IF-1/2" blow built to BoB @ 15 mins  
ISI - Surface blow started @ 3 mins built to 1"  
FF - Surface blow built to BoB @ 27 mins  
FST - Surface blow started @ 3 mins built to 3" died back to 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>30'</u>	<u>60</u>	<u>20</u>	<u>80</u>		
<u>63</u>	<u>60</u>	<u>45</u>	<u>55</u>		
<u>189'</u>	<u>60</u>	<u>40</u>	<u>60</u>		
<u>60</u>	<u>OCM</u>		<u>20</u>		<u>80</u>
<u>60</u>	<u>OCM</u>		<u>5</u>		<u>95</u>

Rec Total 402' BHT 131° Gravity 29 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2222  Test 1150 T-On Location 13:00  
 (B) First Initial Flow 27  Jars 250 T-Started 14:12  
 (C) First Final Flow 81  Safety Joint 75 T-Open 16:27  
 (D) Initial Shut-In 955  Circ Sub NC T-Pulled 20:27  
 (E) Second Initial Flow 95  Hourly Standby \_\_\_\_\_ T-Out 23:22  
 (F) Second Final Flow 140  Mileage 108 RT Comments 850' GIP  
 (G) Final Shut-In 843  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1996  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_

Initial Open 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 60  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 60  Day Standby \_\_\_\_\_ Total 1583  
 Final Shut-In 90  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1583

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