



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300  
Wichita KS 67202

ATTN: Rocky Milford

### **Gilbert #1-27**

#### **27-4s-31w Rawlins,KS**

Start Date: 2013.01.13 @ 02:18:00

End Date: 2013.01.13 @ 13:26:30

Job Ticket #: 49004                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.01.18 @ 13:06:44



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**27-4s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49004

**DST#: 1**

ATTN: Rocky Milford

Test Start: 2013.01.13 @ 02:18:00

## GENERAL INFORMATION:

Formation: **Toronto-Lan B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:45:00

Time Test Ended: 13:26:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Wilbur Steinbeck

Unit No: 40

**Interval: 3887.00 ft (KB) To 3973.00 ft (KB) (TVD)**

Reference Elevations: 2914.00 ft (KB)

Total Depth: 3973.00 ft (KB) (TVD)

2909.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8360**

**Inside**

Press @ Run Depth: 822.76 psig @ 3888.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.13

End Date: 2013.01.13

Last Calib.: 2013.01.13

Start Time: 02:18:15

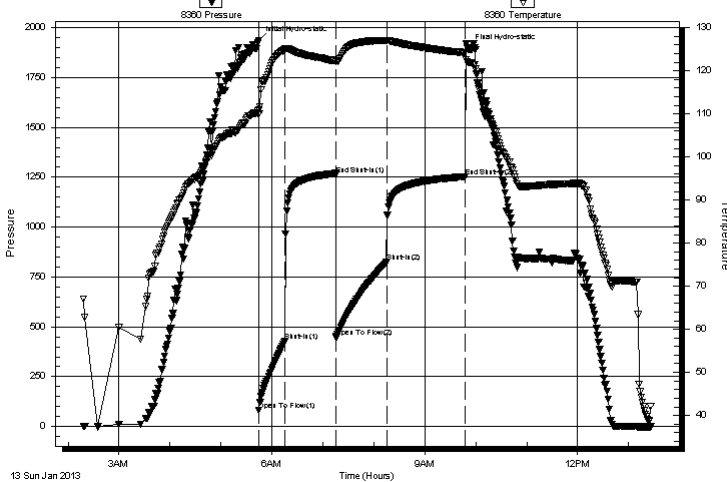
End Time: 13:26:30

Time On Btm: 2013.01.13 @ 05:44:15

Time Off Btm: 2013.01.13 @ 09:51:00

**TEST COMMENT:** 30 IF; BOB in 2 min  
60 IS; Built to 2"  
60 FF; BOB in 1 1/2 min  
90 FS; Built to 5"

Pressure vs. Time



## PRESSURE SUMMARY

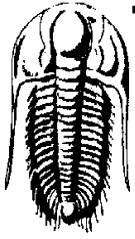
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1936.15	110.85	Initial Hydro-static
1	81.07	110.08	Open To Flow (1)
31	426.46	124.99	Shut-In(1)
91	1260.95	122.31	End Shut-In(1)
92	448.79	122.16	Open To Flow (2)
151	822.76	127.02	Shut-In(2)
243	1253.39	124.15	End Shut-In(2)
247	1892.83	121.95	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
248.00	OMCW 5%O 10%M 85%W	1.84
1533.00	Reversed Out	21.50
45.00	Oil 100%	0.63

## Gas Rates

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



**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

Murfin Drilling Co.  
 250 N Water STE 300  
 Wichita KS 67202  
 ATTN: Rocky Milford

**27-4s-31w Rawlins, KS**  
**Gilbert #1-27**  
 Job Ticket: 49004 **DST#: 1**  
 Test Start: 2013.01.13 @ 02:18:00

**GENERAL INFORMATION:**

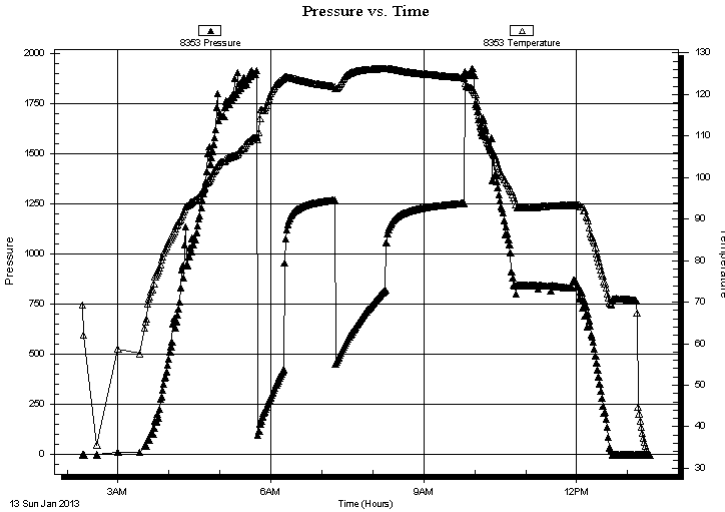
Formation: **Toronto-Lan B**  
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 05:45:00 Tester: Wilbur Steinbeck  
 Time Test Ended: 13:26:30 Unit No: 40  
 Interval: **3887.00 ft (KB) To 3973.00 ft (KB) (TVD)** Reference Elevations: 2914.00 ft (KB)  
 Total Depth: 3973.00 ft (KB) (TVD) 2909.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 8353 Outside**

Press @ Run Depth: psig @ 3888.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.01.13 End Date: 2013.01.13 Last Calib.: 2013.01.13  
 Start Time: 02:18:15 End Time: 13:26:30 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30 IF; BOB in 2 min  
 60 ISI; Built to 2"  
 60 FF; BOB in 1 1/2 min  
 90 FSI; Built to 5"

**PRESSURE SUMMARY**



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

**Recovery**

Length (ft)	Description	Volume (bbl)
248.00	OMCW 5%O 10%M 85%W	1.84
1533.00	Reversed Out	21.50
45.00	Oil 100%	0.63

**Gas Rates**

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**27-4s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49004

**DST#: 1**

ATTN: Rocky Milford

Test Start: 2013.01.13 @ 02:18:00

## Tool Information

Drill Pipe:	Length: 3694.00 ft	Diameter: 3.80 inches	Volume: 51.82 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose:	69000.00 lb
			<u>Total Volume: 52.71 bbl</u>	Tool Chased	2.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3887.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	86.00 ft				
Tool Length:	113.00 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			3861.00	
Shut In Tool	5.00			3866.00	
Hydraulic tool	5.00			3871.00	
Jars	5.00			3876.00	
Safety Joint	2.00			3878.00	
Packer	5.00			3883.00	27.00 Bottom Of Top Packer
Packer	4.00			3887.00	
Stubb	1.00			3888.00	
Recorder	0.00	8360	Inside	3888.00	
Recorder	0.00	8353	Outside	3888.00	
Perforations	18.00			3906.00	
Change Over Sub	1.00			3907.00	
Drill Pipe	62.00			3969.00	
Change Over Sub	1.00			3970.00	
Bullnose	3.00			3973.00	86.00 Bottom Packers & Anchor

**Total Tool Length: 113.00**



**TRILOBITE  
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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**27-4s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49004

**DST#: 1**

ATTN: Rocky Milford

Test Start: 2013.01.13 @ 02:18:00

## 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: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
248.00	OMCW 5%O 10%M 85%W	1.839
1533.00	Reversed Out	21.504
45.00	Oil 100%	0.631

