

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N. Water ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

Roemer Bell #1-1

1-15s-30w Gove,KS

Start Date: 2012.12.09 @ 23:38:15

End Date: 2012.12.10 @ 08:38:45

Job Ticket #: 50116 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.12.17 @ 11:17:29



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Company
250 N. Water ste 300
Wichita, KS 67202
ATTN: Robert Hendrix

1-15s-30w Gove,KS
Roemer Bell #1-1
Job Ticket: 50116 **DST#: 1**
Test Start: 2012.12.09 @ 23:38:15

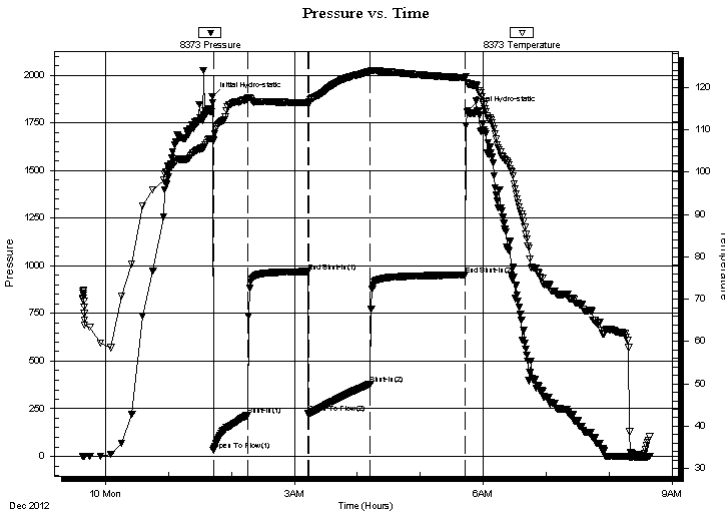
GENERAL INFORMATION:

Formation: **Lansing B-F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:42:45
Time Test Ended: 08:38:45
Test Type: Conventional Bottom Hole (Initial)
Tester: Brandon Turley
Unit No: 60
Interval: **3717.00 ft (KB) To 3795.00 ft (KB) (TVD)**
Total Depth: 3795.00 ft (KB) (TVD)
Reference Elevations: 2633.00 ft (KB)
Hole Diameter: 7.88 inches Hole Condition: Good
KB to GR/CF: 11.00 ft
2622.00 ft (CF)

Serial #: 8373 Inside
Press @ Run Depth: 380.29 psig @ 3718.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.12.09 End Date: 2012.12.10 Last Calib.: 2012.12.10
Start Time: 23:38:20 End Time: 08:38:45 Time On Btm: 2012.12.10 @ 01:41:45
Time Off Btm: 2012.12.10 @ 05:45:15

TEST COMMENT: IF: BOB in 12 min.
IS: Surface blow built to 1 1/2"
FF: BOB in 20 min.
FS: Surface blow built to 4"

PRESSURE SUMMARY



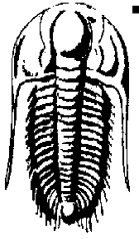
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1889.86	107.94	Initial Hydro-static
1	33.28	107.55	Open To Flow (1)
34	215.90	117.24	Shut-In(1)
91	970.14	116.40	End Shut-In(1)
92	225.94	116.27	Open To Flow (2)
151	380.29	123.83	Shut-In(2)
241	952.64	122.31	End Shut-In(2)
244	1813.56	120.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	mcw 95%w 5%m	0.91
124.00	mcw 70%w 30%m	1.31
186.00	gocw m 5%g 10%o 5%w 80%m	2.61
258.00	mcgo 10%g 60%o 30%m	3.62
0.00	248 GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Company

250 N. Water ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

1-15s-30w Gove, KS

Roemer Bell #1-1

Job Ticket: 50116 **DST#: 1**

Test Start: 2012.12.09 @ 23:38:15

GENERAL INFORMATION:

Formation: **Lansing B-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:42:45

Time Test Ended: 08:38:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 60

Interval: 3717.00 ft (KB) To 3795.00 ft (KB) (TVD)

Reference Elevations: 2633.00 ft (KB)

Total Depth: 3795.00 ft (KB) (TVD)

2622.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8356 Outside

Press @RunDepth: psig @ 3718.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.12.09

End Date:

2012.12.10

Last Calib.:

2012.12.10

Start Time: 23:38:20

End Time:

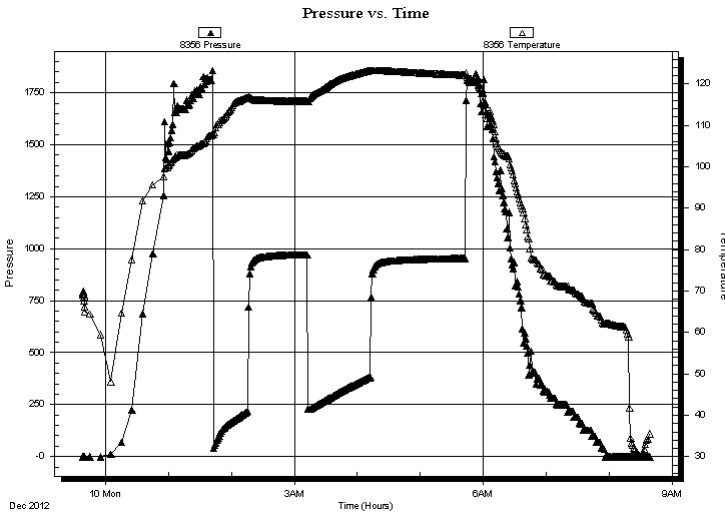
08:38:45

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: BOB in 12 min.
IS: Surface blow built to 1 1/2"
FF: BOB in 20 min.
FS: Surface blow built to 4"

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
186.00	mcw 95%w 5%m	0.91
124.00	mcw 70%w 30%m	1.31
186.00	gocw m 5%g 10%o 5%w 80%m	2.61
258.00	mcgo 10%g 60%o 30%m	3.62
0.00	248 GIP	0.00

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

1-15s-30w Gove,KS

250 N. Water ste 300
Wichita, KS 67202

Roemer Bell #1-1

Job Ticket: 50116

DST#: 1

ATTN: Robert Hendrix

Test Start: 2012.12.09 @ 23:38:15

Tool Information

Drill Pipe:	Length: 3474.00 ft	Diameter: 3.80 inches	Volume: 48.73 bbl	Tool Weight:	1500.00 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: 233.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 49.88 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	3717.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	78.00 ft				
Tool Length:	106.00 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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Stubb	1.00			3690.00	
Shut In Tool	5.00			3695.00	
Hydraulic tool	5.00			3700.00	
Jars	5.00			3705.00	
Safety Joint	3.00			3708.00	
Packer	5.00			3713.00	28.00 Bottom Of Top Packer
Packer	4.00			3717.00	
Stubb	1.00			3718.00	
Recorder	0.00	8373	Inside	3718.00	
Recorder	0.00	8356	Outside	3718.00	
Perforations	7.00			3725.00	
Change Over Sub	1.00			3726.00	
Drill Pipe	63.00			3789.00	
Change Over Sub	1.00			3790.00	
Bullnose	5.00			3795.00	78.00 Bottom Packers & Anchor

Total Tool Length: 106.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

1-15s-30w Gove,KS

250 N. Water ste 300
Wichita, KS 67202

Roemer Bell #1-1

Job Ticket: 50116

DST#: 1

ATTN: Robert Hendrix

Test Start: 2012.12.09 @ 23:38:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

44000 ppm

Viscosity: 81.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	mcw 95%w 5%m	0.915
124.00	mcw 70%w 30%m	1.311
186.00	gocw m 5%g 10%o 5%w 80%m	2.609
258.00	mcgo 10%g 60%o 30%m	3.619
0.00	248 GIP	0.000

Total Length: 754.00 ft Total Volume: 8.454 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .45@10=44000

