



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste. #300
Wichita, KS 67202

ATTN: Robert Hendrix

Lundgren #2-36

36-14s-30w Gove,KS

Start Date: 2012.11.27 @ 19:05:15

End Date: 2012.11.28 @ 03:27:45

Job Ticket #: 51652 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.12.04 @ 13:08:18



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water Ste. #300
 Wichita, KS 67202
 ATTN: Robert Hendrix

36-14s-30w Gove, KS
Lundgren #2-36
 Job Ticket: 51652 **DST#: 1**
 Test Start: 2012.11.27 @ 19:05:15

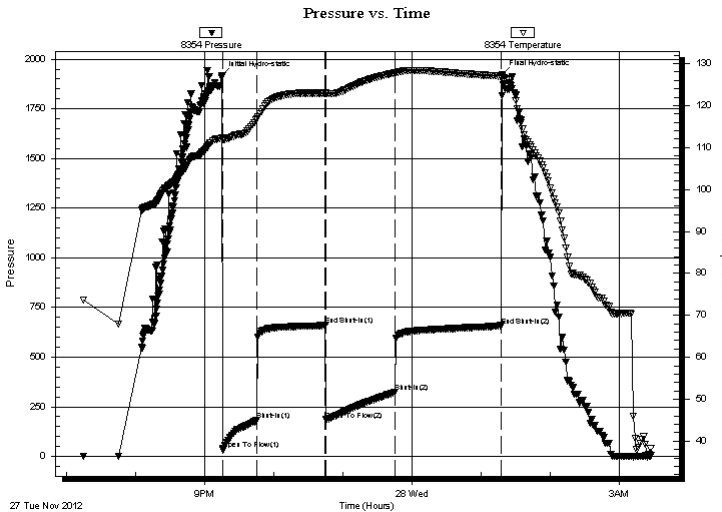
GENERAL INFORMATION:

Formation: **Lansing "B-F"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 21:15:45
 Tester: Dustin Rash
 Time Test Ended: 03:27:45
 Unit No: 66
Interval: 3748.00 ft (KB) To 3828.00 ft (KB) (TVD)
 Reference Elevations: 2695.00 ft (KB)
 Total Depth: 3828.00 ft (KB) (TVD)
 2684.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 11.00 ft

Serial #: 8354 **Inside**
 Press @ Run Depth: 323.04 psig @ 3815.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.11.27 End Date: 2012.11.28 Last Calib.: 2012.11.28
 Start Time: 19:15:15 End Time: 03:27:45 Time On Btm: 2012.11.27 @ 21:15:15
 Time Off Btm: 2012.11.28 @ 01:18:15

TEST COMMENT: IF-Fair building blow . BOB @ 16 1/2 minutes.
 IS- 8 1/2 minutes of surging surface return.
 FF-Fair building blow . BOB @ 16 1/2 minutes.
 FS- Very weak surface return for 22 minutes.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1914.95	112.30	Initial Hydro-static
1	34.00	111.94	Open To Flow (1)
30	181.19	116.73	Shut-In(1)
90	661.86	122.99	End Shut-In(1)
90	184.91	122.87	Open To Flow (2)
150	323.04	127.80	Shut-In(2)
242	658.68	127.04	End Shut-In(2)
243	1922.57	127.06	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
484.00	90%Water/10%Mud	4.67
136.00	10%Oil/50%Water/40%Mud	1.91
15.00	20%Gas/80%Oil	0.21
0.00	225' G.I.P.	0.00

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

36-14s-30w Gove,KS

250 N. Water Ste. #300
Wichita, KS 67202

Lundgren #2-36

Job Ticket: 51652

DST#: 1

ATTN: Robert Hendrix

Test Start: 2012.11.27 @ 19:05:15

Tool Information

Drill Pipe:	Length: 3507.00 ft	Diameter: 3.80 inches	Volume: 49.19 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 233.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 50.34 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3748.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	108.00 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			3721.00	
Shut In Tool	5.00			3726.00	
Hydraulic tool	5.00			3731.00	
Jars	5.00			3736.00	
Safety Joint	3.00			3739.00	
Packer	5.00			3744.00	28.00 Bottom Of Top Packer
Packer	4.00			3748.00	
Stubb	1.00			3749.00	
Perforations	2.00			3751.00	
Change Over Sub	1.00			3752.00	
Drill Pipe	62.00			3814.00	
Change Over Sub	1.00			3815.00	
Recorder	0.00	8354	Inside	3815.00	
Recorder	0.00	8520	Outside	3815.00	
Perforations	10.00			3825.00	
Bullnose	3.00			3828.00	80.00 Bottom Packers & Anchor
Total Tool Length:	108.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

36-14s-30w Gove,KS

250 N. Water Ste. #300
Wichita, KS 67202

Lundgren #2-36

Job Ticket: 51652

DST#: 1

ATTN: Robert Hendrix

Test Start: 2012.11.27 @ 19:05:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

28000 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: 0.54 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
484.00	90%Water/10%Mud	4.667
136.00	10%Oil/50%Water/40%Mud	1.908
15.00	20%Gas/80%Oil	0.210
0.00	225' G.I.P.	0.000

