



DRILL STEM TEST REPORT

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

250 N. Water, Ste.300
Wichita KS 67202

ATTN: Chuck Schmaltz

Hornbaker #1-11

11-23s-11w Stafford,KS

Start Date: 2014.07.21 @ 20:02:37

End Date: 2014.07.22 @ 04:01:37

Job Ticket #: 54233 DST #: 1

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

Printed: 2014.07.25 @ 15:48:15



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

250 N. Water, Ste.300
Wichita KS 67202

Hornbaker #1-11

Job Ticket: 54233

DST#: 1

ATTN: Chuck Schmalz

Test Start: 2014.07.21 @ 20:02:37

GENERAL INFORMATION:

Formation: **LKC D-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:10:37

Time Test Ended: 04:01:37

Test Type: Conventional Bottom Hole (Initial)

Tester: Gary Pevoteaux

Unit No: 56

Interval: 3286.00 ft (KB) To 3360.00 ft (KB) (TVD)

Reference Elevations: 1804.00 ft (KB)

Total Depth: 3360.00 ft (KB) (TVD)

1793.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8352 Outside

Press@RunDepth: 78.38 psig @ 3287.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.07.21

End Date:

2014.07.22

Last Calib.:

2014.07.22

Start Time: 20:02:42

End Time:

04:01:36

Time On Btm:

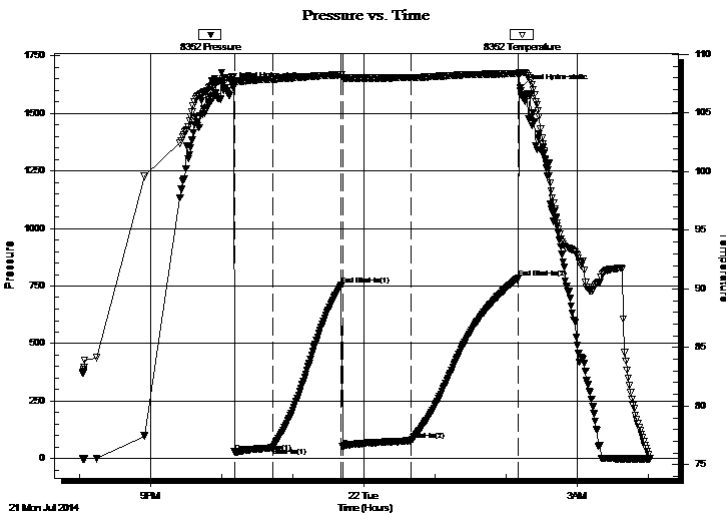
2014.07.21 @ 22:09:37

Time Off Btm:

2014.07.22 @ 02:11:37

TEST COMMENT: IF:Fair to strong blow . B.O.B. in 9 mins.
IS:No blow .
FF:Strong blow . B.O.B. in 4 1/2 mins.
FS:No blow .

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1615.17	108.09	Initial Hydro-static
1	29.55	107.55	Open To Flow (1)
34	48.10	107.89	Shut-In(1)
92	754.70	108.27	End Shut-In(1)
93	50.98	108.02	Open To Flow (2)
151	78.38	108.02	Shut-In(2)
241	783.27	108.36	End Shut-In(2)
242	1609.73	108.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
130.00	GOCM 8%g 17%o 75%m	0.64
0.00	300 ft.of GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

250 N. Water, Ste.300
Wichita KS 67202

Hornbaker #1-11

Job Ticket: 54233

DST#: 1

ATTN: Chuck Schmaltz

Test Start: 2014.07.21 @ 20:02:37

Tool Information

Drill Pipe:	Length: 3010.00 ft	Diameter: 3.80 inches	Volume: 42.22 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 278.00 ft	Diameter: 2.25 inches	Volume: 1.37 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 43.59 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 60500.00 lb
Depth to Top Packer:	3286.00 ft			Final 60500.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	74.00 ft			
Tool Length:	102.00 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			3259.00	
Shut In Tool	5.00			3264.00	
Hydraulic tool	5.00			3269.00	
Jars	5.00			3274.00	
Safety Joint	3.00			3277.00	
Packer	4.00			3281.00	28.00 Bottom Of Top Packer
Packer	5.00			3286.00	
Stubb	1.00			3287.00	
Recorder	0.00	8352	Outside	3287.00	
Recorder	0.00	8370	Inside	3287.00	
Perforations	5.00			3292.00	
Blank Spacing	63.00			3355.00	
Bullnose	5.00			3360.00	74.00 Bottom Packers & Anchor

Total Tool Length: 102.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

250 N. Water, Ste.300
Wichita KS 67202

Hornbaker #1-11

Job Ticket: 54233

DST#: 1

ATTN: Chuck Schmaltz

Test Start: 2014.07.21 @ 20:02:37

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:

11500 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 11500.00 ppm

Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
130.00	GOCM 8%g 17%o 75%m	0.639
0.00	300 ft.of GIP	0.000

