



## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita KS 67206

ATTN: Rocky Milford

### **CFT #1-23**

#### **23-2s-6w Rawlins KS**

Start Date: 2014.02.22 @ 08:54:00

End Date: 2014.02.22 @ 15:54:30

Job Ticket #: 55969                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.03.03 @ 16:28:10



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.  
 250 N. Water STE 300  
 Wichita KS 67206  
 ATTN: Rocky Milford

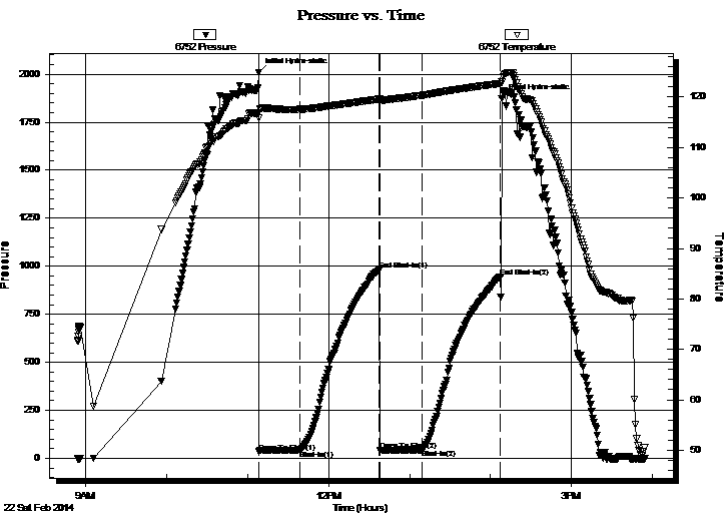
**23-2s-6w Rawlins KS**  
**CFT #1-23**  
 Job Ticket: 55969 **DST#: 1**  
 Test Start: 2014.02.22 @ 08:54:00

## GENERAL INFORMATION:

Formation: **Topeka**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:08:20  
 Time Test Ended: 15:54:30  
 Interval: **3974.00 ft (KB) To 4015.00 ft (KB) (TVD)**  
 Total Depth: 4015.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ryan Nichols  
 Unit No: 58  
 Reference Elevations: 3272.00 ft (KB)  
 3267.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6752 Inside**  
 Press@RunDepth: 49.10 psig @ 3975.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.22 End Date: 2014.02.22 Last Calib.: 2014.02.22  
 Start Time: 08:54:01 End Time: 15:54:30 Time On Btm: 2014.02.22 @ 11:08:10  
 Time Off Btm: 2014.02.22 @ 14:08:20

**TEST COMMENT:** 30 IF - Tool opened on bridge and slid 13' to bottom, 1/4" blow built to 1"  
 60 ISI - No return  
 30 FF - No blow  
 60 FSI - No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2009.32	116.93	Initial Hydro-static
1	33.70	115.79	Open To Flow (1)
31	41.23	117.56	Shut-In(1)
90	983.05	119.59	End Shut-In(1)
90	41.92	119.36	Open To Flow (2)
122	49.10	120.34	Shut-In(2)
180	942.85	122.68	End Shut-In(2)
181	1871.41	122.95	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
55.00	Mud w/oil spots 100%M	0.27

## Gas Rates

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



# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

250 N. Water STE 300  
Wichita KS 67206

ATTN: Rocky Milford

**23-2s-6w Rawlins KS**

**CFT #1-23**

Job Ticket: 55969

**DST#: 1**

Test Start: 2014.02.22 @ 08:54:00

## GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:08:20

Time Test Ended: 15:54:30

Interval: **3974.00 ft (KB) To 4015.00 ft (KB) (TVD)**

Total Depth: 4015.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 58

Reference Elevations: 3272.00 ft (KB)

3267.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8322** **Outside**

Press@RunDepth: psig @ 3975.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.22

End Date: 2014.02.22

Last Calib.: 2014.02.22

Start Time: 08:54:01

End Time: 15:54:30

Time On Btm:

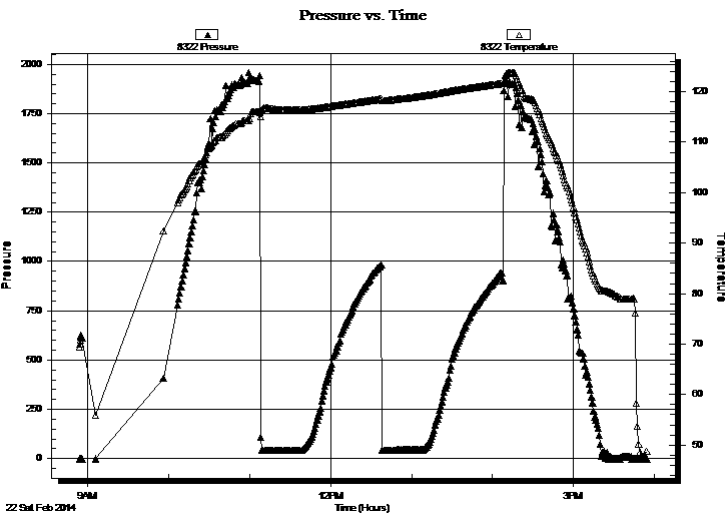
Time Off Btm:

TEST COMMENT: 30 IF - Tool opened on bridge and slid 13' to bottom, 1/4" blow built to 1"

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)
55.00	Mud w/oil spots 100%M	0.27

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc.  
250 N. Water STE 300  
Wichita KS 67206  
ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
Job Ticket: 55969 **DST#: 1**  
Test Start: 2014.02.22 @ 08:54:00

## Tool Information

Drill Pipe:	Length: 3784.00 ft	Diameter: 3.80 inches	Volume: 53.08 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 53.99 bbl</u>	Tool Chased 13.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3974.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	41.00 ft			
Tool Length:	68.00 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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Change Over Sub	1.00			3948.00	
Shut In Tool	5.00			3953.00	
Hydraulic tool	5.00			3958.00	
Jars	5.00			3963.00	
Safety Joint	2.00			3965.00	
Packer	5.00			3970.00	27.00 Bottom Of Top Packer
Packer	4.00			3974.00	
Packer - Shale	0.00			3974.00	
Stubb	1.00			3975.00	
Recorder	0.00	6752	Inside	3975.00	
Recorder	0.00	8322	Outside	3975.00	
Perforations	4.00			3979.00	
Blank Spacing	33.00			4012.00	
Bullnose	3.00			4015.00	41.00 Bottom Packers & Anchor

**Total Tool Length: 68.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co. Inc.

**23-2s-6w Rawlins KS**

250 N. Water STE 300  
Wichita KS 67206

**CFT #1-23**

Job Ticket: 55969

**DST#: 1**

ATTN: Rocky Milford

Test Start: 2014.02.22 @ 08:54:00

### 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: 65.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
55.00	Mud w /oil spots 100%M	0.270

Total Length: 55.00 ft      Total Volume: 0.270 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

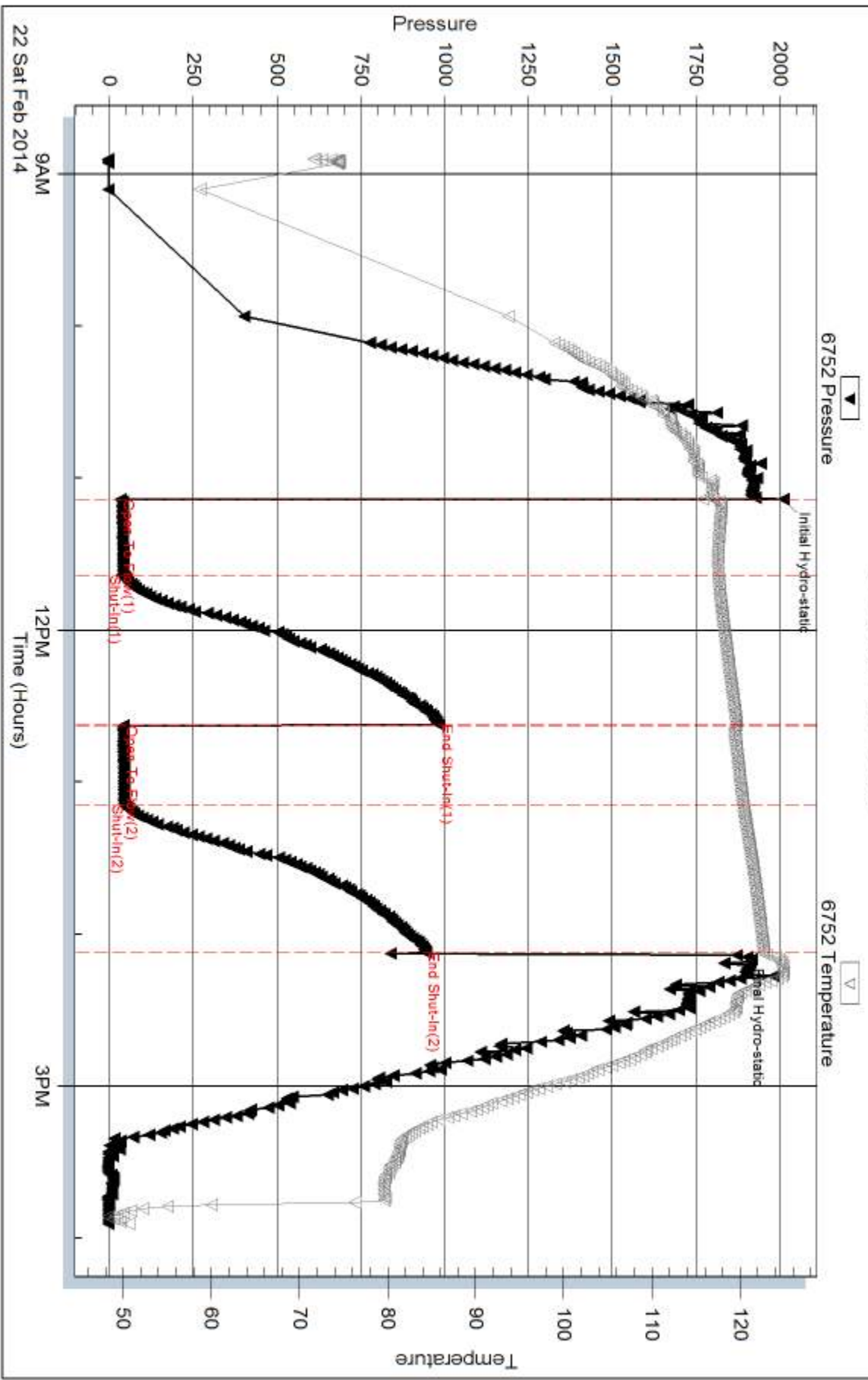
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

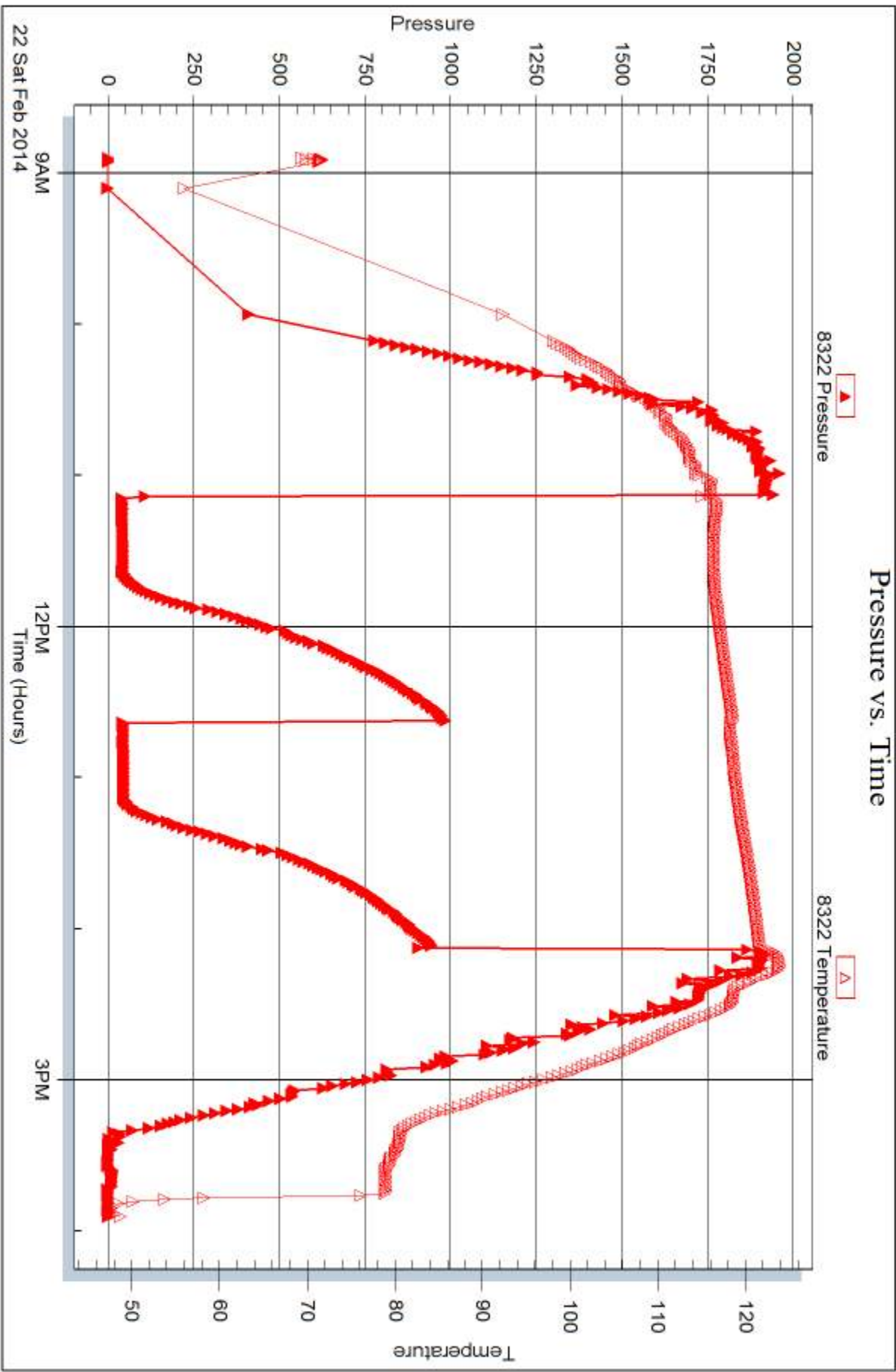


Serial #: 8322

Outside Murfin Drilling Co. Inc.