Serial #: 8373

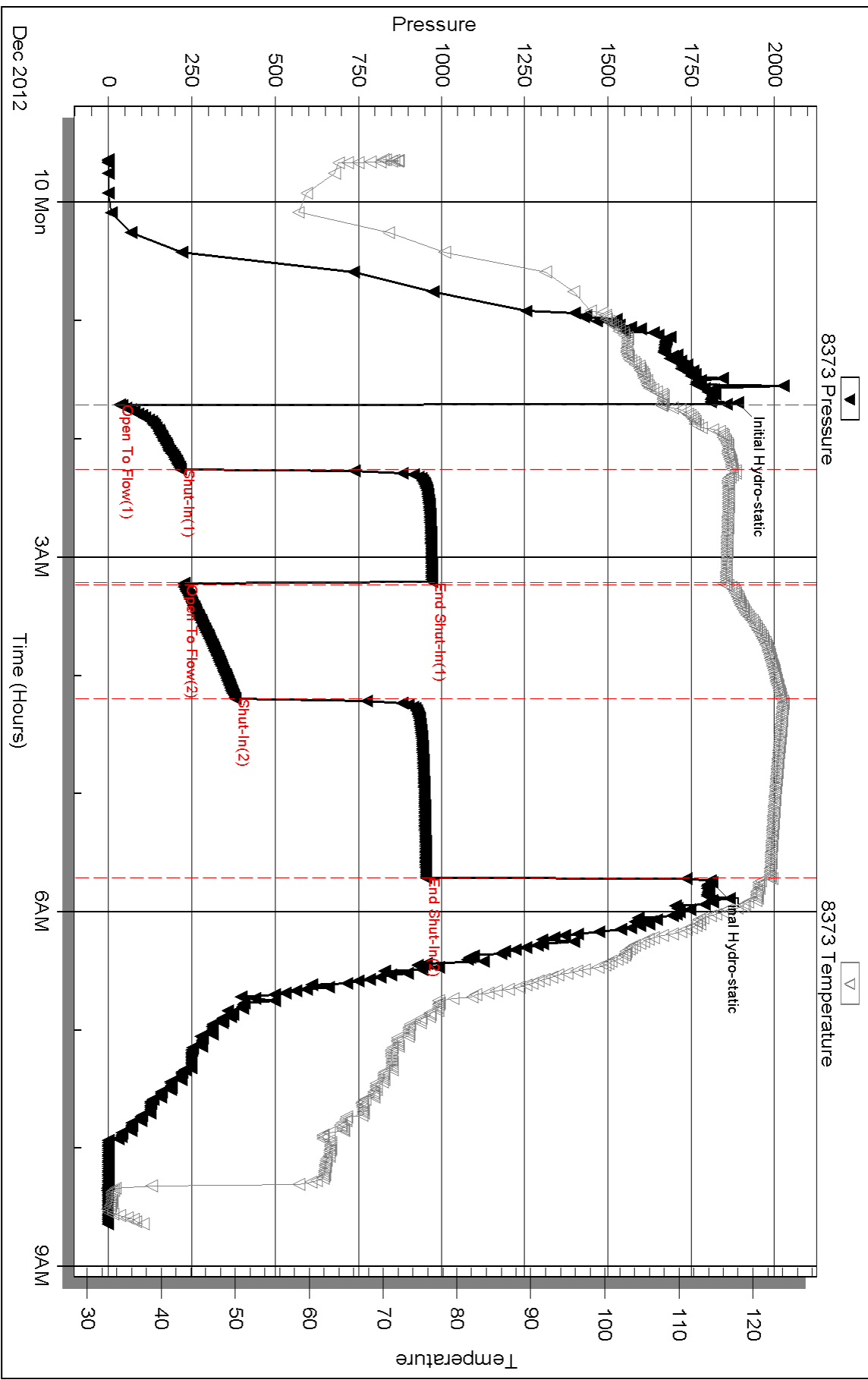
Inside

Murfin Drilling Company

Roerner Bell #1-1

DST Test Number: 1

Pressure vs. Time

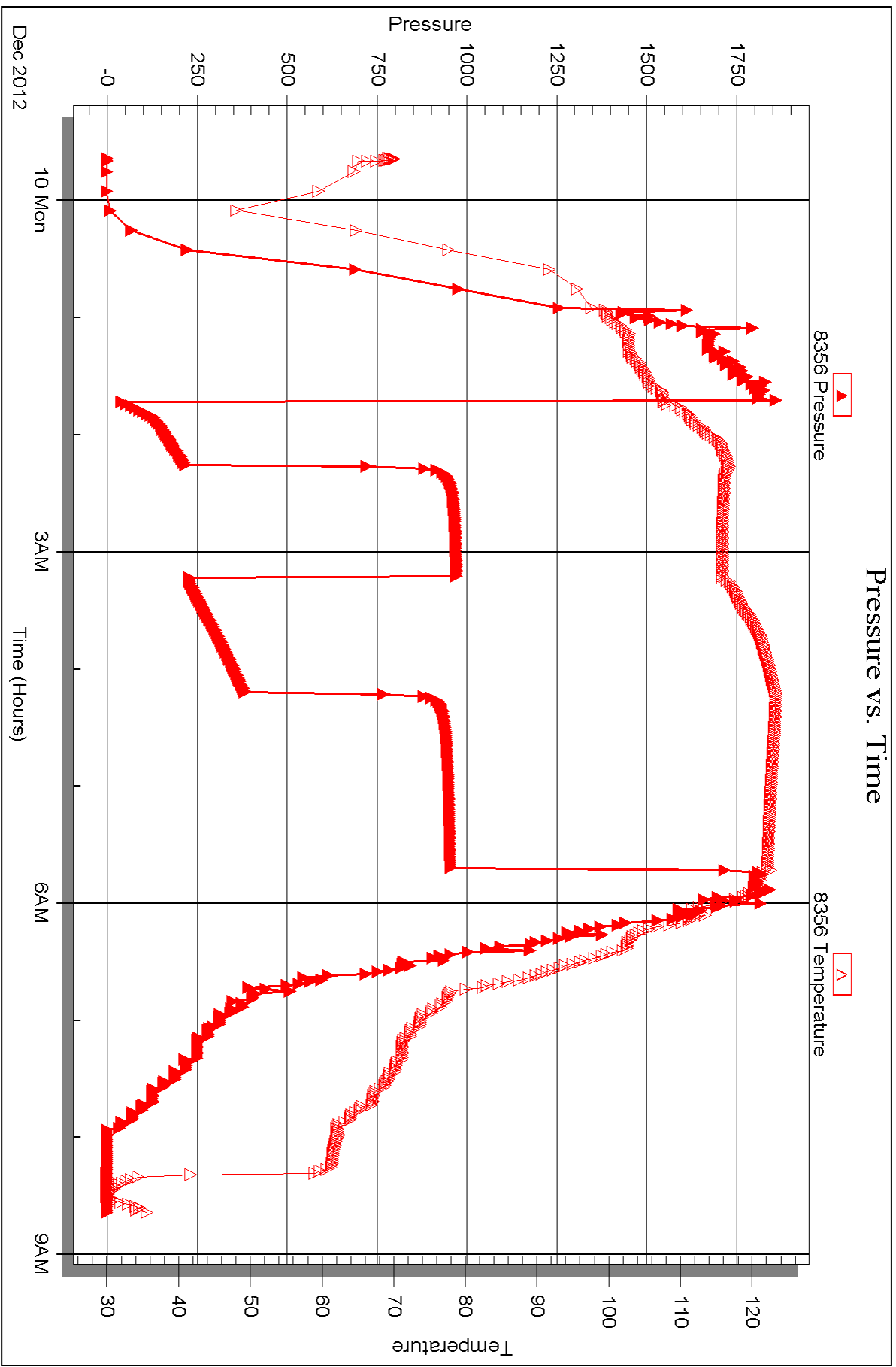


Serial #: 8356

Outside Murfin Drilling Company

Roerner Bell #1-1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N. Water ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

Roemer Bell #1-1

1-15s-30w Gove,KS

Start Date: 2012.12.11 @ 00:58:43

End Date: 2012.12.11 @ 08:44:37

Job Ticket #: 50117 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.12.17 @ 11:16:33



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company

1-15s-30w Gove, KS

250 N. Water ste 300
Wichita, KS 67202

Roemer Bell #1-1

ATTN: Robert Hendrix

Job Ticket: 50117

DST#: 2

Test Start: 2012.12.11 @ 00:58:43

GENERAL INFORMATION:

Formation: **Lansing J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:32:38

Time Test Ended: 08:44:37

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 60

Interval: **3906.00 ft (KB) To 3940.00 ft (KB) (TVD)**

Reference Elevations: 2633.00 ft (KB)

Total Depth: 3940.00 ft (KB) (TVD)

2622.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8373 Inside

Press @ Run Depth: 43.57 psig @ 3907.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.12.11

End Date:

2012.12.11

Last Calib.: 2012.12.11

Start Time: 00:58:43

End Time:

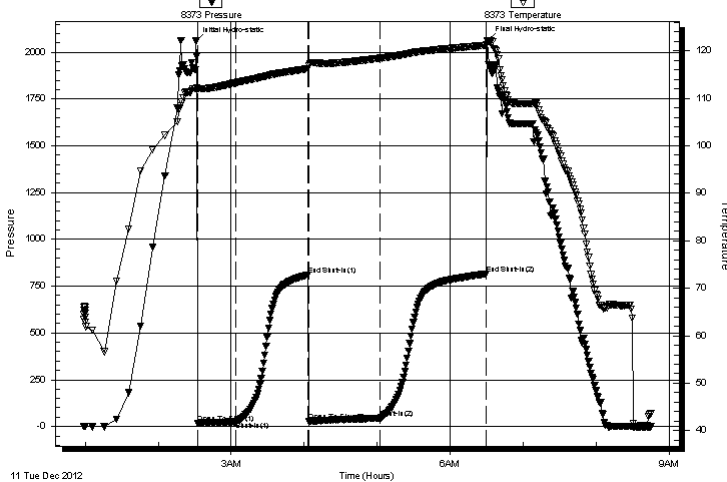
08:44:37

Time On Btm: 2012.12.11 @ 02:31:08

Time Off Btm: 2012.12.11 @ 06:30:37

TEST COMMENT: IF: 1/4" blow built to 1"
IS: No return.
FF: 1/4" blow built to 4"
FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2059.03	112.07	Initial Hydro-static
2	17.88	111.96	Open To Flow (1)
33	26.00	113.26	Shut-In(1)
92	809.62	116.21	End Shut-In(1)
93	25.81	116.87	Open To Flow (2)
151	43.57	118.42	Shut-In(2)
239	816.40	121.18	End Shut-In(2)
240	2063.00	122.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	gocm 10%g 20%o 70%m	0.30
1.00	free oil 100%o	0.00
0.00	186 GIP	0.00

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N. Water ste 300
 Wichita, KS 67202
 ATTN: Robert Hendrix

1-15s-30w Gove,KS
Roemer Bell #1-1
 Job Ticket: 50117 **DST#: 2**
 Test Start: 2012.12.11 @ 00:58:43

GENERAL INFORMATION:

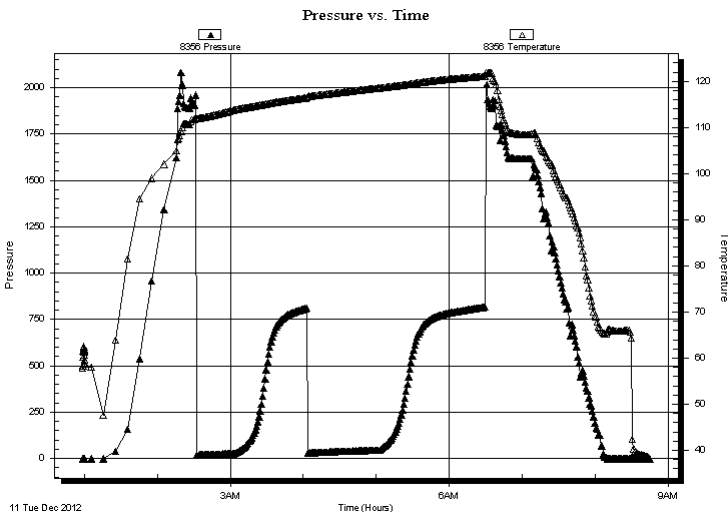
Formation: **Lansing J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:32:38
 Time Test Ended: 08:44:37
Interval: 3906.00 ft (KB) To 3940.00 ft (KB) (TVD)
 Total Depth: 3940.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brandon Turley
 Unit No: 60
 Reference Elevations: 2633.00 ft (KB)
 2622.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8356 Outside

Press @ Run Depth: psig @ 3907.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.12.11 End Date: 2012.12.11 Last Calib.: 2012.12.11
 Start Time: 00:58:38 End Time: 08:44:32 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: 1/4" blow built to 1"
 IS: No return.
 FF: 1/4" blow built to 4"
 FS: No return.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
62.00	gocm 10%g 20%o 70%m	0.30
1.00	free oil 100%o	0.00
0.00	186 GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

1-15s-30w Gove,KS

250 N. Water ste 300
Wichita, KS 67202

Roemer Bell #1-1

Job Ticket: 50117

DST#: 2

ATTN: Robert Hendrix

Test Start: 2012.12.11 @ 00:58:43

Tool Information

Drill Pipe:	Length: 3665.00 ft	Diameter: 3.80 inches	Volume: 51.41 bbl	Tool Weight: 1500.00 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: 233.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 52.56 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3906.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	62.00 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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Stubb	1.00			3879.00	
Shut In Tool	5.00			3884.00	
Hydraulic tool	5.00			3889.00	
Jars	5.00			3894.00	
Safety Joint	3.00			3897.00	
Packer	5.00			3902.00	28.00 Bottom Of Top Packer
Packer	4.00			3906.00	
Stubb	1.00			3907.00	
Recorder	0.00	8373	Inside	3907.00	
Recorder	0.00	8356	Outside	3907.00	
Perforations	28.00			3935.00	
Bullnose	5.00			3940.00	34.00 Bottom Packers & Anchor

Total Tool Length: 62.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

1-15s-30w Gove,KS

250 N. Water ste 300
Wichita, KS 67202

Roemer Bell #1-1

Job Ticket: 50117

DST#: 2

ATTN: Robert Hendrix

Test Start: 2012.12.11 @ 00:58:43

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 93.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	gocm 10%g 20%o 70%m	0.305
1.00	free oil 100%o	0.005
0.00	186 GIP	0.000

Total Length: 63.00 ft Total Volume: 0.310 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

