



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Larry Nicholson

### **Lundgren #3-36**

#### **36-14s30w Gove,KS**

Start Date: 2014.10.12 @ 12:50:00

End Date: 2014.10.12 @ 19:22:00

Job Ticket #: 57480                      DST #: 1

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

Printed: 2014.10.19 @ 13:45:52



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57480

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2014.10.12 @ 12:50:00

## GENERAL INFORMATION:

Formation: **LKC H-J**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 14:36:00

Time Test Ended: 19:22:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Justin Harris

Unit No: 58

**Interval: 3870.00 ft (KB) To 3958.00 ft (KB) (TVD)**

Reference Elevations: 2665.00 ft (KB)

Total Depth: 3958.00 ft (KB) (TVD)

2654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 6625 Outside**

Press@RunDepth: 40.97 psig @ 3939.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.12

End Date:

2014.10.12

Last Calib.: 2014.10.12

Start Time: 12:50:01

End Time:

19:22:00

Time On Btm: 2014.10.12 @ 14:35:30

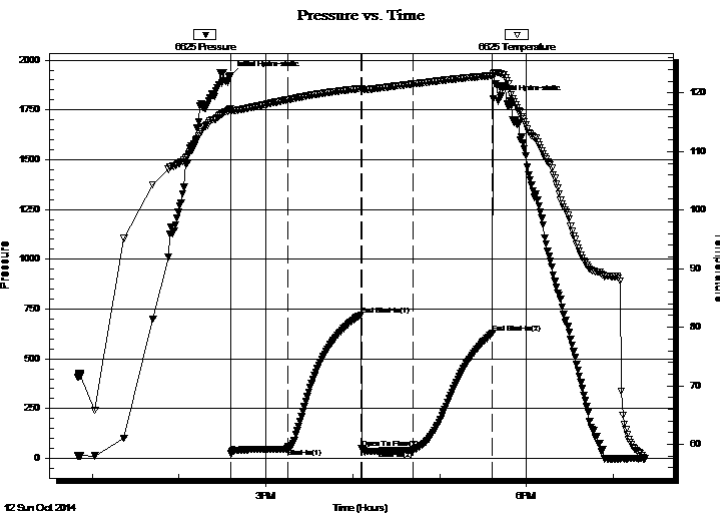
Time Off Btm: 2014.10.12 @ 17:37:00

TEST COMMENT: 30: Weak Blow Died in 22 min.

60: No Return.

30: No Blow .

60: No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1922.95	117.30	Initial Hydro-static
1	23.16	116.99	Open To Flow (1)
40	49.04	118.85	Shut-In(1)
90	721.16	120.77	End Shut-In(1)
91	48.44	120.65	Open To Flow (2)
126	40.97	121.55	Shut-In(2)
181	629.09	122.98	End Shut-In(2)
182	1804.16	123.28	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud w ith oil spots	0.05

## Gas Rates

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



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# DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57480

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2014.10.12 @ 12:50:00

## GENERAL INFORMATION:

Formation: **LKC H-J**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 14:36:00

Time Test Ended: 19:22:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Justin Harris

Unit No: 58

**Interval: 3870.00 ft (KB) To 3958.00 ft (KB) (TVD)**

Reference Elevations: 2665.00 ft (KB)

Total Depth: 3958.00 ft (KB) (TVD)

2654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

## Serial #: 8319

Press@RunDepth:                   psig @                   ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.12           End Date: 2014.10.12

Last Calib.: 2014.10.12

Start Time: 12:50:01           End Time: 19:22:30

Time On Btm:

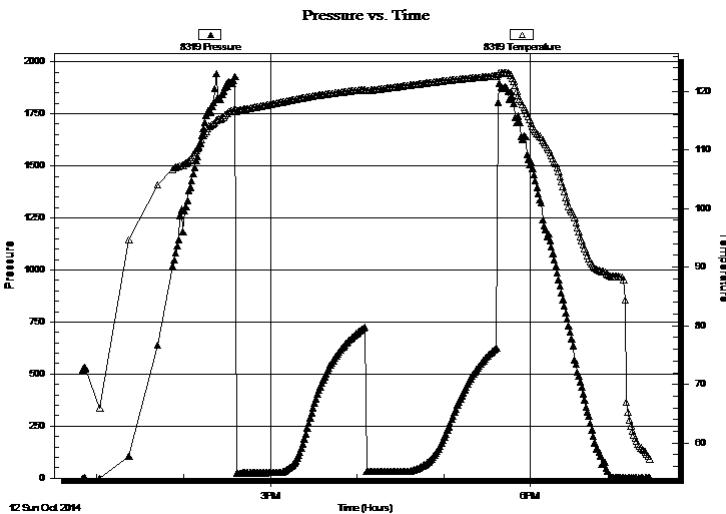
Time Off Btm:

**TEST COMMENT:** 30: Weak Blow Died in 22 min.

60: No Return.

30: No Blow .

60: No Return.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud w ith oil spots	0.05

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57480

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2014.10.12 @ 12:50:00

## Tool Information

Drill Pipe:	Length: 3578.80 ft	Diameter: 3.80 inches	Volume: 50.20 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.20 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	3870.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	88.00 ft			
Tool Length:	115.00 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			3844.00	
Shut In Tool	5.00			3849.00	
Hydraulic tool	5.00			3854.00	
Jars	5.00			3859.00	
Safety Joint	2.00			3861.00	
Packer	4.00			3865.00	27.00 Bottom Of Top Packer
Packer	5.00			3870.00	
Stubb	1.00			3871.00	
Perforations	2.00			3873.00	
Change Over Sub	1.00			3874.00	
Drill Pipe	64.00			3938.00	
Change Over Sub	1.00			3939.00	
Recorder	0.00	6625	Outside	3939.00	
Recorder	0.00	8679	Inside	3939.00	
Perforations	15.00			3954.00	
Bullnose	4.00			3958.00	88.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>115.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57480

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2014.10.12 @ 12:50:00

### 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: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.95 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud w ith oil spots	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

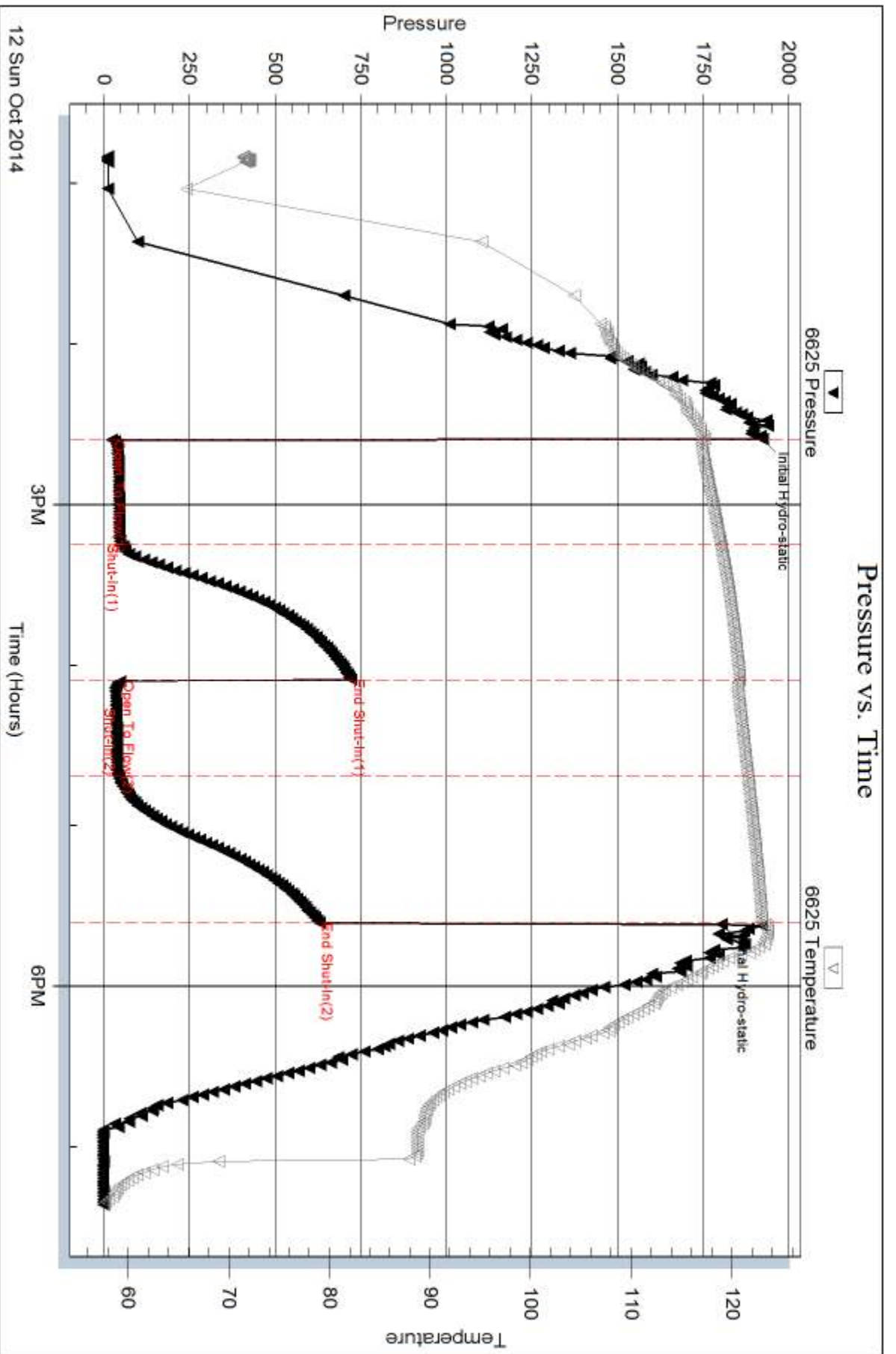
Recovery Comments:

Serial #: 6625

Outside Murfin Drilling Co, Inc

Lundgren #3-36

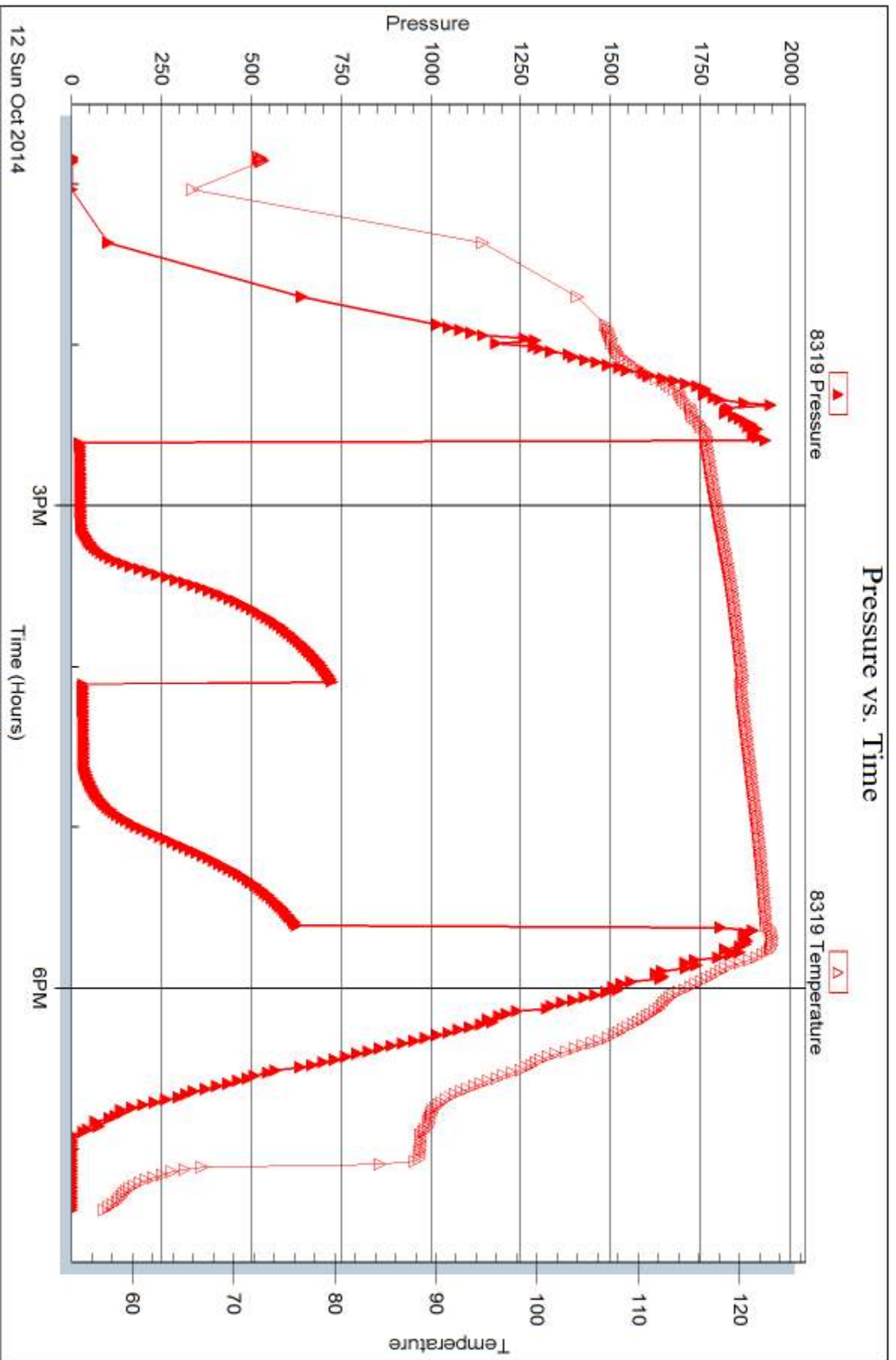
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 57480

Printed: 2014, 10, 19 @ 13:45:53





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Larry Nicholson

### **Lundgren #3-36**

#### **36-14s30w Gove,KS**

Start Date: 2014.10.13 @ 20:38:00

End Date: 2014.10.14 @ 04:37:30

Job Ticket #: 57481                      DST #: 2

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

Printed: 2014.10.19 @ 13:45:16





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57481

**DST#: 2**

ATTN: Larry Nicholson

Test Start: 2014.10.13 @ 20:38:00

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 22:51:00

Time Test Ended: 04:37:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Justin Harris

Unit No: 58

**Interval: 4138.00 ft (KB) To 4203.00 ft (KB) (TVD)**

Reference Elevations: 2665.00 ft (KB)

Total Depth: 4203.00 ft (KB) (TVD)

2654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 6625 Outside**

Press@RunDepth: 84.19 psig @ 4174.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.13

End Date:

2014.10.14

Last Calib.: 2014.10.14

Start Time: 20:38:01

End Time:

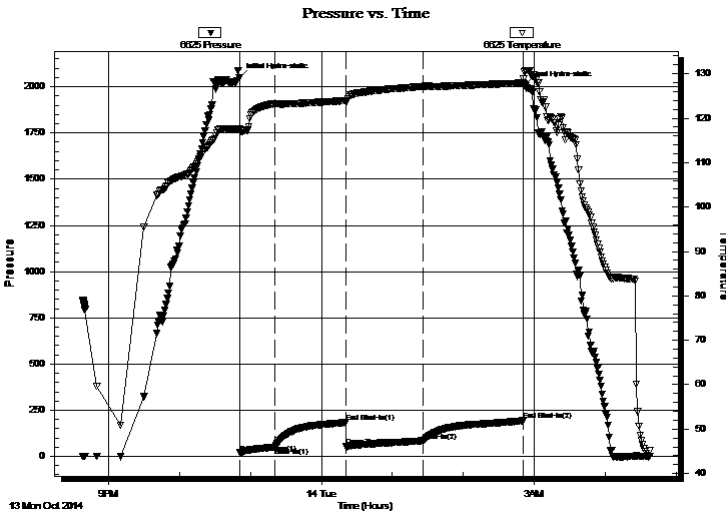
04:37:30

Time On Btm: 2014.10.13 @ 22:50:30

Time Off Btm: 2014.10.14 @ 02:51:00

TEST COMMENT: 30: B.O.B in 21 mins  
60: No Return.  
60: B.O.B in 4 mins  
90: Weak surface blow.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2049.09	117.58	Initial Hydro-static
1	19.77	117.12	Open To Flow (1)
30	51.09	123.28	Shut-In(1)
90	183.33	123.95	End Shut-In(1)
91	54.40	123.91	Open To Flow (2)
156	84.19	127.18	Shut-In(2)
240	193.01	127.90	End Shut-In(2)
241	2004.81	128.80	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
189.00	gocm 10%g 20%o 70%m	0.93

## Gas Rates

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

\* Recovery from multiple tests



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TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

ATTN: Larry Nicholson

Job Ticket: 57481

**DST#: 2**

Test Start: 2014.10.13 @ 20:38:00

**GENERAL INFORMATION:**

Formation: **Pawnee**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 22:51:00

Time Test Ended: 04:37:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Justin Harris

Unit No: 58

**Interval: 4138.00 ft (KB) To 4203.00 ft (KB) (TVD)**

Total Depth: 4203.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2665.00 ft (KB)

2654.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8319**

Press@RunDepth: psig @ ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.13

End Date:

2014.10.14

Last Calib.:

2014.10.14

Start Time: 20:38:01

End Time:

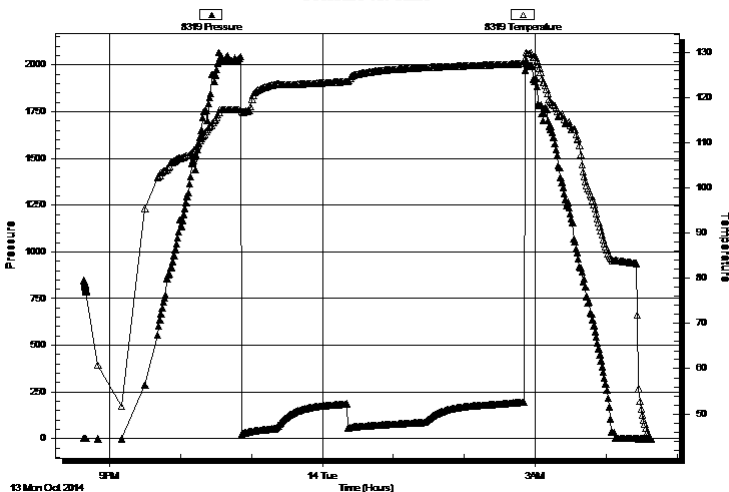
04:37:30

Time On Btm:

Time Off Btm:

TEST COMMENT: 30: B.O.B in 21 mins  
60: No Return.  
60: B.O.B in 4 mins  
90: Weak surface blow.