Total Length: 130.00 ft

Total Volume: 0.639 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

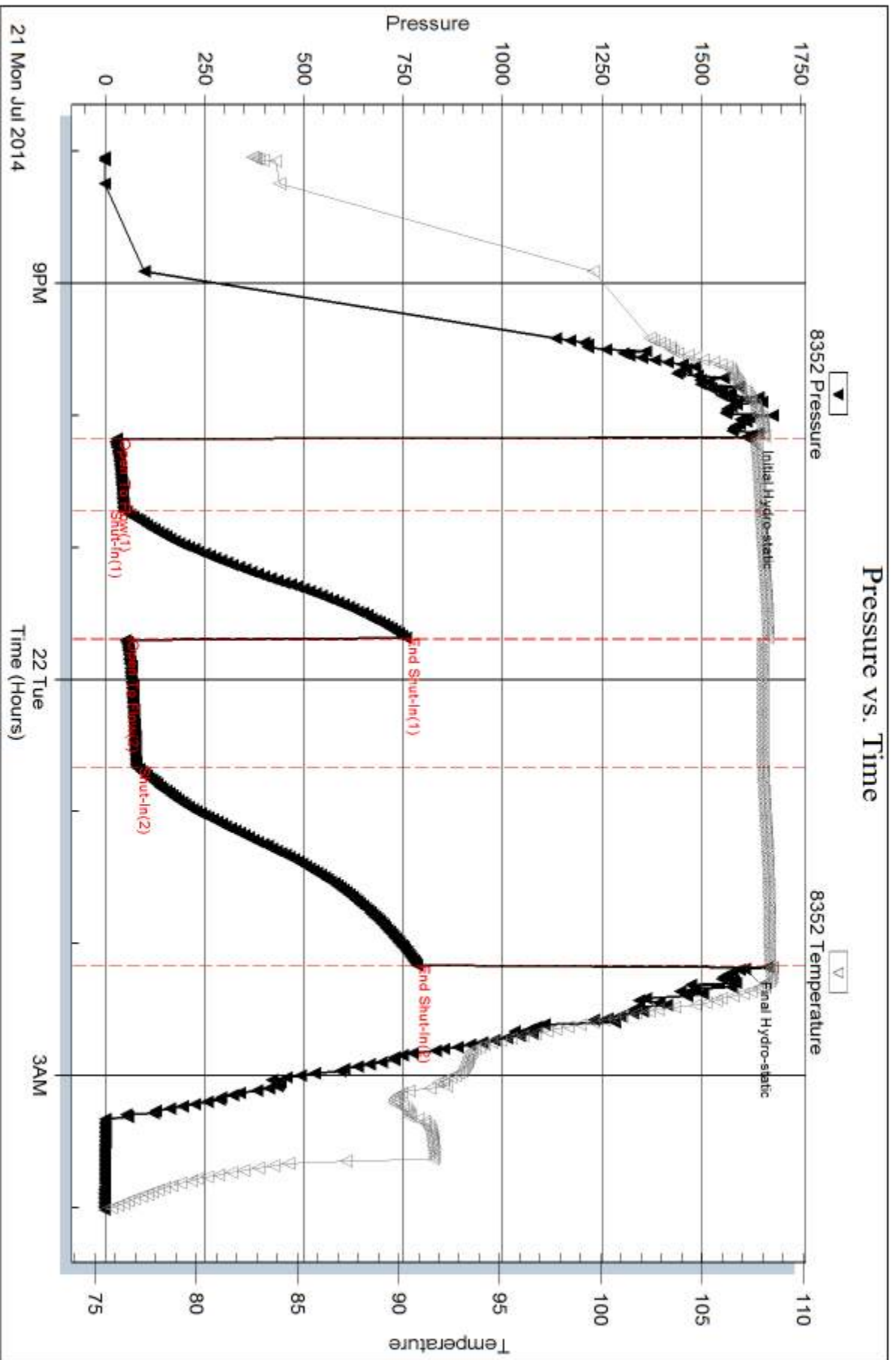
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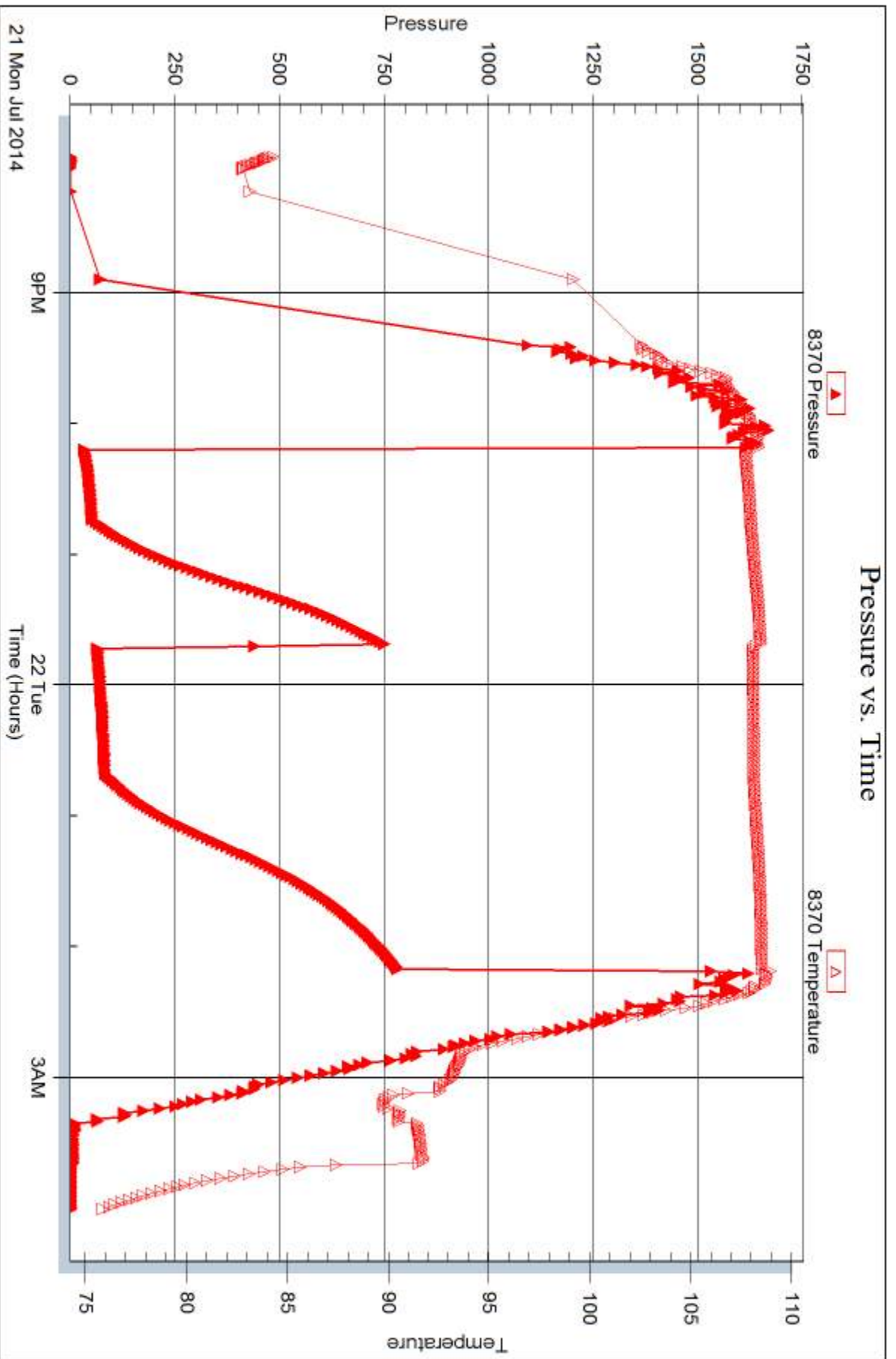
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

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

250 N. Water, Ste.300
Wichita KS 67202

ATTN: Chuck Schmaltz

Hornbaker #1-11

11-23s-11w Stafford,KS

Start Date: 2014.07.22 @ 16:29:49

End Date: 2014.07.23 @ 00:21:34

Job Ticket #: 54234 DST #: 2

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

Printed: 2014.07.25 @ 15:47:53



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

250 N. Water, Ste.300
Wichita KS 67202

Hornbaker #1-11

Job Ticket: 54234

DST#: 2

ATTN: Chuck Schmalz

Test Start: 2014.07.22 @ 16:29:49

GENERAL INFORMATION:

Formation: **LKC**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:15:34

Time Test Ended: 00:21:34

Test Type: Conventional Bottom Hole (Reset)

Tester: Gry Pevoteaux

Unit No: 56

Interval: 3394.00 ft (KB) To 3504.00 ft (KB) (TVD)

Reference Elevations: 1804.00 ft (KB)

Total Depth: 3504.00 ft (KB) (TVD)

1793.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8352 Outside

Press@RunDepth: 168.94 psig @ 3395.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.07.22

End Date:

2014.07.23

Last Calib.:

2014.07.23

Start Time: 16:29:54

End Time:

00:21:33

Time On Btm:

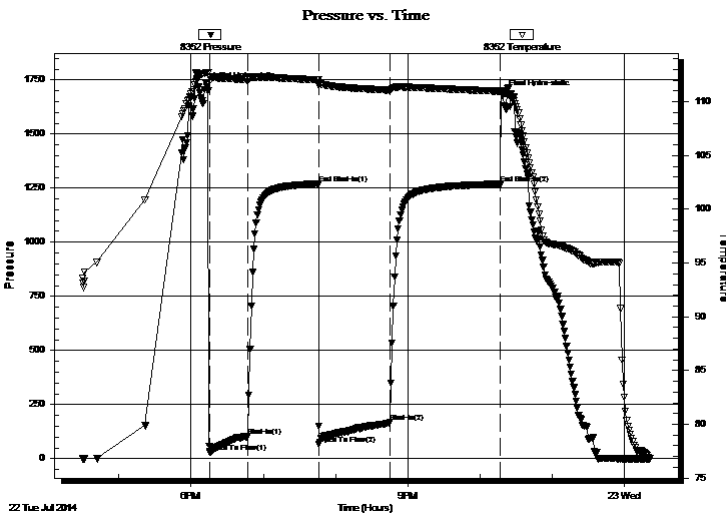
2014.07.22 @ 18:13:04

Time Off Btm:

2014.07.22 @ 22:18:34

TEST COMMENT: IF:Strong blow . B.O.B. in 3 1/2 mins.
IS:No blow .
FF:Strong blow . B.O.B. in 1 min.GTS in 22 mins. TSTM
FS:Weak blow . 1 - 4".