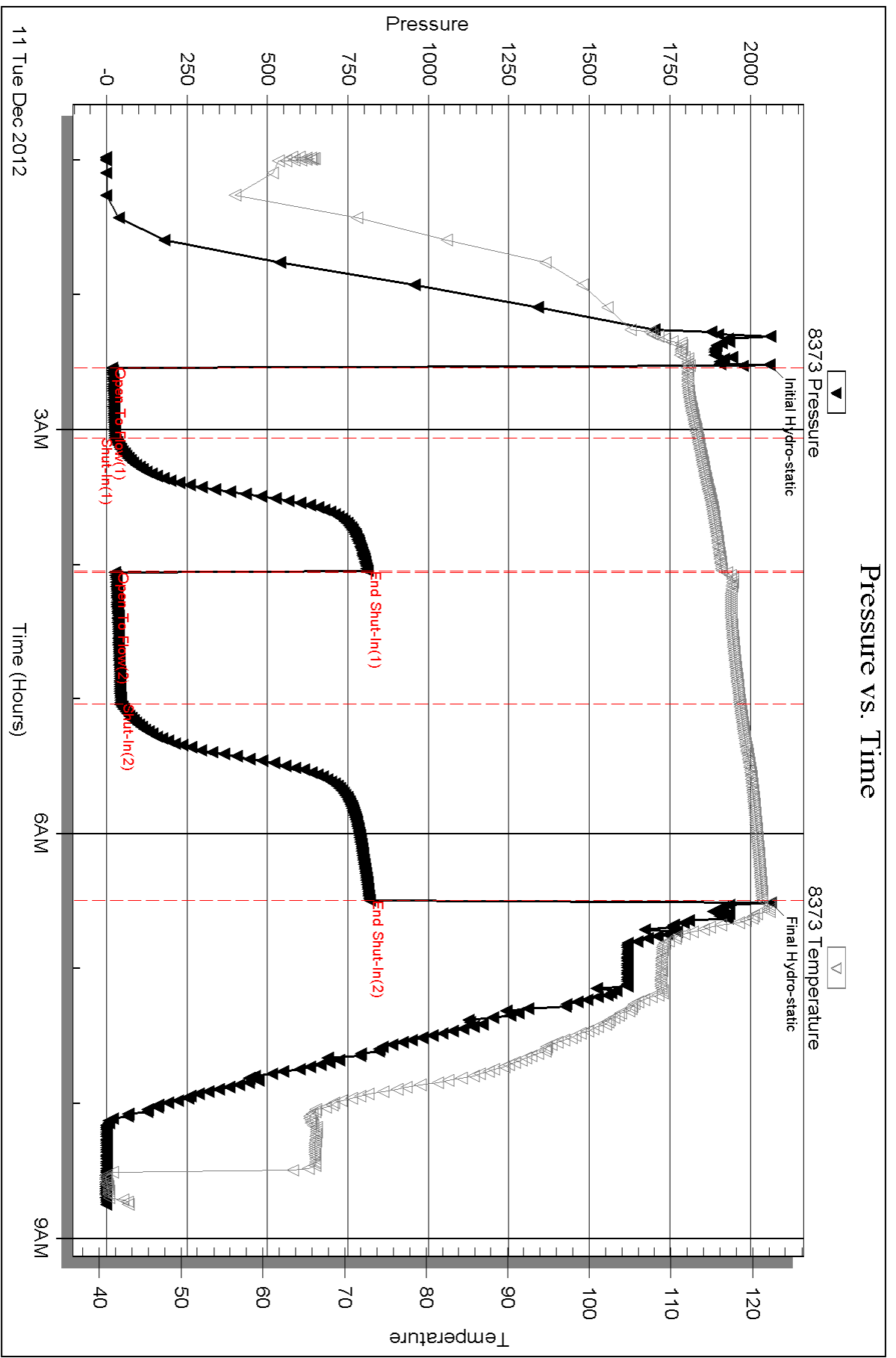
Serial #: 8373

Inside

Murfin Drilling Company

Roemer Bell #1-1

DST Test Number: 2

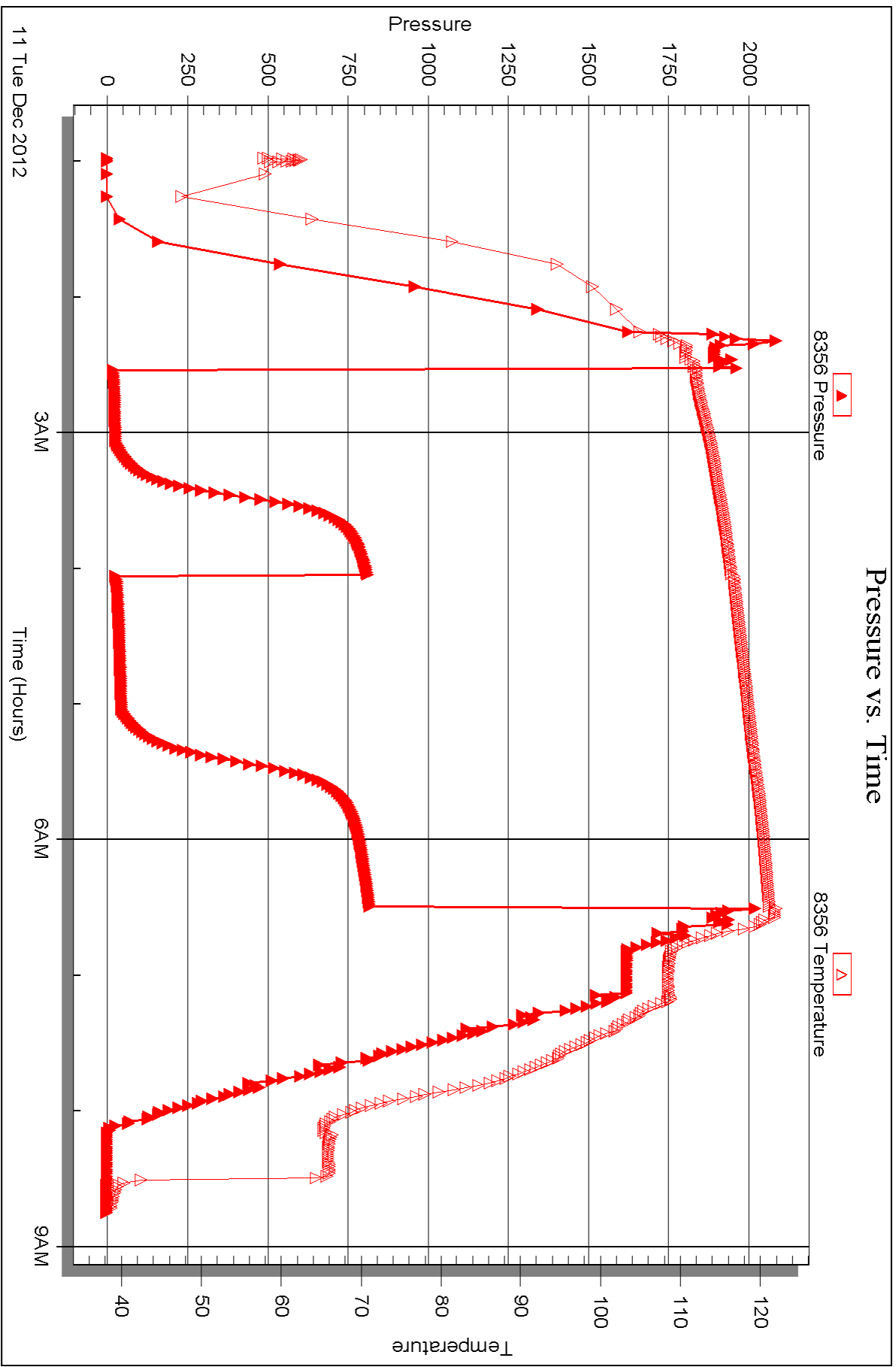


Serial #: 8356

Outside Murfin Drilling Company

Roerner Bell #1-1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N. Water ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

Roemer Bell #1-1

1-15s-30w Gove,KS

Start Date: 2012.12.11 @ 19:16:39

End Date: 2012.12.12 @ 03:30:09

Job Ticket #: 50118 DST #: 3

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

Printed: 2012.12.17 @ 11:15:48



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N. Water ste 300
 Wichita, KS 67202
 ATTN: Robert Hendrix

1-15s-30w Gove,KS
Roemer Bell #1-1
 Job Ticket: 50118 **DST#: 3**
 Test Start: 2012.12.11 @ 19:16:39

GENERAL INFORMATION:

Formation: **Lansing K-L**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:08:09
 Time Test Ended: 03:30:09
 Interval: **3952.00 ft (KB) To 4010.00 ft (KB) (TVD)**
 Total Depth: 4010.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brandon Turley
 Unit No: 60
 Reference Elevations: 2633.00 ft (KB)
 2622.00 ft (CF)
 KB to GR/CF: 11.00 ft

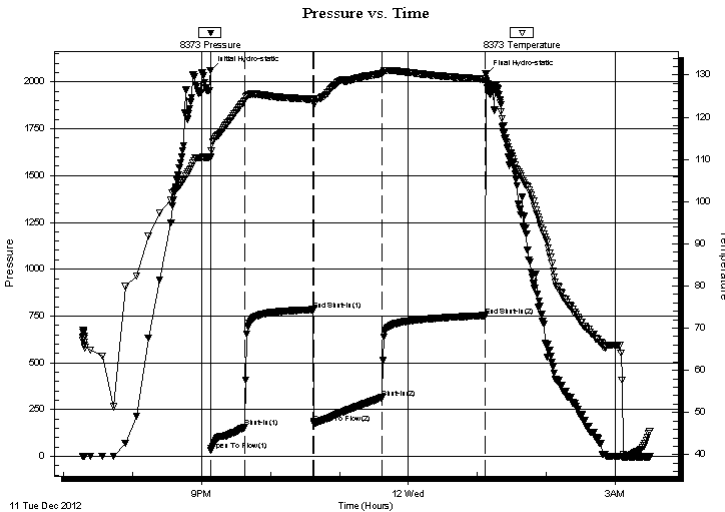
Serial #: 8373

Inside

Press @ Run Depth: 313.11 psig @ 3953.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.12.11 End Date: 2012.12.12 Last Calib.: 2012.12.12
 Start Time: 19:16:44 End Time: 03:30:08 Time On Btm: 2012.12.11 @ 21:07:39
 Time Off Btm: 2012.12.12 @ 01:07:09

TEST COMMENT: IF: BOB in 10 min.
 IS: BOB in 12 min.
 FF: BOB in 10 min.
 FS: BOB in 12 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2061.61	110.50	Initial Hydro-static
1	33.16	110.57	Open To Flow (1)
30	155.41	123.90	Shut-In(1)
90	784.00	124.21	End Shut-In(1)
91	178.20	123.21	Open To Flow (2)
149	313.11	130.37	Shut-In(2)
239	751.77	129.04	End Shut-In(2)
240	2041.70	128.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	gocw m 20%g 30%o 10%w 40%m	0.61
310.00	gocm 20%g 10%o 70%m	3.36
382.00	go 10%g 90%o	5.36
0.00	930 GIP	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 Company
 250 N. Water ste 300
 Wichita, KS 67202
 ATTN: Robert Hendrix

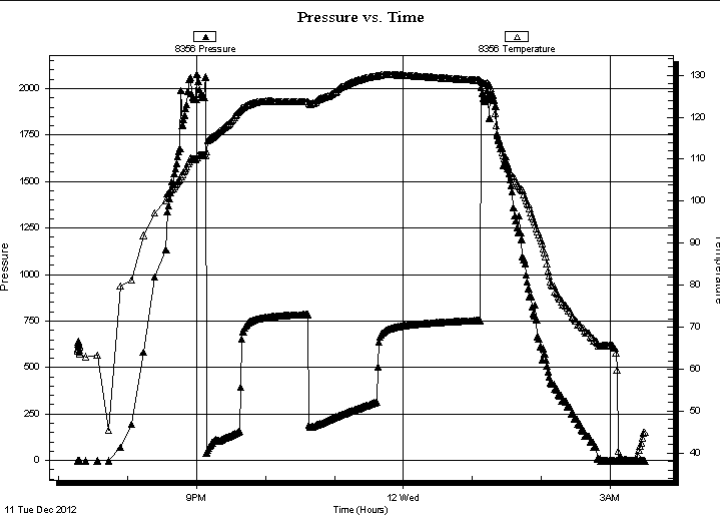
1-15s-30w Gove,KS
Roemer Bell #1-1
 Job Ticket: 50118 **DST#: 3**
 Test Start: 2012.12.11 @ 19:16:39

GENERAL INFORMATION:

Formation: **Lansing K-L**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 21:08:09 Tester: Brandon Turley
 Time Test Ended: 03:30:09 Unit No: 60
Interval: 3952.00 ft (KB) To 4010.00 ft (KB) (TVD) Reference Elevations: 2633.00 ft (KB)
 Total Depth: 4010.00 ft (KB) (TVD) 2622.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

Serial #: 8356 Outside
 Press @ Run Depth: psig @ 3953.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.12.11 End Date: 2012.12.12 Last Calib.: 2012.12.12
 Start Time: 19:16:46 End Time: 03:30:10 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: BOB in 10 min.
 IS: BOB in 12 min.
 FF: BOB in 10 min.
 FS: BOB in 12 min.