Total Length: 1826.00 ft      Total Volume: 23.974 bbl

Num Fluid Samples: 0

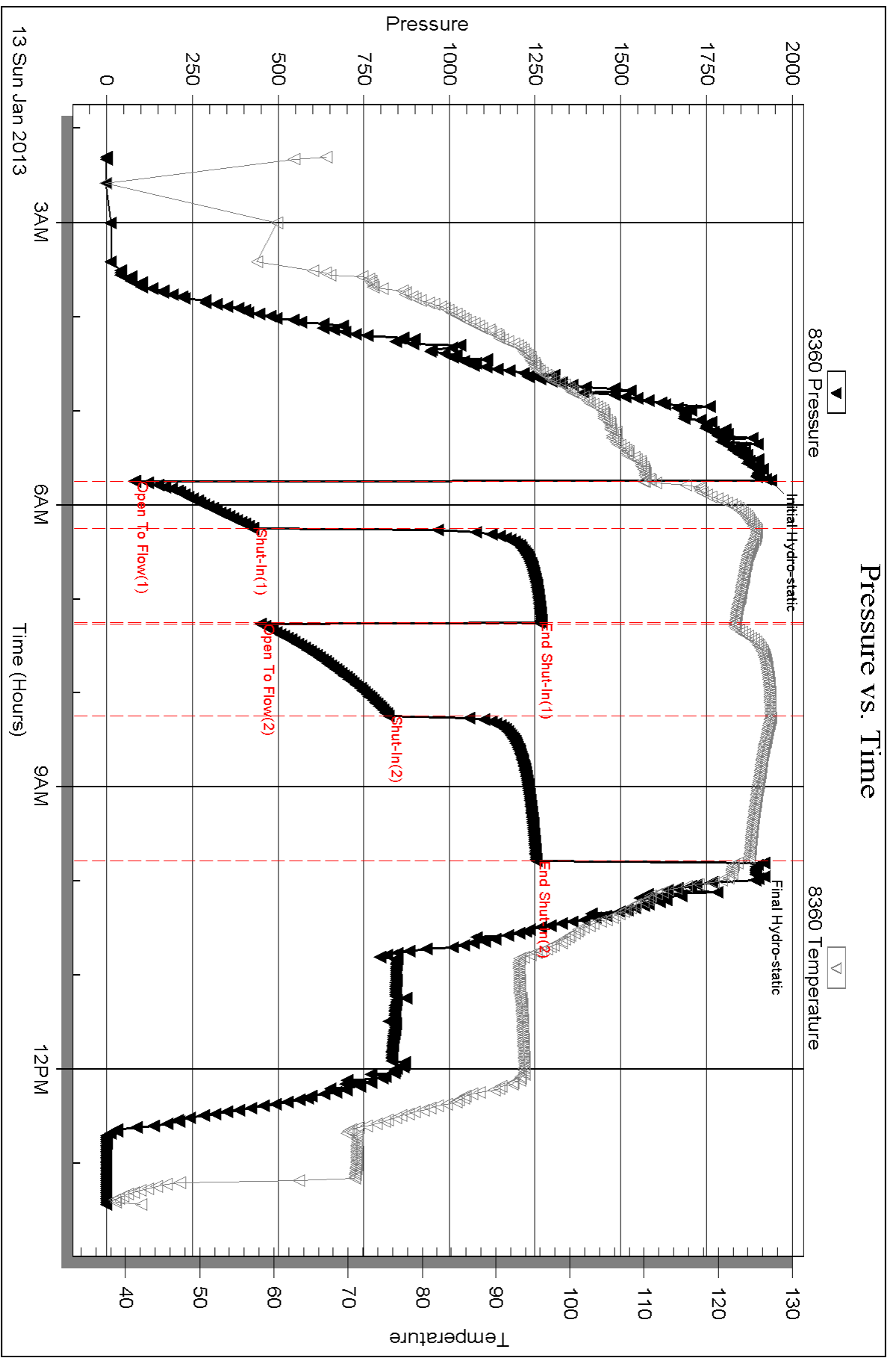
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

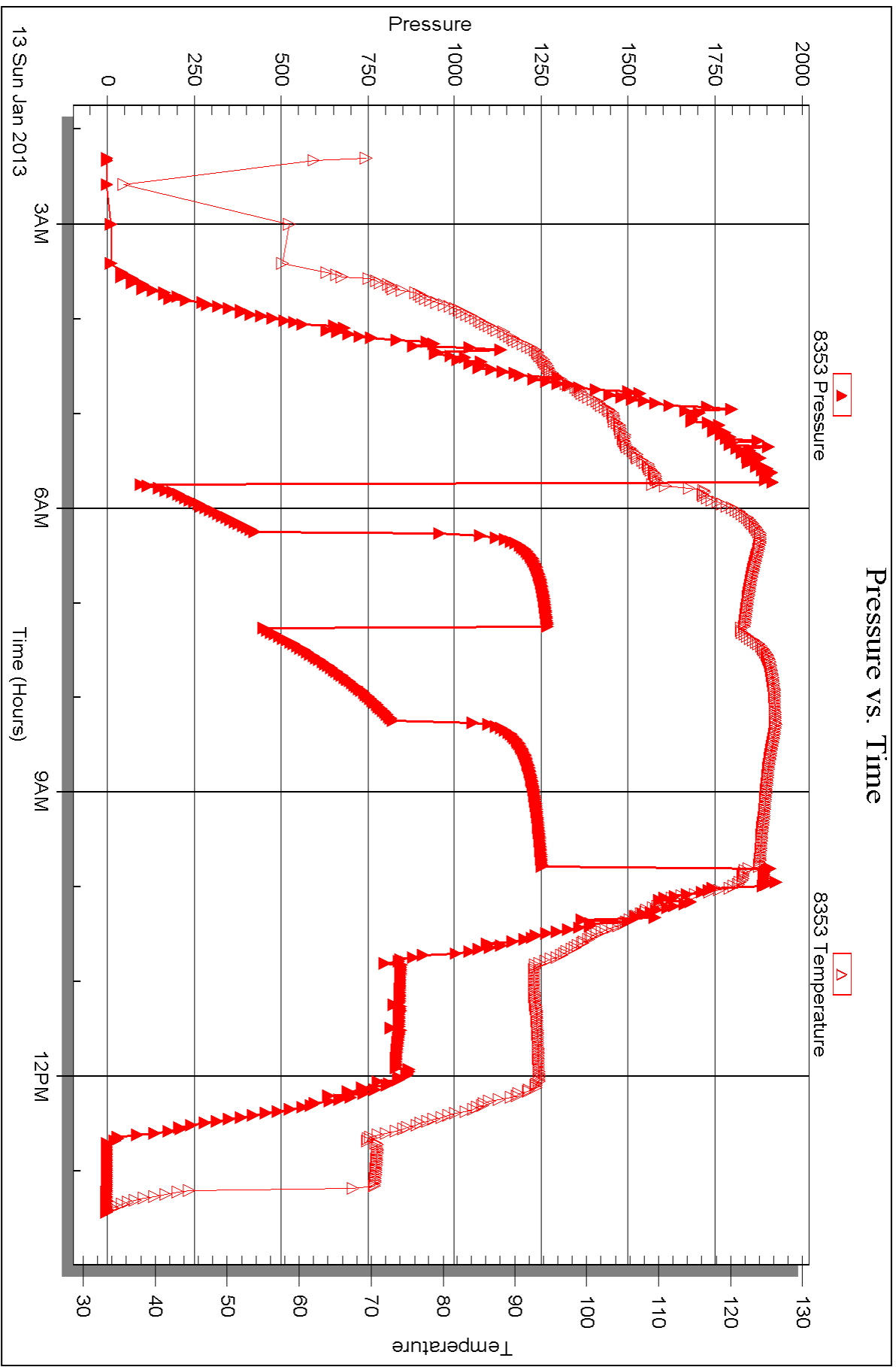


Serial #: 8353

Outside Murfin Drilling Co.

Gilbert #1-27

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300  
Wichita KS 67202

ATTN: Rocky Milford

### **Gilbert #1-27**

#### **27-4s-31w Rawlins,KS**

Start Date: 2013.01.13 @ 23:55:00

End Date: 2013.01.14 @ 09:22:15

Job Ticket #: 49005                      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.