Total Length: 635.00 ft

Total Volume: 6.785 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

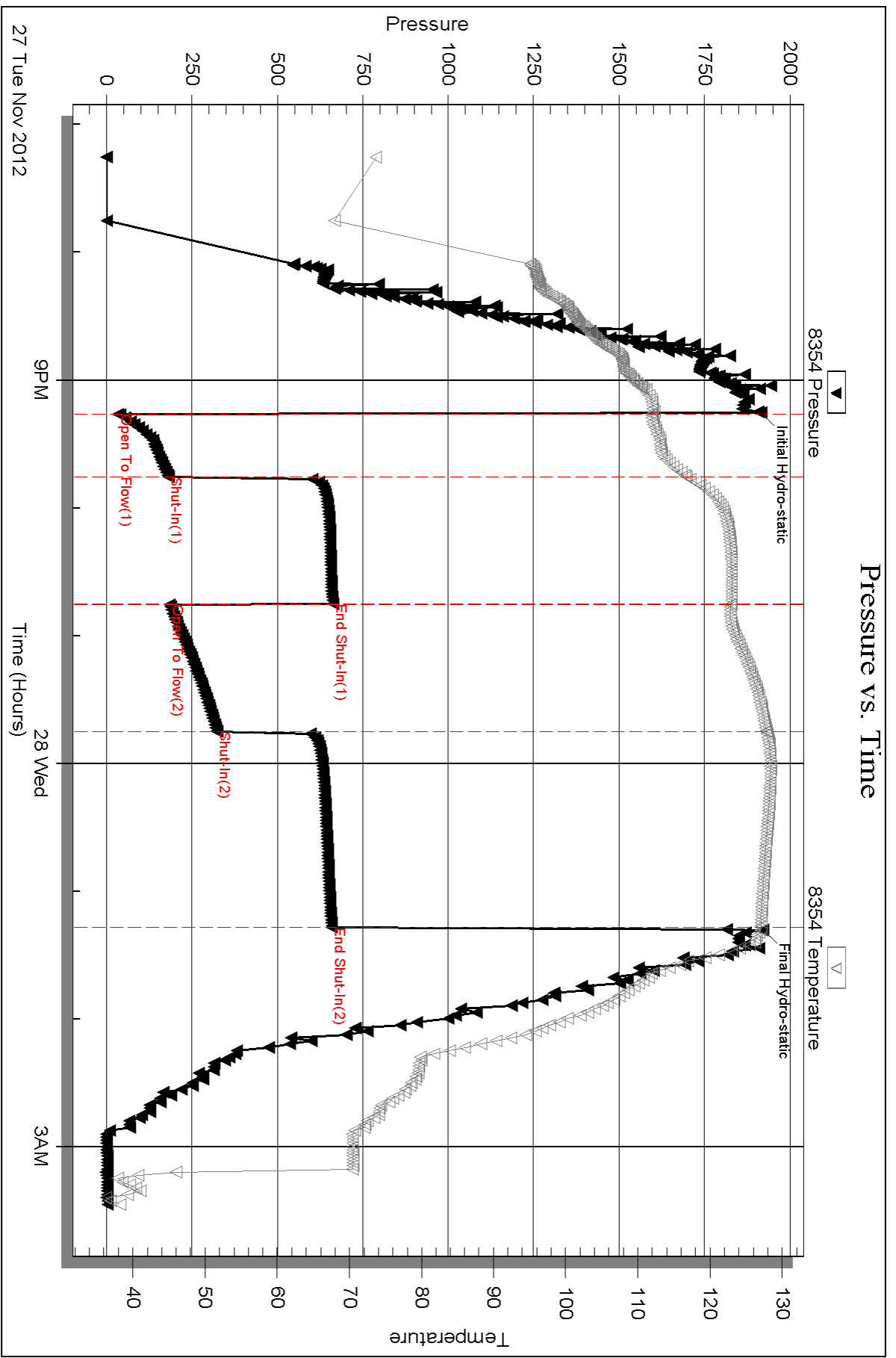
Serial #: 8354

Inside

Murfin Drilling Co Inc

Lundgren #2-36

DST Test Number: 1

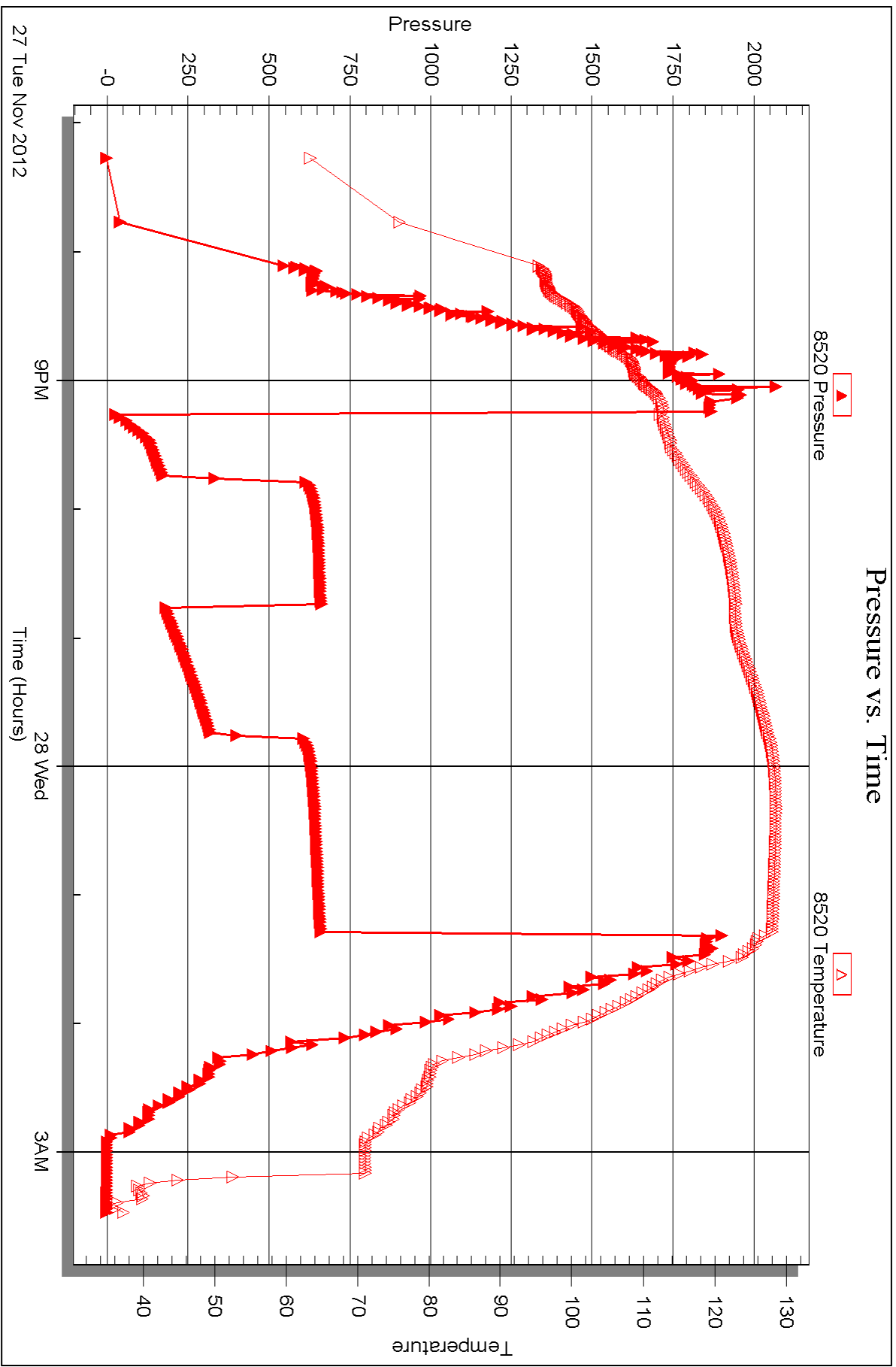


Serial #: 8520

Outside Murfin Drilling Co Inc

Lundgren #2-36

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste. #300
Wichita, KS 67202

ATTN: Robert Hendrix

Lundgren #2-36

36-14s-30w Gove,KS

Start Date: 2012.11.28 @ 19:18:30

End Date: 2012.11.29 @ 02:44:30

Job Ticket #: 51653 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.12.04 @ 13:06:39



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water Ste. #300
 Wichita, KS 67202
 ATTN: Robert Hendrix

36-14s-30w Gove,KS
Lundgren #2-36
 Job Ticket: 51653 **DST#: 2**
 Test Start: 2012.11.28 @ 19:18:30

GENERAL INFORMATION:

Formation: **Lansing "H,I,J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:58:50
 Time Test Ended: 02:44:30
 Interval: **3883.00 ft (KB) To 3974.00 ft (KB) (TVD)**
 Total Depth: 3974.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Dustin Rash
 Unit No: 66
 Reference Elevations: 2695.00 ft (KB)
 2684.00 ft (CF)
 KB to GR/CF: 11.00 ft

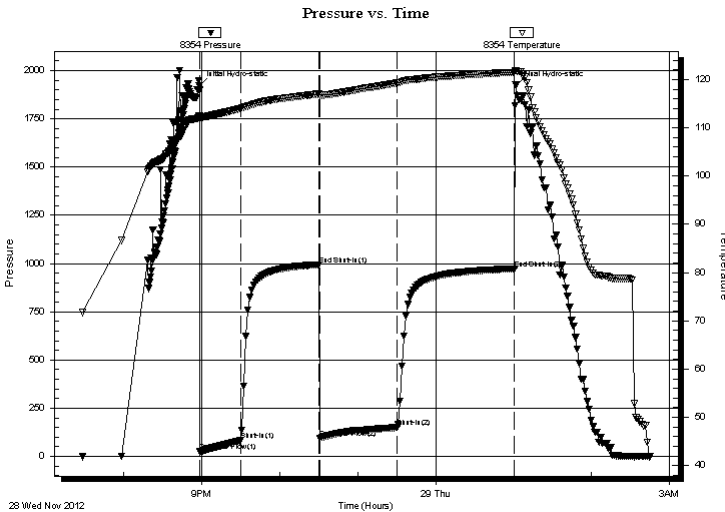
Serial #: 8354

Inside

Press @ RunDepth: 149.70 psig @ 3953.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.11.28 End Date: 2012.11.29 Last Calib.: 2012.11.29
 Start Time: 19:28:30 End Time: 02:44:30 Time On Btm: 2012.11.28 @ 20:58:30
 Time Off Btm: 2012.11.29 @ 01:01:30

TEST COMMENT: IF-Weak building blow . Built to 10 inches.
 IS-No Return.
 FF-Weak building blow . BOB @ 52 minutes.
 FS-No Return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1919.85	112.47	Initial Hydro-static
1	24.44	111.90	Open To Flow (1)
32	82.33	114.03	Shut-In(1)
92	993.46	117.02	End Shut-In(1)
93	94.84	116.81	Open To Flow (2)
152	149.70	119.28	Shut-In(2)
242	972.95	121.51	End Shut-In(2)
243	1924.25	121.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
116.00	20%Oil/20%Water/60%Mud	0.57
162.00	10%Gas/20%Oil/70%Mud	1.21

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N. Water Ste. #300
Wichita, KS 67202
ATTN: Robert Hendrix

36-14s-30w Gove, KS
Lundgren #2-36
Job Ticket: 51653 **DST#: 2**
Test Start: 2012.11.28 @ 19:18:30

GENERAL INFORMATION:

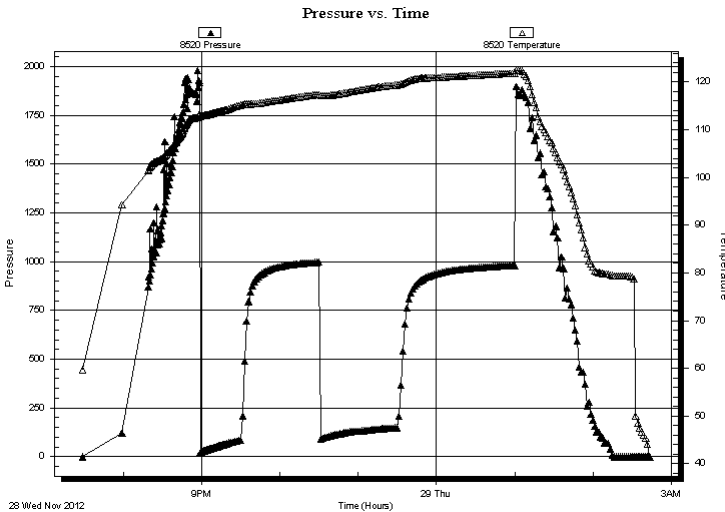
Formation: **Lansing "H,I,J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:58:50
Time Test Ended: 02:44:30
Interval: **3883.00 ft (KB) To 3974.00 ft (KB) (TVD)**
Total Depth: 3974.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Dustin Rash
Unit No: 66
Reference Elevations: 2695.00 ft (KB)
2684.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8520 Outside

Press @ RunDepth: psig @ 3953.00 ft (KB)
Start Date: 2012.11.28 End Date: 2012.11.29
Start Time: 19:28:50 End Time: 02:44:20
Capacity: 8000.00 psig
Last Calib.: 2012.11.29
Time On Btm:
Time Off Btm:

TEST COMMENT: IF-Weak building blow . Built to 10 inches.
ISI-No Return.
FF-Weak building blow . BOB @ 52 minutes.
FSI-No Return.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
116.00	20%Oil/20%Water/60%Mud	0.57
162.00	10%Gas/20%Oil/70%Mud	1.21

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

36-14s-30w Gove,KS

250 N. Water Ste. #300
Wichita, KS 67202

Lundgren #2-36

Job Ticket: 51653

DST#: 2

ATTN: Robert Hendrix

Test Start: 2012.11.28 @ 19:18:30

Tool Information

Drill Pipe:	Length: 3639.00 ft	Diameter: 3.80 inches	Volume: 51.05 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 233.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose:	5000.00 lb
			<u>Total Volume: 52.20 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	66000.00 lb
Depth to Top Packer:	3883.00 ft			Final	68000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	91.00 ft				
Tool Length:	111.00 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			3864.00	
Shut In Tool	5.00			3869.00	
Hydraulic tool	5.00			3874.00	
Packer	5.00			3879.00	20.00 Bottom Of Top Packer
Packer	4.00			3883.00	
Stubb	1.00			3884.00	
Perforations	5.00			3889.00	
Change Over Sub	1.00			3890.00	
Drill Pipe	62.00			3952.00	
Change Over Sub	1.00			3953.00	
Recorder	0.00	8354	Inside	3953.00	
Recorder	0.00	8520	Outside	3953.00	
Perforations	18.00			3971.00	
Bullnose	3.00			3974.00	91.00 Bottom Packers & Anchor

Total Tool Length: 111.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

36-14s-30w Gove,KS

250 N. Water Ste. #300
Wichita, KS 67202

Lundgren #2-36

Job Ticket: 51653

DST#: 2

ATTN: Robert Hendrix

Test Start: 2012.11.28 @ 19:18:30

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: 81.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
116.00	20%Oil/20%Water/60%Mud	0.570
162.00	10%Gas/20%Oil/70%Mud	1.207