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1717.29	112.72	Initial Hydro-static
3	29.22	112.33	Open To Flow (1)
34	104.46	112.02	Shut-In(1)
93	1270.30	112.03	End Shut-In(1)
94	65.87	111.68	Open To Flow (2)
152	168.94	111.08	Shut-In(2)
244	1268.60	110.97	End Shut-In(2)
246	1680.32	110.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
250.00	MW 32% m 68% w	1.23
105.00	Drlg.mud	1.22

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

250 N. Water, Ste.300
Wichita KS 67202

Hornbaker #1-11

Job Ticket: 54234

DST#: 2

ATTN: Chuck Schmaltz

Test Start: 2014.07.22 @ 16:29:49

Tool Information

Drill Pipe:	Length: 3104.00 ft	Diameter: 3.80 inches	Volume: 43.54 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 278.00 ft	Diameter: 2.25 inches	Volume: 1.37 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 44.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3394.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	110.00 ft			
Tool Length:	138.00 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			3367.00	
Shut In Tool	5.00			3372.00	
Hydraulic tool	5.00			3377.00	
Jars	5.00			3382.00	
Safety Joint	3.00			3385.00	
Packer	4.00			3389.00	28.00 Bottom Of Top Packer
Packer	5.00			3394.00	
Stubb	1.00			3395.00	
Recorder	0.00	8352	Outside	3395.00	
Recorder	0.00	8370	Inside	3395.00	
Perforations	9.00			3404.00	
Blank Spacing	95.00			3499.00	
Bullnose	5.00			3504.00	110.00 Bottom Packers & Anchor

Total Tool Length: 138.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

250 N. Water, Ste.300
Wichita KS 67202

Hornbaker #1-11

Job Ticket: 54234

DST#: 2

ATTN: Chuck Schmaltz

Test Start: 2014.07.22 @ 16:29:49

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:

95000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbf

Water Loss: 10.37 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 10500.00 ppm

Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
250.00	MW 32% _m 68% _w	1.229
105.00	Drlg.mud	1.218