**27-4s-31w Rawlins, KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49005

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2013.01.13 @ 23:55:00

## GENERAL INFORMATION:

Formation: **LKC E-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:24:45

Time Test Ended: 09:22:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 40

**Interval: 3987.00 ft (KB) To 4014.00 ft (KB) (TVD)**

Reference Elevations: 2914.00 ft (KB)

Total Depth: 4014.00 ft (KB) (TVD)

2909.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8360**

**Inside**

Press @ Run Depth: 148.23 psig @ 3988.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.13

End Date:

2013.01.14

Last Calib.:

2013.01.14

Start Time:

23:55:15

End Time:

09:22:15

Time On Btm:

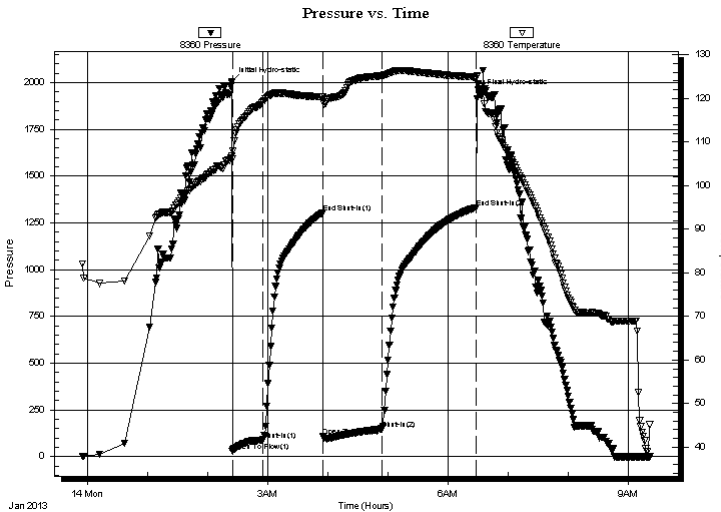
2013.01.14 @ 02:24:00

Time Off Btm:

2013.01.14 @ 06:32:15

**TEST COMMENT:** 30 IF; BOB in 5 1/2 min  
60 ISI; Built to 4"  
60 FF; BOB in 5 min  
90 FSI; Built to 5" died to 1"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2003.20	106.70	Initial Hydro-static
1	29.58	106.12	Open To Flow (1)
31	88.81	119.01	Shut-In(1)
91	1302.98	120.30	End Shut-In(1)
92	109.30	119.25	Open To Flow (2)
150	148.23	125.22	Shut-In(2)
245	1331.90	124.90	End Shut-In(2)
249	1942.88	122.74	Final Hydro-static

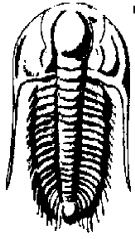
## Recovery

Length (ft)	Description	Volume (bbl)
186.00	WGOCM 2%W 28%G 30%O 40%M	0.97
127.00	GO 40%G 60%O	1.78
744.00	Gas In Pipe	10.44

## Gas Rates

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

\* Recovery from multiple tests



**TRILOLOBITE  
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**DRILL STEM TEST REPORT**

Murfin Drilling Co.

**27-4s-31w Rawlins, KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49005

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2013.01.13 @ 23:55:00

**GENERAL INFORMATION:**

Formation: **LKC E-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:24:45

Time Test Ended: 09:22:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 40

**Interval: 3987.00 ft (KB) To 4014.00 ft (KB) (TVD)**

Reference Elevations: 2914.00 ft (KB)

Total Depth: 4014.00 ft (KB) (TVD)

2909.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8353 Outside**

Press @ Run Depth: psig @ 3988.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.13 End Date: 2013.01.14

Last Calib.: 2013.01.14

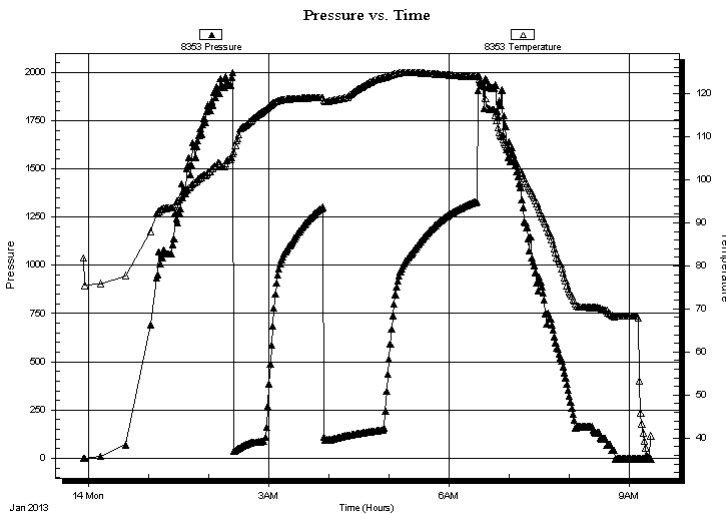
Start Time: 23:55:15 End Time: 09:22:15

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 30 IF; BOB in 5 1/2 min  
60 IS; Built to 4"  
60 FF; BOB in 5 min  
90 FS; Built to 5" died to 1"

**PRESSURE SUMMARY**



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

**Recovery**

Length (ft)	Description	Volume (bbl)
186.00	WGO CM 2%W 28%G 30%O 40%M	0.97
127.00	GO 40%G 60%O	1.78
744.00	Gas In Pipe	10.44

\* 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.

**27-4s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49005

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2013.01.13 @ 23:55:00

## Tool Information

Drill Pipe:	Length: 3786.00 ft	Diameter: 3.80 inches	Volume: 53.11 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose:	lb
			<u>Total Volume: 54.00 bbl</u>	Tool Chased	2.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	3987.00 ft			Final	lb
Depth to Bottom Packer:	ft				
Interval between Packers:	27.00 ft				
Tool Length:	54.00 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			3961.00	
Shut In Tool	5.00			3966.00	
Hydraulic tool	5.00			3971.00	
Jars	5.00			3976.00	
Safety Joint	2.00			3978.00	
Packer	5.00			3983.00	27.00 Bottom Of Top Packer
Packer	4.00			3987.00	
Stubb	1.00			3988.00	
Recorder	0.00	8360	Inside	3988.00	
Recorder	0.00	8353	Outside	3988.00	
Perforations	23.00			4011.00	
Bullnose	3.00			4014.00	27.00 Bottom Packers & Anchor

**Total Tool Length: 54.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**27-4s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49005

**DST#: 2**

ATTN: Rocky Milford

Test Start: 2013.01.13 @ 23:55:00

## 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: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	WGOCM 2%W 28%G 30%O 40%M	0.969
127.00	GO 40%G 60%O	1.781
744.00	Gas In Pipe	10.436