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

Recovery		
Length (ft)	Description	Volume (bbl)
124.00	gocw m 20%g 30%o 10%w 40%m	0.61
310.00	gocm 20%g 10%o 70%m	3.36
382.00	go 10%g 90%o	5.36
0.00	930 GIP	0.00

* Recovery from multiple tests

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

1-15s-30w Gove,KS

250 N. Water ste 300
Wichita, KS 67202

Roemer Bell #1-1

Job Ticket: 50118

DST#: 3

ATTN: Robert Hendrix

Test Start: 2012.12.11 @ 19:16:39

Tool Information

Drill Pipe:	Length: 3723.00 ft	Diameter: 3.80 inches	Volume: 52.22 bbl	Tool Weight: 1500.00 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: 233.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 53.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3952.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	86.00 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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Stubb	1.00			3925.00	
Shut In Tool	5.00			3930.00	
Hydraulic tool	5.00			3935.00	
Jars	5.00			3940.00	
Safety Joint	3.00			3943.00	
Packer	5.00			3948.00	28.00 Bottom Of Top Packer
Packer	4.00			3952.00	
Stubb	1.00			3953.00	
Recorder	0.00	8373	Inside	3953.00	
Recorder	0.00	8356	Outside	3953.00	
Perforations	18.00			3971.00	
Change Over Sub	1.00			3972.00	
Drill Pipe	32.00			4004.00	
Change Over Sub	1.00			4005.00	
Bullnose	5.00			4010.00	58.00 Bottom Packers & Anchor

Total Tool Length: 86.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

1-15s-30w Gove,KS

250 N. Water ste 300
Wichita, KS 67202

Roemer Bell #1-1

Job Ticket: 50118

DST#: 3

ATTN: Robert Hendrix

Test Start: 2012.12.11 @ 19:16:39

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 79.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
124.00	gocw m 20%g 30%o 10%w 40%m	0.610
310.00	gocm 20%g 10%o 70%m	3.356
382.00	go 10%g 90%o	5.358
0.00	930 GIP	0.000

Total Length: 816.00 ft

Total Volume: 9.324 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 34@30=37