Pressure vs. Time



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
189.00	gocm 10%g 20%o 70%m	0.93

**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, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57481

**DST#: 2**

ATTN: Larry Nicholson

Test Start: 2014.10.13 @ 20:38:00

## Tool Information

Drill Pipe:	Length: 3859.80 ft	Diameter: 3.80 inches	Volume: 54.14 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.20 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 55.50 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	4138.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.00 ft			
Tool Length:	92.00 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			4112.00	
Shut In Tool	5.00			4117.00	
Hydraulic tool	5.00			4122.00	
Jars	5.00			4127.00	
Safety Joint	2.00			4129.00	
Packer	4.00			4133.00	27.00 Bottom Of Top Packer
Packer	5.00			4138.00	
Stubb	1.00			4139.00	
Perforations	2.00			4141.00	
Change Over Sub	1.00			4142.00	
Drill Pipe	31.00			4173.00	
Change Over Sub	1.00			4174.00	
Recorder	0.00	6625	Outside	4174.00	
Recorder	0.00	8679	Inside	4174.00	
Perforations	25.00			4199.00	
Bullnose	4.00			4203.00	65.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>92.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57481

**DST#: 2**

ATTN: Larry Nicholson

Test Start: 2014.10.13 @ 20:38:00

### 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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.36 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
189.00	gocm 10%g 20%o 70%m	0.929

Total Length: 189.00 ft

Total Volume: 0.929 bbl

Num Fluid Samples: 0

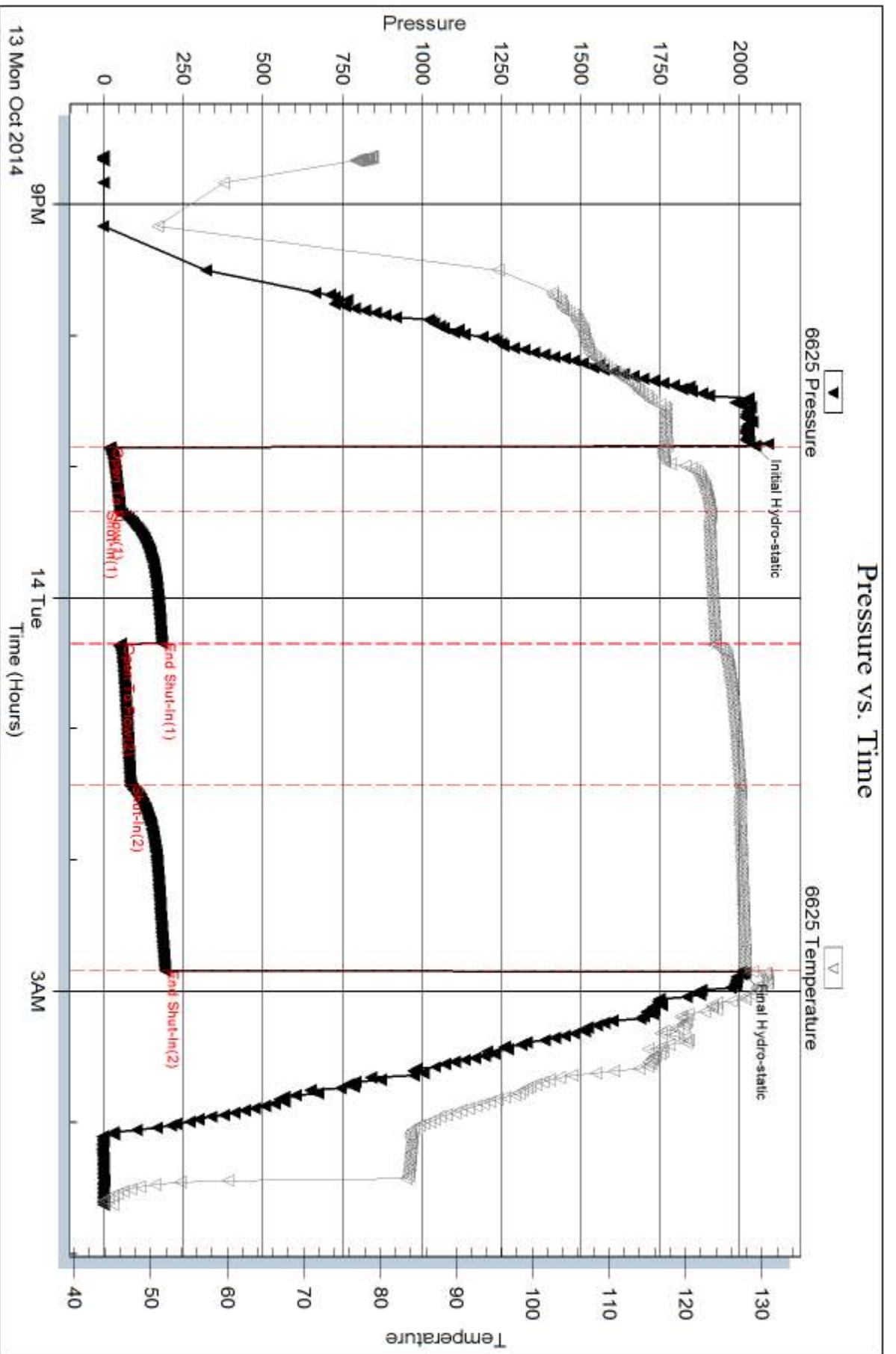
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Larry Nicholson

### **Lundgren #3-36**

#### **36-14s30w Gove,KS**

Start Date: 2014.10.14 @ 12:12:00

End Date: 2014.10.14 @ 20:08:00

Job Ticket #: 57482                      DST #: 3

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

Printed: 2014.10.19 @ 13:31:59



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57482

**DST#: 3**

ATTN: Larry Nicholson

Test Start: 2014.10.14 @ 12:12:00

## GENERAL INFORMATION:

Formation: **Ft. Scott**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 13:51:30

Time Test Ended: 20:08:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Justin Harris

Unit No: 58

**Interval: 4194.00 ft (KB) To 4239.00 ft (KB) (TVD)**

Reference Elevations: 2665.00 ft (KB)

Total Depth: 4239.00 ft (KB) (TVD)

2654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 6625 Outside**

Press@RunDepth: 213.90 psig @ 4235.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.14

End Date:

2014.10.14

Last Calib.: 2014.10.14

Start Time: 12:12:01

End Time:

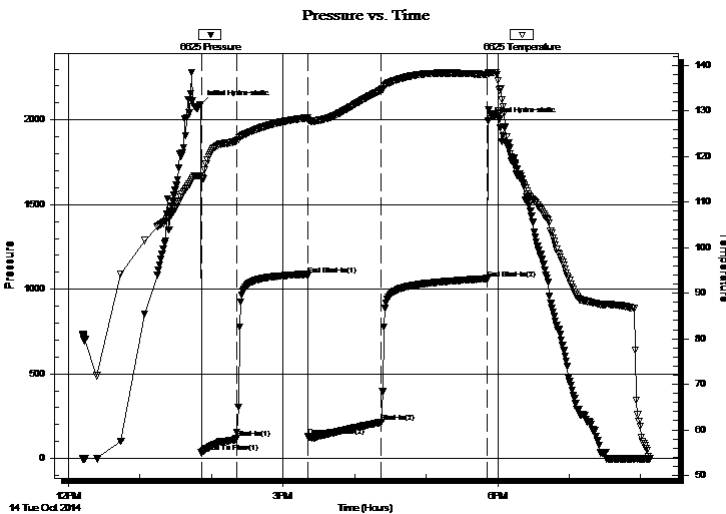
20:08:00

Time On Btm: 2014.10.14 @ 13:51:00

Time Off Btm: 2014.10.14 @ 17:52:00

TEST COMMENT: 30: B.O.B in 5 mins.  
60: Weak surface blow 1/4".  
30: B.O.B in 5 mins.  
60: Weak surface blow to 1/4".