Total Length: 1057.00 ft      Total Volume: 13.186 bbl

Num Fluid Samples: 0

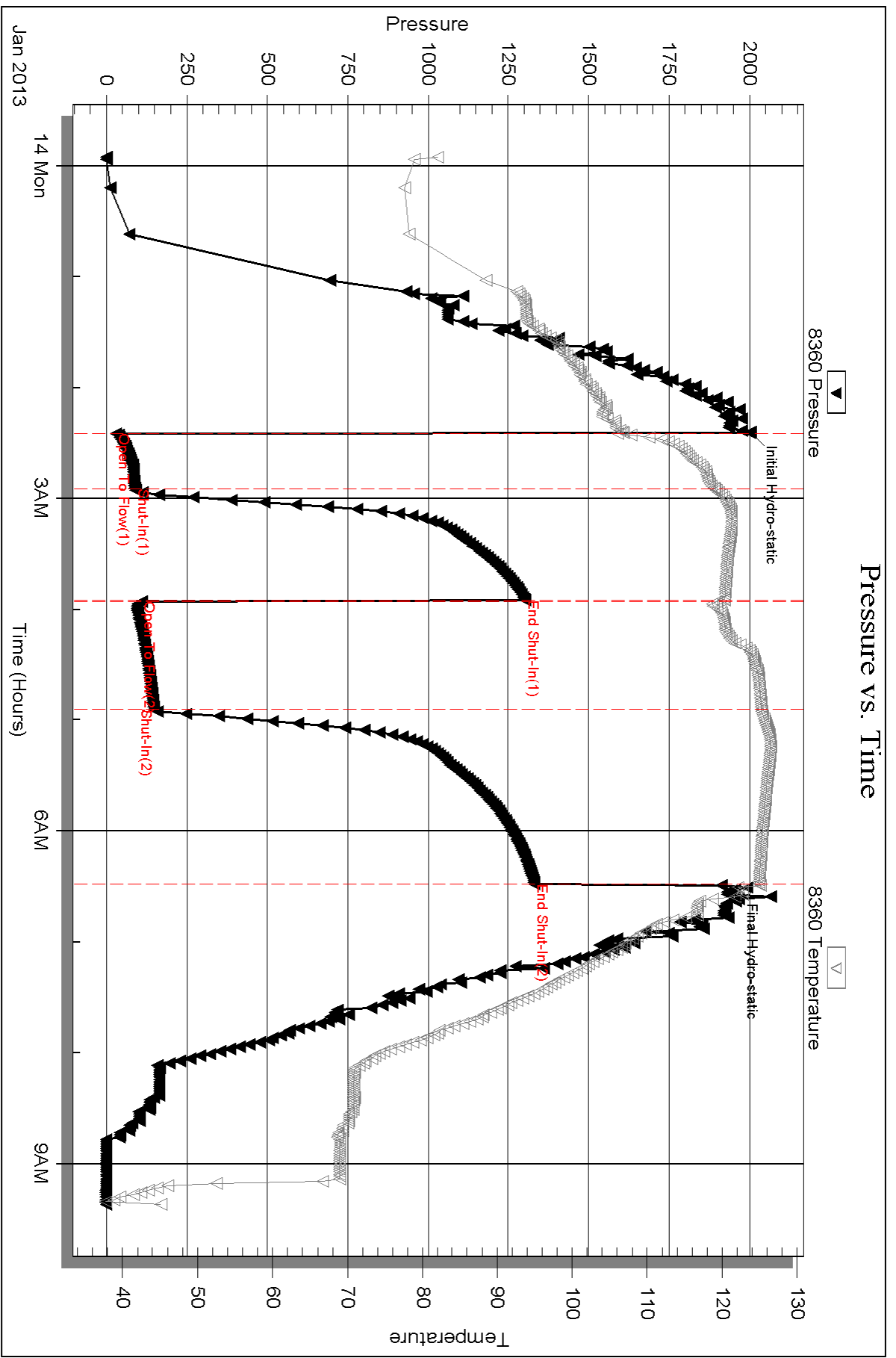
Num Gas Bombs: 0

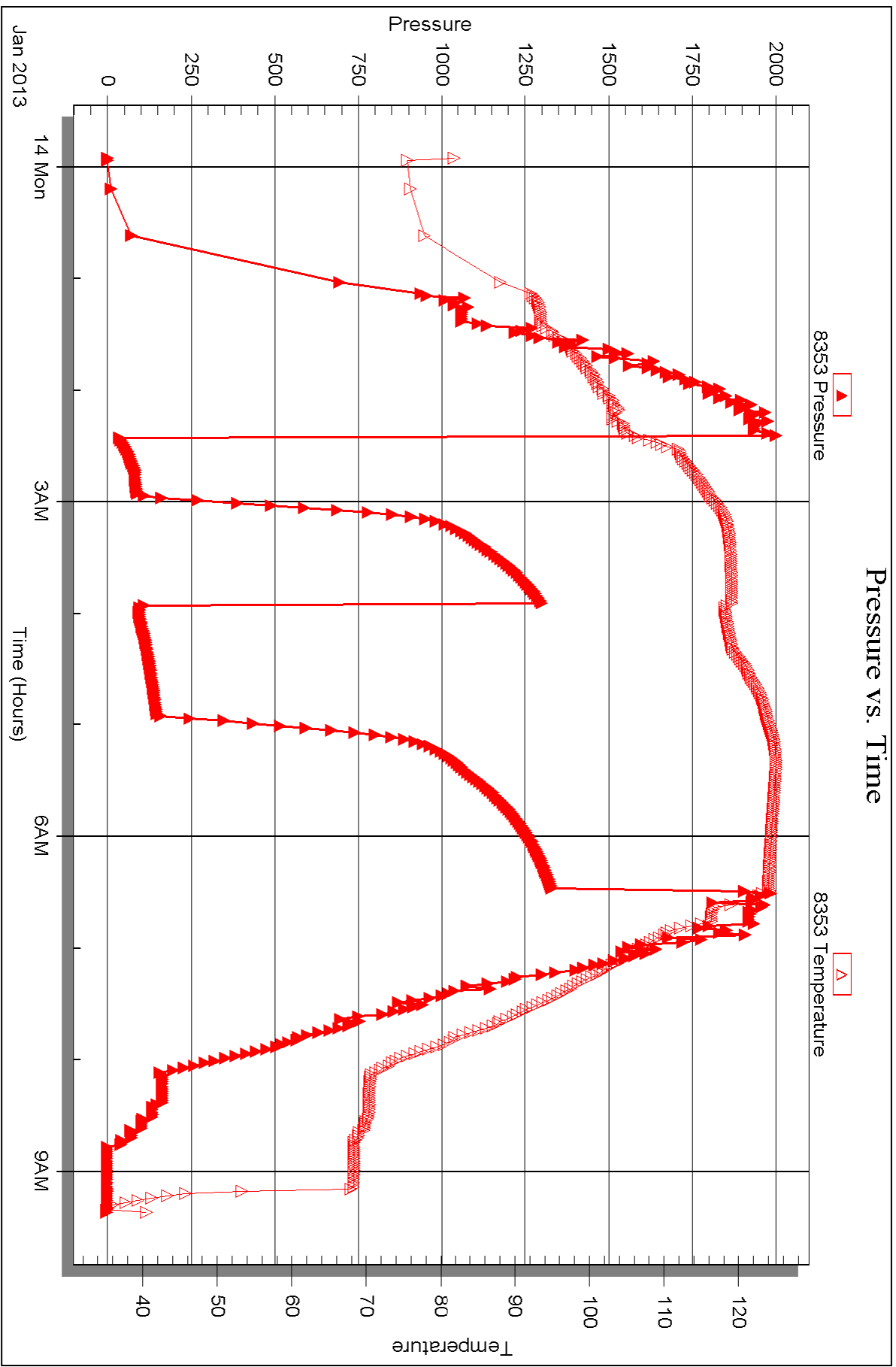
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300  
Wichita KS 67202

ATTN: Rocky Milford

### **Gilbert #1-27**

#### **27-4s-31w Rawlins,KS**

Start Date: 2013.01.15 @ 12:00:00

End Date: 2013.01.15 @ 19:52:30

Job Ticket #: 49006                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.01.18 @ 13:04:52



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**27-4s-31w Rawlins, KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49006

**DST#: 3**

ATTN: Rocky Milford

Test Start: 2013.01.15 @ 12:00:00

## GENERAL INFORMATION:

Formation: **Lan H-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:23:15

Time Test Ended: 19:52:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 40

**Interval: 4036.00 ft (KB) To 4109.00 ft (KB) (TVD)**

Reference Elevations: 2914.00 ft (KB)

Total Depth: 4109.00 ft (KB) (TVD)

2909.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8360**

**Inside**

Press @ Run Depth: 21.33 psig @ 4037.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.15

End Date:

2013.01.15

Last Calib.: 2013.01.15

Start Time: 12:00:15

End Time:

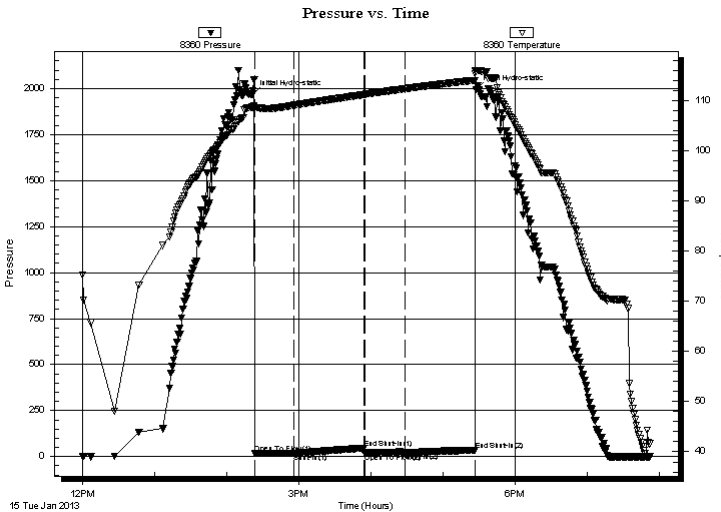
19:52:30

Time On Btm: 2013.01.15 @ 14:21:15

Time Off Btm: 2013.01.15 @ 17:27:45

**TEST COMMENT:** 30 IF; Weak Surface blow built to 1/4"  
60 IS; No Blow  
30 FF; Weak surface blow died in 10 min  
60 FS; No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1967.86	108.67	Initial Hydro-static
2	17.75	108.40	Open To Flow (1)
35	18.89	109.07	Shut-In(1)
93	45.96	111.20	End Shut-In(1)
94	19.37	111.21	Open To Flow (2)
128	21.33	112.38	Shut-In(2)
185	34.55	114.06	End Shut-In(2)
187	1992.95	115.94	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud	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.