Serial #: 8373

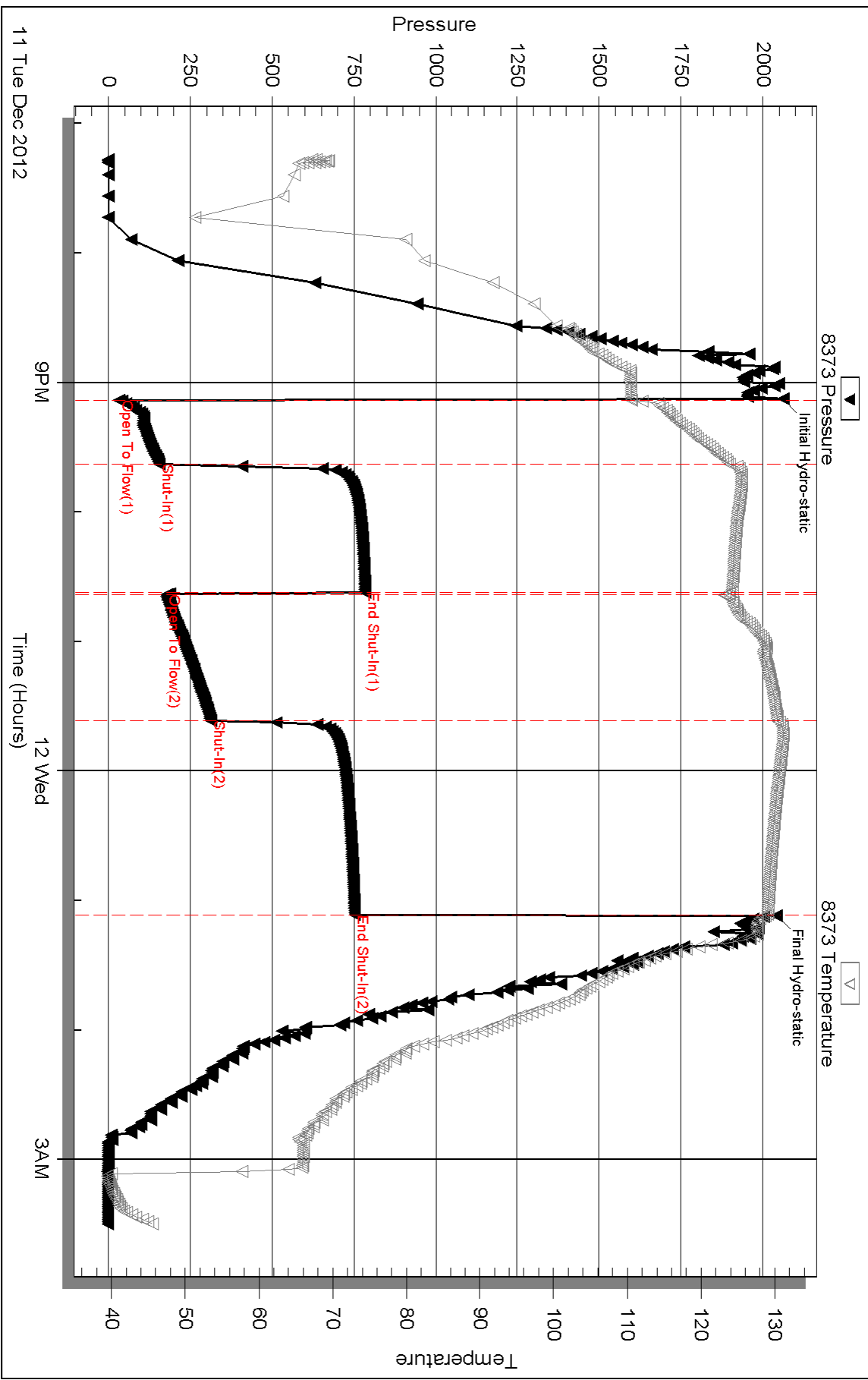
Inside

Murfin Drilling Company

Roerner Bell #1-1

DST Test Number: 3

Pressure vs. Time

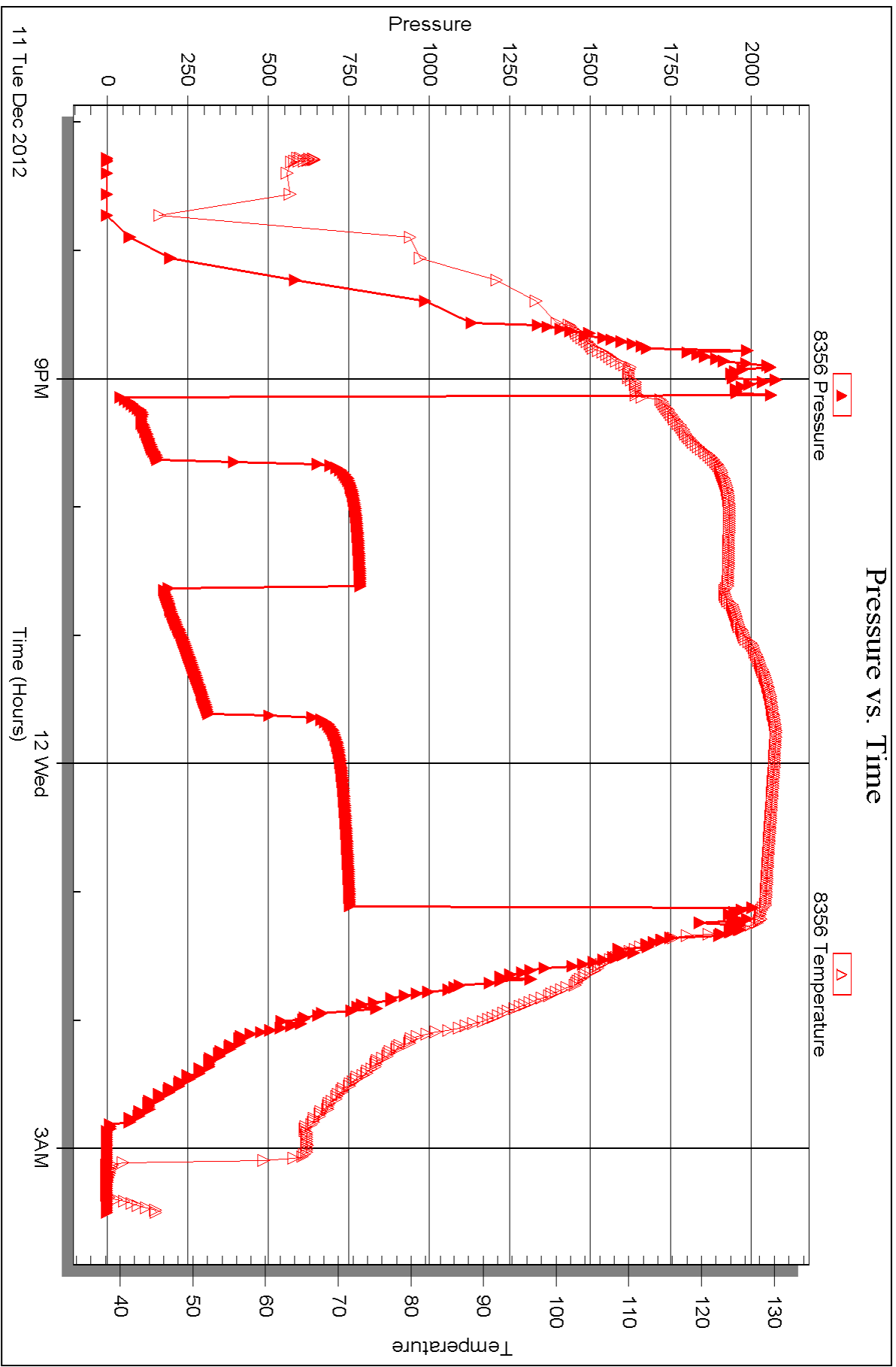


Serial #: 8356

Outside Murfin Drilling Company

Roemer Bell #1-1

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 50118

Printed: 2012.12.17 @ 11:15:53



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N. Water ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

Roemer Bell #1-1

1-15s-30w Gove,KS

Start Date: 2012.12.13 @ 01:33:02

End Date: 2012.12.13 @ 09:37:02

Job Ticket #: 50119 DST #: 4

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

Printed: 2012.12.17 @ 11:14:55

Murfin Drilling Company

1-15s-30w Gove,KS

Roemer Bell #1-1

DST # 4

Pawnee Ft Scott

2012.12.13



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N. Water ste 300
 Wichita, KS 67202
 ATTN: Robert Hendrix

1-15s-30w Gove,KS
Roemer Bell #1-1
 Job Ticket: 50119 **DST#: 4**
 Test Start: 2012.12.13 @ 01:33:02

GENERAL INFORMATION:

Formation: **Pawnee Ft Scott**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 03:04:32 Tester: Brandon Turley
 Time Test Ended: 09:37:02 Unit No: 60
 Interval: **4139.00 ft (KB) To 4217.00 ft (KB) (TVD)** Reference Elevations: 2633.00 ft (KB)
 Total Depth: 4217.00 ft (KB) (TVD) 2622.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

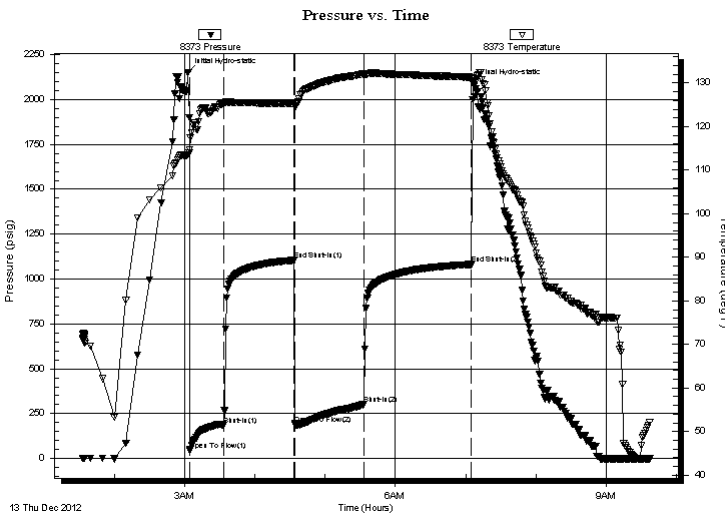
Serial #: 8373

Inside

Press @ Run Depth: 301.12 psig @ 4140.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.12.13 End Date: 2012.12.13 Last Calib.: 2012.12.13
 Start Time: 01:33:07 End Time: 09:37:01 Time On Btm: 2012.12.13 @ 03:03:02
 Time Off Btm: 2012.12.13 @ 07:06:32

TEST COMMENT: IF: BOB in 15 min.
 IS: Surface blow built to 1 1/2.
 FF: BOB in 13 min.
 FS: Surface blow built to 5.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2151.32	113.53	Initial Hydro-static
2	46.81	114.77	Open To Flow (1)
31	187.36	125.42	Shut-In(1)
90	1104.59	125.33	End Shut-In(1)
92	191.95	124.63	Open To Flow (2)
150	301.12	132.11	Shut-In(2)
242	1082.23	131.33	End Shut-In(2)
244	2087.69	130.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	ocmw 10%o 50%w 40%m	0.61
62.00	gocw m 10%g 10%o 20%w 60%m	0.30
186.00	mcgo 50%g 20%o 30%m	2.18
351.00	go 30%g 70%o	4.92
0.00	620 GIP	0.00

* Recovery from multiple tests

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company

250 N. Water ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

1-15s-30w Gove, KS

Roemer Bell #1-1

Job Ticket: 50119

DST#: 4

Test Start: 2012.12.13 @ 01:33:02

GENERAL INFORMATION:

Formation: **Pawnee Ft Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:04:32

Time Test Ended: 09:37:02

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 60

Interval: 4139.00 ft (KB) To 4217.00 ft (KB) (TVD)

Total Depth: 4217.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2633.00 ft (KB)

2622.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8356 Outside

Press @ Run Depth: psig @ 4140.00 ft (KB)

Start Date: 2012.12.13

End Date:

2012.12.13

Capacity: 8000.00 psig

Last Calib.:

2012.12.13

Start Time:

01:33:07

End Time:

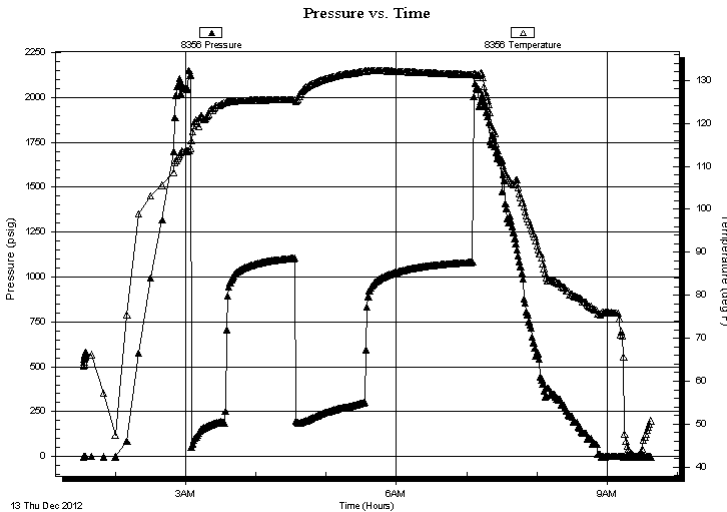
09:37:01

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: BOB in 15 min.
IS: Surface blow built to 1 1/2.
FF: BOB in 13 min.
FS: Surface blow built to 5.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
124.00	ocmw 10%o 50%w 40%m	0.61
62.00	gocw m 10%g 10%o 20%w 60%m	0.30
186.00	mcgo 50%g 20%o 30%m	2.18
351.00	go 30%g 70%o	4.92
0.00	620 GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

1-15s-30w Gove,KS

250 N. Water ste 300
Wichita, KS 67202

Roemer Bell #1-1

Job Ticket: 50119

DST#: 4

ATTN: Robert Hendrix

Test Start: 2012.12.13 @ 01:33:02

Tool Information

Drill Pipe:	Length: 3882.00 ft	Diameter: 3.80 inches	Volume: 54.45 bbl	Tool Weight: 1500.00 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: 233.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 55.60 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4139.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	78.00 ft			
Tool Length:	106.00 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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Stubb	1.00			4112.00	
Shut In Tool	5.00			4117.00	
Hydraulic tool	5.00			4122.00	
Jars	5.00			4127.00	
Safety Joint	3.00			4130.00	
Packer	5.00			4135.00	28.00 Bottom Of Top Packer
Packer	4.00			4139.00	
Stubb	1.00			4140.00	
Recorder	0.00	8373	Inside	4140.00	
Recorder	0.00	8356	Outside	4140.00	
Perforations	7.00			4147.00	
Change Over Sub	1.00			4148.00	
Drill Pipe	63.00			4211.00	
Change Over Sub	1.00			4212.00	
Bullnose	5.00			4217.00	78.00 Bottom Packers & Anchor