Total Length: 278.00 ft

Total Volume: 1.777 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

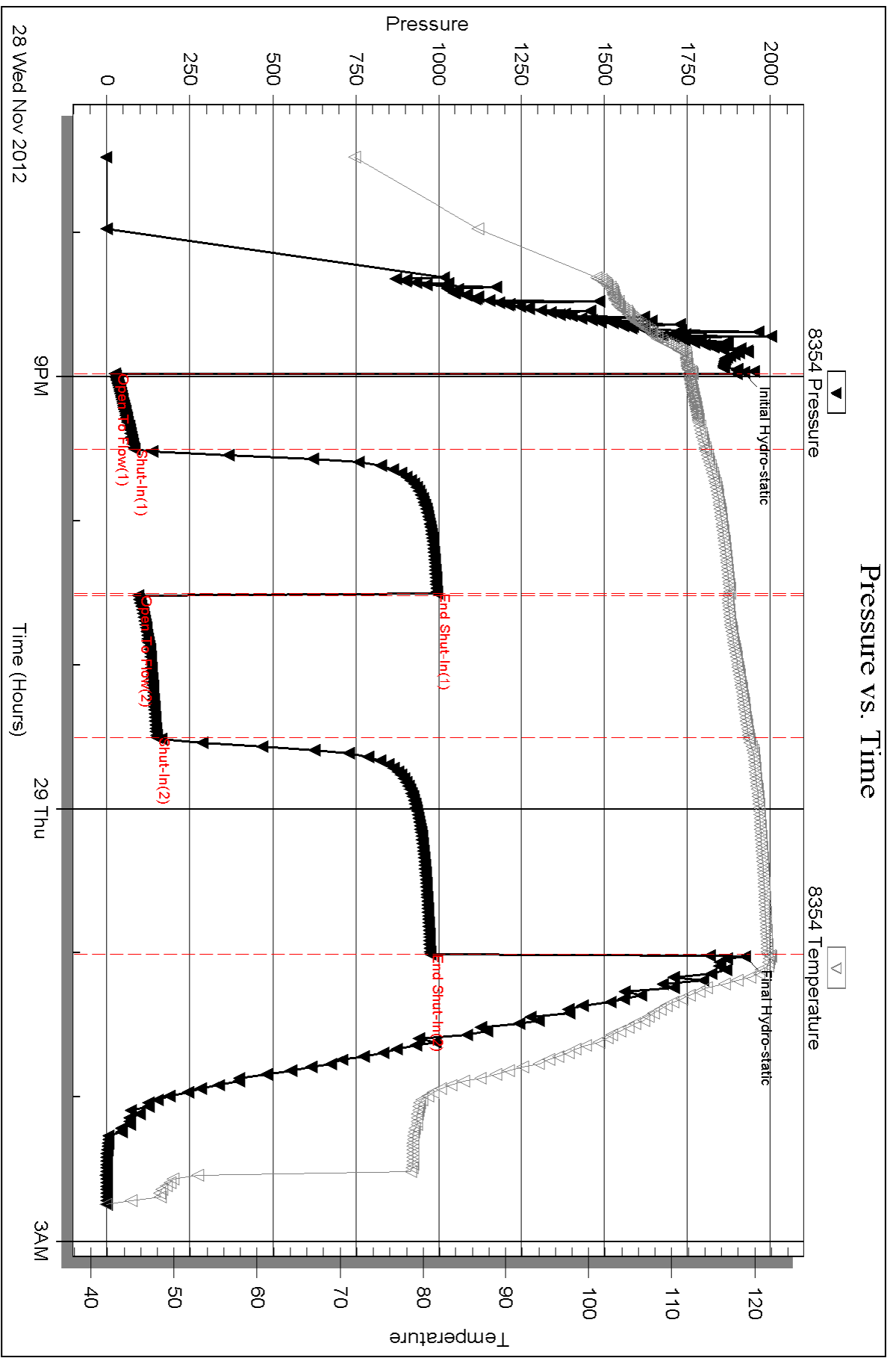
Serial #: 8354

Inside

Murfin Drilling Co Inc

Lundgren #2-36

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 51653

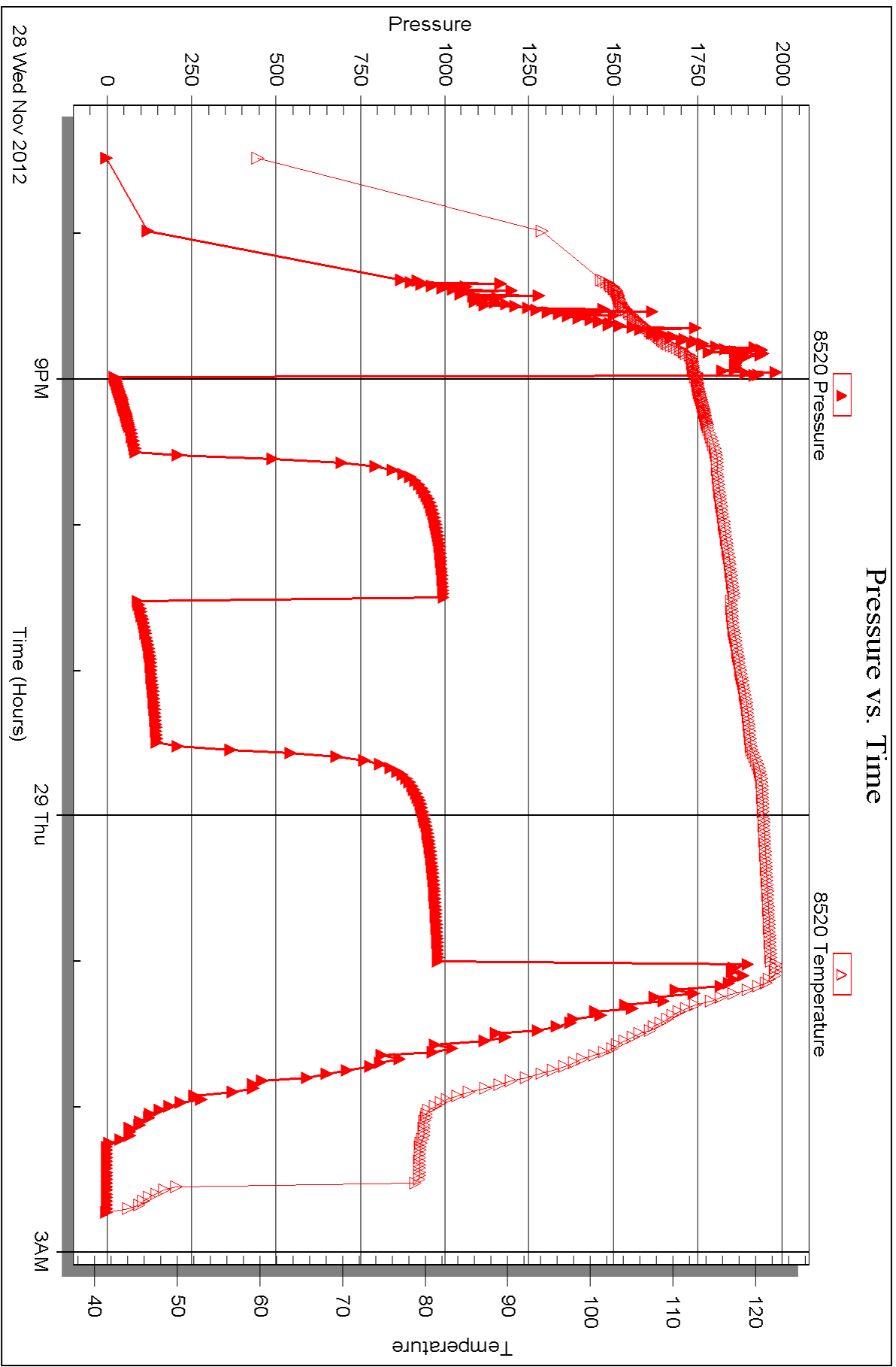
Printed: 2012.12.04 @ 13:06:43

Serial #: 8520

Outside Murfin Drilling Co Inc

Lundgren #2-36

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 51653

Printed: 2012.12.04 @ 13:06:44



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste. #300
Wichita, KS 67202

ATTN: Robert Hendrix

Lundgren #2-36

36-14s-30w Gove,KS

Start Date: 2012.11.29 @ 14:30:30

End Date: 2012.11.29 @ 22:32:30

Job Ticket #: 51654 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.12.04 @ 13:05:55

Murfin Drilling Co Inc
36-14s-30w Gove,KS
Lundgren #2-36
DST # 3
Lansing "K-L"
2012.11.29



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water Ste. #300
 Wichita, KS 67202
 ATTN: Robert Hendrix

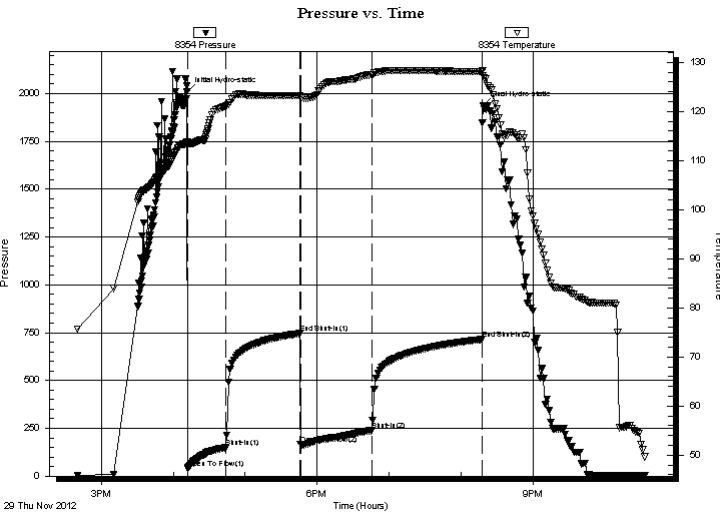
36-14s-30w Gove, KS
Lundgren #2-36
 Job Ticket: 51654 **DST#: 3**
 Test Start: 2012.11.29 @ 14:30:30

GENERAL INFORMATION:

Formation: **Lansing "K-L"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:12:10
 Time Test Ended: 22:32:30
 Interval: **3975.00 ft (KB) To 4076.00 ft (KB) (TVD)**
 Total Depth: 4076.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Dustin Rash
 Unit No: 66
 Reference Elevations: 2695.00 ft (KB)
 2684.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8354 Inside
 Press @ Run Depth: 238.38 psig @ 4045.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.11.29 End Date: 2012.11.29 Last Calib.: 2012.11.29
 Start Time: 14:40:30 End Time: 22:32:30 Time On Btm: 2012.11.29 @ 16:11:50
 Time Off Btm: 2012.11.29 @ 20:18:00

TEST COMMENT: IF-Strong building blow . BOB in 8 minutes.
 ISI-Return @ 30 seconds. Built to 4 inches.
 FF-Strong building blow . BOB in 8 minutes.
 FSI-Return @ 30 seconds. Built to 9 inches.



PRESSURE SUMMARY

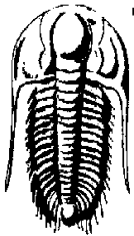
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2008.28	113.80	Initial Hydro-static
1	39.85	113.28	Open To Flow (1)
33	148.60	121.10	Shut-In(1)
94	745.92	123.28	End Shut-In(1)
95	165.97	123.03	Open To Flow (2)
154	238.38	127.52	Shut-In(2)
246	714.89	128.13	End Shut-In(2)
247	1937.98	127.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
116.00	15%Gas/5%Oil/40%Water/40%Mud	0.57
116.00	20%Gas/10%Oil/10%Water/60%Mud	0.57
156.00	20%Gas/50%Oil/10%Water/20%Mud	2.18
126.00	40%Gas/60%Oil	1.77
0.00	660' G.I.P.	0.00

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water Ste. #300
 Wichita, KS 67202
 ATTN: Robert Hendrix

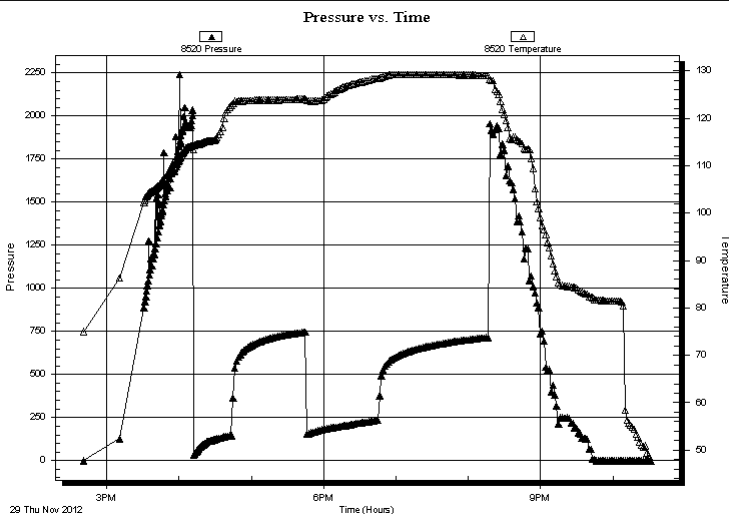
36-14s-30w Gove, KS
Lundgren #2-36
 Job Ticket: 51654 **DST#: 3**
 Test Start: 2012.11.29 @ 14:30:30