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2090.12	115.79	Initial Hydro-static
1	33.48	115.35	Open To Flow (1)
30	118.89	123.42	Shut-In(1)
90	1081.12	128.52	End Shut-In(1)
90	131.76	128.10	Open To Flow (2)
152	213.90	134.59	Shut-In(2)
241	1062.61	137.97	End Shut-In(2)
241	1991.78	138.22	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
283.00	gmco 20%g 10%m 70%o	1.45
212.00	Clean oil 20%g 80%o	2.97
0.00	GIP 2780'	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, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57482

**DST#: 3**

ATTN: Larry Nicholson

Test Start: 2014.10.14 @ 12:12:00

## Tool Information

Drill Pipe:	Length: 3921.80 ft	Diameter: 3.80 inches	Volume: 55.01 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.20 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 84000.00 lb
			<u>Total Volume: 56.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4196.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	43.00 ft			
Tool Length:	70.00 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			4170.00	
Shut In Tool	5.00			4175.00	
Hydraulic tool	5.00			4180.00	
Jars	5.00			4185.00	
Safety Joint	2.00			4187.00	
Packer	4.00			4191.00	27.00 Bottom Of Top Packer
Packer	5.00			4196.00	
Stubb	1.00			4197.00	
Perforations	5.00			4202.00	
Change Over Sub	1.00			4203.00	
Drill Pipe	31.00			4234.00	
Change Over Sub	1.00			4235.00	
Recorder	0.00	6625	Outside	4235.00	
Recorder	0.00	8679	Inside	4235.00	
Bullnose	4.00			4239.00	43.00 Bottom Packers & Anchor

**Total Tool Length: 70.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57482

**DST#: 3**

ATTN: Larry Nicholson

Test Start: 2014.10.14 @ 12:12:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbl

Water Loss: 5.96 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
283.00	gmco 20%g 10%m 70%o	1.454
212.00	Clean oil 20%g 80%o	2.974
0.00	GIP 2780'	0.000

Total Length: 495.00 ft

Total Volume: 4.428 bbl

Num Fluid Samples: 0

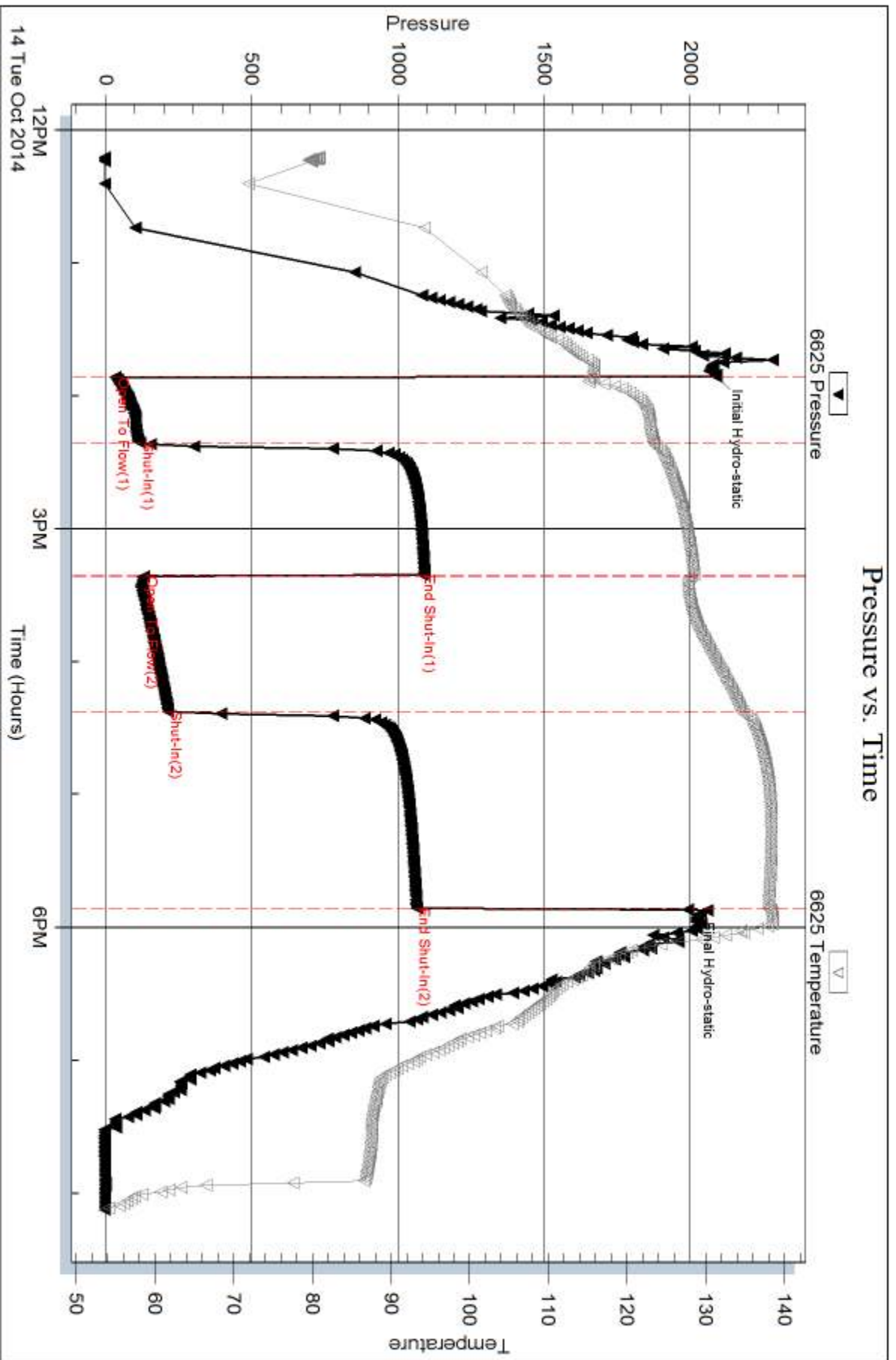
Num Gas Bombs: 0

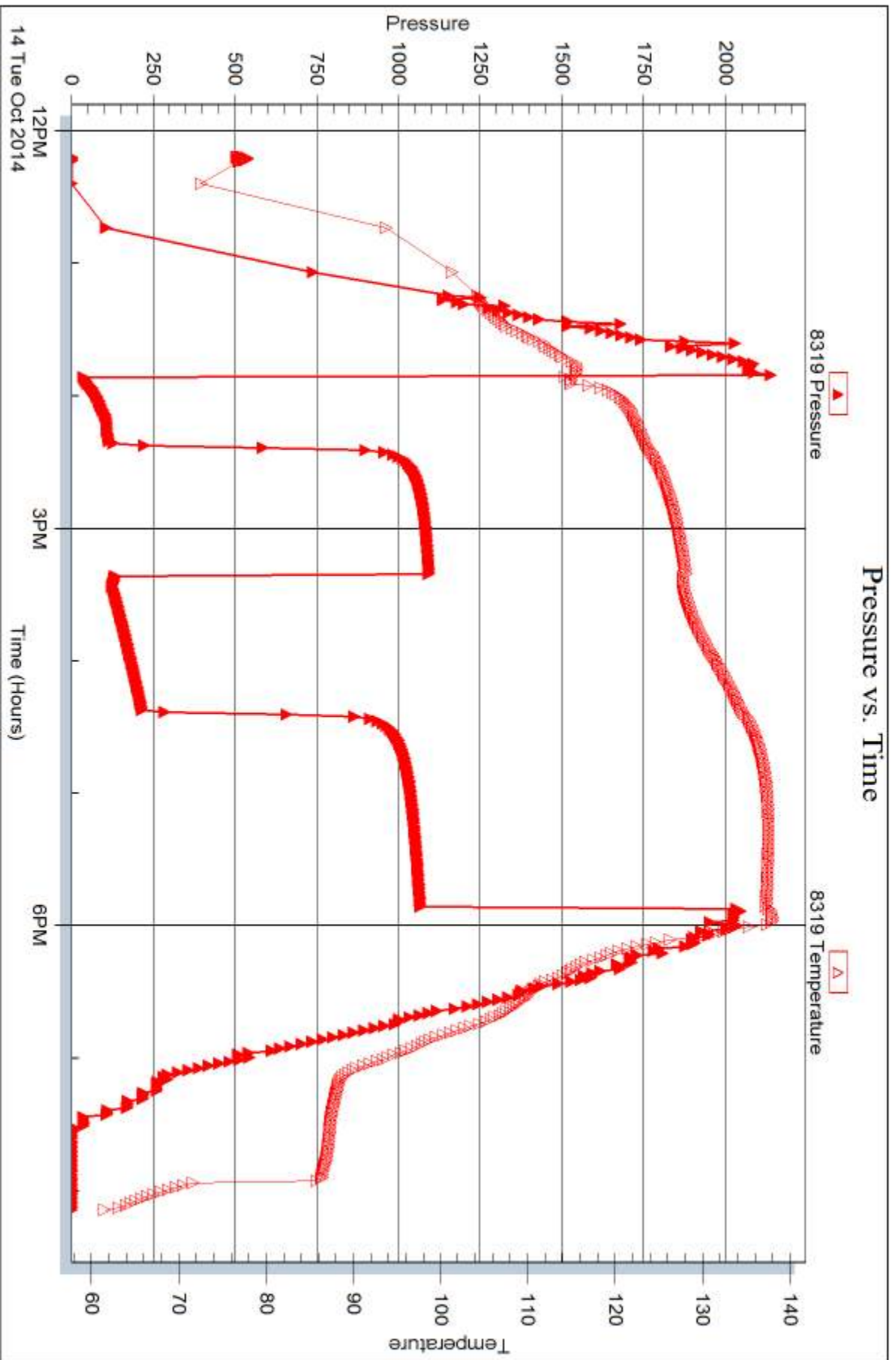
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Larry Nicholson