CFT #1-23

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 55969

Printed: 2014.03.03 @ 16:28:13



## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita KS 67206

ATTN: Rocky Milford

### **CFT #1-23**

#### **23-2s-6w Rawlins KS**

Start Date: 2014.02.23 @ 04:07:00

End Date: 2014.02.23 @ 12:40:40

Job Ticket #: 55970                      DST #: 2

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

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**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.  
 250 N. Water STE 300  
 Wichita KS 67206  
 ATTN: Rocky Milford

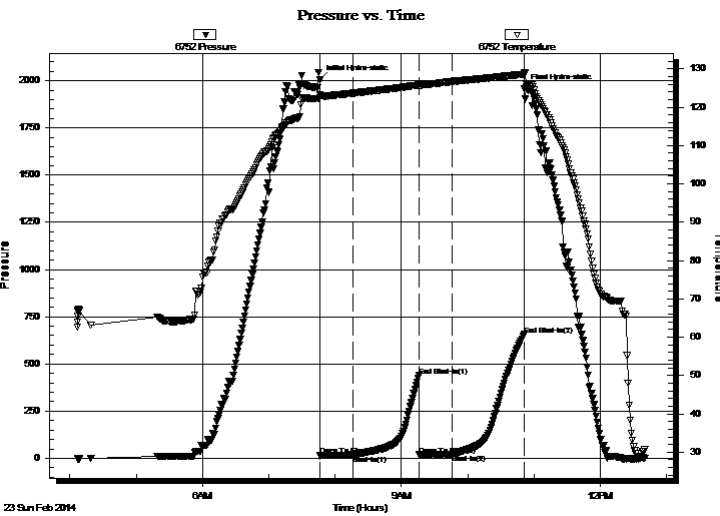
**23-2s-6w Rawlins KS**  
**CFT #1-23**  
 Job Ticket: 55970 **DST#: 2**  
 Test Start: 2014.02.23 @ 04:07:00

## GENERAL INFORMATION:

Formation: **Oread**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:46:10  
 Time Test Ended: 12:40:40  
**Interval: 4058.00 ft (KB) To 4124.00 ft (KB) (TVD)**  
 Total Depth: 4124.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Nichols  
 Unit No: 58  
 Reference Elevations: 3272.00 ft (KB)  
 3267.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6752 Inside**  
 Press@RunDepth: 20.49 psig @ 4059.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.23 End Date: 2014.02.23 Last Calib.: 2014.02.23  
 Start Time: 04:07:01 End Time: 12:40:40 Time On Btm: 2014.02.23 @ 07:46:00  
 Time Off Btm: 2014.02.23 @ 10:51:20

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



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2003.86	123.21	Initial Hydro-static
1	13.42	122.48	Open To Flow (1)
31	17.64	123.65	Shut-In(1)
90	437.60	125.76	End Shut-In(1)
90	17.66	125.59	Open To Flow (2)
120	20.49	126.69	Shut-In(2)
185	654.87	128.59	End Shut-In(2)
186	1957.08	129.07	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. Inc.

**23-2s-6w Rawlins KS**

250 N. Water STE 300  
Wichita KS 67206

**CFT #1-23**

ATTN: Rocky Milford

Job Ticket: 55970

**DST#: 2**

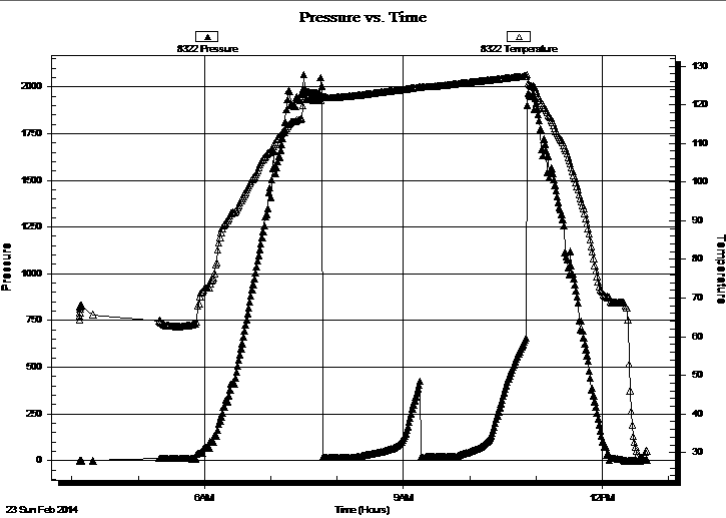
Test Start: 2014.02.23 @ 04:07:00

## GENERAL INFORMATION:

Formation: <b>Oread</b>			
Deviated: No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Reset)	
Time Tool Opened: 07:46:10		Tester: Ryan Nichols	
Time Test Ended: 12:40:40		Unit No: 58	
<b>Interval: 4058.00 ft (KB) To 4124.00 ft (KB) (TVD)</b>		Reference Elevations: 3272.00 ft (KB)	
Total Depth: 4124.00 ft (KB) (TVD)		3267.00 ft (CF)	
Hole Diameter: 7.88 inches	Hole Condition: Good	KB to GR/CF: 5.00 ft	

<b>Serial #: 8322</b>	<b>Outside</b>		
Press@RunDepth: psig @	4059.00 ft (KB)	Capacity: 8000.00 psig	
Start Date: 2014.02.23	End Date: 2014.02.23	Last Calib.: 2014.02.23	
Start Time: 04:07:01	End Time: 12:40:40	Time On Btm:	
		Time Off Btm:	

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

\* 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.  
250 N. Water STE 300  
Wichita KS 67206  
ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
Job Ticket: 55970 **DST#: 2**  
Test Start: 2014.02.23 @ 04:07:00

## Tool Information

Drill Pipe:	Length: 3876.00 ft	Diameter: 3.80 inches	Volume: 54.37 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 55.28 bbl</u>	Tool Chased	5.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	4058.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	66.00 ft				
Tool Length:	93.00 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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Change Over Sub	1.00			4032.00	
Shut In Tool	5.00			4037.00	
Hydraulic tool	5.00			4042.00	
Jars	5.00			4047.00	
Safety Joint	2.00			4049.00	
Packer	5.00			4054.00	27.00 Bottom Of Top Packer
Packer	4.00			4058.00	
Stubb	1.00			4059.00	
Recorder	0.00	6752	Inside	4059.00	
Recorder	0.00	8322	Outside	4059.00	
Perforations	29.00			4088.00	
Blank Spacing	33.00			4121.00	
Bullnose	3.00			4124.00	66.00 Bottom Packers & Anchor

**Total Tool Length: 93.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co. Inc.

**23-2s-6w Rawlins KS**

250 N. Water STE 300  
Wichita KS 67206

**CFT #1-23**

Job Ticket: 55970

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2014.02.23 @ 04:07:00

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 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

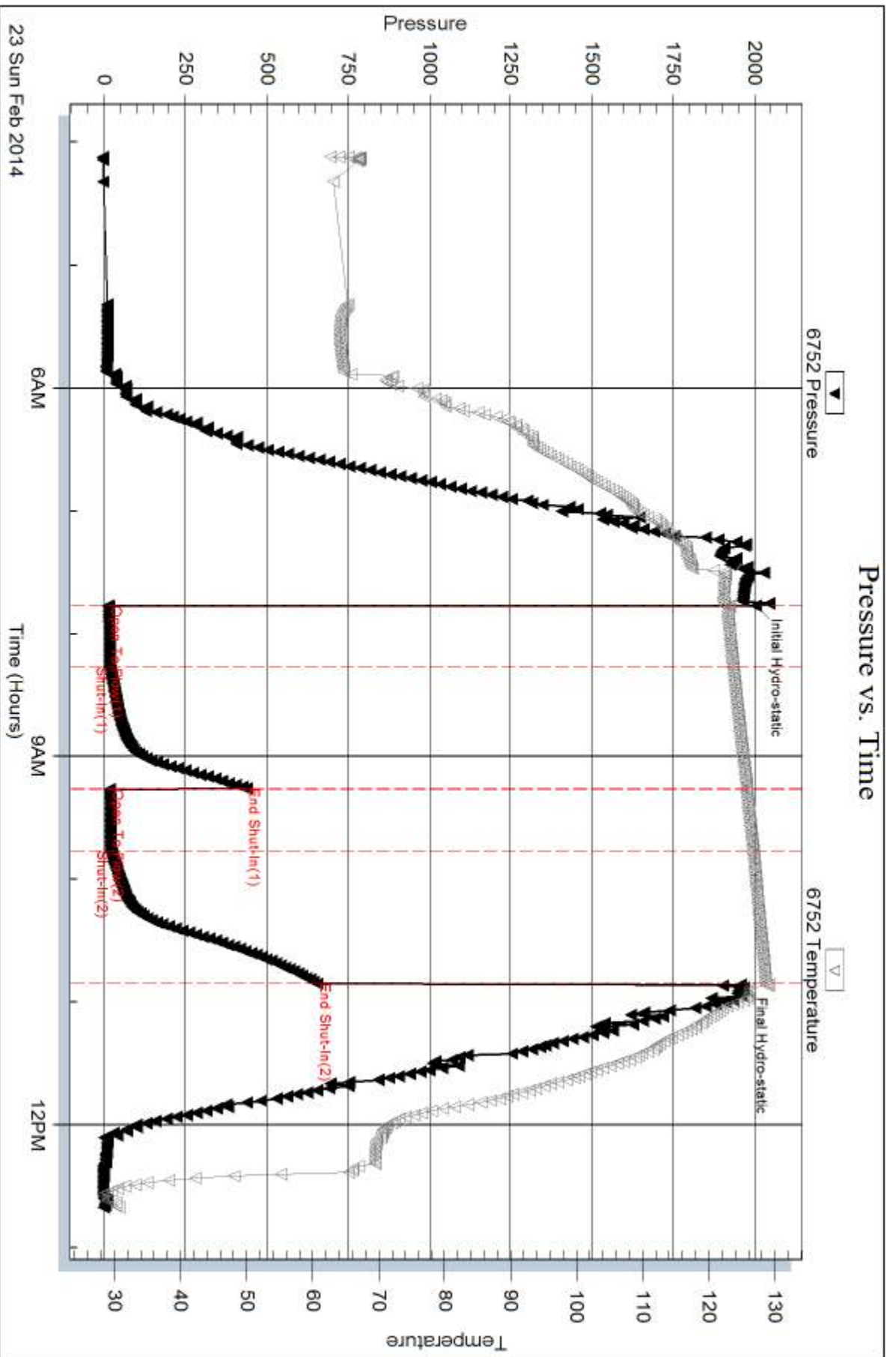
Serial #:

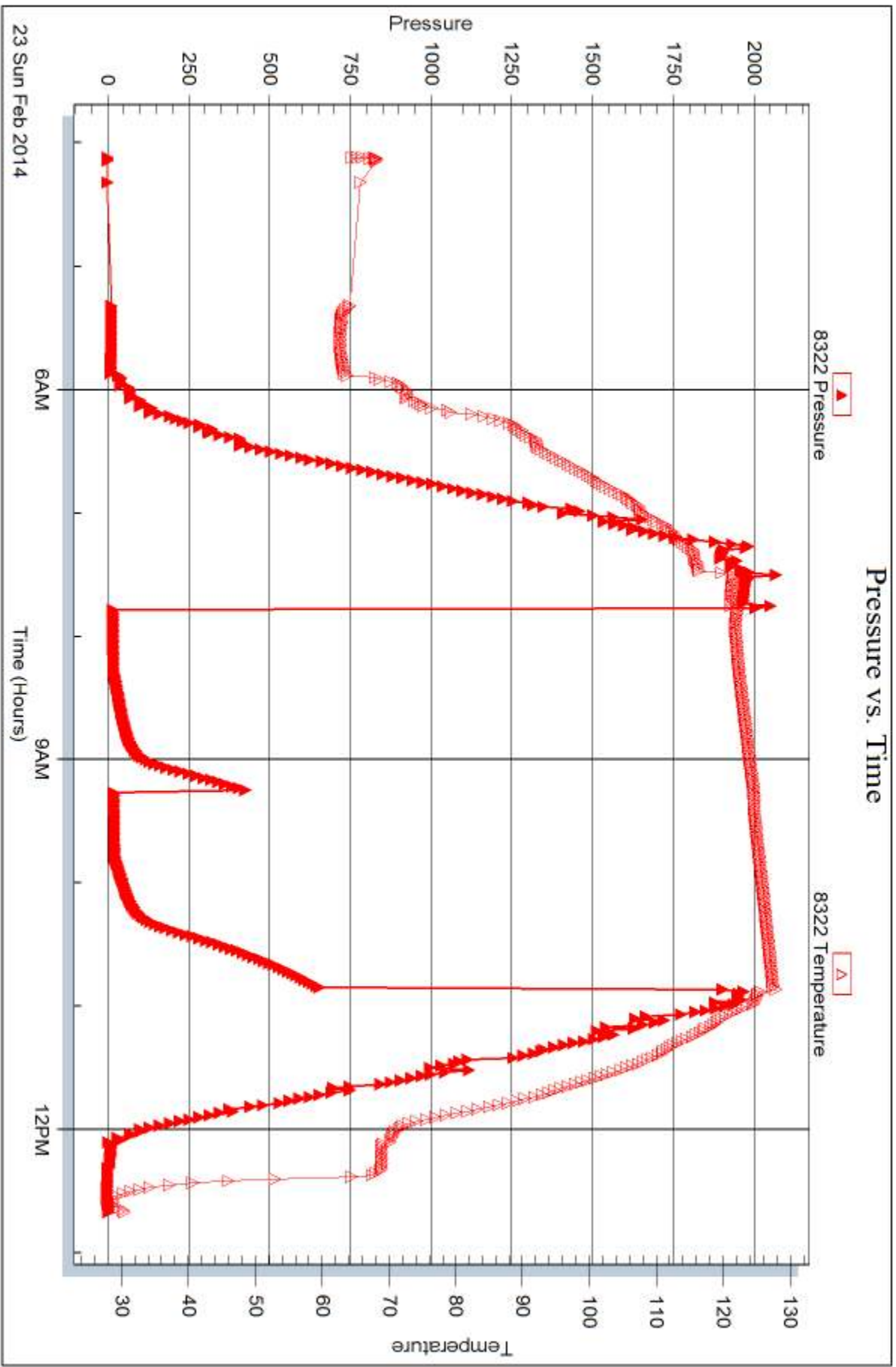
Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time







## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita KS 67206

ATTN: Rocky Milford

### **CFT #1-23**

### **23-2s-6w Rawlins KS**

Start Date: 2014.02.24 @ 00:00:00

End Date: 2014.02.24 @ 08:45:40

Job Ticket #: 55971                      DST #: 3

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.03.03 @ 16:26:36



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.  
250 N. Water STE 300  
Wichita KS 67206  
ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
Job Ticket: 55971      **DST#: 3**  
Test Start: 2014.02.24 @ 00:00:00

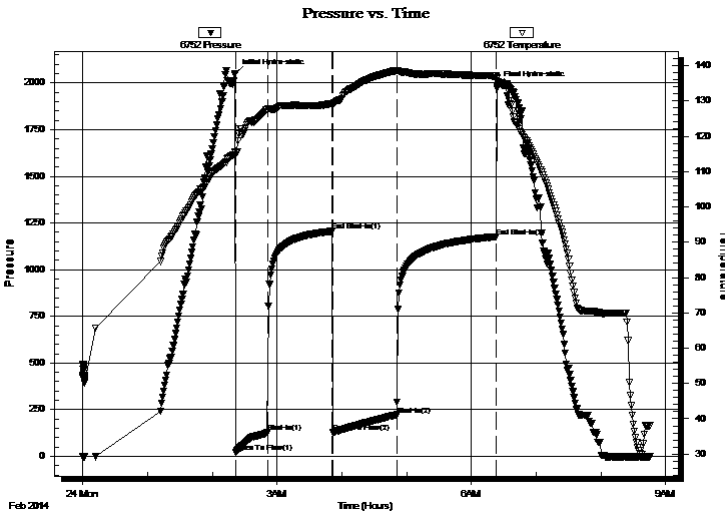
## GENERAL INFORMATION:

Formation: **Leavenworth - LKC "**  
Deviated: No Whipstock: ft (KB)      Test Type: Conventional Bottom Hole (Reset)  
Time Tool Opened: 02:21:40      Tester: Ryan Nichols  
Time Test Ended: 08:45:40      Unit No: 58  
**Interval: 4140.00 ft (KB) To 4219.00 ft (KB) (TVD)**      Reference Elevations: 3272.00 ft (KB)  
Total Depth: 4219.00 ft (KB) (TVD)      3267.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Good      KB to GR/CF: 5.00 ft

**Serial #: 6752      Inside**  
Press@RunDepth: 222.40 psig @ 4141.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.02.24      End Date: 2014.02.24      Last Calib.: 2014.02.24  
Start Time: 00:00:01      End Time: 08:45:40      Time On Btm: 2014.02.24 @ 02:21:20  
Time Off Btm: 2014.02.24 @ 06:23:30

**TEST COMMENT:** 30 IF - 1" blow built to BoB @ 20 mins (in diesel)  
60 ISI - No return  
60 FF - Surface blow built to BoB @ 24 mins  
90 FSI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2052.34	115.60	Initial Hydro-static
1	19.84	115.22	Open To Flow (1)
30	127.37	127.59	Shut-In(1)
90	1206.05	129.16	End Shut-In(1)
91	127.83	128.90	Open To Flow (2)
150	222.40	138.59	Shut-In(2)
242	1177.37	137.02	End Shut-In(2)
243	1984.29	136.57	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
309.00	MCW - 10%M - 90%W	2.64
126.00	WCM - 25%W - 75%M	1.77
20.00	Mud - 100%m	0.28

\* 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.

**23-2s-6w Rawlins KS**

250 N. Water STE 300  
Wichita KS 67206

**CFT #1-23**

Job Ticket: 55971

**DST#: 3**

ATTN: Rocky Milford

Test Start: 2014.02.24 @ 00:00:00

## GENERAL INFORMATION:

Formation: **Leavenworth - LKC "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:21:40

Time Test Ended: 08:45:40

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 58

**Interval: 4140.00 ft (KB) To 4219.00 ft (KB) (TVD)**

Reference Elevations: 3272.00 ft (KB)

Total Depth: 4219.00 ft (KB) (TVD)

3267.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8322 Outside**

Press@RunDepth: psig @ 4141.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.24 End Date: 2014.02.24

Last Calib.: 2014.02.24

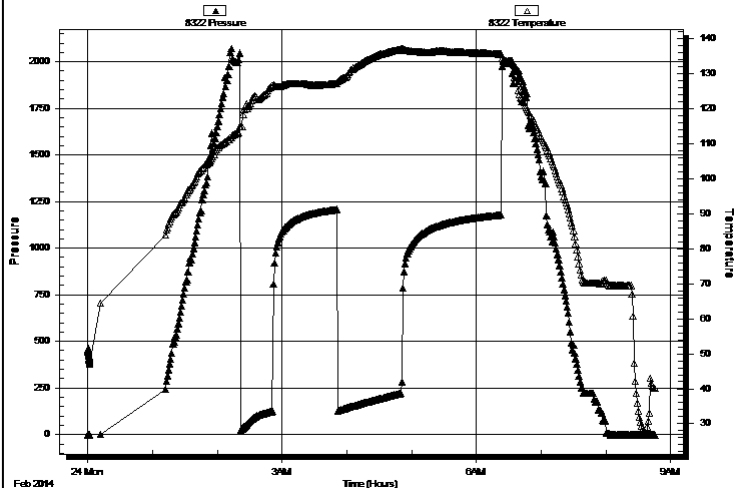
Start Time: 00:00:01 End Time: 08:45:40

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 30 IF - 1" blow built to BoB @ 20 mins (in diesel)  
60 ISI - No return  
60 FF - Surface blow built to BoB @ 24 mins  
90 FSI - No return

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
309.00	MCW - 10%M - 90%W	2.64
126.00	WCM - 25%W - 75%M	1.77
20.00	Mud - 100%m	0.28

## 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.  
250 N. Water STE 300  
Wichita KS 67206  
ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
Job Ticket: 55971      **DST#: 3**  
Test Start: 2014.02.24 @ 00:00:00

**Tool Information**

Drill Pipe:	Length: 3943.00 ft	Diameter: 3.80 inches	Volume: 55.31 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 56.22 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4140.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	79.00 ft			
Tool Length:	106.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			4114.00	
Shut In Tool	5.00			4119.00	
Hydraulic tool	5.00			4124.00	
Jars	5.00			4129.00	
Safety Joint	2.00			4131.00	
Packer	5.00			4136.00	27.00      Bottom Of Top Packer
Packer	4.00			4140.00	
Stubb	1.00			4141.00	
Recorder	0.00	6752	Inside	4141.00	
Recorder	0.00	8322	Outside	4141.00	
Perforations	10.00			4151.00	
Blank Spacing	65.00			4216.00	
Bullnose	3.00			4219.00	79.00      Bottom Packers & Anchor

**Total Tool Length: 106.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc.  
250 N. Water STE 300  
Wichita KS 67206  
ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
Job Ticket: 55971      **DST#: 3**  
Test Start: 2014.02.24 @ 00:00:00

## Mud and Cushion Information

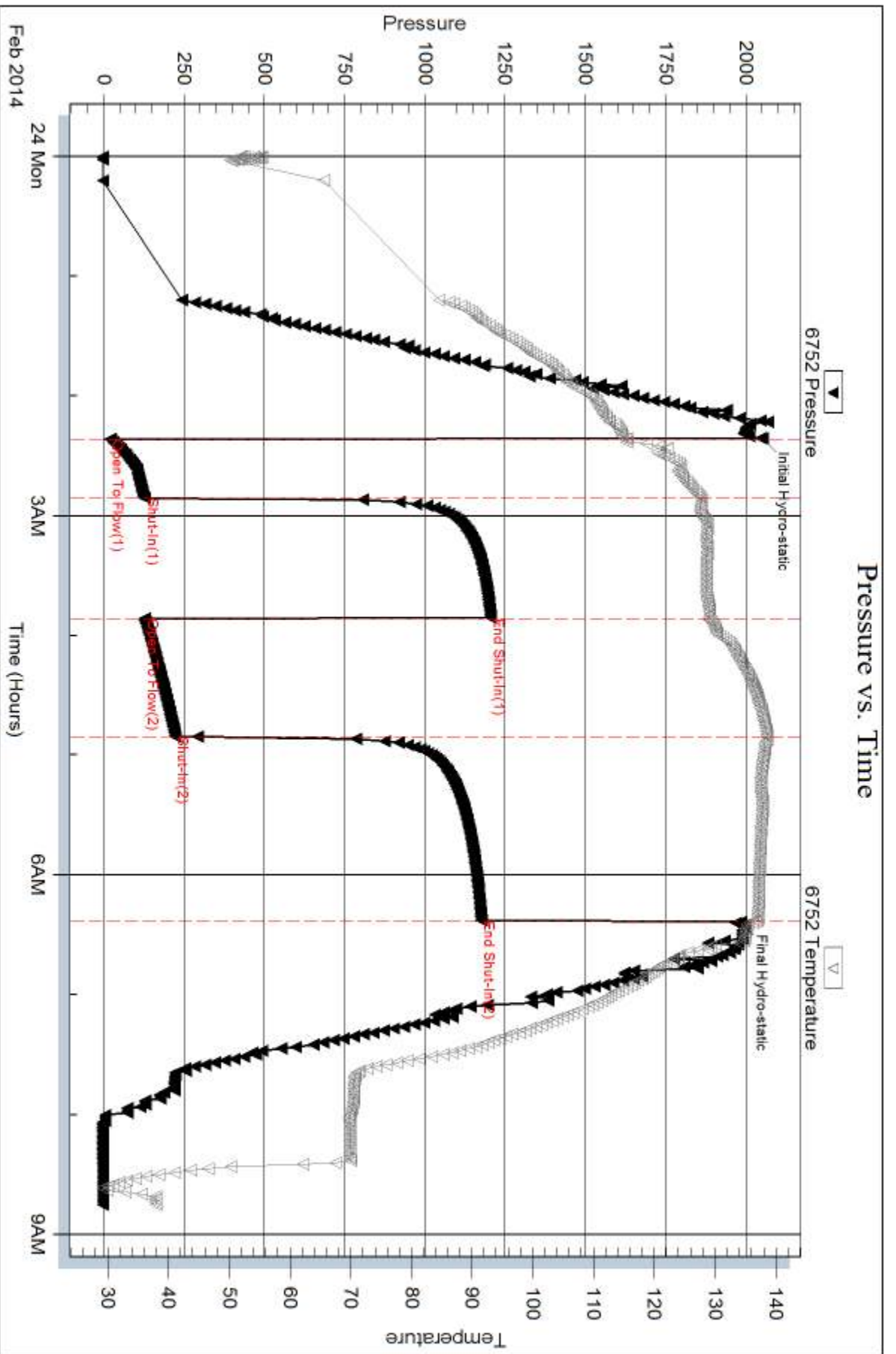
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	35000 ppm
Viscosity: 67.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.38 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: 2.00 inches			

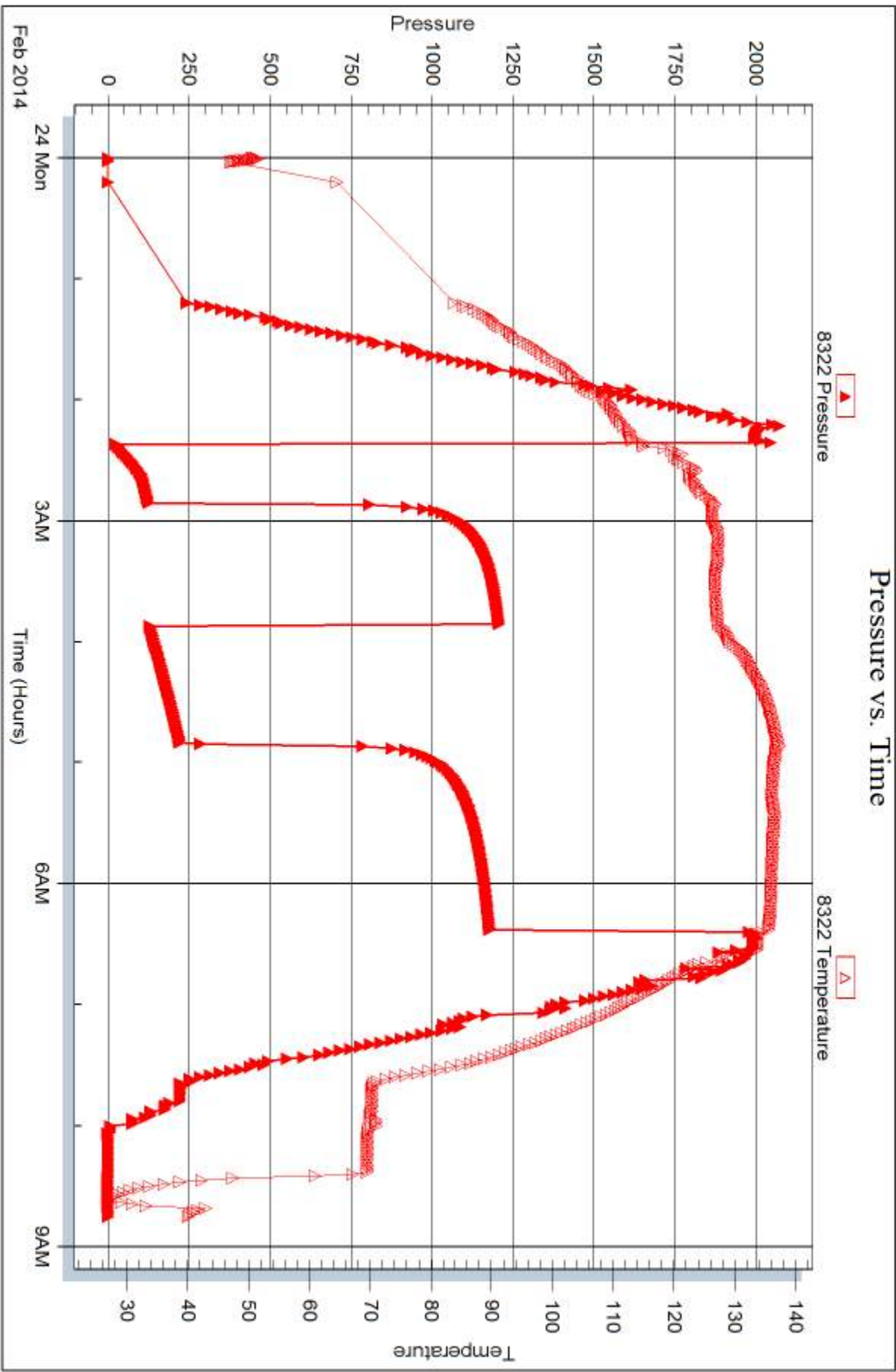
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
309.00	MCW - 10%M - 90%W	2.640
126.00	WCM - 25%W - 75%M	1.767
20.00	Mud - 100%m	0.281