GENERAL INFORMATION:

Formation:	Lansing "K-L"		
Deviated:	No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened:	16:12:10		Tester: Dustin Rash
Time Test Ended:	22:32:30		Unit No: 66
Interval:	3975.00 ft (KB) To 4076.00 ft (KB) (TVD)		Reference Elevations: 2695.00 ft (KB)
Total Depth:	4076.00 ft (KB) (TVD)		2684.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition: Fair	KB to GR/CF: 11.00 ft

Serial #: 8520	Outside				
Press @ Run Depth:	psig @	4045.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2012.11.29	End Date:	2012.11.29	Last Calib.:	2012.11.29
Start Time:	14:40:50	End Time:	22:32:20	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF-Strong building blow . BOB in 8 minutes.
 ISI-Return @ 30 seconds. Built to 4 inches.
 FF-Strong building blow . BOB in 8 minutes.
 FSI-Return @ 30 seconds. Built to 9 inches.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
116.00	15%Gas/5%Oil/40%Water/40%Mud	0.57
116.00	20%Gas/10%Oil/10%Water/60%Mud	0.57
156.00	20%Gas/50%Oil/10%Water/20%Mud	2.18
126.00	40%Gas/60%Oil	1.77
0.00	660' G.I.P.	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc
250 N. Water Ste. #300
Wichita, KS 67202
ATTN: Robert Hendrix

36-14s-30w Gove, KS
Lundgren #2-36
Job Ticket: 51654 **DST#: 3**
Test Start: 2012.11.29 @ 14:30:30

Tool Information

Drill Pipe:	Length: 3729.00 ft	Diameter: 3.80 inches	Volume: 52.31 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 233.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 53.46 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	3975.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	101.00 ft			
Tool Length:	129.00 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			3948.00	
Shut In Tool	5.00			3953.00	
Hydraulic tool	5.00			3958.00	
Jars	5.00			3963.00	
Safety Joint	3.00			3966.00	
Packer	5.00			3971.00	28.00 Bottom Of Top Packer
Packer	4.00			3975.00	
Stubb	1.00			3976.00	
Perforations	5.00			3981.00	
Change Over Sub	1.00			3982.00	
Drill Pipe	62.00			4044.00	
Change Over Sub	1.00			4045.00	
Recorder	0.00	8354	Inside	4045.00	
Recorder	0.00	8520	Outside	4045.00	
Perforations	28.00			4073.00	
Bullnose	3.00			4076.00	101.00 Bottom Packers & Anchor
Total Tool Length:	129.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

36-14s-30w Gove,KS

250 N. Water Ste. #300
Wichita, KS 67202

Lundgren #2-36

Job Ticket: 51654

DST#: 3

ATTN: Robert Hendrix

Test Start: 2012.11.29 @ 14:30:30

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

41 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

30500 ppm

Viscosity: 81.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: 0.44 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
116.00	15%Gas/5%Oil/40%Water/40%Mud	0.570
116.00	20%Gas/10%Oil/10%Water/60%Mud	0.570
156.00	20%Gas/50%Oil/10%Water/20%Mud	2.179
126.00	40%Gas/60%Oil	1.767
0.00	660' G.I.P.	0.000