### **Lundgren #3-36**

#### **36-14s30w Gove,KS**

Start Date: 2014.10.15 @ 06:56:32

End Date: 2014.10.15 @ 13:29:01

Job Ticket #: 57358                      DST #: 4

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

Printed: 2014.10.19 @ 13:30:14



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

**36-14s30w Gove, KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57358

**DST#: 4**

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 06:56:32

## GENERAL INFORMATION:

Formation: **Ck Johnson**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 08:38:01

Time Test Ended: 13:29:01

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 58

**Interval: 4245.00 ft (KB) To 4298.00 ft (KB) (TVD)**

Reference Elevations: 2665.00 ft (KB)

Total Depth: 4298.00 ft (KB) (TVD)

2654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 6625 Outside**

Press@RunDepth: 26.87 psig @ 4279.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.15

End Date:

2014.10.15

Last Calib.: 2014.10.15

Start Time: 06:56:32

End Time:

13:29:01

Time On Btm: 2014.10.15 @ 08:35:31

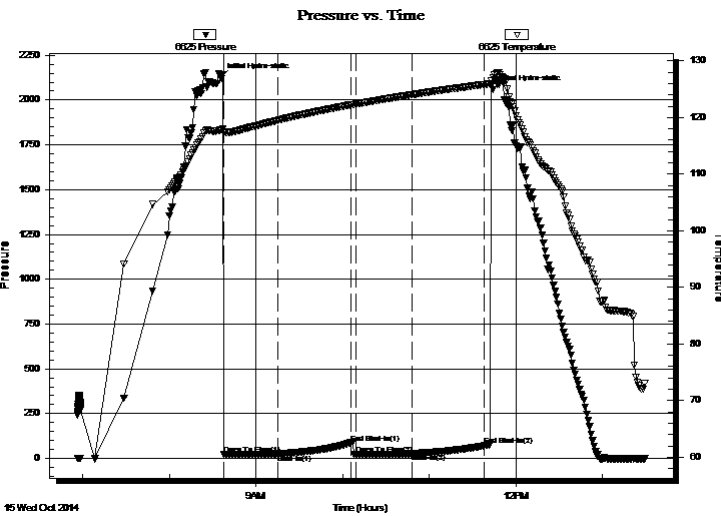
Time Off Btm: 2014.10.15 @ 11:44:01

TEST COMMENT: IF: Weak blow 1/2 "

IS: No return

FF: No blow

FS: No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2126.11	117.85	Initial Hydro-static
3	22.01	117.43	Open To Flow (1)
40	25.55	119.50	Shut-In(1)
90	87.21	122.24	End Shut-In(1)
94	23.75	122.39	Open To Flow (2)
133	26.87	124.04	Shut-In(2)
183	70.94	125.84	End Shut-In(2)
189	2060.14	127.02	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud w ith oil spots	0.01

\* 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, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57358

**DST#: 4**

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 06:56:32

## Tool Information

Drill Pipe:	Length: 3957.00 ft	Diameter: 3.80 inches	Volume: 55.51 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 276.20 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	70000.00 lb
Drill Pipe Above KB:	15.20 ft			Final	70000.0 lb
Depth to Top Packer:	4245.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	53.00 ft				
Tool Length:	80.00 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			4219.00	
Shut In Tool	5.00			4224.00	
Hydraulic tool	5.00			4229.00	
Jars	5.00			4234.00	
Safety Joint	2.00			4236.00	
Packer	4.00			4240.00	27.00 Bottom Of Top Packer
Packer	5.00			4245.00	
Stubb	1.00			4246.00	
Change Over Sub	1.00			4247.00	
Drill Pipe	31.00			4278.00	
Change Over Sub	1.00			4279.00	
Recorder	0.00	6625	Outside	4279.00	
Recorder	0.00	8679	Inside	4279.00	
Perforations	15.00			4294.00	
Bullnose	4.00			4298.00	53.00 Bottom Packers & Anchor

**Total Tool Length: 80.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57358

**DST#: 4**

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 06:56:32

### 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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2300.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	mud w ith oil spots	0.010