Total Length: 355.00 ft Total Volume: 2.447 bbf

Num Fluid Samples: 0

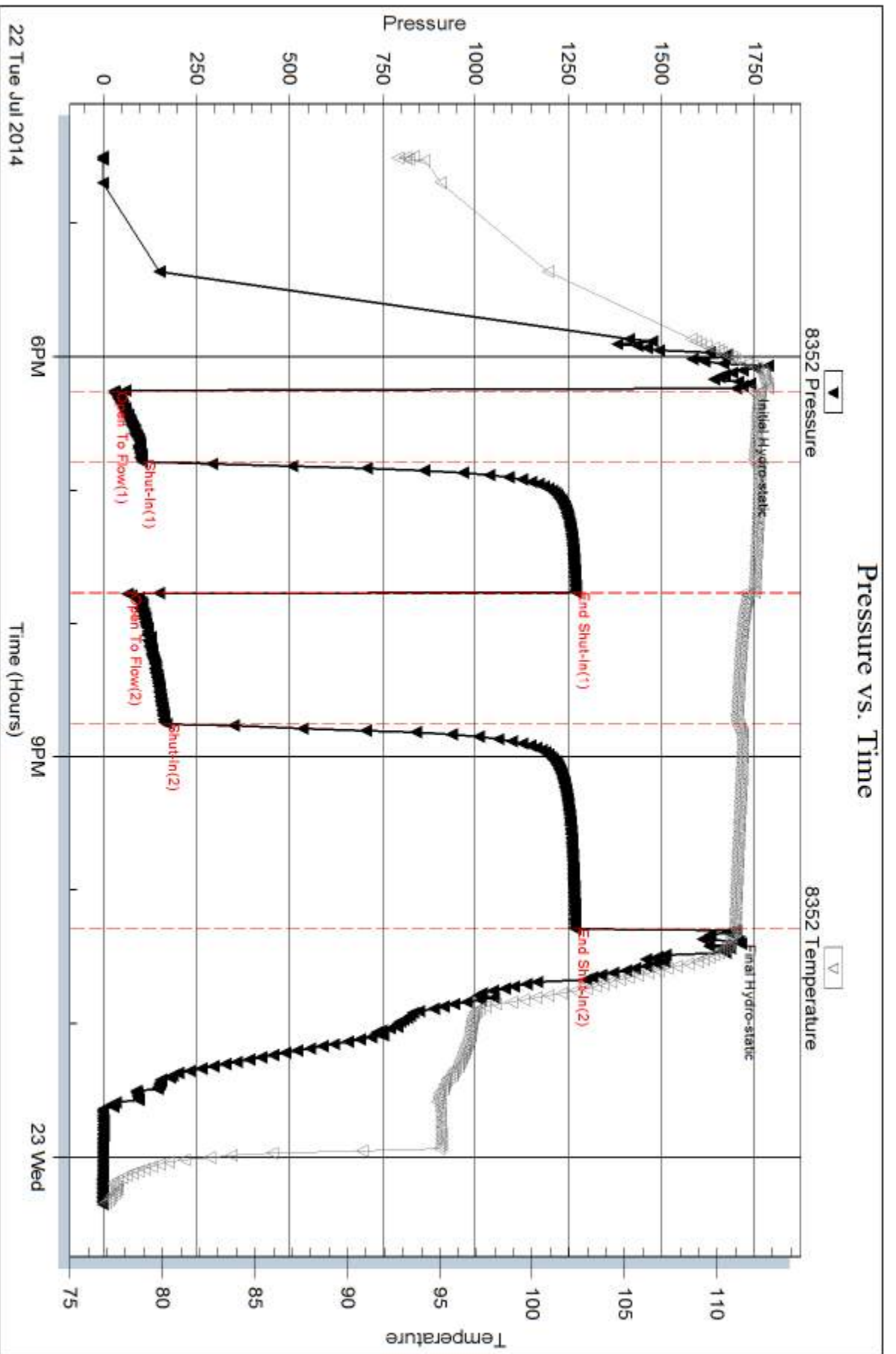
Num Gas Bombs: 0

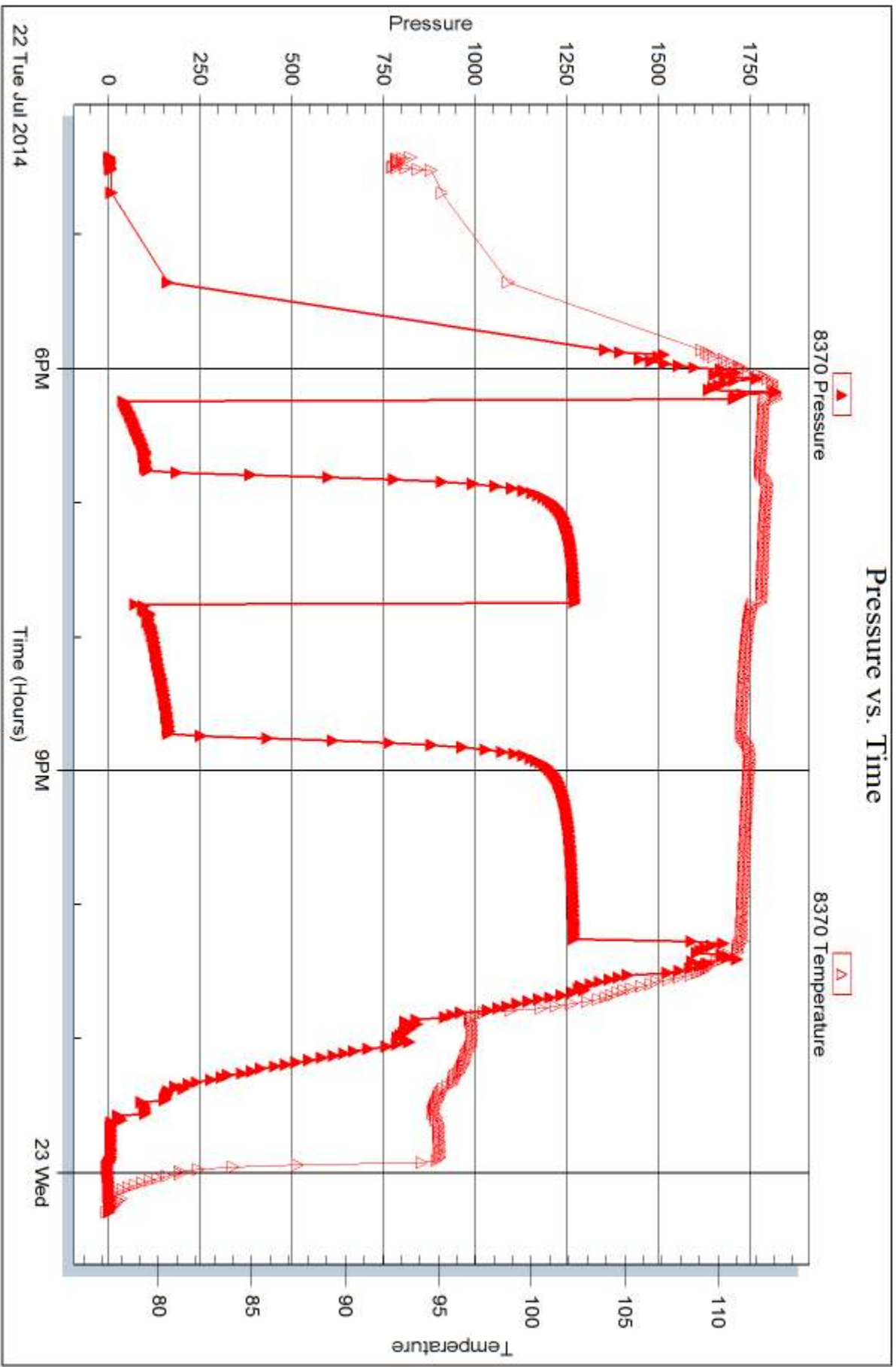
Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments: Rw .06@ 96deg







DRILL STEM TEST REPORT

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

250 N. Water, Ste.300
Wichita KS 67202

ATTN: Chuck Schmaltz

Hornbaker #1-11

11-23s-11w Stafford,KS

Start Date: 2014.07.23 @ 11:14:53

End Date: 2014.07.23 @ 17:26:53

Job Ticket #: 54235 DST #: 3

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

Printed: 2014.07.25 @ 15:47:07



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

250 N. Water, Ste.300
Wichita KS 67202

Hornbaker #1-11

Job Ticket: 54235

DST#: 3

ATTN: Chuck Schmaltz

Test Start: 2014.07.23 @ 11:14:53

GENERAL INFORMATION:

Formation: **Viola**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:47:23

Time Test Ended: 17:26:53

Test Type: Conventional Bottom Hole (Reset)

Tester: Gary Pevoteaux

Unit No: 56

Interval: 3596.00 ft (KB) To 3657.00 ft (KB) (TVD)

Reference Elevations: 1804.00 ft (KB)

Total Depth: 3657.00 ft (KB) (TVD)

1793.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8352 Outside

Press@RunDepth: 44.92 psig @ 3597.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.07.23

End Date:

2014.07.23

Last Calib.:

2014.07.23

Start Time: 11:14:58

End Time:

17:26:52

Time On Btm:

2014.07.23 @ 12:45:53

Time Off Btm:

2014.07.23 @ 15:55:23

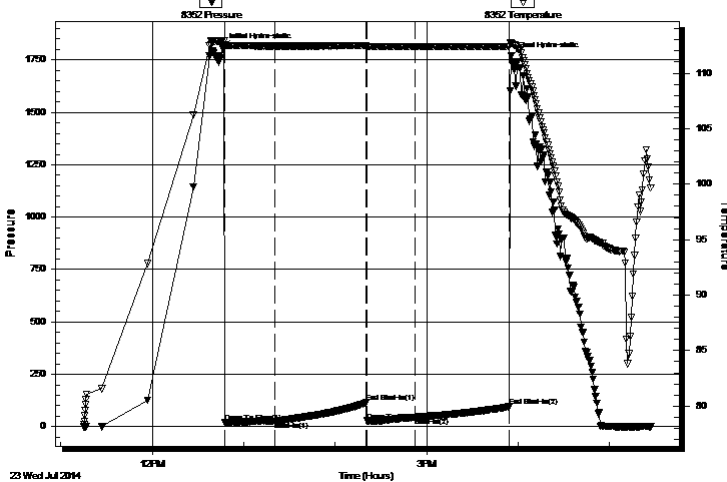
TEST COMMENT: IF:Weak blow . 1/2 - 3/4". Decreasing

IS:No blow .

FF:No blow .

FS:No blow .

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1811.34	112.93	Initial Hydro-static
2	20.09	112.43	Open To Flow (1)
35	25.07	112.45	Shut-In(1)
95	114.76	112.47	End Shut-In(1)
95	27.08	112.42	Open To Flow (2)
127	44.92	112.41	Shut-In(2)
188	95.17	112.39	End Shut-In(2)
190	1768.03	112.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Drlg.mud (Good odor)	0.10

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

250 N. Water, Ste.300
Wichita KS 67202

Hornbaker #1-11

Job Ticket: 54235

DST#: 3

ATTN: Chuck Schmaltz

Test Start: 2014.07.23 @ 11:14:53

Tool Information

Drill Pipe:	Length: 3293.00 ft	Diameter: 3.80 inches	Volume: 46.19 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 278.00 ft	Diameter: 2.25 inches	Volume: 1.37 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 47.56 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3596.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	61.00 ft			
Tool Length:	89.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3569.00	
Shut In Tool	5.00			3574.00	
Hydraulic tool	5.00			3579.00	
Jars	5.00			3584.00	
Safety Joint	3.00			3587.00	
Packer	4.00			3591.00	28.00 Bottom Of Top Packer
Packer	5.00			3596.00	
Stubb	1.00			3597.00	
Recorder	0.00	8352	Outside	3597.00	
Recorder	0.00	8370	Inside	3597.00	
Perforations	4.00			3601.00	
Blank Spacing	32.00			3633.00	
Perforations	19.00			3652.00	
Bullnose	5.00			3657.00	61.00 Bottom Packers & Anchor