Total Length: 514.00 ft

Total Volume: 5.086 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

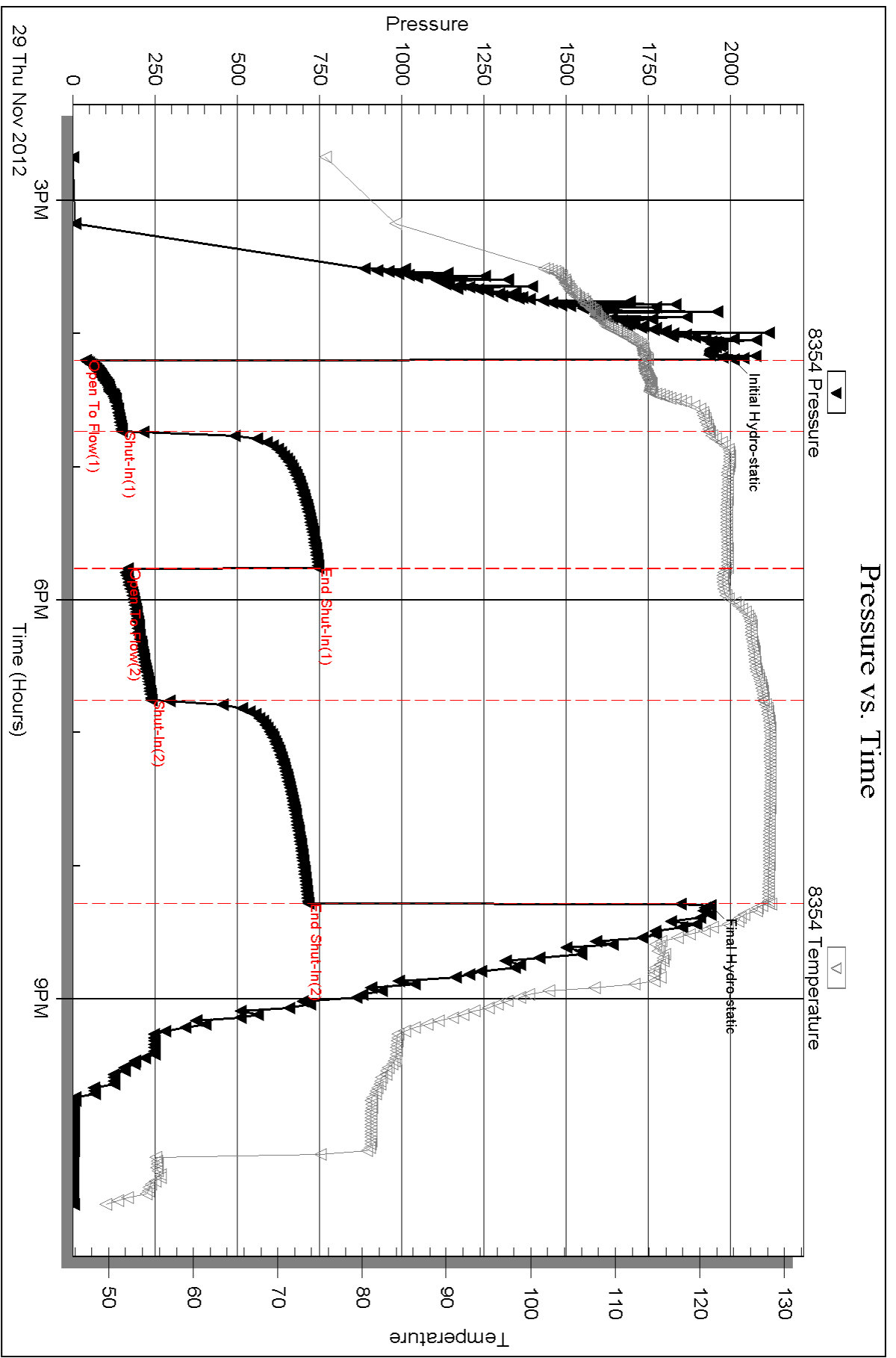
Serial #: 8354

Inside

Murfin Drilling Co Inc

Lundgren #2-36

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 51654

Printed: 2012.12.04 @ 13:06:00

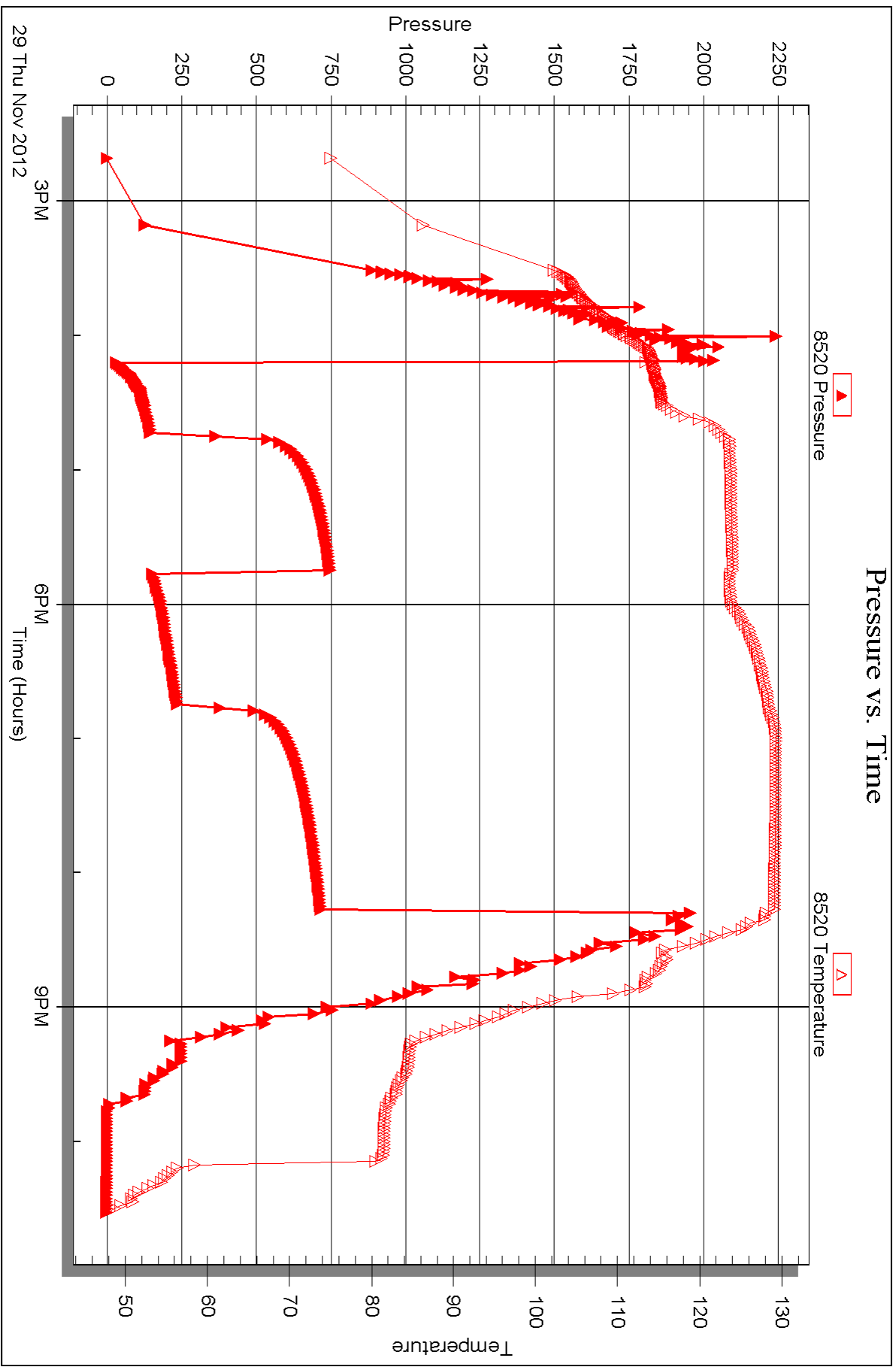
Serial #: 8520

Outside

Murfin Drilling Co Inc

Lundgren #2-36

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste. #300
Wichita, KS 67202

ATTN: Robert Hendrix

Lundgren #2-36

36-14s-30w Gove,KS

Start Date: 2012.11.29 @ 14:30:30

End Date: 2012.11.29 @ 22:32:30

Job Ticket #: 51654 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.12.04 @ 13:05:55

Murfin Drilling Co Inc
36-14s-30w Gove,KS
Lundgren #2-36
DST # 3
Lansing "K-L"
2012.11.29



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water Ste. #300
 Wichita, KS 67202
 ATTN: Robert Hendrix

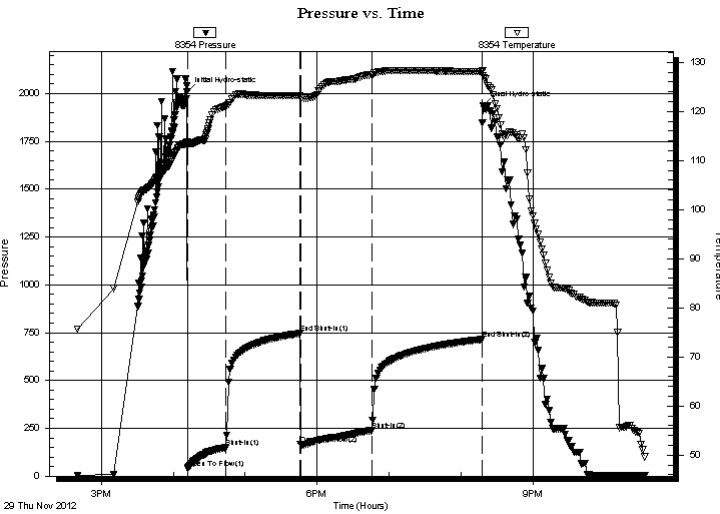
36-14s-30w Gove, KS
Lundgren #2-36
 Job Ticket: 51654 **DST#: 3**
 Test Start: 2012.11.29 @ 14:30:30

GENERAL INFORMATION:

Formation: **Lansing "K-L"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:12:10
 Time Test Ended: 22:32:30
 Interval: **3975.00 ft (KB) To 4076.00 ft (KB) (TVD)**
 Total Depth: 4076.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Dustin Rash
 Unit No: 66
 Reference Elevations: 2695.00 ft (KB)
 2684.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8354 Inside
 Press @ Run Depth: 238.38 psig @ 4045.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.11.29 End Date: 2012.11.29 Last Calib.: 2012.11.29
 Start Time: 14:40:30 End Time: 22:32:30 Time On Btm: 2012.11.29 @ 16:11:50
 Time Off Btm: 2012.11.29 @ 20:18:00

TEST COMMENT: IF-Strong building blow . BOB in 8 minutes.
 ISI-Return @ 30 seconds. Built to 4 inches.
 FF-Strong building blow . BOB in 8 minutes.
 FSI-Return @ 30 seconds. Built to 9 inches.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2008.28	113.80	Initial Hydro-static
1	39.85	113.28	Open To Flow (1)
33	148.60	121.10	Shut-In(1)
94	745.92	123.28	End Shut-In(1)
95	165.97	123.03	Open To Flow (2)
154	238.38	127.52	Shut-In(2)
246	714.89	128.13	End Shut-In(2)
247	1937.98	127.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
116.00	15%Gas/5%Oil/40%Water/40%Mud	0.57
116.00	20%Gas/10%Oil/10%Water/60%Mud	0.57
156.00	20%Gas/50%Oil/10%Water/20%Mud	2.18
126.00	40%Gas/60%Oil	1.77
0.00	660' G.I.P.	0.00

Gas Rates

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

**TRILOBITE
TESTING, INC****DRILL STEM TEST REPORT**Murfyn Drilling Co Inc
250 N. Water Ste. #300
Wichita, KS 67202
ATTN: Robert Hendrix**36-14s-30w Gove,KS****Lundgren #2-36**

Job Ticket: 51654

DST#: 3

Test Start: 2012.11.29 @ 14:30:30

GENERAL INFORMATION:

Formation: **Lansing "K-L"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:12:10
 Time Test Ended: 22:32:30

Test Type: Conventional Bottom Hole (Initial)
 Tester: Dustin Rash
 Unit No: 66

Interval: **3975.00 ft (KB) To 4076.00 ft (KB) (TVD)**
 Total Depth: 4076.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

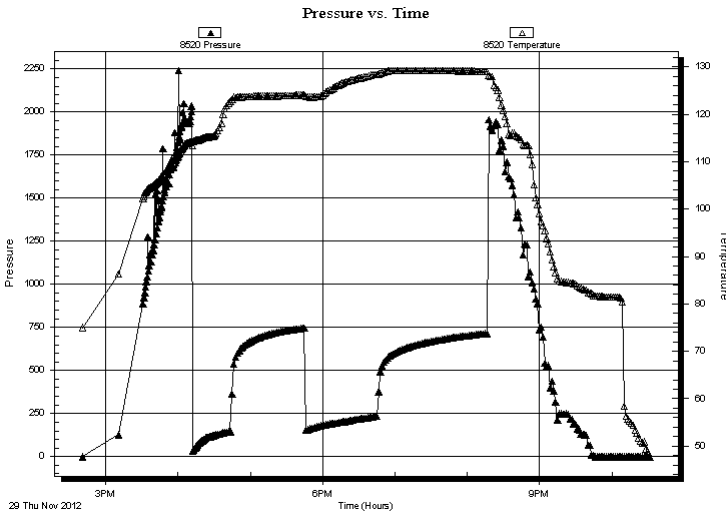
Reference Elevations: 2695.00 ft (KB)
 2684.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8520**Outside**

Press @ RunDepth: psig @ 4045.00 ft (KB)
 Start Date: 2012.11.29 End Date: 2012.11.29
 Start Time: 14:40:50 End Time: 22:32:20

Capacity: 8000.00 psig
 Last Calib.: 2012.11.29
 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF-Strong building blow . BOB in 8 minutes.
 IS-Return @ 30 seconds. Built to 4 inches.
 FF-Strong building blow . BOB in 8 minuts.
 FS-Return @ 30 seconds. Built to 9 inches.

PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
116.00	15%Gas/5%Oil/40%Water/40%Mud	0.57
116.00	20%Gas/10%Oil/10%Water/60%Mud	0.57
156.00	20%Gas/50%Oil/10%Water/20%Mud	2.18
126.00	40%Gas/60%Oil	1.77
0.00	660' G.I.P.	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc
250 N. Water Ste. #300
Wichita, KS 67202
ATTN: Robert Hendrix

36-14s-30w Gove,KS
Lundgren #2-36
Job Ticket: 51654 **DST#: 3**
Test Start: 2012.11.29 @ 14:30:30

Tool Information

Drill Pipe:	Length: 3729.00 ft	Diameter: 3.80 inches	Volume: 52.31 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 233.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 53.46 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	3975.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	101.00 ft			
Tool Length:	129.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3948.00	
Shut In Tool	5.00			3953.00	
Hydraulic tool	5.00			3958.00	
Jars	5.00			3963.00	
Safety Joint	3.00			3966.00	
Packer	5.00			3971.00	28.00 Bottom Of Top Packer
Packer	4.00			3975.00	
Stubb	1.00			3976.00	
Perforations	5.00			3981.00	
Change Over Sub	1.00			3982.00	
Drill Pipe	62.00			4044.00	
Change Over Sub	1.00			4045.00	
Recorder	0.00	8354	Inside	4045.00	
Recorder	0.00	8520	Outside	4045.00	
Perforations	28.00			4073.00	
Bullnose	3.00			4076.00	101.00 Bottom Packers & Anchor
Total Tool Length:	129.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

36-14s-30w Gove,KS

250 N. Water Ste. #300
Wichita, KS 67202

Lundgren #2-36

Job Ticket: 51654

DST#: 3

ATTN: Robert Hendrix

Test Start: 2012.11.29 @ 14:30:30

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

41 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

30500 ppm

Viscosity: 81.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: 0.44 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
116.00	15%Gas/5%Oil/40%Water/40%Mud	0.570
116.00	20%Gas/10%Oil/10%Water/60%Mud	0.570
156.00	20%Gas/50%Oil/10%Water/20%Mud	2.179
126.00	40%Gas/60%Oil	1.767
0.00	660' G.I.P.	0.000