Total Length: 2.00 ft      Total Volume: 0.010 bbl

Num Fluid Samples: 0

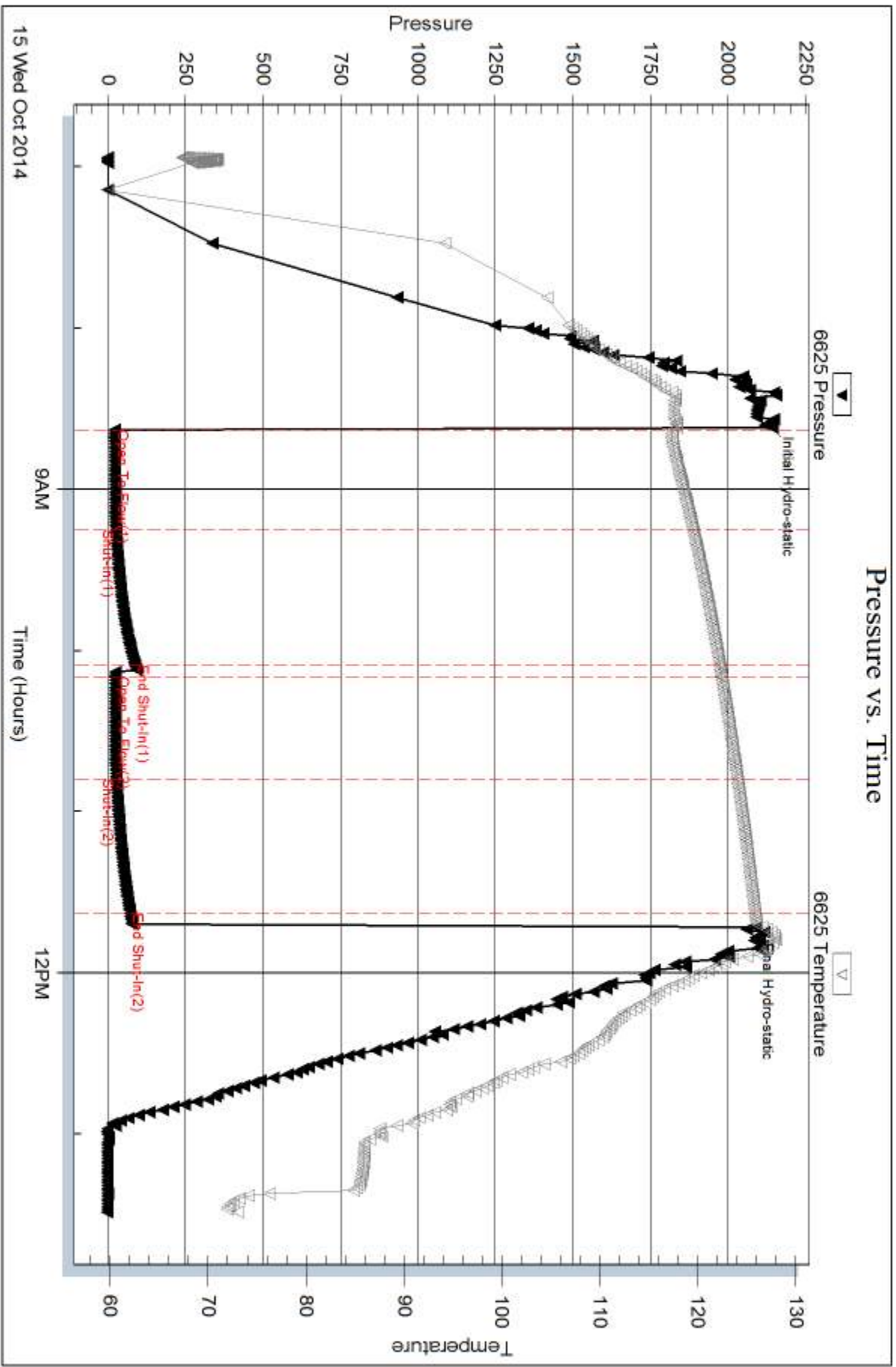
Num Gas Bombs: 0

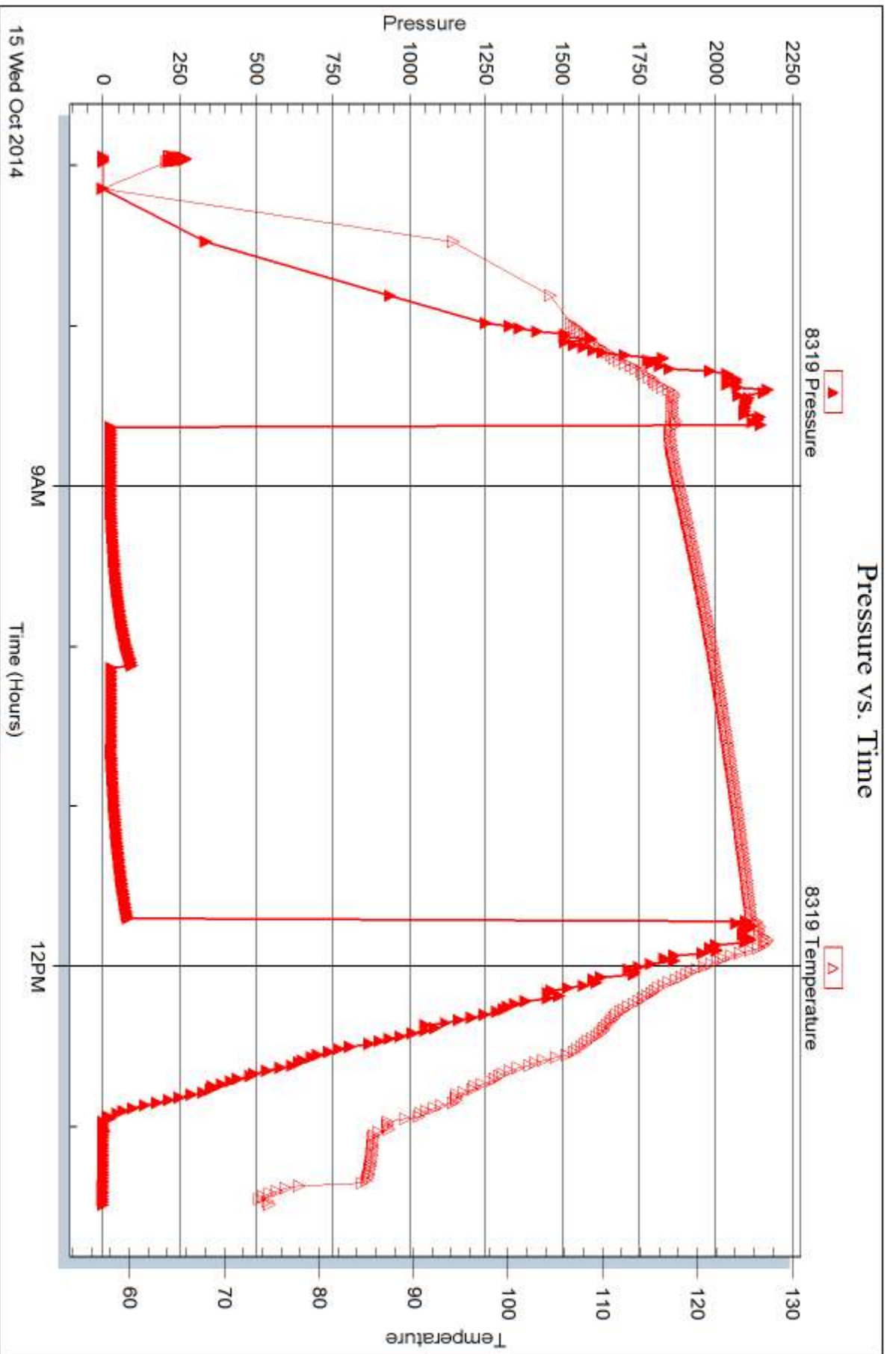
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Larry Nicholson

### **Lundgren #3-36**

#### **36-14s30w Gove,KS**

Start Date: 2014.10.15 @ 22:43:11

End Date: 2014.10.16 @ 06:02:40

Job Ticket #: 57359                      DST #: 5

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

Printed: 2014.10.19 @ 13:29:34



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57359

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 22:43:11

## GENERAL INFORMATION:

Formation: **Miss / Dol**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 00:52:40

Time Test Ended: 06:02:40

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 58

**Interval: 4322.00 ft (KB) To 4338.00 ft (KB) (TVD)**

Reference Elevations: 2665.00 ft (KB)

Total Depth: 4338.00 ft (KB) (TVD)

2654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 6625 Outside**

Press@RunDepth: 63.56 psig @ 4323.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.15

End Date:

2014.10.16

Last Calib.: 2014.10.16

Start Time: 22:43:11

End Time:

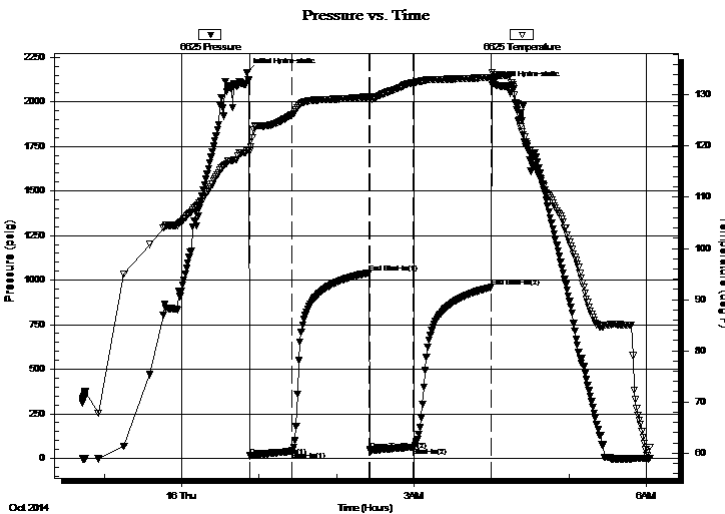
06:02:40

Time On Btm: 2014.10.16 @ 00:50:40

Time Off Btm: 2014.10.16 @ 04:00:40

TEST COMMENT: 30/ IF: 1/2 blow  
60/ IS: No return  
30/ FF: No blow  
60/ FSI: No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2165.15	119.08	Initial Hydro-static
2	14.58	119.01	Open To Flow (1)
35	39.07	126.14	Shut-In(1)
95	1040.69	129.65	End Shut-In(1)
96	43.21	129.58	Open To Flow (2)
129	63.56	132.38	Shut-In(2)
189	959.53	133.46	End Shut-In(2)
190	2094.05	134.41	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	s c m & o 5% m 95% o	0.31
63.00	c m & o 80% m 20% o	0.31

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57359

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 22:43:11

## GENERAL INFORMATION:

Formation: **Miss / Dol**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 00:52:40

Time Test Ended: 06:02:40

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 58

**Interval: 4322.00 ft (KB) To 4338.00 ft (KB) (TVD)**

Reference Elevations: 2665.00 ft (KB)

Total Depth: 4338.00 ft (KB) (TVD)

2654.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 8319 Inside**

Press@RunDepth: psig @ 4323.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.15

End Date:

2014.10.16

Last Calib.:

2014.10.16

Start Time: 22:43:57

End Time:

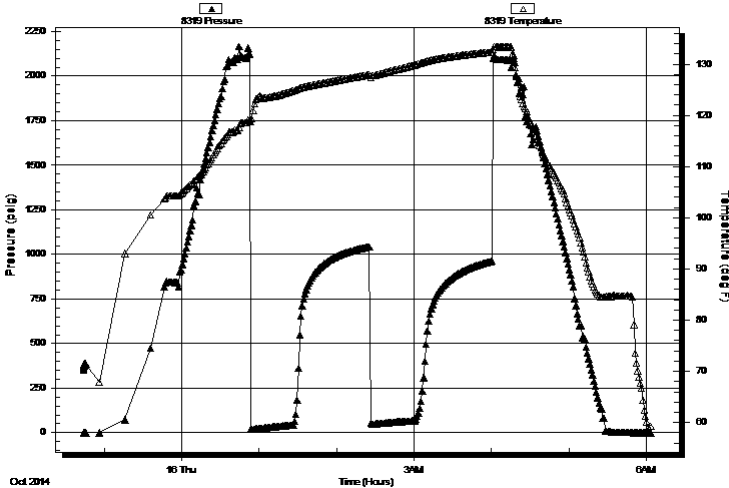
06:03:26

Time On Btm:

Time Off Btm:

TEST COMMENT: 30/ IF: 1/2 blow  
60/ IS: No return  
30/ FF: No blow  
60/ FSI: No return

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	s c m & o 5% m 95% o	0.31
63.00	c m & o 80% m 20% o	0.31