Total Tool Length: 89.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

250 N. Water, Ste.300
Wichita KS 67202

Hornbaker #1-11

Job Ticket: 54235

DST#: 3

ATTN: Chuck Schmaltz

Test Start: 2014.07.23 @ 11:14:53

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:

9700 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 9700.00 ppm

Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Drlg.mud (Good odor)	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

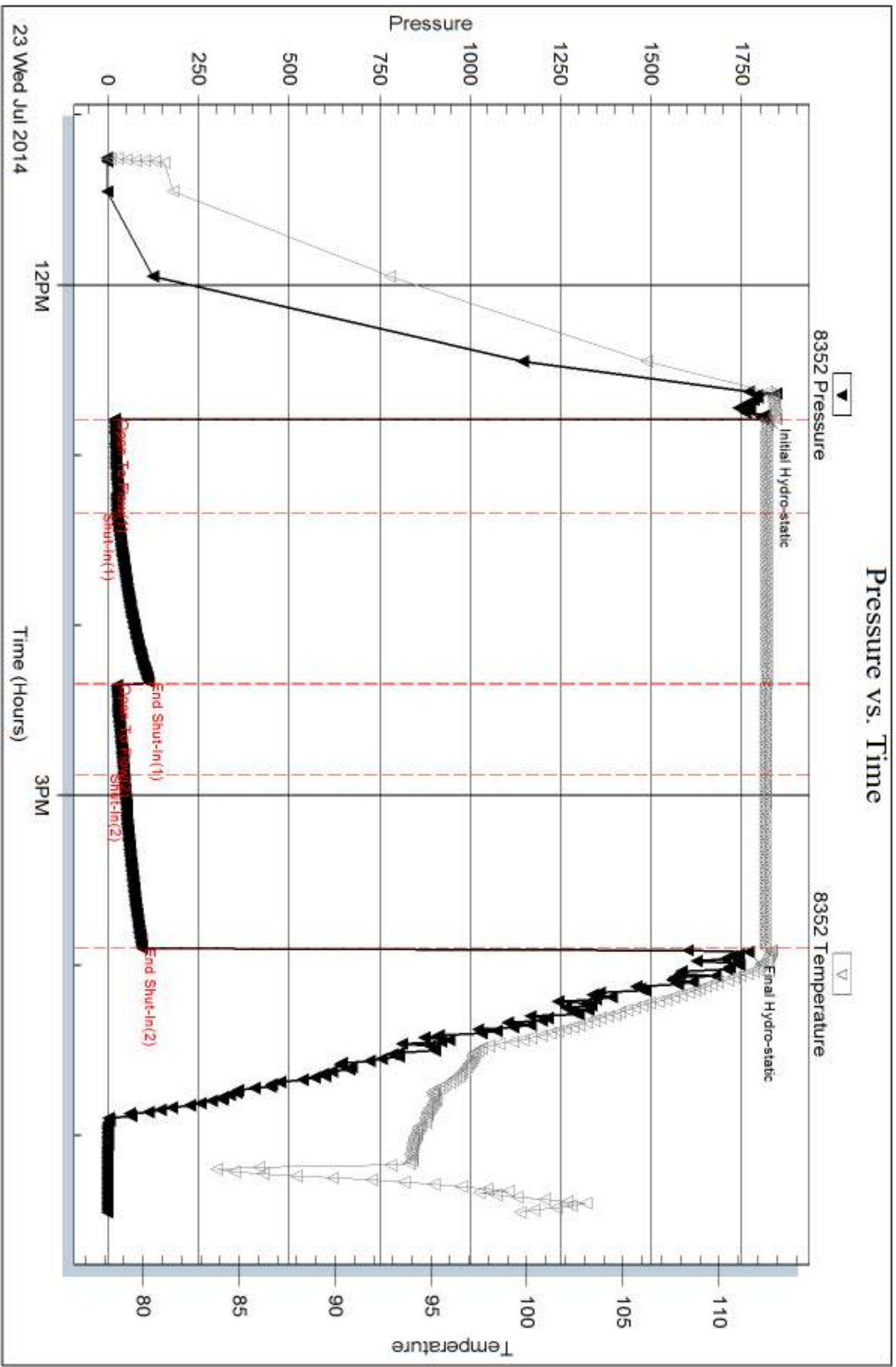
Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:



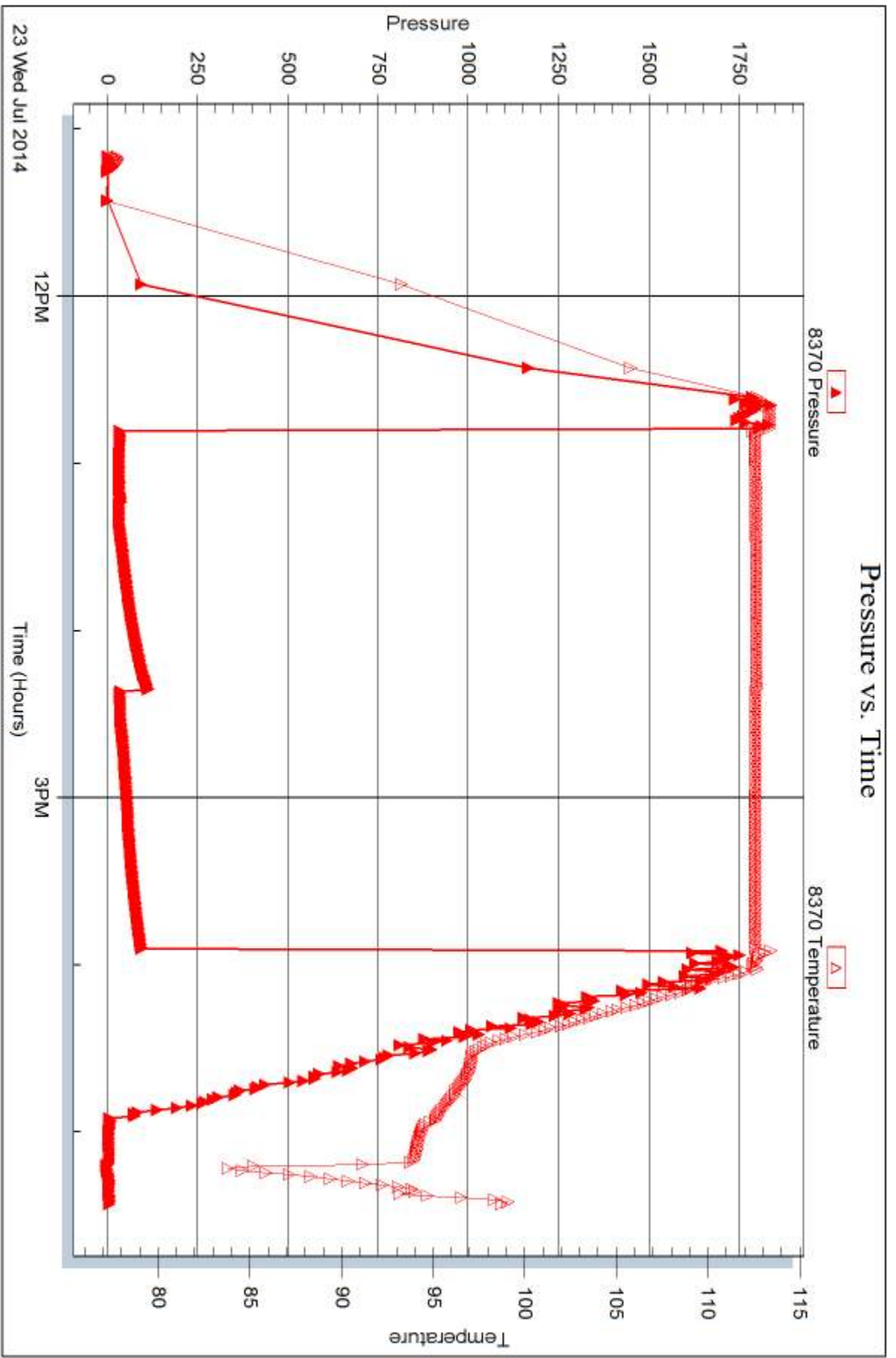
Serial #: 8370

Inside

Murfin Drtg. Co. Inc.