**27-4s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49006

**DST#: 3**

ATTN: Rocky Milford

Test Start: 2013.01.15 @ 12:00:00

## Tool Information

Drill Pipe:	Length: 3850.00 ft	Diameter: 3.80 inches	Volume: 54.01 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 54.90 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4036.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	73.00 ft			
Tool Length:	100.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4010.00	
Shut In Tool	5.00			4015.00	
Hydraulic tool	5.00			4020.00	
Jars	5.00			4025.00	
Safety Joint	2.00			4027.00	
Packer	5.00			4032.00	27.00 Bottom Of Top Packer
Packer	4.00			4036.00	
Stubb	1.00			4037.00	
Recorder	0.00	8360	Inside	4037.00	
Recorder	0.00	8353	Outside	4037.00	
Perforations	36.00			4073.00	
Change Over Sub	1.00			4074.00	
Drill Pipe	31.00			4105.00	
Change Over Sub	1.00			4106.00	
Bullnose	3.00			4109.00	73.00 Bottom Packers & Anchor

**Total Tool Length: 100.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**27-4s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49006

**DST#: 3**

ATTN: Rocky Milford

Test Start: 2013.01.15 @ 12:00:00

## 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:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3300.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	Mud	0.005

Total Length: 1.00 ft      Total Volume: 0.005 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

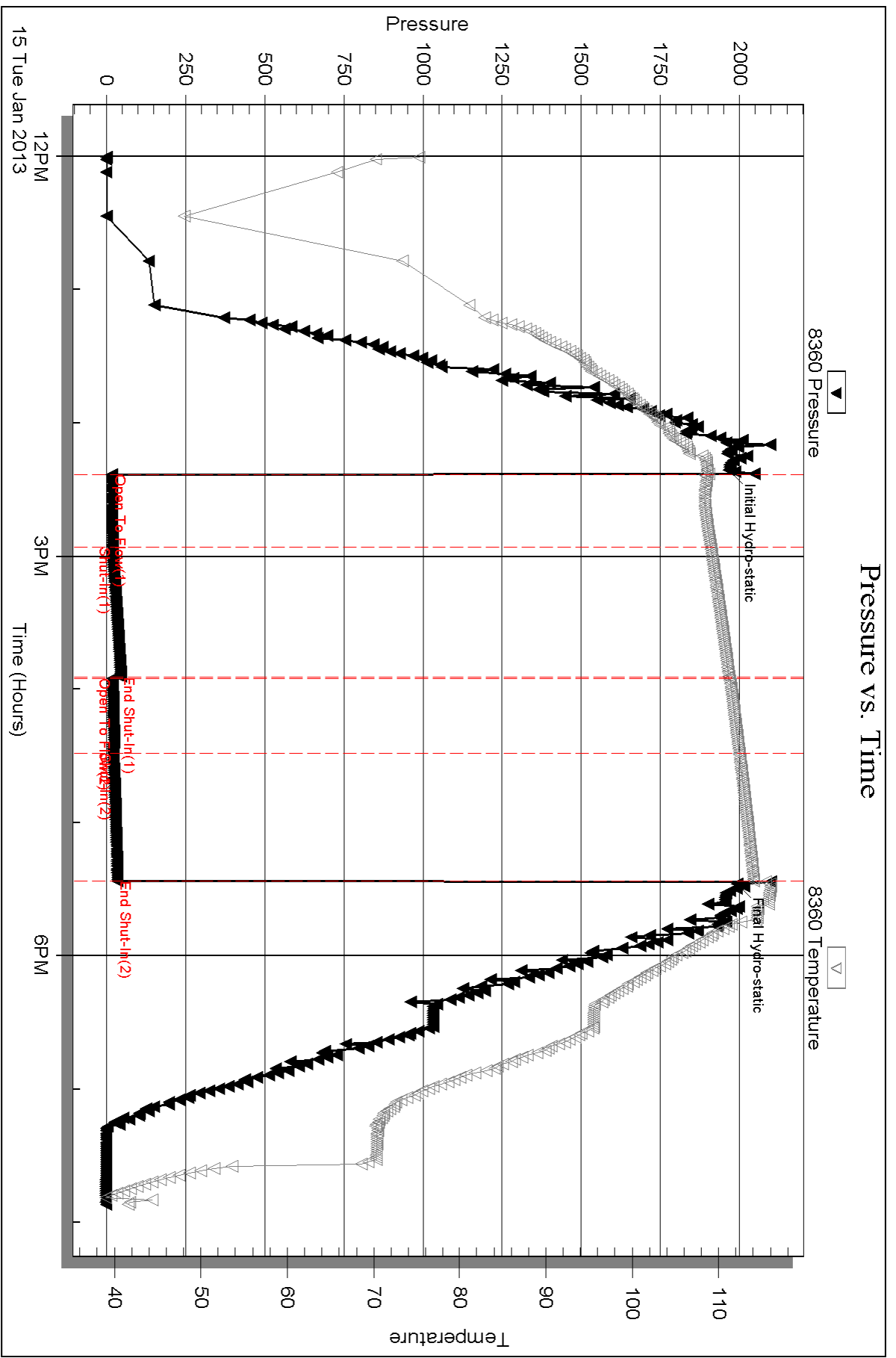
Serial #: 8360

Inside

Murfin Drilling Co.