## 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, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57359

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 22:43:11

## Tool Information

Drill Pipe:	Length: 4044.00 ft	Diameter: 3.80 inches	Volume: 56.73 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 276.20 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	71000.00 lb
Drill Pipe Above KB:	24.20 ft			Final	lb
Depth to Top Packer:	4322.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	16.00 ft				
Tool Length:	42.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4301.00	
Hydraulic tool	5.00			4306.00	
Jars	5.00			4311.00	
Safety Joint	2.00			4313.00	
Packer	4.00			4317.00	26.00 Bottom Of Top Packer
Packer	5.00			4322.00	
Stubb	1.00			4323.00	
Recorder	0.00	6625	Outside	4323.00	
Recorder	0.00	8319	Inside	4323.00	
Perforations	11.00			4334.00	
Bullnose	4.00			4338.00	16.00 Bottom Packers & Anchor

**Total Tool Length: 42.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co, Inc

**36-14s30w Gove,KS**

250 N Water STE 300  
Wichita KS 67202

**Lundgren #3-36**

Job Ticket: 57359

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2014.10.15 @ 22:43:11

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

20 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbf

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
63.00	s c m & o 5% m 95% o	0.310
63.00	c m & o 80% m 20% o	0.310

Total Length: 126.00 ft

Total Volume: 0.620 bbf

Num Fluid Samples: 0

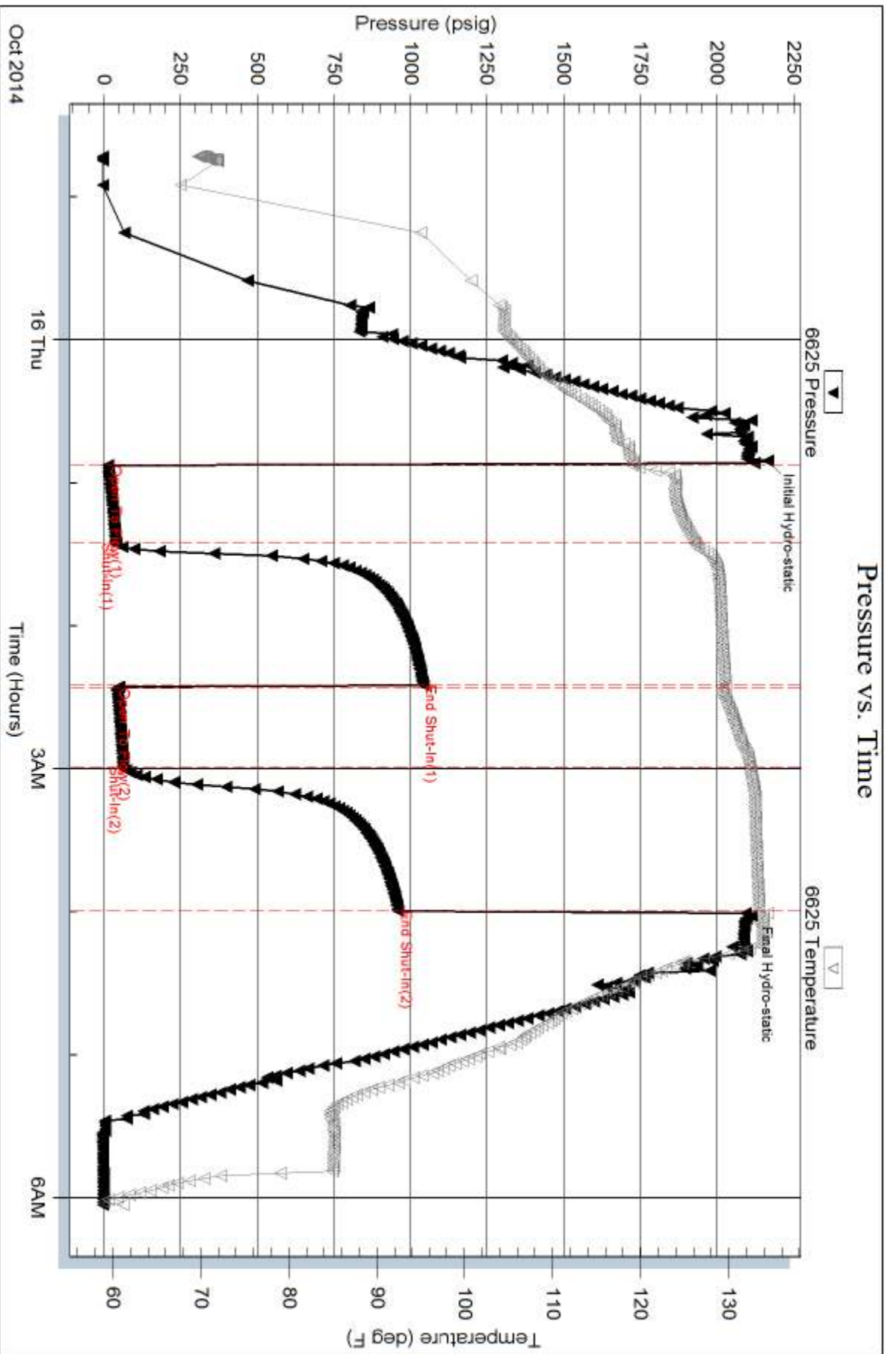
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



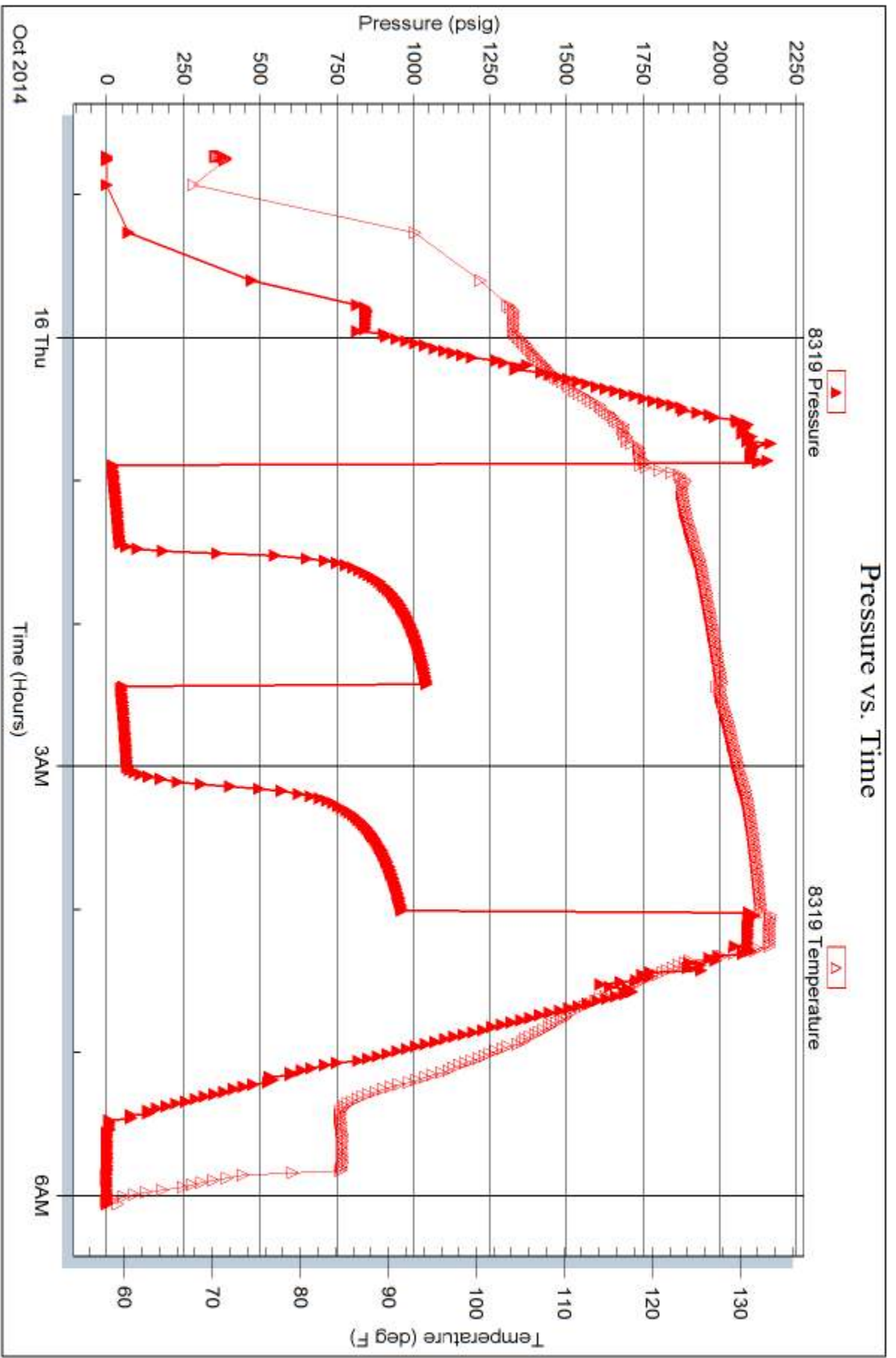
Serial #: 8319

Inside

Murfin Drilling Co, Inc

Lundgren #3-36

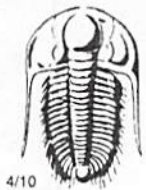
DST Test Number: 5



Tribble Testing, Inc

Ref. No: 57359

Printed: 2014, 10, 19 @ 13:29:35



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 57480

Well Name & No. Lundgren # 3-36 Test No. 1 Date 10-12-14  
 Company Morfia Drilling Company Inc. Elevation 2665 KB \_\_\_\_\_ GL \_\_\_\_\_  
 Address 250 N Water STE 300 Wichita Ks 67202  
 Co. Rep / Geo. Larry Nicholson Rig Morfia 21  
 Location: Sec. 36 Twp. 14s Rge. 30w Co. Gove State KS