Hornbaker #1-11

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 54235

Printed: 2014.07.25 @ 15:47:10



DRILL STEM TEST REPORT

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

250 N. Water, Ste.300
Wichita KS 67202

ATTN: Chuck Schmaltz

Hornbaker #1-11

11-23s-11w Stafford,KS

Start Date: 2014.07.24 @ 03:41:37

End Date: 2014.07.24 @ 11:38:52

Job Ticket #: 54236 DST #: 4

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

Printed: 2014.07.25 @ 15:34:11

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

Hornbaker #1-11

DST # 4

Simpson/Arbuckle

2014.07.24



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

250 N. Water, Ste.300
Wichita KS 67202

Hornbaker #1-11

Job Ticket: 54236

DST#: 4

ATTN: Chuck Schmaltz

Test Start: 2014.07.24 @ 03:41:37

GENERAL INFORMATION:

Formation: **Simpson/Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:24:37

Time Test Ended: 11:38:52

Test Type: Conventional Bottom Hole (Reset)

Tester: Gry Pevoteaux

Unit No: 56

Interval: 3636.00 ft (KB) To 3726.00 ft (KB) (TVD)

Reference Elevations: 1804.00 ft (KB)

Total Depth: 3726.00 ft (KB) (TVD)

1793.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8352 Outside

Press@RunDepth: 1026.94 psig @ 3637.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.07.24

End Date:

2014.07.24

Last Calib.:

2014.07.24

Start Time: 03:41:42

End Time:

11:38:51

Time On Btm:

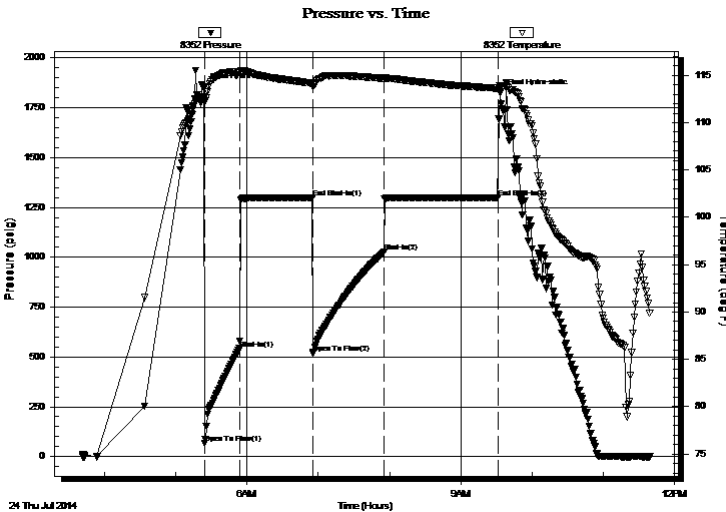
2014.07.24 @ 05:23:22

Time Off Btm:

2014.07.24 @ 09:32:52

TEST COMMENT: IF:Strong blow . B.O.B. in 3 mins.
IS:No blow .
FF:Strong blow .. B.O.B. in 4 mins.
FS:No blow .

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1848.85	112.71	Initial Hydro-static
2	67.19	112.26	Open To Flow (1)
31	541.20	115.35	Shut-In(1)
92	1299.28	114.15	End Shut-In(1)
92	518.91	113.82	Open To Flow (2)
152	1026.94	114.67	Shut-In(2)
248	1299.08	113.64	End Shut-In(2)
250	1823.18	113.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2000.00	SW / Rw .15ohms@91 deg	25.52
280.00	MW 19%m 81%w	3.93

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

250 N. Water, Ste.300
Wichita KS 67202

Hornbaker #1-11

Job Ticket: 54236

DST#: 4

ATTN: Chuck Schmaltz

Test Start: 2014.07.24 @ 03:41:37

Tool Information

Drill Pipe:	Length: 3355.00 ft	Diameter: 3.80 inches	Volume: 47.06 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 278.00 ft	Diameter: 2.25 inches	Volume: 1.37 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 48.43 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3636.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	90.00 ft			
Tool Length:	118.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3609.00	
Shut In Tool	5.00			3614.00	
Hydraulic tool	5.00			3619.00	
Jars	5.00			3624.00	
Safety Joint	3.00			3627.00	
Packer	4.00			3631.00	28.00 Bottom Of Top Packer
Packer	5.00			3636.00	
Stubb	1.00			3637.00	
Recorder	0.00	8352	Outside	3637.00	
Recorder	0.00	8370	Inside	3637.00	
Perforations	4.00			3641.00	
Blank Spacing	63.00			3704.00	
Perforations	17.00			3721.00	
Bullnose	5.00			3726.00	90.00 Bottom Packers & Anchor

Total Tool Length: 118.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drlg.Co.Inc.

11-23s-11w Stafford,KS

250 N. Water, Ste.300
Wichita KS 67202

Hornbaker #1-11

Job Ticket: 54236

DST#: 4

ATTN: Chuck Schmaltz

Test Start: 2014.07.24 @ 03:41:37

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:

39000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 9700.00 ppm

Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2000.00	SW / Rw .15ohms@91 deg	25.522
280.00	MW 19%m 81%w	3.928