Gilbert #1-27

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 49006

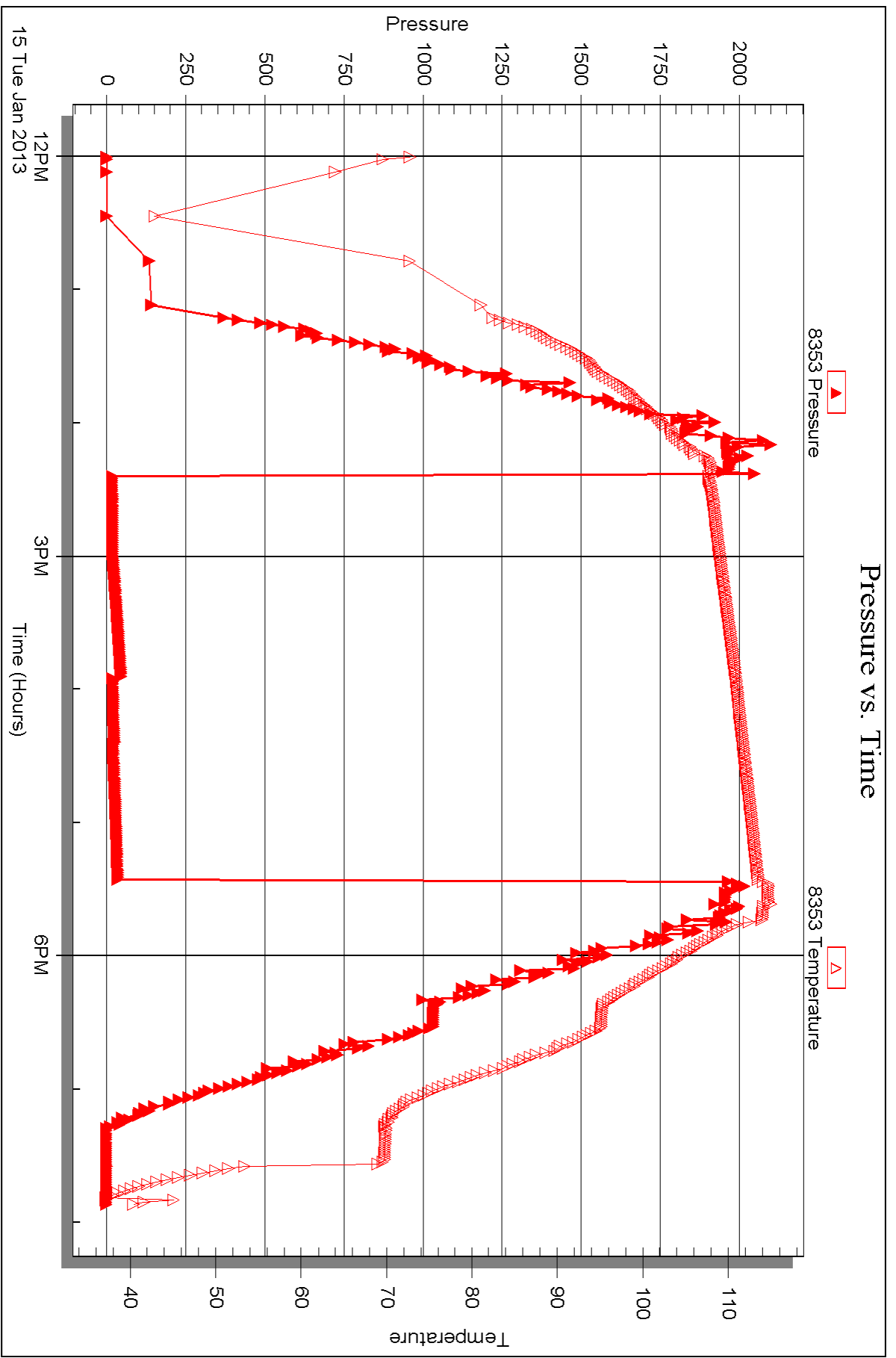
Printed: 2013.01.18 @ 13:04:54

Serial #: 8353

Outside Murfin Drilling Co.

Gilbert #1-27

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water STE 300  
Wichita KS 67202

ATTN: Rocky Milford

### **Gilbert #1-27**

#### **27-4s-31w Rawlins,KS**

Start Date: 2013.01.15 @ 17:10:00

End Date: 2013.01.16 @ 01:52:30

Job Ticket #: 49007                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.01.18 @ 13:03:10



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**27-4s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49007

**DST#: 4**

ATTN: Rocky Milford

Test Start: 2013.01.15 @ 17:10:00

## GENERAL INFORMATION:

Formation: **Lan K-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:53:45

Time Test Ended: 01:52:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 40

**Interval: 4103.00 ft (KB) To 4160.00 ft (KB) (TVD)**

Reference Elevations: 2914.00 ft (KB)

Total Depth: 4160.00 ft (KB) (TVD)

2909.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8360**

**Inside**

Press @ Run Depth: 22.01 psig @ 4104.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.15

End Date:

2013.01.16

Last Calib.: 2013.01.16

Start Time: 17:10:15

End Time:

01:52:30

Time On Btm: 2013.01.15 @ 19:52:45

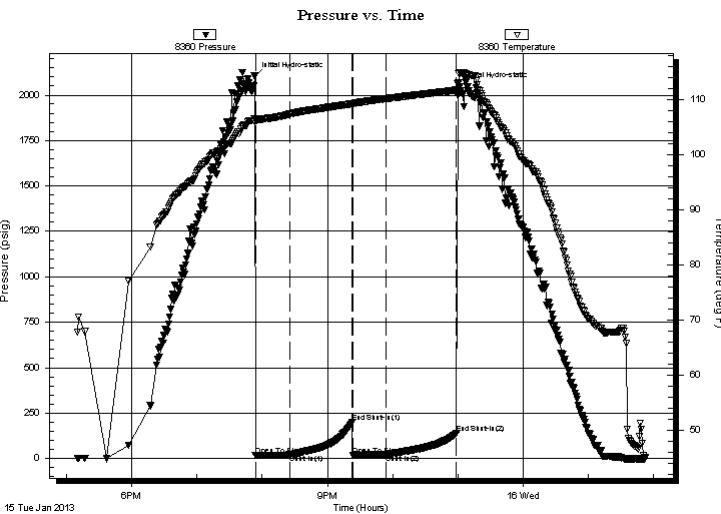
Time Off Btm: 2013.01.15 @ 23:01:45

TEST COMMENT: 30 IF; Surface Blow

60 IS; No Blow

30 FF; No Blow

60 FS; No Blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2104.49	106.61	Initial Hydro-static
1	17.95	106.29	Open To Flow (1)
33	21.79	107.47	Shut-In(1)
90	197.99	109.32	End Shut-In(1)
91	20.00	109.33	Open To Flow (2)
121	22.01	110.23	Shut-In(2)
186	139.29	111.77	End Shut-In(2)
189	2046.88	114.88	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM 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.

**27-4s-31w Rawlins, KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49007

**DST#: 4**

ATTN: Rocky Milford

Test Start: 2013.01.15 @ 17:10:00

## GENERAL INFORMATION:

Formation: **Lan K-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:53:45

Time Test Ended: 01:52:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Wilbur Steinbeck

Unit No: 40

**Interval: 4103.00 ft (KB) To 4160.00 ft (KB) (TVD)**

Reference Elevations: 2914.00 ft (KB)

Total Depth: 4160.00 ft (KB) (TVD)

2909.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8353 Outside**

Press @ Run Depth: psig @ 4104.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.01.15

End Date:

2013.01.16

Last Calib.:

2013.01.16

Start Time: 17:10:15

End Time:

01:52:30

Time On Btm:

Time Off Btm:

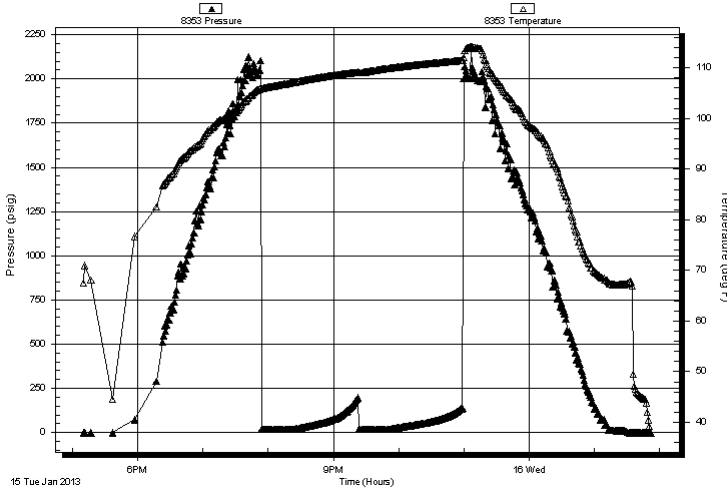
TEST COMMENT: 30 IF; Surface Blow

60 IS; No Blow

30 FF; No Blow

60 FS; No Blow

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

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

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**27-4s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49007

**DST#: 4**

ATTN: Rocky Milford

Test Start: 2013.01.15 @ 17:10:00

## Tool Information

Drill Pipe:	Length: 3913.00 ft	Diameter: 3.80 inches	Volume: 54.89 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 55.78 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4103.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	84.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4077.00	
Shut In Tool	5.00			4082.00	
Hydraulic tool	5.00			4087.00	
Jars	5.00			4092.00	
Safety Joint	2.00			4094.00	
Packer	5.00			4099.00	27.00 Bottom Of Top Packer
Packer	4.00			4103.00	
Stubb	1.00			4104.00	
Recorder	0.00	8360	Inside	4104.00	
Recorder	0.00	8353	Outside	4104.00	
Perforations	20.00			4124.00	
Change Over Sub	1.00			4125.00	
Drill Pipe	31.00			4156.00	
Change Over Sub	1.00			4157.00	
Bullnose	3.00			4160.00	57.00 Bottom Packers & Anchor