Total Length: 455.00 ft      Total Volume: 4.688 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: RW = .314 @ 46 DEG F







## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita KS 67206

ATTN: Rocky Milford

### **CFT #1-23**

### **23-2s-6w Rawlins KS**

Start Date: 2014.02.24 @ 18:53:00

End Date: 2014.02.25 @ 02:48:50

Job Ticket #: 55972                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.03.03 @ 16:25:09

Murfin Drilling Co. Inc. 23-2s-6w Rawlins KS CFT #1-23 DST # 4 LKC " A sand - D pri 2014.02.24



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.  
250 N. Water STE 300  
Wichita KS 67206  
ATTN: Rocky Milford

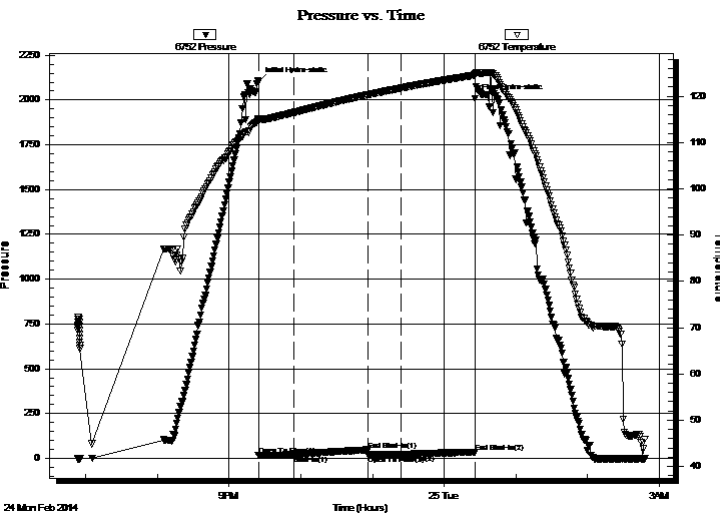
**23-2s-6w Rawlins KS**  
**CFT #1-23**  
Job Ticket: 55972      **DST#: 4**  
Test Start: 2014.02.24 @ 18:53:00

## GENERAL INFORMATION:

Formation: **LKC " A sand - D pri**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 21:24:30  
Time Test Ended: 02:48:50  
Interval: **4214.00 ft (KB) To 4297.00 ft (KB) (TVD)**  
Total Depth: 4297.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Reference Elevations: 3272.00 ft (KB)  
3267.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Ryan Nichols  
Unit No: 58

**Serial #: 6752      Inside**  
Press@RunDepth: 20.20 psig @ 4215.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.02.24      End Date: 2014.02.25      Last Calib.: 2014.02.25  
Start Time: 18:53:01      End Time: 02:48:50      Time On Btm: 2014.02.24 @ 21:24:20  
Time Off Btm: 2014.02.25 @ 00:26:00

TEST COMMENT: 30 IF - 1" blow built to 2" died back to 1 1/2" (in diesel)  
60 ISI - No return  
30 FF - No blow  
60 FSI - No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2102.32	115.19	Initial Hydro-static
1	16.37	114.74	Open To Flow (1)
30	18.19	116.48	Shut-In(1)
92	47.45	120.33	End Shut-In(1)
92	19.11	120.33	Open To Flow (2)
120	20.20	121.76	Shut-In(2)
182	34.29	124.57	End Shut-In(2)
182	2007.05	124.97	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
3.00	Mud - 100%	0.01

\* 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.  
 250 N. Water STE 300  
 Wichita KS 67206  
 ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
 Job Ticket: 55972 **DST#: 4**  
 Test Start: 2014.02.24 @ 18:53:00

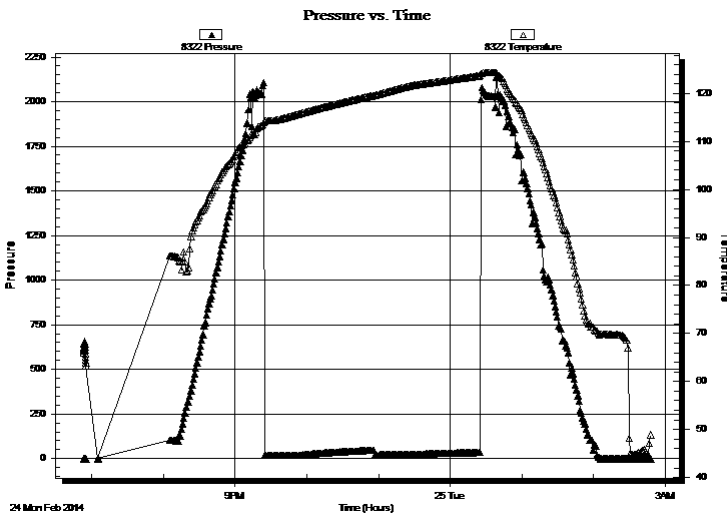
## GENERAL INFORMATION:

Formation: **LKC " A sand - D pri**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 21:24:30  
 Time Test Ended: 02:48:50  
 Interval: **4214.00 ft (KB) To 4297.00 ft (KB) (TVD)**  
 Total Depth: 4297.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Nichols  
 Unit No: 58  
 Reference Elevations: 3272.00 ft (KB)  
 3267.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8322 Outside

Press@RunDepth: psig @ 4215.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.24 End Date: 2014.02.25 Last Calib.: 2014.02.25  
 Start Time: 18:53:01 End Time: 02:48:50 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30 IF - 1" blow built to 2" died back to 1 1/2" (in diesel)  
 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)
3.00	Mud - 100%	0.01

## 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.  
250 N. Water STE 300  
Wichita KS 67206  
ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
Job Ticket: 55972      **DST#: 4**  
Test Start: 2014.02.24 @ 18:53:00

**Tool Information**

Drill Pipe:	Length: 4006.00 ft	Diameter: 3.80 inches	Volume: 56.19 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: 57.10 bbl</u>	Tool Chased	2.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4214.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	83.00 ft				
Tool Length:	110.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			4188.00	
Shut In Tool	5.00			4193.00	
Hydraulic tool	5.00			4198.00	
Jars	5.00			4203.00	
Safety Joint	2.00			4205.00	
Packer	5.00			4210.00	27.00      Bottom Of Top Packer
Packer	4.00			4214.00	
Stubb	1.00			4215.00	
Recorder	0.00	6752	Inside	4215.00	
Recorder	0.00	8322	Outside	4215.00	
Perforations	14.00			4229.00	
Blank Spacing	65.00			4294.00	
Bullnose	3.00			4297.00	83.00      Bottom Packers & Anchor

**Total Tool Length: 110.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co. Inc.  
250 N. Water STE 300  
Wichita KS 67206  
ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
Job Ticket: 55972      **DST#: 4**  
Test Start: 2014.02.24 @ 18:53:00

### Mud and Cushion Information

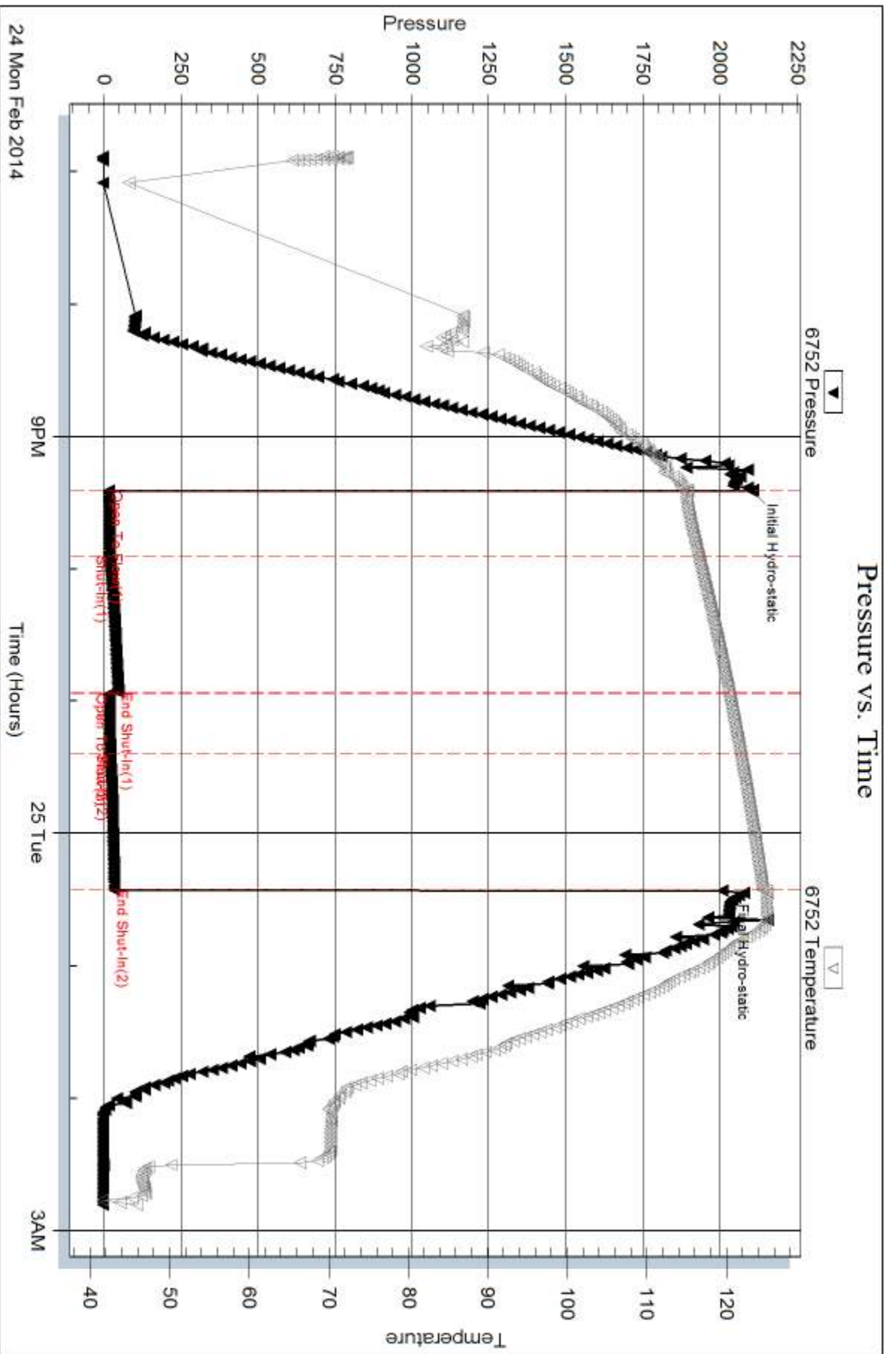
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.58 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 600.00 ppm			
Filter Cake: 2.00 inches			

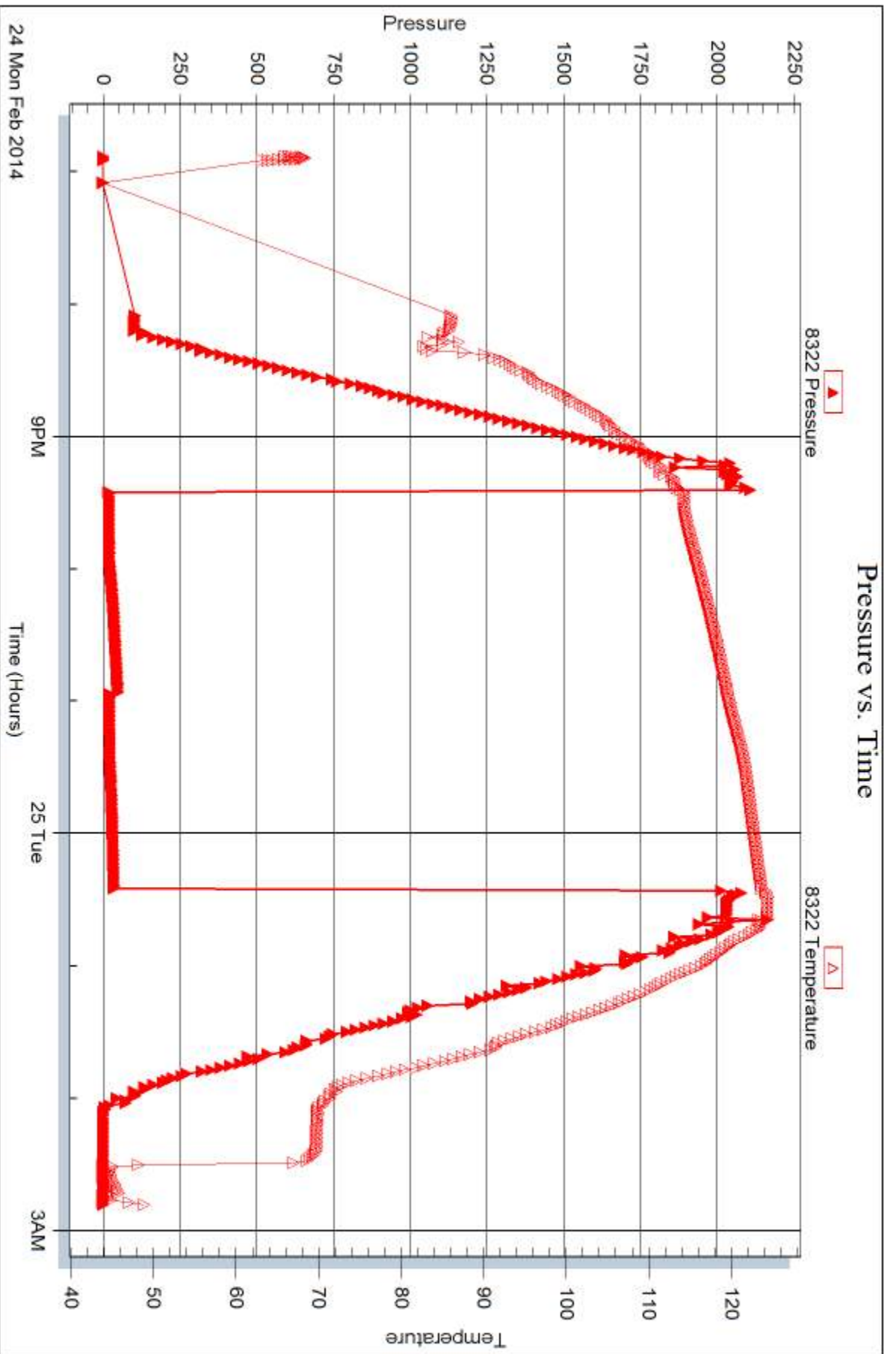
### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	Mud - 100%	0.015