Total Length: 2280.00 ft

Total Volume: 29.450 bbl

Num Fluid Samples: 0

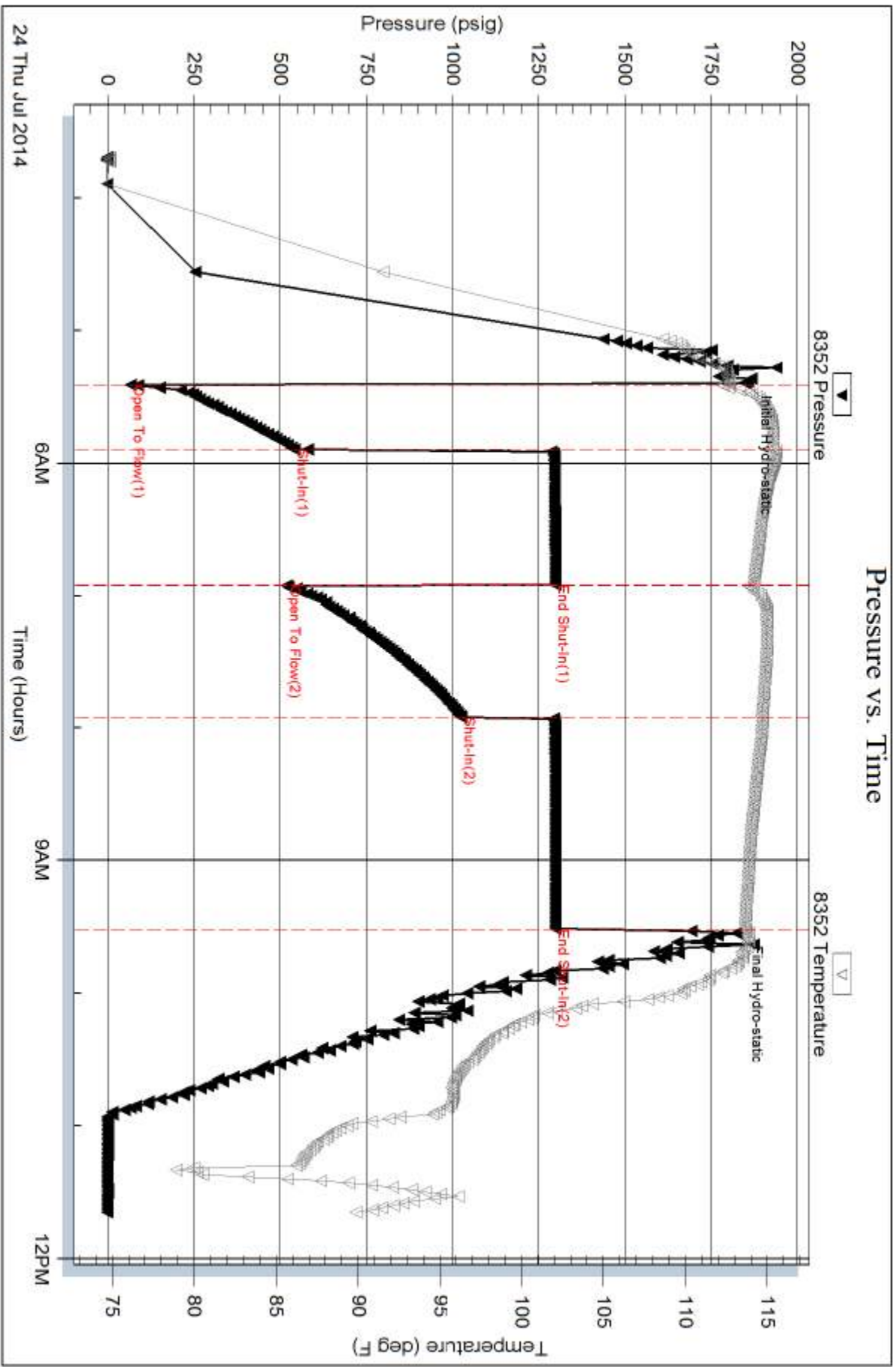
Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:



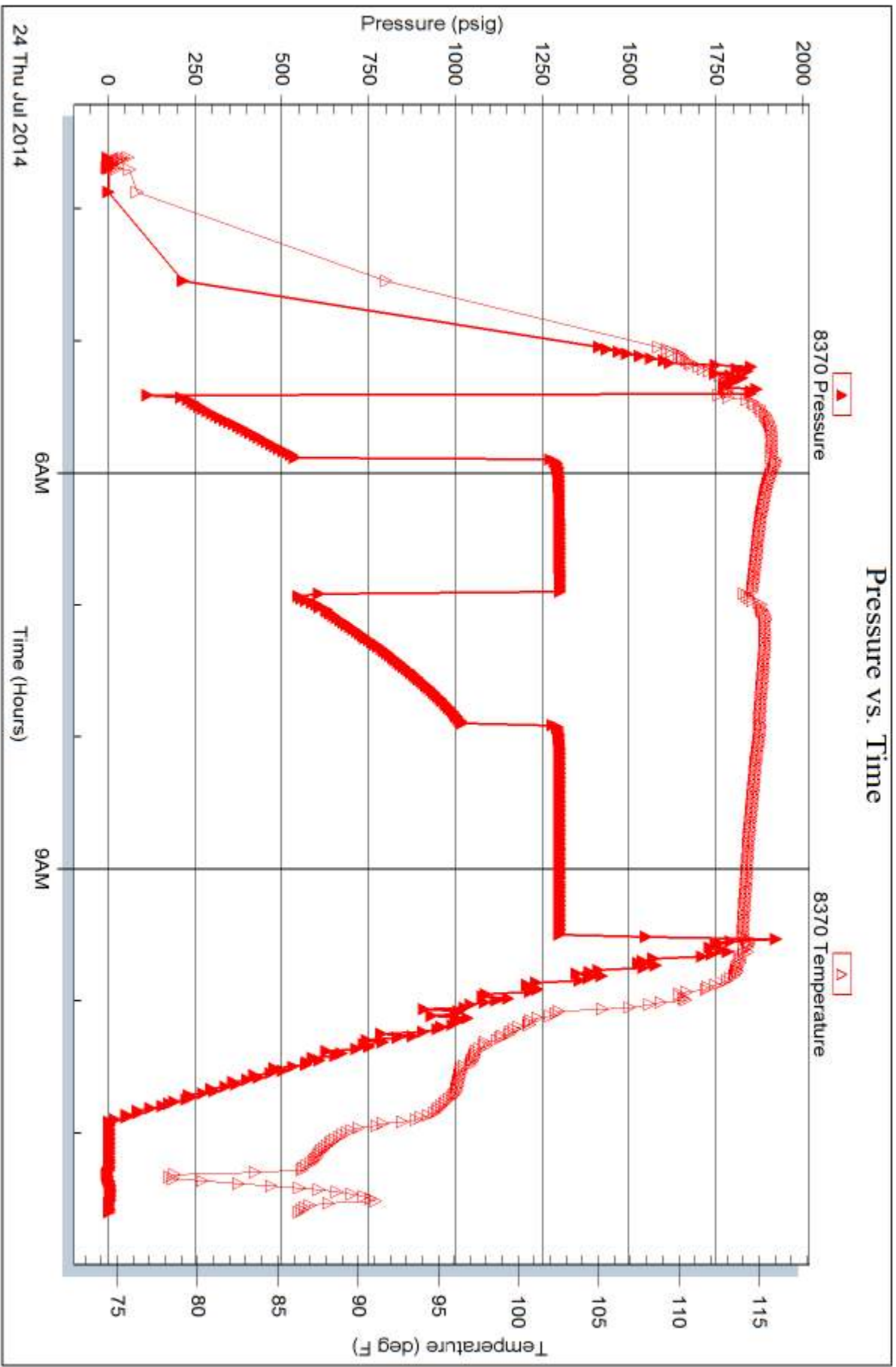
Serial #: 8370

Inside

Murfin Drtg. Co. Inc.

Hornbaker #1-11

DST Test Number: 4



Tribble Testing, Inc

Ref. No: 54236

Printed: 2014.07.25 @ 15:34:13



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **54233**

4/10

Well Name & No. HORNBAKER #1-11 Test No. 1 Date 7-21-14
 Company MURFIN DRILG Co. Inc. Elevation 1804 KB 1793 GL
 Address 250 N WATERZ, STE. 300, WICHITA Ks. 67202
 Co. Rep / Geo. CHUCK SCHMALTZ Rig MURFIN DRILG #21
 Location: Sec. 11 Twp. 23S Rge. 11W Co. STAFFORD State Ks.

Interval Tested 3286 - 3360' Zone Tested LAAS - D, E, F
 Anchor Length 74' Drill Pipe Run 3010 Mud Wt. 9.4
 Top Packer Depth 3281' Drill Collars Run 278' Vis 50
 Bottom Packer Depth 3286' Wt. Pipe Run 0 WL 10.4cc
 Total Depth 3360' Chlorides 11,500 ppm System LCM 1#

Blow Description IF: Fair to strong blow. B.O.B. in 9 mins. -
ISI; No blow.
FF: Strong blow. B.O.B. in 4 1/2 mins. FSI; No blow.