**Total Tool Length: 84.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**27-4s-31w Rawlins,KS**

250 N Water STE 300  
Wichita KS 67202

**Gilbert #1-27**

Job Ticket: 49007

**DST#: 4**

ATTN: Rocky Milford

Test Start: 2013.01.15 @ 17:10:00

## 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: 58.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OSM 100%M	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8360

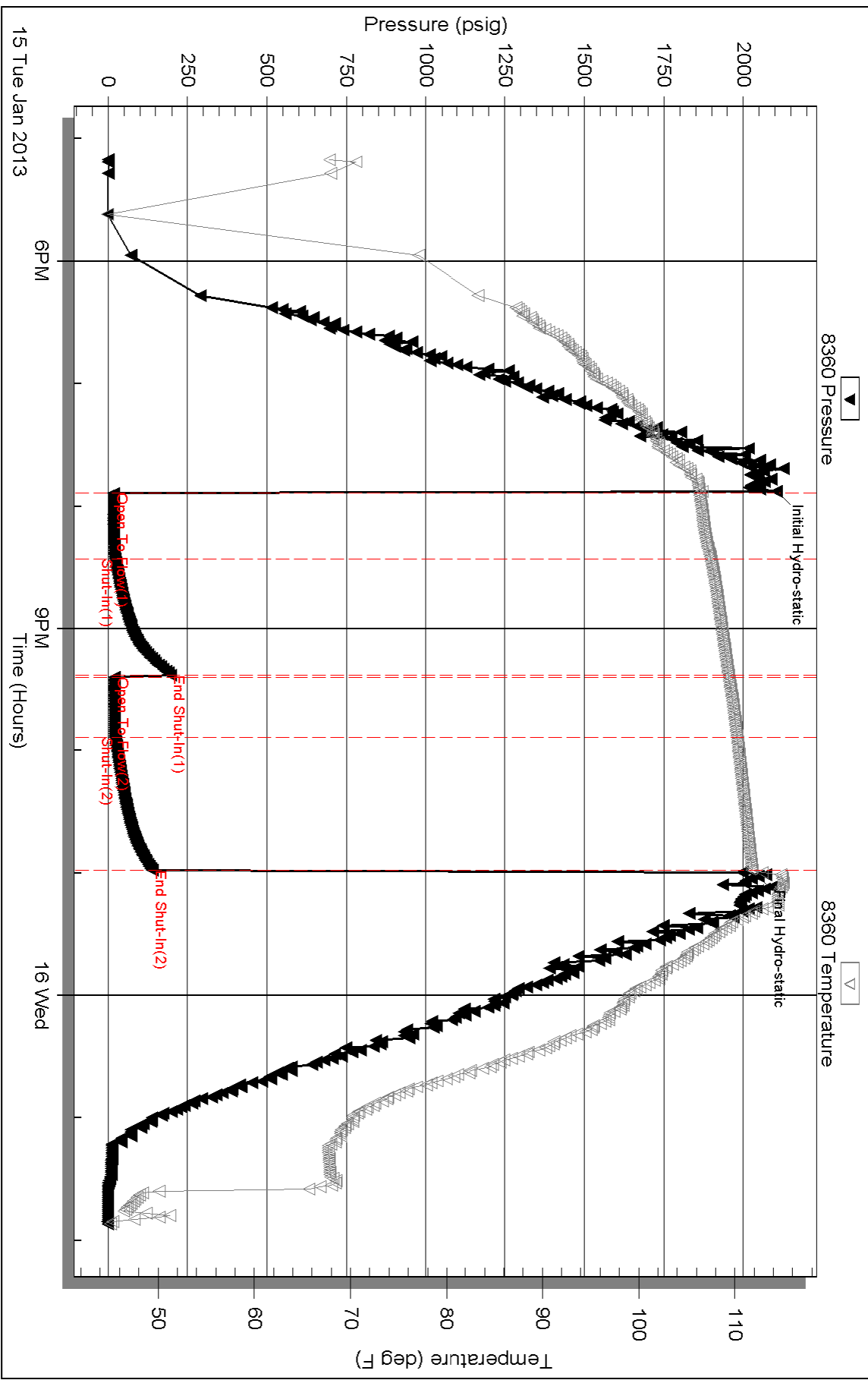
Inside

Murfin Drilling Co.

Gilbert #1-27

DST Test Number: 4

# Pressure vs. Time



Triobite Testing, Inc

Ref. No: 49007

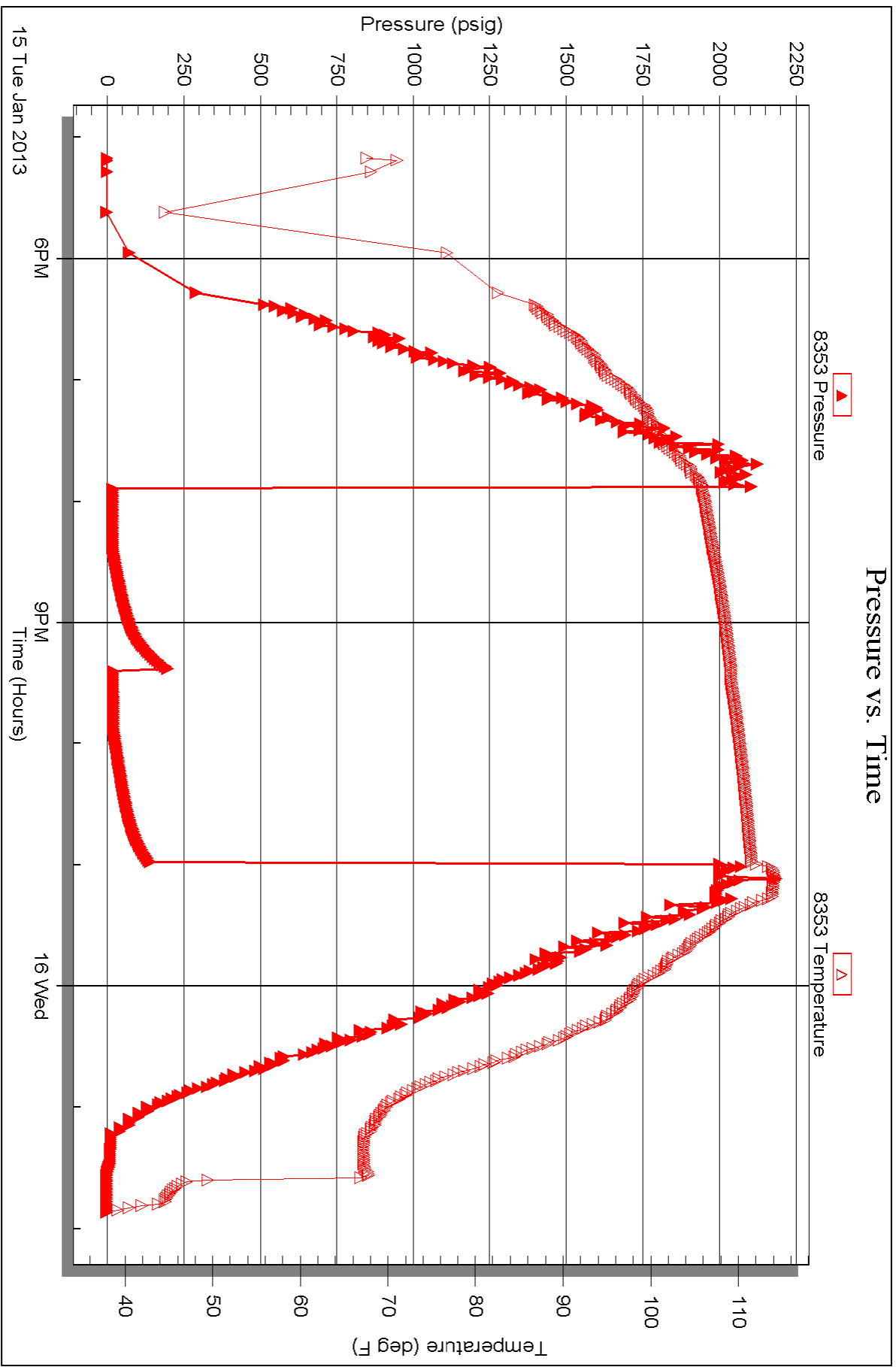
Printed: 2013.01.18 @ 13:03:13

Serial #: 8353

Outside Murfin Drilling Co.