Total Length: 3.00 ft      Total Volume: 0.015 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 67206

ATTN: Rocky Milford

### **CFT #1-23**

### **23-2s-6w Rawlins KS**

Start Date: 2014.02.25 @ 11:58:00

End Date: 2014.02.25 @ 19:31:50

Job Ticket #: 55973                      DST #: 5

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.03.03 @ 16:24:37



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.  
 250 N. Water STE 300  
 Wichita KS 67206  
 ATTN: Rocky Milford

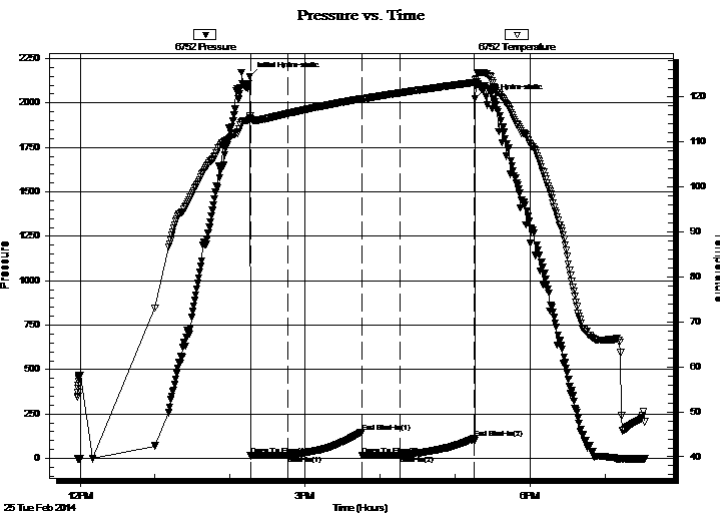
**23-2s-6w Rawlins KS**  
**CFT #1-23**  
 Job Ticket: 55973 **DST#: 5**  
 Test Start: 2014.02.25 @ 11:58:00

## GENERAL INFORMATION:

Formation: **LKC " G "**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:16:10  
 Time Test Ended: 19:31:50  
 Interval: **4275.00 ft (KB) To 4335.00 ft (KB) (TVD)**  
 Total Depth: 4335.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Nichols  
 Unit No: 58  
 Reference Elevations: 3272.00 ft (KB)  
 3267.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6752 Inside**  
 Press@RunDepth: 19.00 psig @ 4276.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.25 End Date: 2014.02.25 Last Calib.: 2014.02.25  
 Start Time: 11:58:01 End Time: 19:31:50 Time On Btm: 2014.02.25 @ 14:16:00  
 Time Off Btm: 2014.02.25 @ 17:16:00

TEST COMMENT: 30 IF - 1/4" blow built to 1 3/4"  
 60 ISI - No return  
 30 FF - No blow  
 60 FSI - No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2146.50	115.67	Initial Hydro-static
1	14.97	115.21	Open To Flow (1)
30	16.74	116.26	Shut-In(1)
90	148.48	119.56	End Shut-In(1)
90	18.02	119.53	Open To Flow (2)
120	19.00	120.85	Shut-In(2)
180	111.61	123.17	End Shut-In(2)
180	2025.48	123.68	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
3.00	OCM - 30%o - 70%M	0.01

\* 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.  
 250 N. Water STE 300  
 Wichita KS 67206  
 ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
 Job Ticket: 55973 **DST#: 5**  
 Test Start: 2014.02.25 @ 11:58:00

### GENERAL INFORMATION:

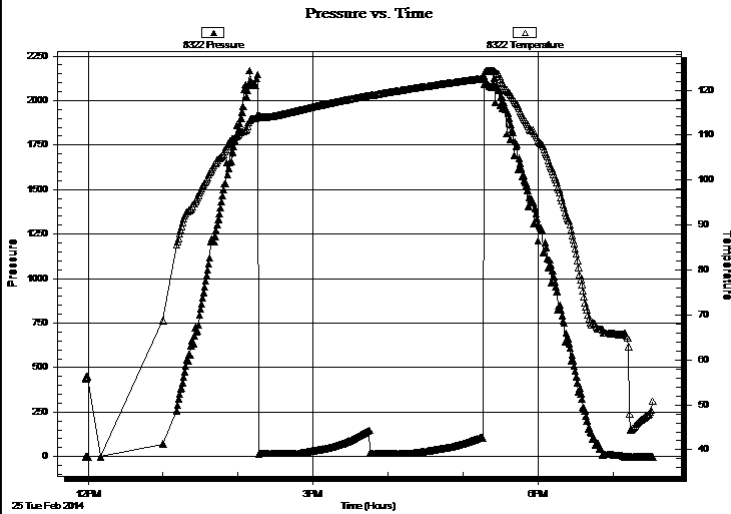
Formation: **LKC " G "**  
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 14:16:10 Tester: Ryan Nichols  
 Time Test Ended: 19:31:50 Unit No: 58  
 Interval: **4275.00 ft (KB) To 4335.00 ft (KB) (TVD)** Reference Elevations: 3272.00 ft (KB)  
 Total Depth: 4335.00 ft (KB) (TVD) 3267.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

### Serial #: 8322

### Outside

Press@RunDepth: psig @ 4276.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.25 End Date: 2014.02.25 Last Calib.: 2014.02.25  
 Start Time: 11:58:01 End Time: 19:31:50 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30 IF - 1/4" blow built to 1 3/4"  
 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)
3.00	OCM - 30%o - 70%M	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.  
250 N. Water STE 300  
Wichita KS 67206  
ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
Job Ticket: 55973 **DST#: 5**  
Test Start: 2014.02.25 @ 11:58:00

## Tool Information

Drill Pipe:	Length: 4068.00 ft	Diameter: 3.80 inches	Volume: 57.06 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 57.97 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4275.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	87.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4249.00	
Shut In Tool	5.00			4254.00	
Hydraulic tool	5.00			4259.00	
Jars	5.00			4264.00	
Safety Joint	2.00			4266.00	
Packer	5.00			4271.00	27.00 Bottom Of Top Packer
Packer	4.00			4275.00	
Packer - Shale	0.00			4275.00	
Stubb	1.00			4276.00	
Recorder	0.00	6752	Inside	4276.00	
Recorder	0.00	8322	Outside	4276.00	
Perforations	23.00			4299.00	
Blank Spacing	33.00			4332.00	
Bullnose	3.00			4335.00	60.00 Bottom Packers & Anchor

**Total Tool Length: 87.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co. Inc.

**23-2s-6w Rawlins KS**

250 N. Water STE 300  
Wichita KS 67206

**CFT #1-23**

Job Ticket: 55973

**DST#: 5**

ATTN: Rocky Milford

Test Start: 2014.02.25 @ 11:58:00

### 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: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 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
3.00	OCM - 30%o - 70%M	0.015

Total Length: 3.00 ft      Total Volume: 0.015 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

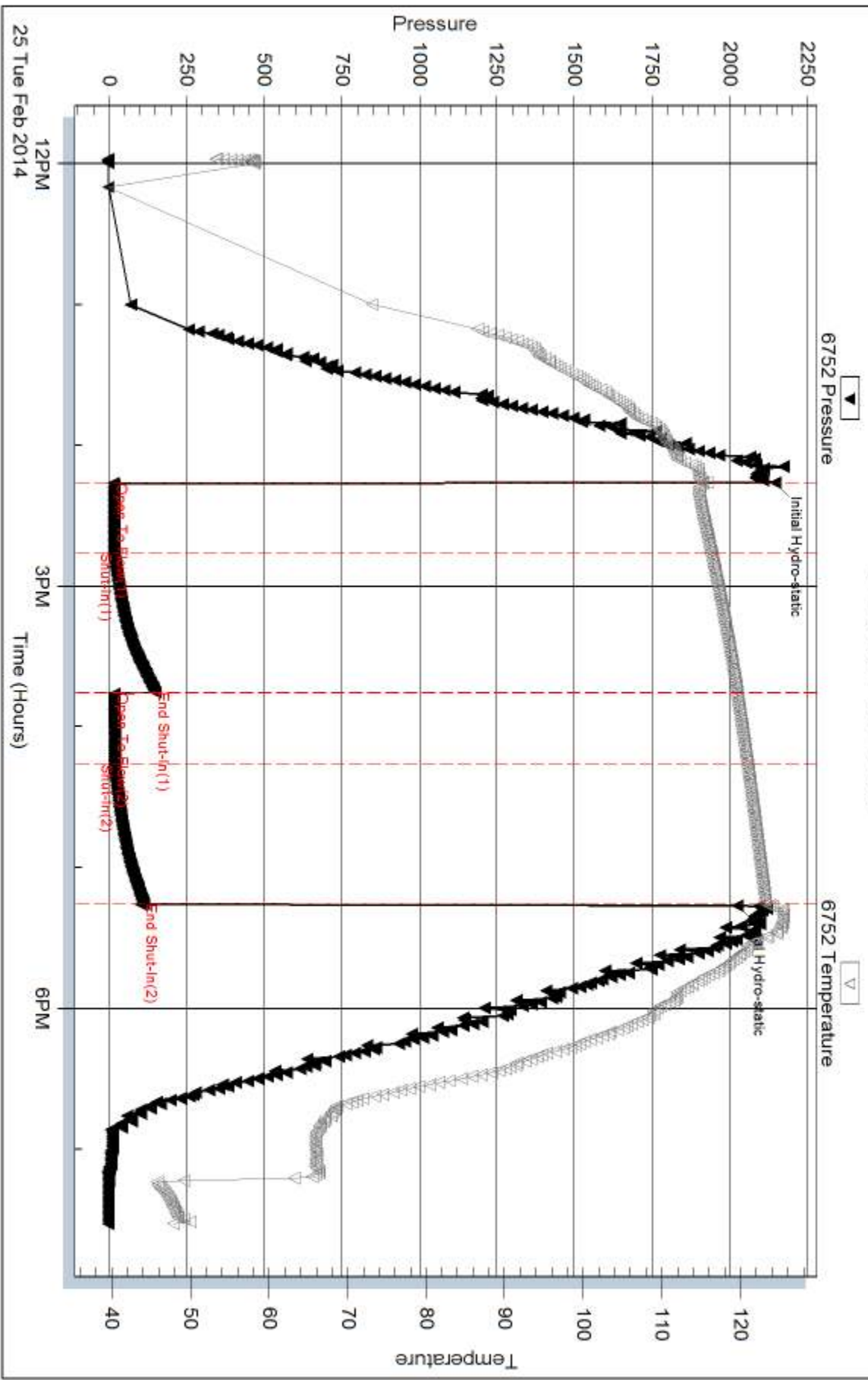
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

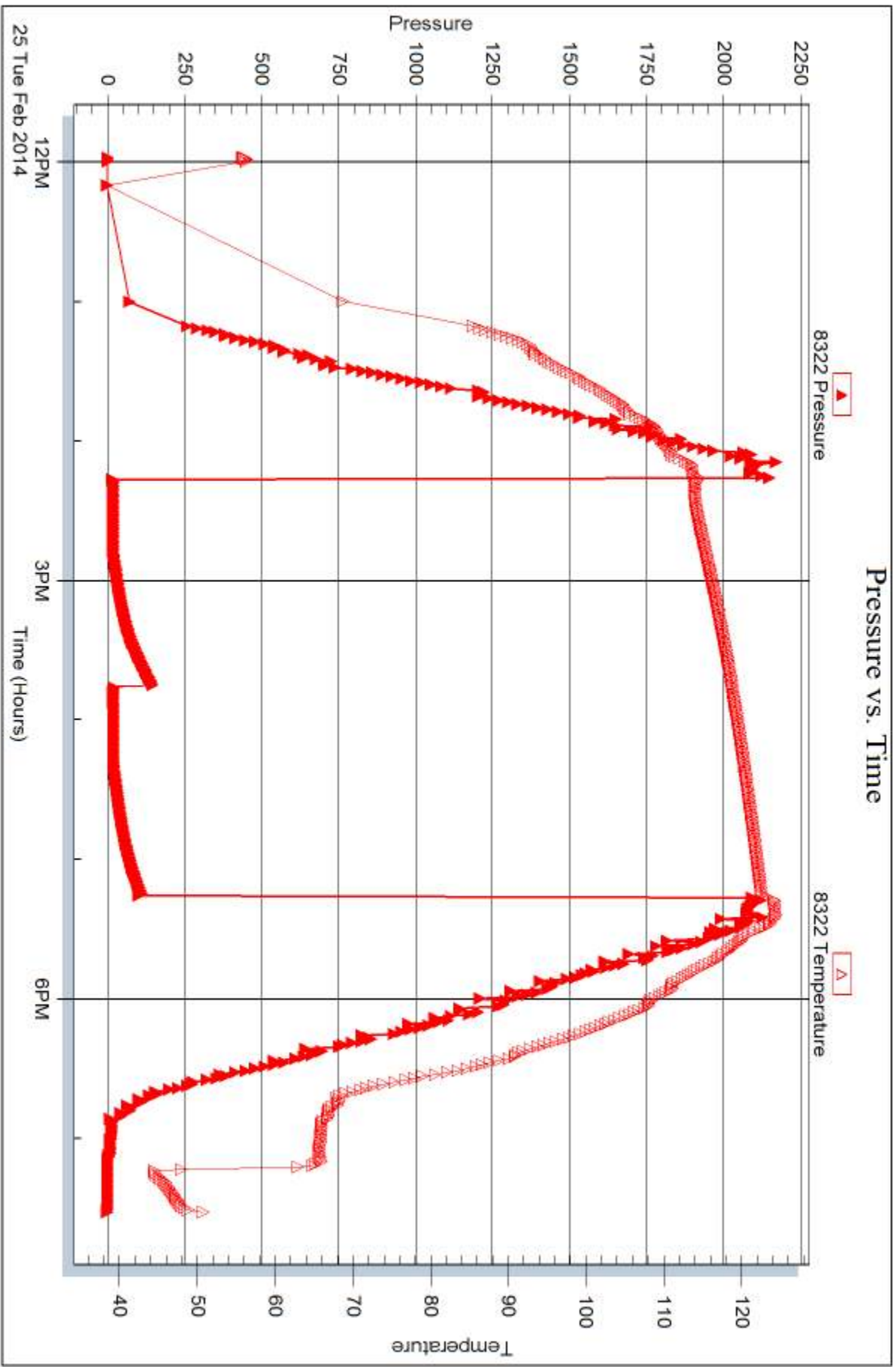


Serial #: 8322

Outside Murfin Drilling Co. Inc.