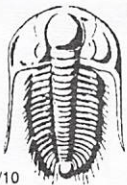
Rec	Feet of	%gas	%oil	%water	%mud
<u>300</u>	<u>Gas in pipe</u>				
<u>130</u>	<u>GOCM</u>	<u>8</u>	<u>17</u>		<u>75</u>

Rec Total 130 BHT 108° Gravity N/A API RW Nic.@ ~ °F Chlorides 11,500 ppm

(A) Initial Hydrostatic 1615 Test 1150 T-On Location 1907
 (B) First Initial Flow 30 Jars 250 T-Started 2002
 (C) First Final Flow 48 Safety Joint 75 T-Open 2210
 (D) Initial Shut-In 755 Circ Sub _____ T-Pulled 0213
 (E) Second Initial Flow 51 Hourly Standby _____ T-Out 0401
 (F) Second Final Flow 78 Mileage 90 124 Comments _____
 (G) Final Shut-In 783 Sampler _____
 (H) Final Hydrostatic 1610 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1599
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1599

Approved By _____ Our Representative Cory Volcanys

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. 54234

4/10

Well Name & No. HORNBAKER # 1-11 Test No. 2 Date 7-22-14
 Company MURFIN DRUG Co. Inc. Elevation 1804 KB 1793 GL
 Address 250 N. WATER, STE. 300, WICHITA Ks. 67202
 Co. Rep / Geo. CHUCK SCHMALTZ Rig MURFIN DRUG #21
 Location: Sec. 11 Twp. 23S Rge. 11W Co. STAFFORD State Ks.

Interval Tested 3394-3504' Zone Tested LANS.
 Anchor Length 110' Drill Pipe Run 3104' Mud Wt. 9.4
 Top Packer Depth 3389' Drill Collars Run 278' Vis 57
 Bottom Packer Depth 3394' Wt. Pipe Run 0 WL 10.4cc
 Total Depth 3504' Chlorides 10,500 ppm System LCM 1#

Blow Description IF: Strong blow. B.O.B. in 3 1/2 mins. -

ISI: No blow.

FF: Strong blow. B.O.B. in 1 min. GTS in 22 mins. TSTM.

FSI: Weak blow. 1-4".

Rec	Feet of	%gas	%oil	%water	%mud
<u>105</u>	<u>Only Mud</u>				
<u>250</u>	<u>MW</u>		<u>60</u>	<u>32</u>	

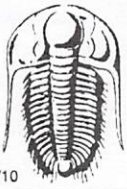
Rec Total 355 BHT 109.7 Gravity N/A API RW .06 @ 96 °F Chlorides 95,000 ppm

(A) Initial Hydrostatic 1217 Test 1150 T-On Location 1610
 (B) First Initial Flow 29 Jars 250 T-Started 1629
 (C) First Final Flow 104 Safety Joint 75 T-Open 1815
 (D) Initial Shut-In 1270 Circ Sub _____ T-Pulled 2216
 (E) Second Initial Flow 66 Hourly Standby _____ T-Out 0021
 (F) Second Final Flow 169 Mileage 207 124 Comments _____
 (G) Final Shut-In 1269 Sampler _____
 (H) Final Hydrostatic 1680 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1599
 Accessibility _____ MP/DST Disc't _____

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

Approved By _____ Our Representative Cory Puroteaux

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54235

4/10

Well Name & No. HORNBAKER #1-11 Test No. 3 Date 7-23-14
 Company MURFIN DRUG Co. Inc. Elevation 1804 KB 1793 GL
 Address 250 N. WATER, Ste. 300, WICHITA Ks. 67202
 Co. Rep / Geo. CHUCK SCHMALTZ Rig MURFIN DRUG #21
 Location: Sec. 11 Twp. 23S Rge. 11W Co. STAFFORD State KS.

Interval Tested 3596 - 3657' Zone Tested VIOLA
 Anchor Length 61' Drill Pipe Run 3203' Mud Wt. 9.3
 Top Packer Depth 3591' Drill Collars Run 278' Vis 57
 Bottom Packer Depth 3596' Wt. Pipe Run 0 WL 9.2 cc
 Total Depth 3657' Chlorides 9700 ppm System LCM 1#

Blow Description IF: Weak blow 1/2 - 3/4". Decreasing. IST: No blow.
FF: No blow. FSI: No blow.

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Dry Mud. (Good OVER)</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 20 BHT 110° Gravity N/A API RW NC. @ ✓ °F Chlorides 9700 ppm

(A) Initial Hydrostatic 1811 Test 1150 T-On Location 1050
 (B) First Initial Flow 20 Jars 250 T-Started ~~1050~~ 1114
 (C) First Final Flow 25 Safety Joint 75 T-Open 12 47
 (D) Initial Shut-In 115 Circ Sub _____ T-Pulled 1355
 (E) Second Initial Flow 27 Hourly Standby _____ T-Out 1226
 (F) Second Final Flow 45 Mileage 80 124 Comments _____
 (G) Final Shut-In 95 Sampler _____
 (H) Final Hydrostatic 1768 Straddle _____
 Shale Packer _____
 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 1599 Total 1599 MP/DST Disc't _____

Approved By _____ Our Representative Cary Rotarian
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54236

4/10

Well Name & No. HORNBAKER #1-11 Test No. 4 Date 7-24-14
 Company MURFIN DRILLING Co. Inc. Elevation 1804 KB 1793 GL
 Address WICHITA Ks. 67202
 Co. Rep / Geo. CHUCK SCHULTZ Rig MURFIN DRILLING #21
 Location: Sec. 11 Twp. 23S Rge. 11W Co. STAFFORD State Ks.

Interval Tested 3636 ~ 3726' Zone Tested SIMPSON / ARBUCKLE
 Anchor Length 90' Drill Pipe Run 3355' Mud Wt. 9.3
 Top Packer Depth 3631' Drill Collars Run 278' Vis 57
 Bottom Packer Depth 3636' Wt. Pipe Run 0 WL 9.2cc
 Total Depth 3726' Chlorides 9,700 ppm System LCM 1#

Blow Description IF: Strong blow. B.O.B. in 3 mins. ISI No blow.

FF: Strong blow. B.O.B. in 4 mins. FSI No blow.

Rec	Feet of	%gas	%oil	%water	%mud
<u>280</u>	<u>MW</u>		<u>81</u>	<u>19</u>	
<u>2000</u>	<u>SW</u>				

Rec Total 2280 BHT 114° Gravity N/A API RW .15 @ 91 °F Chlorides 39,000 ppm

(A) Initial Hydrostatic 1849 Test 1150 T-On Location 0319
 (B) First Initial Flow 67 Jars 250 T-Started 0341
 (C) First Final Flow 541 Safety Joint 75 T-Open 0524
 (D) Initial Shut-In 1299 Circ Sub _____ T-Pulled 0930
 (E) Second Initial Flow 519 Hourly Standby _____ T-Out 1138
 (F) Second Final Flow 1027 Mileage (80) 124 Comments _____
 (G) Final Shut-In 1299 Sampler _____
 (H) Final Hydrostatic 1823 Straddle _____

Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1849
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1849

Approved By _____ Our Representative Coan Swolensky

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