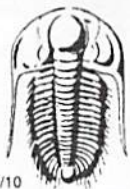
Interval Tested 3870 3958 Zone Tested Lansing H-J-  
 Anchor Length 88 Drill Pipe Run 3578.8 Mud Wt. 9.0  
 Top Packer Depth 3866 Drill Collars Run 276.2 Vis 59  
 Bottom Packer Depth 3870 Wt. Pipe Run Ø WL 6.0  
 Total Depth 3958 Chlorides 2500 ppm System LCM 5  
 Blow Description 30 Weak Blow Died in 22 min  
60 No Return  
30 No Blow  
60 No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>mud oil spots</u>	<u>1</u>			<u>99%</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 10 BHT 123 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>1923</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>12:00</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:50</u>
(C) First Final Flow <u>49</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>14:36</u>
(D) Initial Shut-In <u>721</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>17:36</u>
(E) Second Initial Flow <u>48</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>19:22</u>
(F) Second Final Flow <u>41</u>	<input checked="" type="checkbox"/> Mileage <u>78 BT</u> 120.90	Comments _____
(G) Final Shut-In <u>429</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>1804</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1595.90</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1595.90</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. 57481

Well Name & No. Lundgren # 3-36 Test No. 2 Date 10-13-14  
 Company Murfin Drilling Company Inc Elevation 2665 KB 2654 GL  
 Address 250 N Water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Larry Nicholson Rig Murfin #21  
 Location: Sec. 36 Twp. 14S Rge. 30W Co. Gove State KS

Interval Tested 4138 4203 Zone Tested Pawnee  
 Anchor Length 65 Drill Pipe Run 3859.8 Mud Wt. 9.2  
 Top Packer Depth 4134 Drill Collars Run 276.2 Vis 51  
 Bottom Packer Depth 4138 Wt. Pipe Run 8 WL 6.4  
 Total Depth 4203 Chlorides 2000 ppm System LCM 5  
 Blow Description 30 B.O.B in 21 min  
60 No Return  
60 B.O.B in 4 min  
90

Rec	Feet of	%gas	%oil	%water	%mud
<u>189</u>	<u>90cm</u>	<u>10</u>	<u>20</u>	<u>70</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

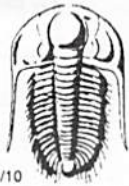
Rec Total 189 BHT 128 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2049</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>20:10</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>20:38</u>
(C) First Final Flow <u>51</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>22:50</u>
(D) Initial Shut-In <u>183</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>02:50</u>
(E) Second Initial Flow <u>54</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>04:37</u>
(F) Second Final Flow <u>84</u>	<input checked="" type="checkbox"/> Mileage <u>78 BT</u> 120.90	Comments
(G) Final Shut-In <u>193</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2005</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>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>16.67</u>
Final Shut-In <u>90</u>	<input checked="" type="checkbox"/> Day Standby <u>1d .5h</u>	Total <u>1712.17</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1695.50</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. 57482

Well Name & No. Lundgren # 3-B4 Test No. 3 Date 10-14-14  
 Company Murfin Drilling Company Inc Elevation 2665 KB 2654 GL  
 Address 250 N Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21  
 Location: Sec. 36 Twp. 14s Rge. 30w Co. Gove State KS

Interval Tested 4194 4239 Zone Tested FT. Scott  
 Anchor Length 43 Drill Pipe Run 3921.8 Mud Wt. 9.2  
 Top Packer Depth 4192 Drill Collars Run 276.2 Vis 51  
 Bottom Packer Depth 4194 Wt. Pipe Run Ø WL 6.4  
 Total Depth 4239 Chlorides 2000 ppm System LCM 5  
 Blow Description 30 B.O.B in 5 min  
60 Weak surface Blow  
60 B.O.B in 5 min  
90 Weak surface Blow Build to 14.1

Rec	Feet of	%gas	%oil	%water	%mud
<u>212</u>	<u>Gas oil (clean oil)</u>	<u>20</u>	<u>80</u>		
<u>283</u>	<u>gnco</u>	<u>20</u>	<u>70</u>		<u>10</u>
	<u>2780' G.I.P.</u>				

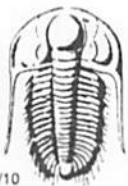
Rec Total 495 BHT 138 Gravity 32 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2090</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>11:50</u>
(B) First Initial Flow <u>33</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:12</u>
(C) First Final Flow <u>119</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>13:50</u>
(D) Initial Shut-In <u>1081</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>17:50</u>
(E) Second Initial Flow <u>132</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>20:08</u>
(F) Second Final Flow <u>214</u>	<input checked="" type="checkbox"/> Mileage <u>78 RT</u> <u>120.90</u>	Comments
(G) Final Shut-In <u>1043</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>199.2</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Open <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1695.90</u>
Final Flow <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
Final Shut-In <u>90</u>	Sub Total <u>1695.90</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. 57358

Well Name & No. Lundgren # 3-34 Test No. 4 Date 10/15/14  
 Company Murtair Drilling Co Elevation 2665 KB 2654 GL  
 Address 250 N Water St #300 Wichita KS 67202  
 Co. Rep / Geo. Lanny Nicholson Rig 21  
 Location: Sec. 34 Twp. 14s Rge. 30w Co. Cove State KS

Interval Tested 4245 - 4298 Zone Tested CL - Johnson  
 Anchor Length 23 Drill Pipe Run 3957 Mud Wt. 9.2  
 Top Packer Depth 4240 Drill Collars Run 274 Vis 51  
 Bottom Packer Depth 4245 Wt. Pipe Run 0 WL 6.4  
 Total Depth 4298 Chlorides 2300 ppm System LCM 5

Blow Description IF: Weak blow 1/2  
ISI: NO RETURN  
FF: No blow  
FSI: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>map w/ oil 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 2 BHT 127 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2124  Test 1250 T-On Location 0630  
 (B) First Initial Flow 22  Jars 250 T-Started 0656  
 (C) First Final Flow 25  Safety Joint 75 T-Open 0837  
 (D) Initial Shut-In 87  Circ Sub N/A T-Pulled 1140  
 (E) Second Initial Flow 23  Hourly Standby \_\_\_\_\_ T-Out 1330  
 (F) Second Final Flow 24  Mileage 72 1/2 120.90 Comments \_\_\_\_\_  
 (G) Final Shut-In 70  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2040  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 30  
 Final Shut-In 60  
 Sub Total 0  
 Total 1695.90  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1695.90

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 57359

Well Name & No. Lunopen #3-34 Test No. S Date 10/15/14  
 Company Murfin Drilling Inc Elevation 2665 KB 2654 GL  
 Address 250 N WATER STE 300 WICHITA KS 67202  
 Co. Rep / Geo. Larry Nicholson Rig 31  
 Location: Sec. 34 Twp. 14S Rge. 30W Co. Coye State KS

Interval Tested 4322-4338 Zone Tested Miss / Dol  
 Anchor Length 16 Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.7  
 Top Packer Depth 4317 Drill Collars Run 276 Vis 50  
 Bottom Packer Depth 4332 Wt. Pipe Run 0 WL 6.4  
 Total Depth 4338 Chlorides 2500 ppm System LCM 5

Blow Description IF: 1/2 blow  
ISI: NO RETURN  
FF: NO BLOW  
FSI: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>SCM &amp; O</u>	<u>95</u>		<u>5</u>	
<u>63</u>	<u>C M &amp; O</u>	<u>20</u>		<u>80</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 134 BHT 134 Gravity 21 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2165  Test 1250 T-On Location 2230  
 (B) First Initial Flow 20  Jars 250 T-Started 2243  
 (C) First Final Flow 39  Safety Joint 75 T-Open 2353  
 (D) Initial Shut-In 1035  Circ Sub N/C T-Pulled 0300  
 (E) Second Initial Flow 45  Hourly Standby \_\_\_\_\_ T-Out 0445  
 (F) Second Final Flow 63  Mileage 72 1/2 120.90 Comments \_\_\_\_\_  
 (G) Final Shut-In 955  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2094  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_

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

Sub Total 1695.90  
 Total 1695.90  
 MP/DST Disc \_\_\_\_\_

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