Total Tool Length: 106.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

1-15s-30w Gove,KS

250 N. Water ste 300
Wichita, KS 67202

Roemer Bell #1-1

Job Ticket: 50119

DST#: 4

ATTN: Robert Hendrix

Test Start: 2012.12.13 @ 01:33:02

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

38000 ppm

Viscosity: 45.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	ocmw 10%o 50%w 40%m	0.610
62.00	gocw m 10%g 10%o 20%w 60%m	0.305
186.00	mcgo 50%g 20%o 30%m	2.181
351.00	go 30%g 70%o	4.924
0.00	620 GIP	0.000

Total Length: 723.00 ft Total Volume: 8.020 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 33@50=34

.31@43= 38000

Serial #: 8373

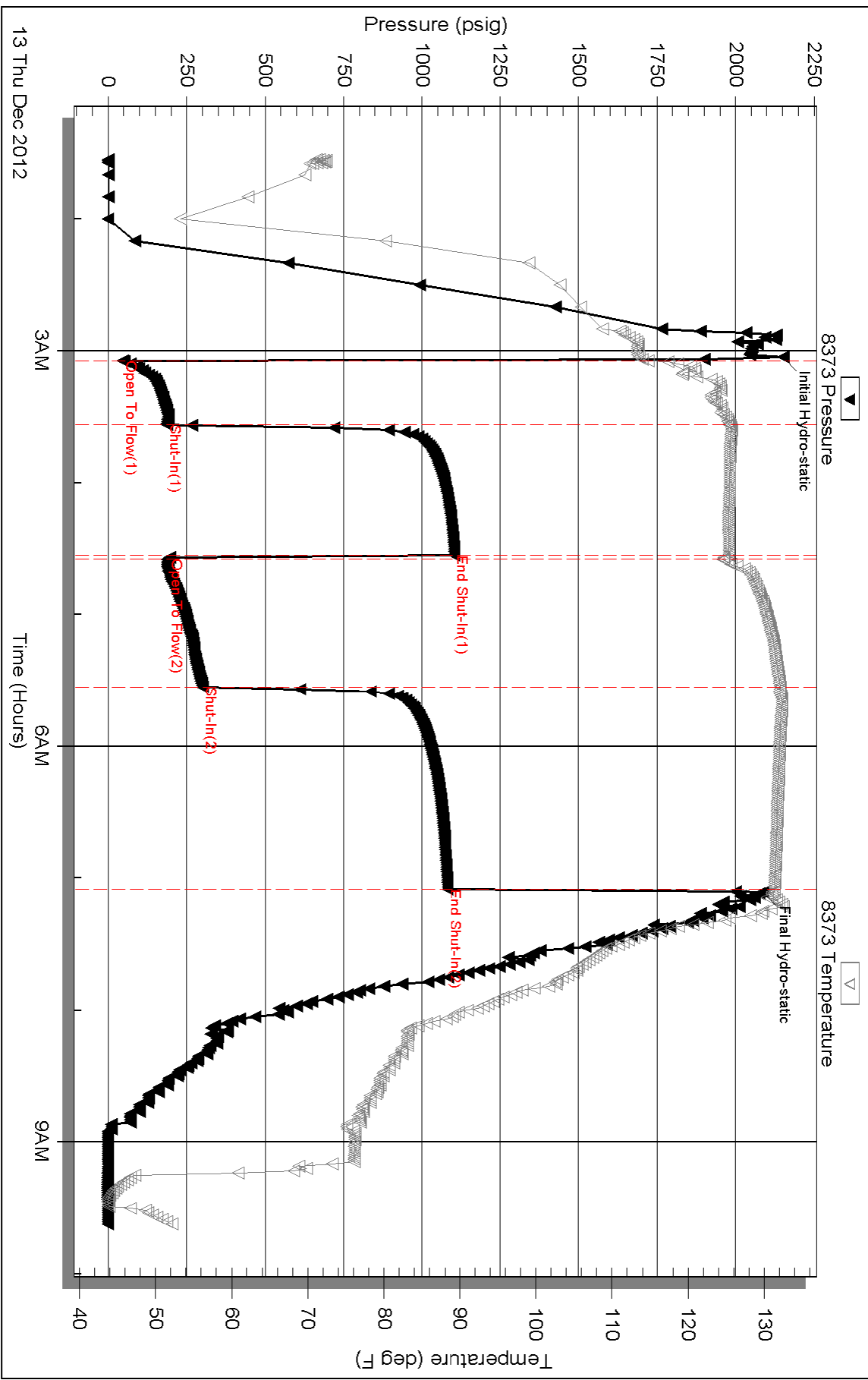
Inside

Murfin Drilling Company

Roerner Bell #1-1

DST Test Number: 4

Pressure vs. Time

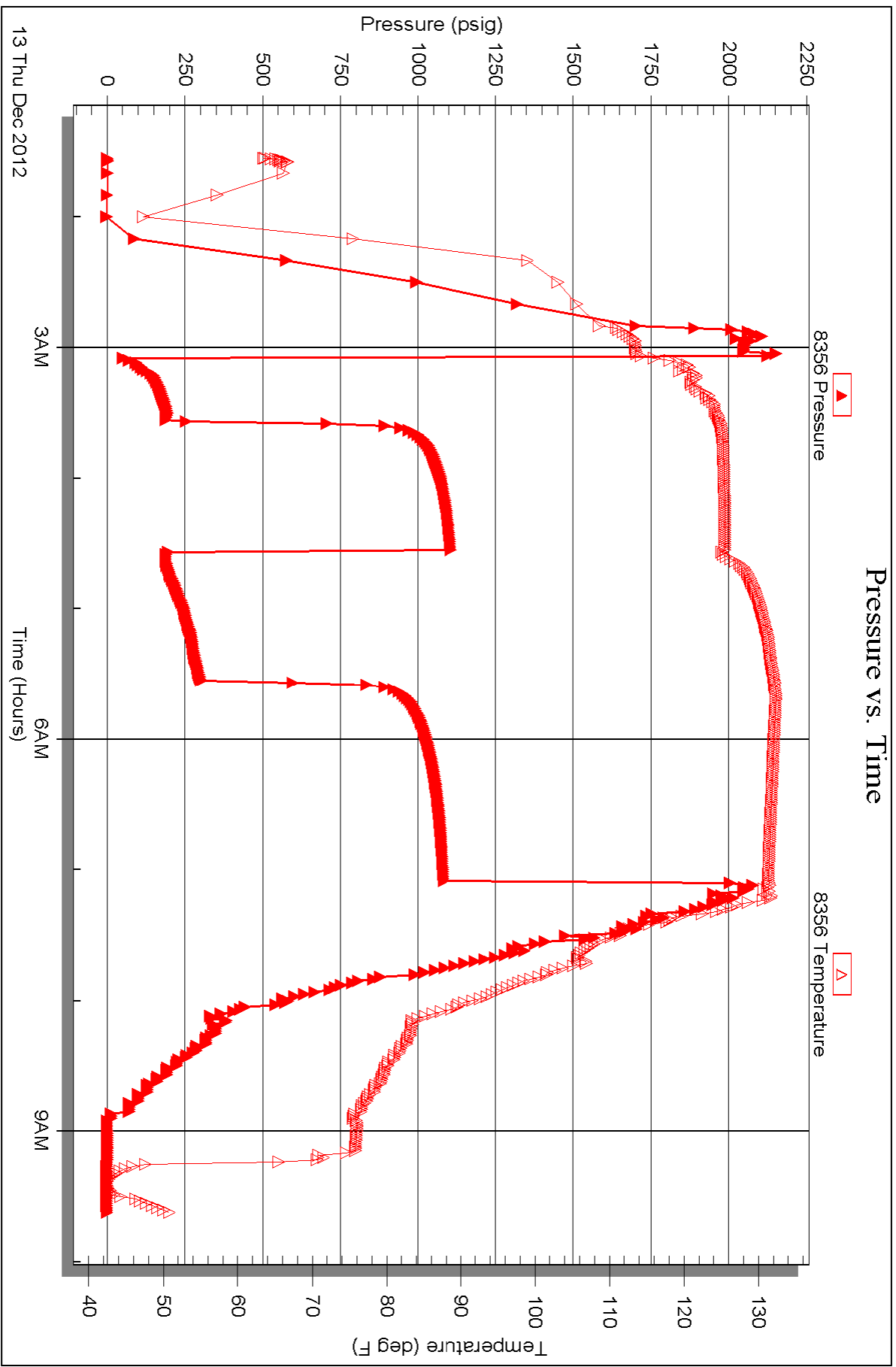


Serial #: 8356

Outside Murfin Drilling Company

Roemer Bell #1-1

DST Test Number: 4





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50116

Well Name & No. Roemer Bell 1-1 Test No. 1 Date 12-9-12
 Company Murfin Drilling Company Elevation 2633 KB 2622 GL
 Address 250 N Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 1 Twp. 15 Rge. 30 Co. Gove State KS

Interval Tested 3717 3795 Zone Tested Lansing B-F
 Anchor Length 78 Drill Pipe Run 3474 Mud Wt. 9.1
 Top Packer Depth 3712 Drill Collars Run 233 Vis 81
 Bottom Packer Depth 3717 Wt. Pipe Run — WL 5.6
 Total Depth 3795 Chlorides 2200 ppm System LCM 6

Blow Description IF: BoB in 12 min.
IS: surface blow built to 1 1/2.
FS: BoB in 20 min.
FS: surface blow built to 4.