CPT #1-23

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 55973

Printed: 2014.03.03 @ 16:24:40



## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita KS 67206

ATTN: Rocky Milford

### **CFT #1-23**

### **23-2s-6w Rawlins KS**

Start Date: 2014.02.26 @ 07:30:00

End Date: 2014.02.26 @ 16:37:30

Job Ticket #: 55974                      DST #: 6

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.03.03 @ 16:24:07



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.  
 250 N. Water STE 300  
 Wichita KS 67206  
 ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
 Job Ticket: 55974      **DST#: 6**  
 Test Start: 2014.02.26 @ 07:30:00

## GENERAL INFORMATION:

Formation: **LKC " G' - J "**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:25:50  
 Time Test Ended: 16:37:30  
**Interval: 4330.00 ft (KB) To 4418.00 ft (KB) (TVD)**  
 Total Depth: 4418.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Nichols  
 Unit No: 58  
 Reference Elevations: 3272.00 ft (KB)  
 3267.00 ft (CF)  
 KB to GR/CF: 5.00 ft

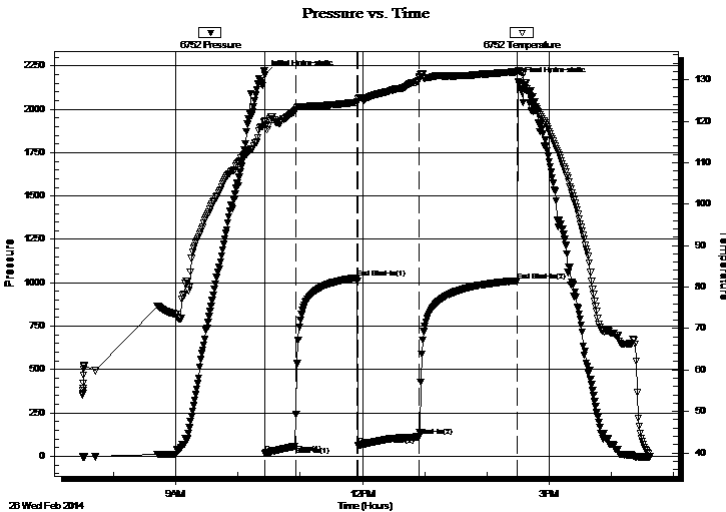
## Serial #: 6752

Inside

Press@RunDepth: 112.86 psig @ 4331.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2014.02.26      End Date: 2014.02.26      Last Calib.: 2014.02.26  
 Start Time: 07:30:01      End Time: 16:37:30      Time On Btm: 2014.02.26 @ 10:25:40  
 Time Off Btm: 2014.02.26 @ 14:30:00

TEST COMMENT: 30 IF - 3/4" blow built to 5" (in diesel)  
 60 ISI - No return  
 60 FF - Surface blow built to 6"  
 90 ISI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2197.63	120.12	Initial Hydro-static
1	16.34	119.11	Open To Flow (1)
30	58.46	122.56	Shut-In(1)
89	1029.55	124.58	End Shut-In(1)
90	62.29	124.76	Open To Flow (2)
149	112.86	130.50	Shut-In(2)
244	1012.53	131.92	End Shut-In(2)
245	2157.19	132.26	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
208.00	Mud w /skim of oil - 100%M	1.22

\* 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.
250 N. Water STE 300
Wichita KS 67206
ATTN: Rocky Milford

23-2s-6w Rawlins KS
CFT #1-23
Job Ticket: 55974 DST#: 6
Test Start: 2014.02.26 @ 07:30:00

GENERAL INFORMATION:

Formation: LKC "G" - J"
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:25:50
Time Test Ended: 16:37:30
Interval: 4330.00 ft (KB) To 4418.00 ft (KB) (TVD)
Total Depth: 4418.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Reference Elevations: 3272.00 ft (KB)
3267.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8322 Outside
Press@RunDepth: psig @ 4331.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.02.26 End Date: 2014.02.26 Last Calib.: 2014.02.26
Start Time: 07:30:01 End Time: 16:37:30 Time On Btm:
Time Off Btm:

TEST COMMENT: 30 IF - 3/4" blow built to 5" (in diesel)
60 ISI - No return
60 FF - Surface blow built to 6"
90 ISI - No return

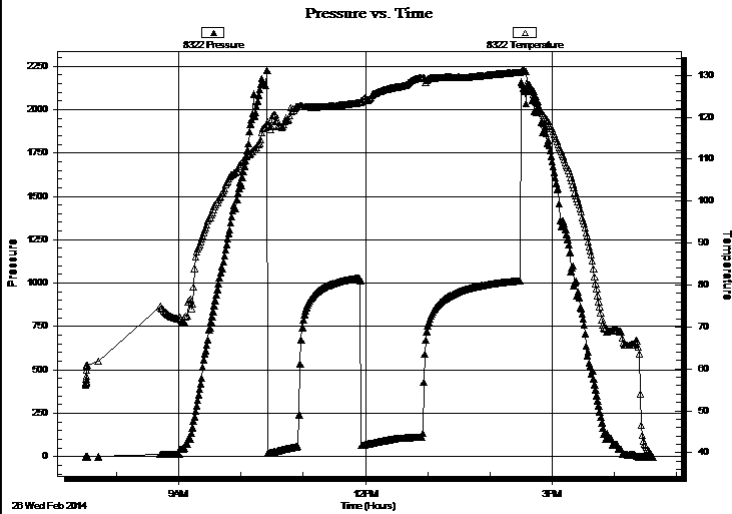


Table with 4 columns: Time (Min.), Pressure (psig), Temp (deg F), Annotation. This table is currently empty.

Recovery

Table with 3 columns: Length (ft), Description, Volume (bbl). Row 1: 208.00, Mud w /skim of oil - 100%M, 1.22.

\* Recovery from multiple tests

Gas Rates

Table with 4 columns: Choke (inches), Pressure (psig), Gas Rate (Mcf/d). This table is currently empty.



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc.  
250 N. Water STE 300  
Wichita KS 67206  
ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
Job Ticket: 55974      **DST#: 6**  
Test Start: 2014.02.26 @ 07:30:00

**Tool Information**

Drill Pipe:	Length: 4132.00 ft	Diameter: 3.80 inches	Volume: 57.96 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.87 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	4330.00 ft			Final 65000.00 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:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			4304.00	
Shut In Tool	5.00			4309.00	
Hydraulic tool	5.00			4314.00	
Jars	5.00			4319.00	
Safety Joint	2.00			4321.00	
Packer	5.00			4326.00	27.00      Bottom Of Top Packer
Packer	4.00			4330.00	
Stubb	1.00			4331.00	
Recorder	0.00	6752	Inside	4331.00	
Recorder	0.00	8322	Outside	4331.00	
Perforations	21.00			4352.00	
Blank Spacing	63.00			4415.00	
Bullnose	3.00			4418.00	88.00      Bottom Packers & Anchor

**Total Tool Length: 115.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc.

**23-2s-6w Rawlins KS**

250 N. Water STE 300  
Wichita KS 67206

**CFT #1-23**

Job Ticket: 55974

**DST#: 6**

ATTN: Rocky Milford

Test Start: 2014.02.26 @ 07:30:00

## 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: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 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 bbl
208.00	Mud w /skim of oil - 100%M	1.223

Total Length: 208.00 ft      Total Volume: 1.223 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

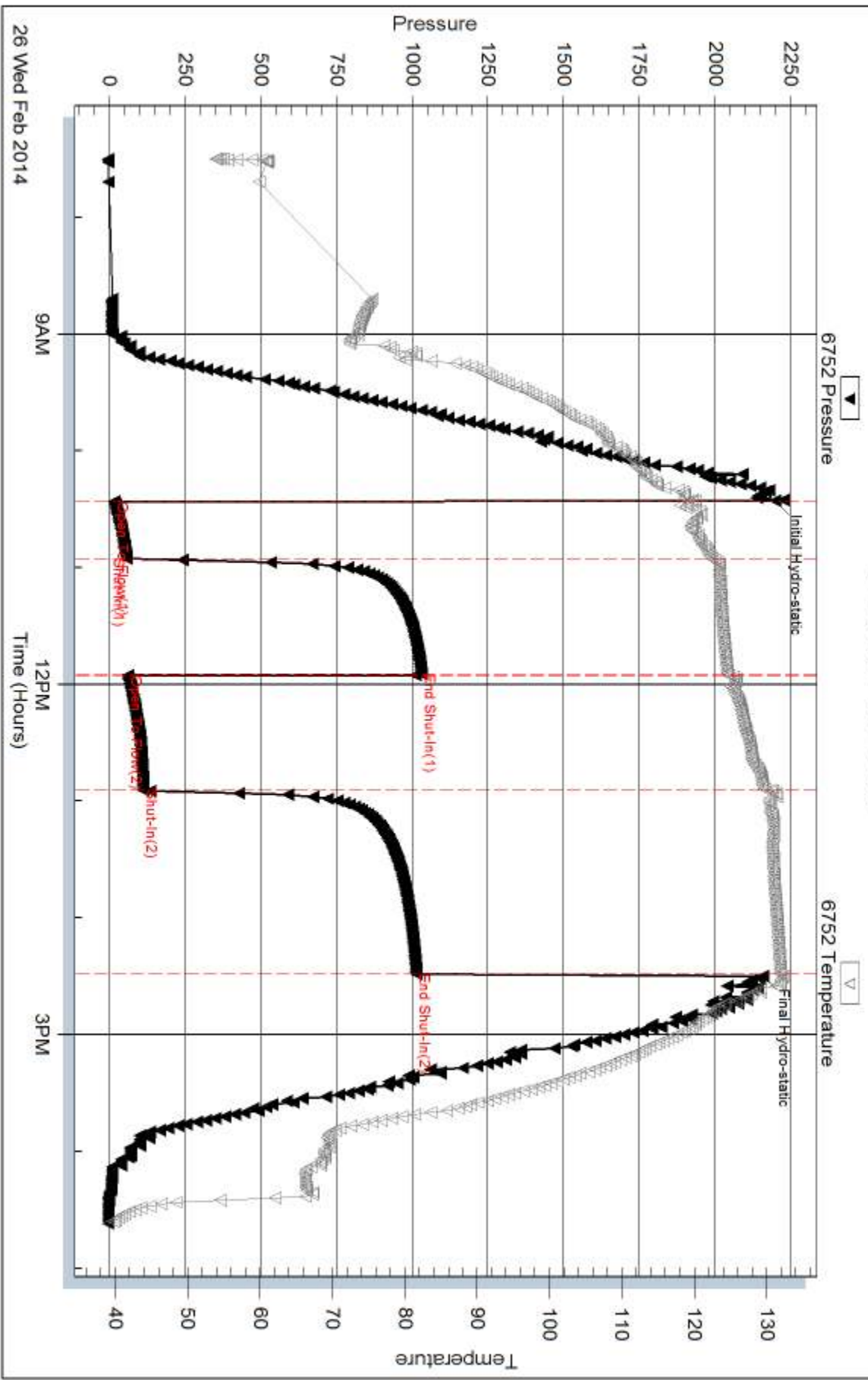
Laboratory Name:

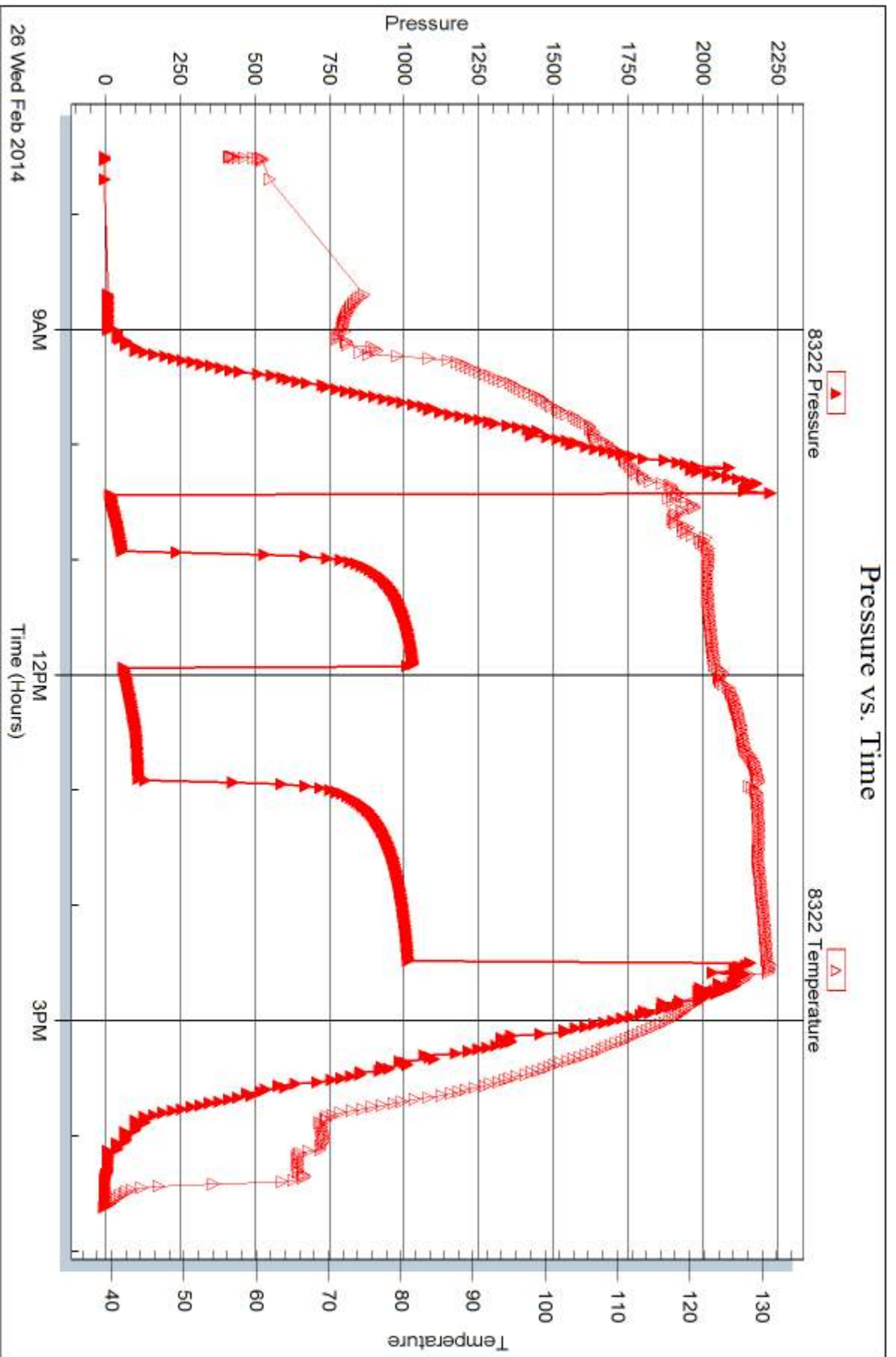
Laboratory Location:

Recovery Comments:



### Pressure vs. Time







## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita KS 67206

ATTN: Rocky Milford

### **CFT #1-23**

#### **23-2s-6w Rawlins KS**

Start Date: 2014.02.27 @ 16:03:00

End Date: 2014.02.28 @ 00:39:49

Job Ticket #: 55975                      DST #: 7

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.03.03 @ 16:23:21



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.  
 250 N. Water STE 300  
 Wichita KS 67206  
 ATTN: Rocky Milford

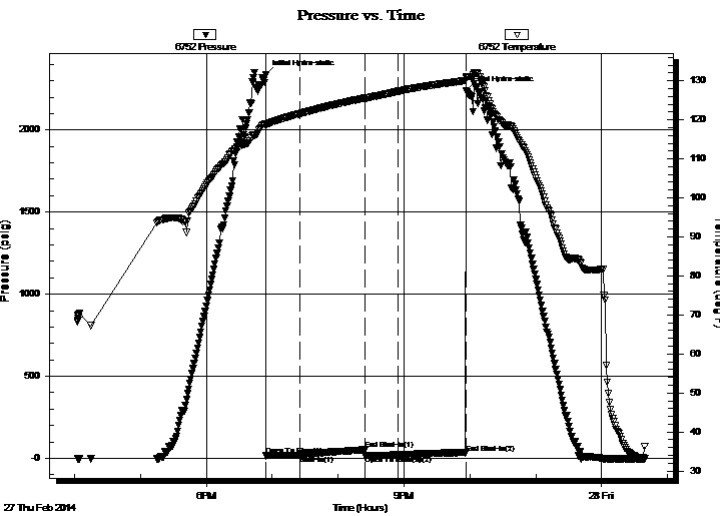
**23-2s-6w Rawlins KS**  
**CFT #1-23**  
 Job Ticket: 55975 **DST#: 7**  
 Test Start: 2014.02.27 @ 16:03:00

## GENERAL INFORMATION:

Formation: **Pawnee**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 18:54:20  
 Time Test Ended: 00:39:49  
 Interval: **4564.00 ft (KB) To 4645.00 ft (KB) (TVD)**  
 Total Depth: 4645.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Nichols  
 Unit No: 58  
 Reference Elevations: 3272.00 ft (KB)  
 3267.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6752 Inside**  
 Press@RunDepth: 20.65 psig @ 4565.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.27 End Date: 2014.02.28 Last Calib.: 2014.02.28  
 Start Time: 16:03:01 End Time: 00:39:49 Time On Btm: 2014.02.27 @ 18:54:00  
 Time Off Btm: 2014.02.27 @ 21:56:30

TEST COMMENT: 30 IF - 1/2" blow built to 1 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	2336.00	118.94	Initial Hydro-static
1	15.88	118.72	Open To Flow (1)
31	18.75	121.53	Shut-In(1)
90	52.68	125.53	End Shut-In(1)
91	18.95	125.52	Open To Flow (2)
121	20.65	127.27	Shut-In(2)
183	32.65	130.06	End Shut-In(2)
183	2239.84	130.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud - 100%M	0.00

\* 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.

**23-2s-6w Rawlins KS**

250 N. Water STE 300  
Wichita KS 67206

**CFT #1-23**

ATTN: Rocky Milford

Job Ticket: 55975

**DST#: 7**

Test Start: 2014.02.27 @ 16:03:00

### GENERAL INFORMATION:

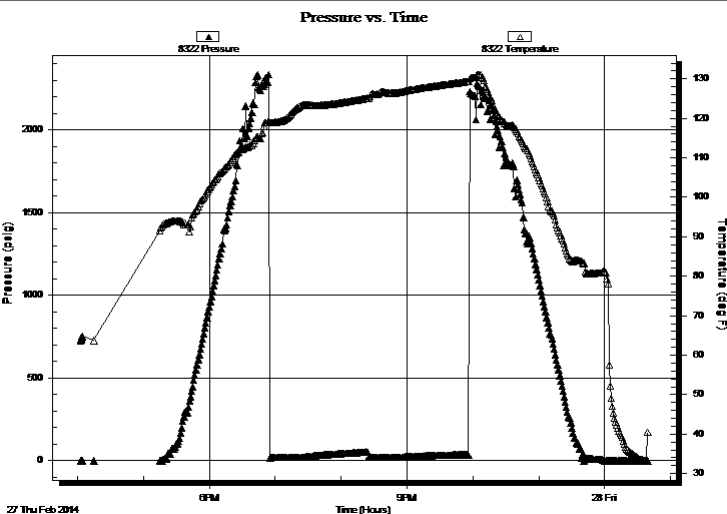
Formation: **Pawnee**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 18:54:20  
 Time Test Ended: 00:39:49  
 Interval: **4564.00 ft (KB) To 4645.00 ft (KB) (TVD)**  
 Total Depth: 4645.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Nichols  
 Unit No: 58  
 Reference Elevations: 3272.00 ft (KB)  
 3267.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8322**

**Outside**

Press@RunDepth: psig @ 4565.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.27 End Date: 2014.02.28 Last Calib.: 2014.02.28  
 Start Time: 16:03:01 End Time: 00:39:40 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30 IF - 1/2" blow built to 1 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)
1.00	Mud - 100%M	0.00

### 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.  
250 N. Water STE 300  
Wichita KS 67206  
ATTN: Rocky Milford

**23-2s-6w Rawlins KS**  
**CFT #1-23**  
Job Ticket: 55975      **DST#: 7**  
Test Start: 2014.02.27 @ 16:03:00

## Tool Information

Drill Pipe:	Length: 4383.00 ft	Diameter: 3.80 inches	Volume: 61.48 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: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 73000.00 lb
			<u>Total Volume: 62.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4564.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	81.00 ft			
Tool Length:	108.00 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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Change Over Sub	1.00			4538.00	
Shut In Tool	5.00			4543.00	
Hydraulic tool	5.00			4548.00	
Jars	5.00			4553.00	
Safety Joint	2.00			4555.00	
Packer	5.00			4560.00	27.00      Bottom Of Top Packer
Packer	4.00			4564.00	
Packer - Shale	0.00			4564.00	
Stubb	1.00			4565.00	
Recorder	0.00	6752	Inside	4565.00	
Recorder	0.00	8322	Outside	4565.00	
Perforations	13.00			4578.00	
Blank Spacing	64.00			4642.00	
Bullnose	3.00			4645.00	81.00      Bottom Packers & Anchor

**Total Tool Length: 108.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co. Inc.

**23-2s-6w Rawlins KS**

250 N. Water STE 300  
Wichita KS 67206

**CFT #1-23**

Job Ticket: 55975

**DST#: 7**

ATTN: Rocky Milford

Test Start: 2014.02.27 @ 16:03:00

### 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: 75.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 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
1.00	Mud - 100%M	0.005

Total Length: 1.00 ft      Total Volume: 0.005 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

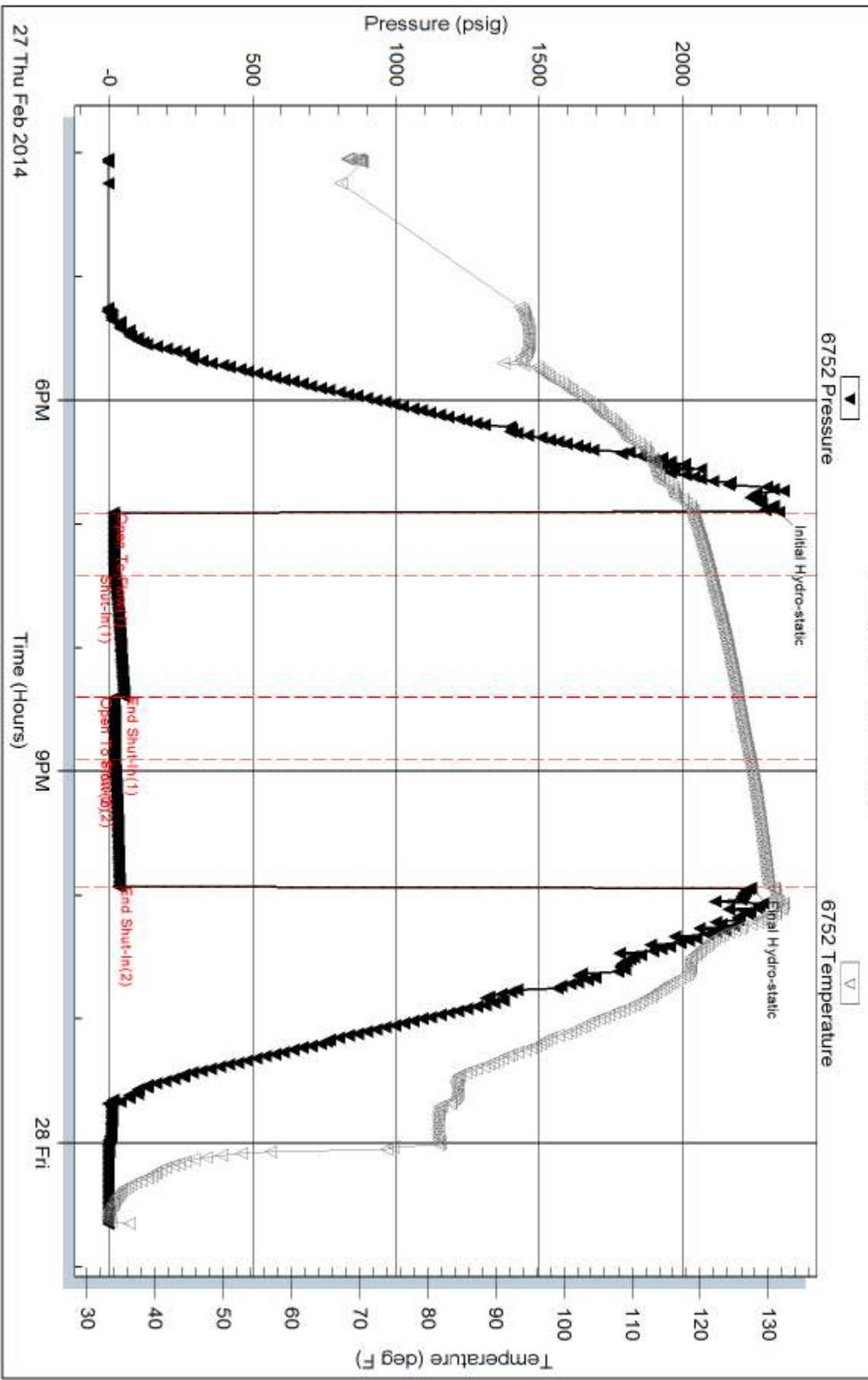
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Laboratory Name:

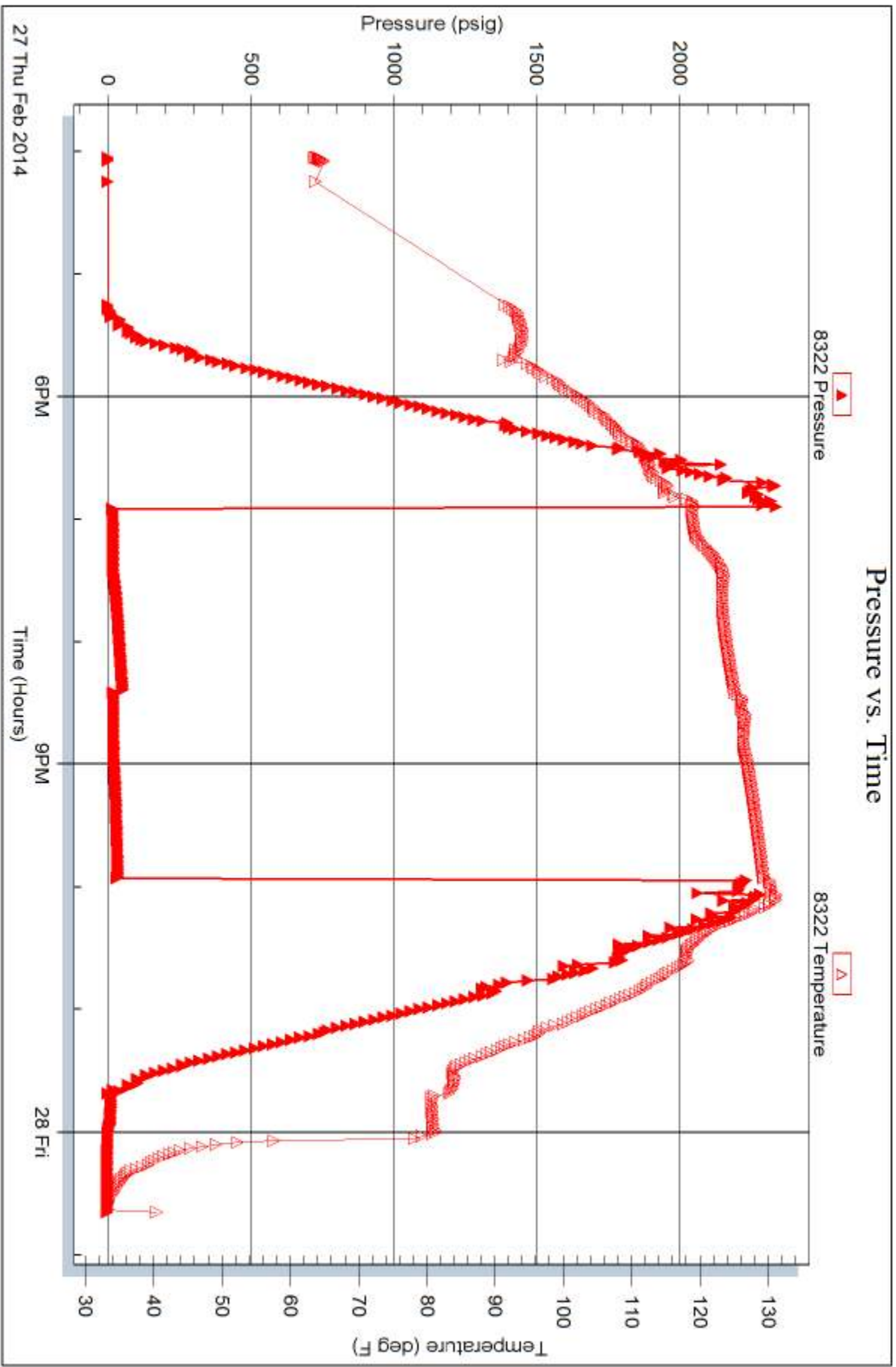
Laboratory Location:

Recovery Comments:

### Pressure vs. Time









# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55969

Well Name & No. CFT # 1-23 Test No. 1 Date 2/20/14  
 Company Murkin Drilling Co. Inc Elevation 3272 KB 3267 GL  
 Address 250 N. Water STE 300 Wichita KS 67206  
 Co. Rep / Geo. Rocky Milford Rig Murkin # 8  
 Location: Sec. 23 Twp. 25 Rge. 36W Co. Rawlins State KS

Interval Tested 3974 - 4015 Zone Tested Topeka  
 Anchor Length 41' Drill Pipe Run 3784' Mud Wt. 9.0  
 Top Packer Depth 3969 Drill Collars Run 186' Vis 65  
 Bottom Packer Depth 3974 Wt. Pipe Run 0' WL 6.4  
 Total Depth 4015 Chlorides 500 ppm System LCM 2  
 Blow Description IF - Tool opened on bridge & slid to Bottom 13; 1/4" blow  
built to 1" ISI - No return  
FF - No blow  
FSD - No return

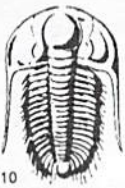
Rec	Feet of	%gas	%oil	%water	%mud
55'	Mud w/oil spots				

Rec Total 55 BHT 122° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2009</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>08:00</u>
(B) First Initial Flow <u>34</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>08:54</u>
(C) First Final Flow <u>41</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>11:08</u>
(D) Initial Shut-In <u>983</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>14:08</u>
(E) Second Initial Flow <u>42</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>15:54</u>
(F) Second Final Flow <u>49</u>	<input checked="" type="checkbox"/> Mileage <u>100 RT</u> 155	Comments
(G) Final Shut-In <u>943</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1871</u>	<input type="checkbox"/> Straddle	
	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
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>1980</u>
Final Flow <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
Final Shut-In <u>60</u>	Sub Total <u>1980</u>	

Approved By \_\_\_\_\_ Our Representative Rocky Milford

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55970

Well Name & No. CFT #1-23 Test No. 2 Date 2/23/14  
 Company Martin Drilling Co Inc. Elevation 3272 KB 3267 GL  
 Address 250 N. Water STE 300 Wichita KS 67206  
 Co. Rep / Geo. Rocky Milford Rig Martin #8  
 Location: Sec. 23 Twp. 25 Rge. 36W Co. Kawlin State KS

Interval Tested 4058 - 4124 Zone Tested Oread  
 Anchor Length 66' Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.0  
 Top Packer Depth 4053 Drill Collars Run 186' Vis 51  
 Bottom Packer Depth 4058 Wt. Pipe Run 0' WL 6.4  
 Total Depth 4124 Chlorides 400 ppm System LCM 2  
 Blow Description IF - 1/4" blow built to 1" (in diesel)  
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	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5' BHT 128° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2004</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>04:00</u>
(B) First Initial Flow <u>13</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>04:07</u>
(C) First Final Flow <u>18</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>07:46</u>
(D) Initial Shut-In <u>438</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>10:46</u>
(E) Second Initial Flow <u>18</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>12:40</u>
(F) Second Final Flow <u>21</u>	<input checked="" type="checkbox"/> Mileage <u>100 RT</u> <u>155</u>	Comments _____
(G) Final Shut-In <u>655</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>1957</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>1730</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1730</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55971

Well Name & No. CFT # 1-23 Test No. 3 Date 2/23/14  
 Company Martin Drilling Co. Inc. Elevation 3272 KB 3267 GL  
 Address 250 N. Water STE 300 Wichita KS 67206  
 Co. Rep / Geo. Rocky Milford Rig Martin # 8  
 Location: Sec. 23 Twp. 2S Rge. 36W Co. Rawlins State KS

Interval Tested 4140-4219 Zone Tested Leavenworth - LKC "A"  
 Anchor Length 79' Drill Pipe Run 3943' Mud Wt. 8.9  
 Top Packer Depth 4135 Drill Collars Run 186' Vis 67  
 Bottom Packer Depth 4140 Wt. Pipe Run 0' WL 6.4  
 Total Depth 4219 Chlorides 600 ppm System LCM 4  
 Blow Description IF - 1" blow built to Bob @ 20 mins (in diesel)  
ISI - No return  
FF - Surface blow built to Bob @ 24 mins  
FSI - No return

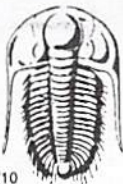
Rec	Feet of	%gas	%oil	%water	%mud
<u>20'</u>	<u>Mud</u>			<u>100</u>	
<u>126'</u>	<u>WCM</u>			<u>25</u>	<u>75</u>
<u>309'</u>	<u>MCW</u>			<u>90</u>	<u>10</u>

Rec Total 455 BHT 137° Gravity ✓ API RW .314 @ 46 °F Chlorides 35,000 ppm

(A) Initial Hydrostatic <u>2052</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>23:00</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>00:00</u>
(C) First Final Flow <u>127</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>02:21</u>
(D) Initial Shut-In <u>1206</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>06:21</u>
(E) Second Initial Flow <u>128</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>08:45</u>
(F) Second Final Flow <u>222</u>	<input checked="" type="checkbox"/> Mileage <u>100 RT 155</u>	Comments _____
(G) Final Shut-In <u>1177</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>1984</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1730</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1730</u>	

Approved By \_\_\_\_\_ Our Representative Rocky Milford

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55972

Well Name & No. CFT # 1-23 Test No. 4 Date 2/24/14  
 Company Murfin Drilling Co. Inc Elevation 3272 KB 3267 GL  
 Address 250 N. Water STE 300 Wichita KS 67206  
 Co. Rep / Geo. Rocky Milford Rig Murfin # 8  
 Location: Sec. 23 Twp. 25 Rge. 36 W Co. Rawlins State KS

Interval Tested 4214 - 4297 Zone Tested LKC "A Sand" - "D prime"  
 Anchor Length 83' Drill Pipe Run 4006' Mud Wt. 9.3  
 Top Packer Depth 4209 Drill Collars Run 186' Vis 55  
 Bottom Packer Depth 4214 Wt. Pipe Run 0' WL 5.6  
 Total Depth 4297 Chlorides 200 ppm System LCM 4

Blow Description IF - 7" blow built to 2" @ 25 mins died back to 1 1/2"  
(in diesel) ISI - No return  
FF - No blow  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>3'</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 3' BHT 125° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2102  Test 1250 T-On Location 18:30  
 (B) First Initial Flow 16  Jars 250 T-Started 18:53  
 (C) First Final Flow 18  Safety Joint 75 T-Open 21:24  
 (D) Initial Shut-In 47  Circ Sub NC T-Pulled 00:24  
 (E) Second Initial Flow 19  Hourly Standby \_\_\_\_\_ T-Out 02:48  
 (F) Second Final Flow 20  Mileage 100 RT 155 Comments \_\_\_\_\_  
 (G) Final Shut-In 35  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2007  Straddle \_\_\_\_\_

Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1730  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1730

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

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55973

Well Name & No. CFT # 1-23 Test No. 5 Date 2/25/14  
 Company Martin Drilling Co. Inc. Elevation 3272 KB 3267 GL  
 Address 250 N. Water STE 300 Wichita KS 67206  
 Co. Rep / Geo. Ricky Milford Rig Martin # 3  
 Location: Sec. 23 Twp. 2S Rge. 36W Co. Rawlins State KS

Interval Tested 4275-4335 Zone Tested LKC "G"  
 Anchor Length 60' Drill Pipe Run 4068' Mud Wt. 9.4  
 Top Packer Depth 4270 Drill Collars Run 186' Vis 62  
 Bottom Packer Depth 4275 Wt. Pipe Run 0' WL 6.4  
 Total Depth 4335 Chlorides 700 ppm System LCM 2  
 Blow Description IF - 1/4" blow built to 1 3/4" (in diesel)  
ISI - No return  
FF - No blow  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
3'	OCM	30		70	

Rec Total 3' BHT 123° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2147</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>11:30</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>11:58</u>
(C) First Final Flow <u>17</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>14:16</u>
(D) Initial Shut-In <u>148</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>17:16</u>
(E) Second Initial Flow <u>18</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>19:31</u>
(F) Second Final Flow <u>19</u>	<input checked="" type="checkbox"/> Mileage <u>100 RT</u> <u>155</u>	Comments _____
(G) Final Shut-In <u>112</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2025</u>	<input type="checkbox"/> Straddle _____	

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

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1730  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Ricky Milford

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. 55974

Well Name & No. OCFT # 1-23 Test No. 06 Date 2/26/14  
 Company Martin Drilling Co. Inc. Elevation 3272 KB 3267 GL  
 Address 250 N. Water STE 300 Wichita KS 67206  
 Co. Rep / Geo. Rocky Milford Rig Martin #8  
 Location: Sec. 33 Twp. 25 Rge. 36W Co. Rawlins State KS

Interval Tested 4330 - 4418 Zone Tested LKC "G" - "J"  
 Anchor Length 88' Drill Pipe Run 4132' Mud Wt. 9.1  
 Top Packer Depth 4325 Drill Collars Run 186' Vis 47  
 Bottom Packer Depth 4330 Wt. Pipe Run 0' WL 6.4  
 Total Depth 4418 Chlorides 1000 ppm System LCM 2  
 Blow Description IF - 3/4" blow built to 5" (in diesel)  
ISI - No return  
FF - Surface blow built to 6"  
ISI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>208'</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 208' BHT 132° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2198  Test 1250 T-On Location 07:00  
 (B) First Initial Flow 16  Jars 250 T-Started 07:30  
 (C) First Final Flow 58  Safety Joint 75 T-Open 10:26  
 (D) Initial Shut-In 1030  Circ Sub NC T-Pulled 14:26  
 (E) Second Initial Flow 62  Hourly Standby \_\_\_\_\_ T-Out 16:37  
 (F) Second Final Flow 113  Mileage 100 RT 155  
 (G) Final Shut-In 1013  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2157  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

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

Sub Total 1730

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. **55975**

Well Name & No. ~~000~~ CFT # 1-23 Test No. 7 Date 2/27/14  
 Company Martin Drilling Co. Inc. Elevation 3272 KB 3267 GL  
 Address 250 N. Water STE 300 Wichita KS 67206  
 Co. Rep / Geo. Rocky Milford Rig Martin # 8  
 Location: Sec. 23 Twp. 25 Rge. 36W Co. Rawlins State KS

Interval Tested 4564 - 4645 Zone Tested Pawnee  
 Anchor Length 81' Drill Pipe Run 4383' Mud Wt. 9.4  
 Top Packer Depth 4559 Drill Collars Run 186' Vis 75  
 Bottom Packer Depth 4564 Wt. Pipe Run 0' WL 5.6  
 Total Depth 4645 Chlorides 800 ppm System LCM 2

Blow Description IF - 1/2" blow built to 1 1/4"  
ISI - No return  
FF - No blow  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>1'</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 1' BHT 130° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2336  Test 1250 T-On Location 15:30  
 (B) First Initial Flow 16  Jars 250 T-Started 16:03  
 (C) First Final Flow 19  Safety Joint 75 T-Open 18:55  
 (D) Initial Shut-In 53  Circ Sub NC T-Pulled 21:55  
 (E) Second Initial Flow 19  Hourly Standby \_\_\_\_\_ T-Out 00:39  
 (F) Second Final Flow 21  Mileage 100 RT 155 Comments \_\_\_\_\_  
 (G) Final Shut-In 33  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2340  Straddle \_\_\_\_\_

Shale Packer 250  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1980  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1980

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

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