Gilbert #1-27

DST Test Number: 4





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 49004

Well Name & No. Gilbert 1-27 Test No. 1 Date 1-12-13  
 Company Murphy Drilling Elevation 2914 KB 2909 GL  
 Address 250 N Water Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Rocky Wilford Rig Murphy 8  
 Location: Sec. 27 Twp. 4s Rge. 31w Co. Rawlins State Ks

Interval Tested 3887 3973 Zone Tested Toronto-Lan 'B'  
 Anchor Length 86 Drill Pipe Run ~~186~~ 3694 Mud Wt. 9.0  
 Top Packer Depth 3882 Drill Collars Run 180 Vis 64  
 Bottom Packer Depth 3887 Wt. Pipe Run 0 WL 5.6  
 Total Depth 3973 Chlorides 1,000 ppm System LCM 8#  
 Blow Description IF: Built to BOB in 2 min  
IS: Built to 2"  
FF: Built to BOB in 2 min  
FI: Built to 5" ~~ER~~

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>0</u>	<u>100</u>			
<u><del>1533</del></u>	<u>'REV'</u>				
<u>248</u>	<u>OSMCW</u>	<u>5</u>	<u>85</u>	<u>10</u>	

Rec Total 1826 BHT 122 Gravity 24.206 23.6 API RW ~~151~~ @ 39.2 °F Chlorides 90.600 ppm

(A) Initial Hydrostatic 1936  Test 1150 T-On Location 22:40  
 (B) First Initial Flow 81  Jars 250 T-Started 2:18  
 (C) First Final Flow 426  Safety Joint 75 T-Open 5:45  
 (D) Initial Shut-In 1261  Circ Sub Dropped Bar 50 T-Pulled 9:45  
 (E) Second Initial Flow 449  Hourly Standby 6 hrs 5.75h T-Out 13:25  
 (F) Second Final Flow 823  Mileage 48 RT 74.40  
 (G) Final Shut-In 1253  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1893  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

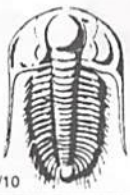
Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Sub Total 2124.40

MP/DST Disc't \_\_\_\_\_

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

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



# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 49005

Well Name & No. Gilbert 1-27 Test No. 2 Date 1-13-13  
 Company Murfin Drilling Elevation 2914 KB 2909 GL  
 Address 250 N Water Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin 8  
 Location: Sec. 27 Twp. 4S Rge. 31W Co. Rawlins State KS

Interval Tested 3987 4014 Zone Tested LKC E-F  
 Anchor Length 27 Drill Pipe Run 3786 Mud Wt. 9.0  
 Top Packer Depth 3982 Drill Collars Run 180 Vis 64  
 Bottom Packer Depth 3987 Wt. Pipe Run 0 WL 5.6  
 Total Depth 4014 Chlorides 1000 ppm System LCM 8#  
 Blow Description 1F BOB in 5 1/2 min  
1S1 Built to  
1F BOB in 5 min  
1S1 Built to 5" died to 1"

Rec	Feet of	%gas	%oil	%water	%mud
<u>127</u>	<u>60</u>	<u>40</u>	<u>60</u>		
<u>186</u>	<u>1600</u>	<u>28</u>	<u>30</u>	<u>42</u>	<u>40</u>
<u>744</u>	<u>'GIP'</u>				

Rec Total 313 BHT 123 Gravity 39.6 @ 58.4 = 38 API RW @      °F Chlorides      ppm

(A) Initial Hydrostatic <u>2003</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>23:10</u>
(B) First Initial Flow <u>30</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>23:55</u>
(C) First Final Flow <u>89</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2:28</u>
(D) Initial Shut-In <u>1303</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>6:28</u>
(E) Second Initial Flow <u>109</u>	<input checked="" type="checkbox"/> Hourly Standby <u>7 1/4 hr 25</u>	T-Out <u>9:25</u>
(F) Second Final Flow <u>148</u>	<input checked="" type="checkbox"/> Mileage <u>48 KT 74.40</u>	Comments <u>    </u>
(G) Final Shut-In <u>1332</u>	<input type="checkbox"/> Sampler <u>    </u>	<input type="checkbox"/> Ruined Shale Packer <u>    </u>
(H) Final Hydrostatic <u>1943</u>	<input type="checkbox"/> Straddle <u>    </u>	<input type="checkbox"/> Ruined Packer <u>    </u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer <u>    </u>	<input type="checkbox"/> Extra Copies <u>    </u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer <u>    </u>	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder <u>    </u>	Total <u>1649.40</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby <u>    </u>	MP/DST Disc't <u>    </u>
	<input type="checkbox"/> Accessibility <u>    </u>	
	Sub Total <u>1649.40</u>	

Approved By      Our Representative     

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



# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 49006

Well Name & No. Gilbert 1-27 Test No. 3 Date 1-14-13  
 Company Murfin Drilling Elevation 2914 KB 2909 GL  
 Address 250 N Water stc 300 Wichita KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin 8  
 Location: Sec. 27 Twp. 45 Rge. 31W Co. Rawlins State KS

Interval Tested 4036 409 Zone Tested Lan H-J  
 Anchor Length 73 Drill Pipe Run 3850 Mud Wt. 90  
 Top Packer Depth 4031 Drill Collars Run 180 Vis 58  
 Bottom Packer Depth 4036 Wt. Pipe Run 0 WL 6.0  
 Total Depth 4109 Chlorides 3,300 ppm System LCM 6  
 Blow Description IF Weck surface built to 1/4"  
ISI Noblow  
PF Weck surface died in 10 min  
FSI Noblow

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 116 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

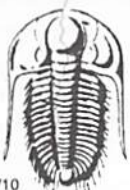
(A) Initial Hydrostatic 1968  Test 1250 T-On Location 22:15  
 (B) First Initial Flow 18  Jars 250 T-Started 00:00  
 (C) First Final Flow 19  Safety Joint 75 T-Open 2:25  
 (D) Initial Shut-In 46  Circ Sub NA T-Pulled 5:25  
 (E) Second Initial Flow 19  Hourly Standby \_\_\_\_\_ T-Out 7:50  
 (F) Second Final Flow 21  Mileage 418 KT 74.40 Comments \_\_\_\_\_  
 (G) Final Shut-In 35  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1993  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

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

Sub Total 1649.40  
 Total 1649.40  
 MP/DST Disc't \_\_\_\_\_

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

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 49007

Well Name & No. Gilbert 1-27 Test No. 4 Date 1-15-13  
 Company Murfin Drilling Elevation 2914 KB 2909 GL  
 Address 250 N Water stc 300 Wichita KS 67202  
 Co. Rep / Geo. Rocky Milford Rig Murfin 8  
 Location: Sec. 27 Twp. 4s Rge. 3lw Co. Rawlins State KS

Interval Tested 4103 4160 Zone Tested LAN K+L  
 Anchor Length 57 Drill Pipe Run 3913 Mud Wt. 9.2  
 Top Packer Depth 4098 Drill Collars Run 180 Vis 58  
 Bottom Packer Depth 4103 Wt. Pipe Run 0 WL 6.0  
 Total Depth 4160 Chlorides 3000 ppm System LCM 6  
 Blow Description IF: Surface Blow  
ISI No Blow  
FF No Blow  
FSI No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>0.5M</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 \_\_\_\_\_ BHT 115 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2104</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>17:10</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>18:10</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>20:52</u>
(D) Initial Shut-In <u>198</u>	<input checked="" type="checkbox"/> Circ Sub <u>NA</u>	T-Pulled <u>23:52</u>
(E) Second Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Hourly Standby <u>Loaded 12:40AM</u>	T-Out <u>2:50</u>
(F) Second Final Flow <u>22</u>	<input checked="" type="checkbox"/> Mileage <u>48RT Durbled 148.80</u>	Comments <u>Loaded tools at 12:40AM on 1-17-13</u>
(G) Final Shut-In <u>139</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2047</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1723.80</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1723.80</u>	

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

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