Rec	Feet of	%gas	%oil	%water	%mud
<u>258</u>	<u>MGO</u>	<u>10</u>	<u>60</u>	<u>30</u>	<u>—</u>
<u>186</u>	<u>gocwm</u>	<u>5</u>	<u>10</u>	<u>80</u>	<u>5</u>
<u>124</u>	<u>MCW</u>	<u>—</u>	<u>70</u>	<u>30</u>	<u>—</u>
<u>186</u>	<u>MCW</u>	<u>—</u>	<u>95</u>	<u>5</u>	<u>—</u>
<u>—</u>	<u>248 GFP</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

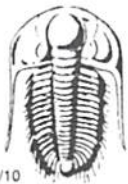
Rec Total 754 BHT 122 Gravity — API RW .45 @ 10 °F Chlorides 44,000 ppm

(A) Initial Hydrostatic 1889 Test 1150 T-On Location 22:00
 (B) First Initial Flow 33 Jars 250 T-Started 23:38
 (C) First Final Flow 215 Safety Joint 75 T-Open 1:42
 (D) Initial Shut-In 970 Circ Sub NIC T-Pulled 5:42
 (E) Second Initial Flow 225 Hourly Standby — T-Out 8:45
 (F) Second Final Flow 380 Mileage 78 - 120.9
 (G) Final Shut-In 952 Sampler —
 (H) Final Hydrostatic 1813 Straddle —

Ruined Shale Packer —
 Ruined Packer —
 Extra Copies —
 Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Extra Recorder —
 Day Standby —
 Accessibility —
 Sub Total 1595.90
 Sub Total 1595.90

Approved By [Signature] Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50117

Well Name & No. Roemer Bell 1-1 Test No. 2 Date 12-11-12
 Company Murfin Drilling company Elevation 2633 KB 2622 GL
 Address _____
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 1 Twp. 15 Rge. 30 Co. Gove State KS

Interval Tested 3906 3940 Zone Tested Lansing J
 Anchor Length 34 Drill Pipe Run 3665 Mud Wt. 9.0
 Top Packer Depth 3901 Drill Collars Run 233 Vis 99
 Bottom Packer Depth 3906 Wt. Pipe Run _____ WL 5.2
 Total Depth 3940 Chlorides 5400 ppm System LCM 6

Blow Description IF; 1/4 blow built to 1.
IS; No return.
FF; 1/4 blow built to 4.
FS; No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Free oil</u>	<u>100</u>			
<u>62</u>	<u>90cm</u>	<u>20</u>	<u>10</u>	<u>70</u>	
____	____	____	____	____	____
____	____	____	____	____	____
____	____	____	____	____	____

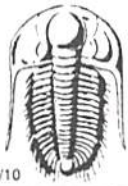
Rec Total 63 BHT 121 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2059 Test 1150 T-On Location 00:00
 (B) First Initial Flow 17 Jars 250 T-Started 00:58
 (C) First Final Flow 26 Safety Joint 75 T-Open 2:30
 (D) Initial Shut-In 808 Circ Sub N/L T-Pulled 6:30
 (E) Second Initial Flow 25 Hourly Standby T-Out 8:45
 (F) Second Final Flow 43 Mileage 78- 120.90 Comments _____
 (G) Final Shut-In 816 Sampler _____
 (H) Final Hydrostatic 2063 Straddle _____

Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 60 Extra Packer _____ Ruined Packer _____
 Final Flow 60 Extra Recorder _____ Extra Copies _____
 Final Shut-In 90 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1595.90
 Sub Total 1595.90 MP/DST Disc't _____

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50118

Well Name & No. Roemer Bell 1-1 Test No. 3 Date 12-11-12
 Company Murfin Drilling company Elevation 2633 KB 2622 GL
 Address _____
 Co. Rep / Geo. Robert Hendrix Rig Murfin 2
 Location: Sec. 1 Twp. 15 Rge. 30 Co. 609 State KS

Interval Tested 3952 4010 Zone Tested Lmsing K-L
 Anchor Length _____ Drill Pipe Run 3723 Mud Wt. 9.3
 Top Packer Depth _____ Drill Collars Run 233 Vis 79
 Bottom Packer Depth 3952 Wt. Pipe Run _____ WL 6.0
 Total Depth 4010 Chlorides 3600 ppm System LCM 6

Blow Description IF: BoB in 10 min.
IS: BoB in 12 min.
FF: BoB in 10 min.
FS: BoB in 12 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>382</u>	<u>90</u>	<u>10</u>	<u>90</u>		
<u>310</u>	<u>90cm</u>	<u>20</u>	<u>10</u>	<u>70</u>	
<u>124</u>	<u>90cm</u>	<u>20</u>	<u>30</u>	<u>10</u>	<u>40</u>
	<u>930 GFP</u>				

Rec Total 816 BHT 129 Gravity 37 API RW - @ - °F Chlorides _____ ppm

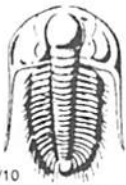
(A) Initial Hydrostatic 2061 Test 1250 T-On Location 19:00
 (B) First Initial Flow 33 Jars 250 T-Started 19:16
 (C) First Final Flow 155 Safety Joint 75 T-Open 21:06
 (D) Initial Shut-In 784 Circ Sub NIC T-Pulled 1:06
 (E) Second Initial Flow 178 Hourly Standby T-Out 3:35
 (F) Second Final Flow 313 Mileage 78- 120.90 Comments _____
 (G) Final Shut-In 751 Sampler _____
 (H) Final Hydrostatic 2041 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 1695.90

Approved By RLD. LLC Our Representative _____

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50119

Well Name & No. Rocmer Bell 1-1 Test No. 4 Date 12-13-12
 Company Murfin Drilling company Elevation 2633 KB 2622 GL
 Address _____
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 1 Twp. 15 Rge. 30 Co. Gove State KS

Interval Tested 4139 4217 Zone Tested Pawnee - Ft. Scott
 Anchor Length _____ Drill Pipe Run 3882 Mud Wt. 9.3
 Top Packer Depth 4134 Drill Collars Run 233 Vis 45
 Bottom Packer Depth 4139 Wt. Pipe Run _____ WL 8.4
 Total Depth 4217 Chlorides 2100 ppm System LCM 4

Blow Description IF: BoB in 15 min.
IS: surface blow built to 1 1/2
FF: BoB in 13 min.
FS: surface blow built to 5.

Rec	Feet of	%gas	%oil	%water	%mud
<u>351</u>	<u>90</u>	<u>30</u>	<u>70</u>		
<u>186</u>	<u>mc90</u>	<u>50</u>	<u>20</u>	<u>30</u>	
<u>62</u>	<u>gocwm</u>	<u>10</u>	<u>10</u>	<u>20</u>	<u>60</u>
<u>124</u>	<u>ocmw</u>	<u>10</u>	<u>10</u>	<u>50</u>	<u>40</u>
	<u>620 GIP</u>				

Rec Total 723 BHT 132 Gravity 34 API RW .31 @ 43 °F Chlorides 38,000 ppm

(A) Initial Hydrostatic <u>2151</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>1:00</u>
(B) First Initial Flow <u>46</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>1:33</u>
(C) First Final Flow <u>187</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>3:04</u>
(D) Initial Shut-In <u>1104</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>7:04</u>
(E) Second Initial Flow <u>191</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:45</u>
(F) Second Final Flow <u>301</u>	<input checked="" type="checkbox"/> Mileage <u>78 x 2</u> 241.80	Comments <u>loaded tools</u>
(G) Final Shut-In <u>1082</u>	<input type="checkbox"/> Sampler	<u>11:00 12-14-12</u>
(H) Final Hydrostatic <u>2087</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
	<input type="checkbox"/> Extra Recorder	Sub Total <u>800</u>
	<input checked="" type="checkbox"/> Day Standby 1d 1.25h	Total <u>2616.80</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1816.80</u>	

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

Approved By [Signature] Our Representative [Signature]

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