Total Length: 514.00 ft

Total Volume: 5.086 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

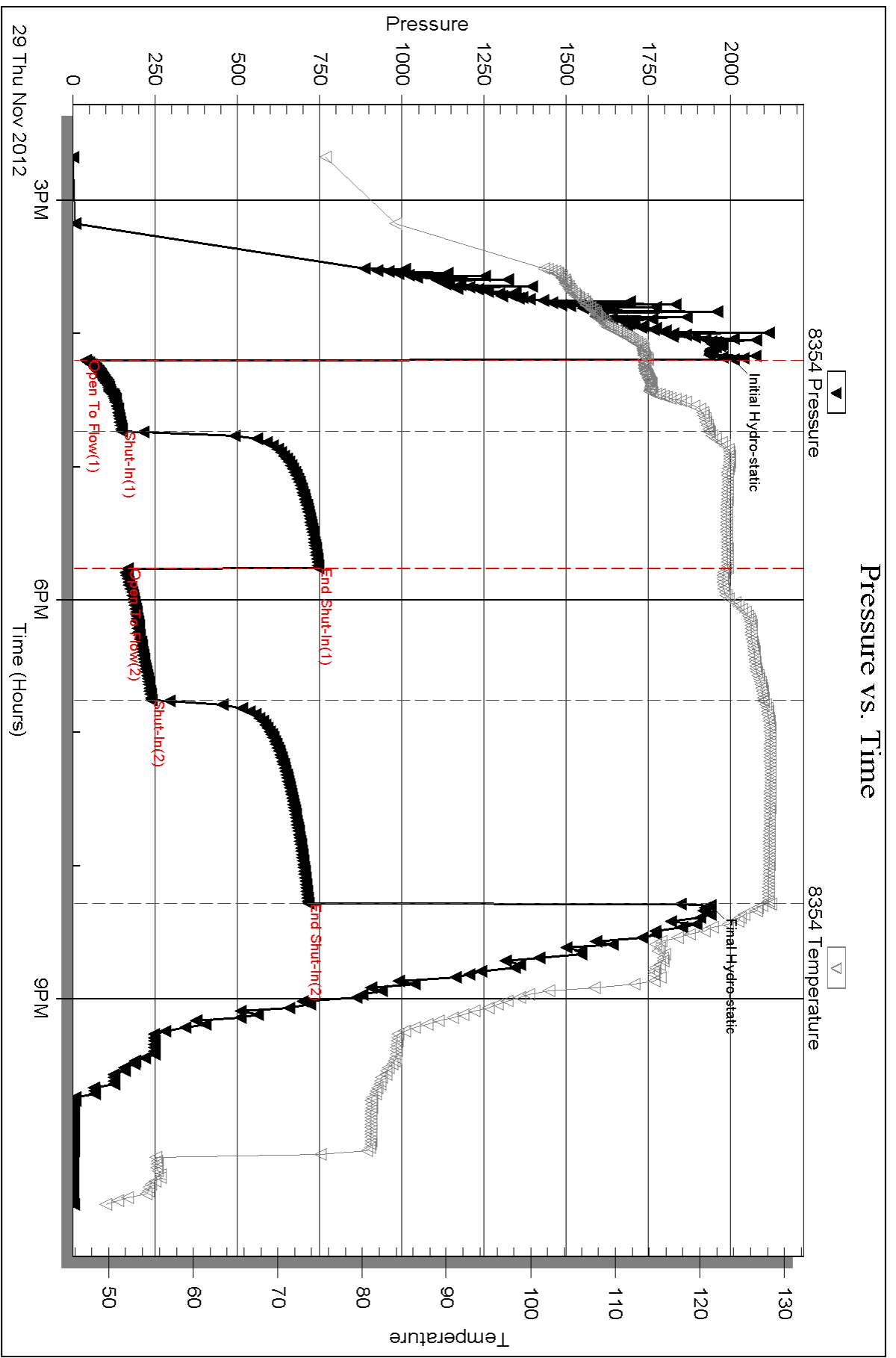
Serial #: 8354

Inside

Murfin Drilling Co Inc

Lundgren #2-36

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 51654

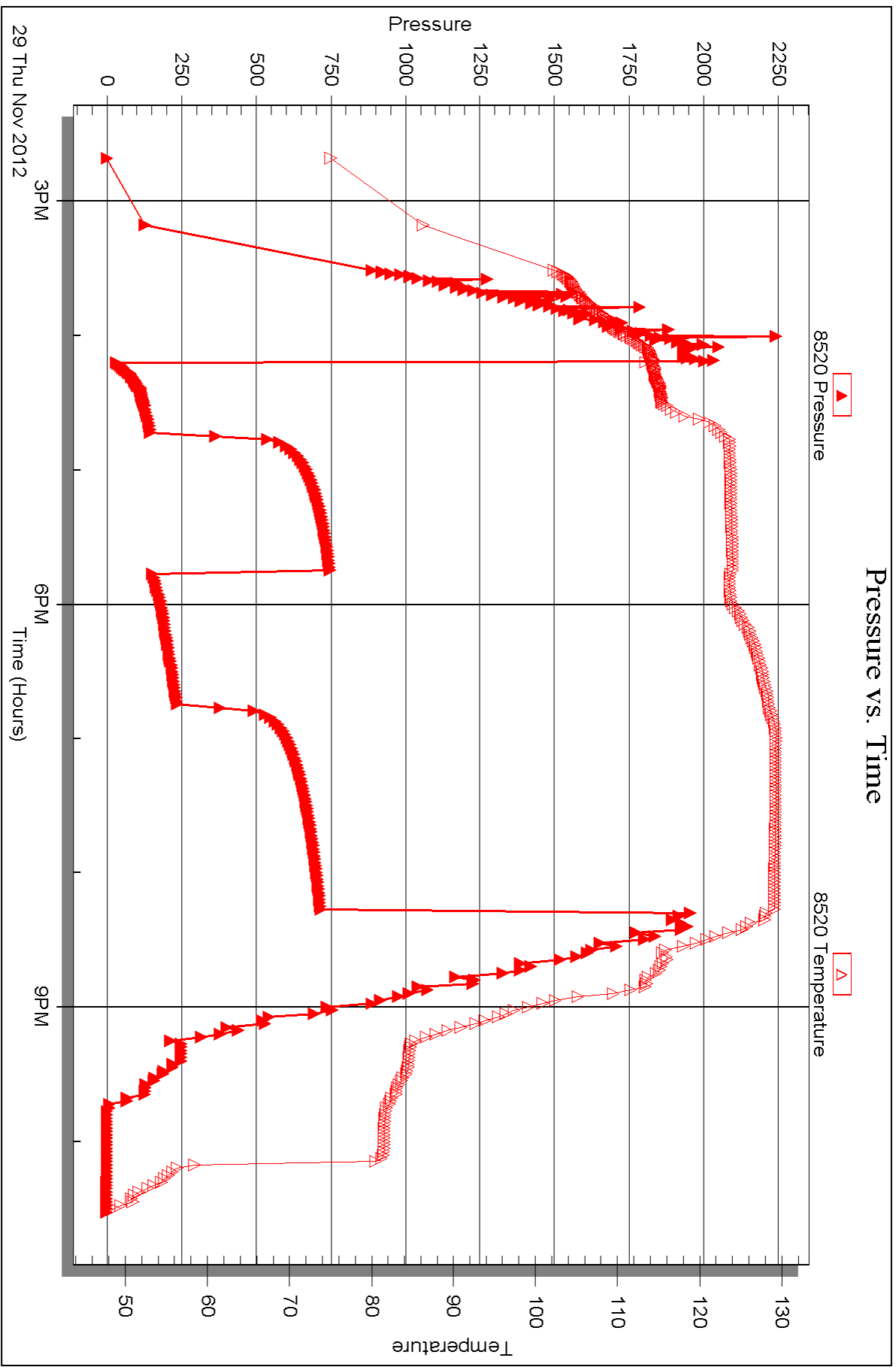
Printed: 2012.12.04 @ 13:06:00

Serial #: 8520

Outside Murfin Drilling Co Inc

Lundgren #2-36

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste. #300
Wichita, KS 67202

ATTN: Robert Hendrix

Lundgren #2-36

36-14s-30w Gove,KS

Start Date: 2012.12.01 @ 04:54:30

End Date: 2012.12.01 @ 13:04:30

Job Ticket #: 51656 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.12.04 @ 13:03:40



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water Ste. #300
 Wichita, KS 67202
 ATTN: Robert Hendrix

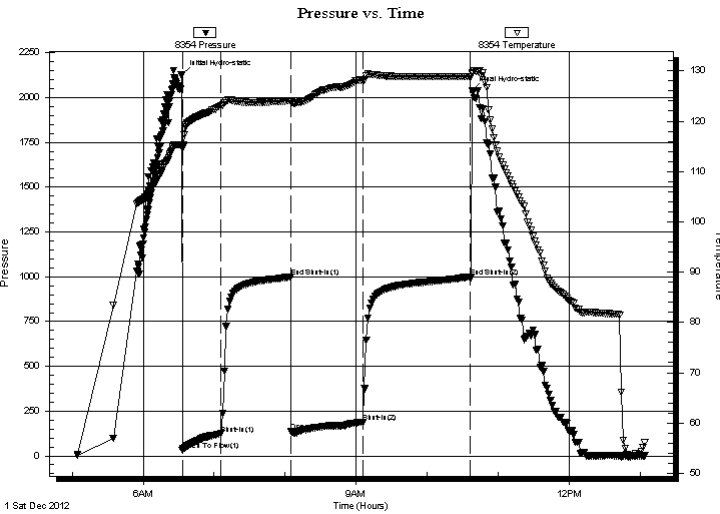
36-14s-30w Gove, KS
Lundgren #2-36
 Job Ticket: 51656 **DST#: 5**
 Test Start: 2012.12.01 @ 04:54:30

GENERAL INFORMATION:

Formation: **Lower Pawnee-Ft. Sco**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 06:33:00
 Time Test Ended: 13:04:30
 Interval: **4188.00 ft (KB) To 4257.00 ft (KB) (TVD)**
 Total Depth: 4257.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Dustin Rash
 Unit No: 66
 Reference Elevations: 2695.00 ft (KB)
 2684.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8354 Inside
 Press @ RunDepth: 185.55 psig @ 4227.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.12.01 End Date: 2012.12.01 Last Calib.: 2012.12.01
 Start Time: 05:04:30 End Time: 13:04:30 Time On Btm: 2012.12.01 @ 06:32:50
 Time Off Btm: 2012.12.01 @ 10:38:00

TEST COMMENT: IF-Strong building blow . BOB @ 6 minutes.
 ISI-Return @ 30 seconds. Built to 3 inches.
 FF-Strong building blow . BOB @ 7 minutes.
 FSI-Return @ 30 seconds. Built 8 inches.



PRESSURE SUMMARY

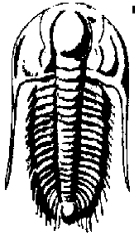
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2128.50	115.35	Initial Hydro-static
1	32.33	114.51	Open To Flow (1)
33	123.03	122.98	Shut-In(1)
92	998.61	124.11	End Shut-In(1)
93	137.76	123.82	Open To Flow (2)
153	185.55	128.02	Shut-In(2)
244	999.29	128.92	End Shut-In(2)
246	2038.71	129.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
326.00	40%Gas/40%Oil/20%Mud	2.45
126.00	50%Gas/50%Oil	1.77
0.00	975' G.I.P.	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N. Water Ste. #300
Wichita, KS 67202
ATTN: Robert Hendrix

36-14s-30w Gove, KS
Lundgren #2-36
Job Ticket: 51656 **DST#: 5**
Test Start: 2012.12.01 @ 04:54:30

GENERAL INFORMATION:

Formation: **Lower Pawnee-Ft. Sco**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:33:00

Time Test Ended: 13:04:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 66

Interval: **4188.00 ft (KB) To 4257.00 ft (KB) (TVD)**

Total Depth: 4257.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2695.00 ft (KB)

2684.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8520 Outside

Press @ Run Depth: psig @ 4227.00 ft (KB)

Start Date: 2012.12.01 End Date: 2012.12.01

Start Time: 05:04:45 End Time: 13:03:45

Capacity: 8000.00 psig

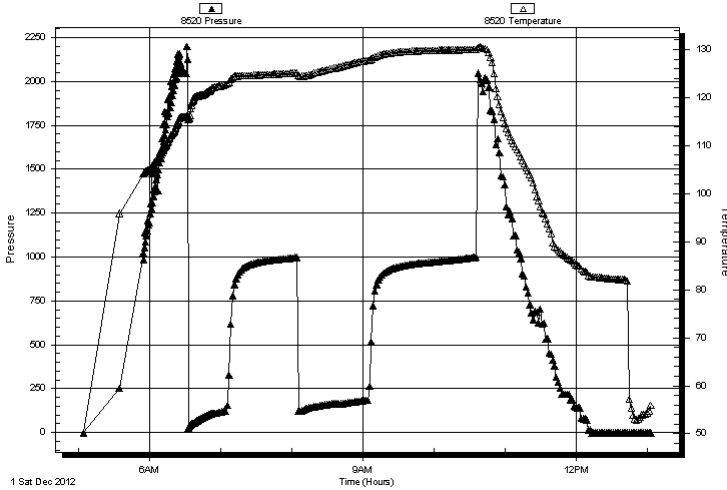
Last Calib.: 2012.12.01

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-Strong building blow . BOB @ 6 minutes.
ISI-Return @ 30 seconds. Built to 3 inches.
FF-Strong building blow . BOB @ 7 minutes.
FSI-Return @ 30 seconds. Built 8 inches.

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
326.00	40%Gas/40%Oil/20%Mud	2.45
126.00	50%Gas/50%Oil	1.77
0.00	975' G.I.P.	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc
250 N. Water Ste. #300
Wichita, KS 67202
ATTN: Robert Hendrix

36-14s-30w Gove,KS
Lundgren #2-36
Job Ticket: 51656 **DST#: 5**
Test Start: 2012.12.01 @ 04:54:30

Tool Information

Drill Pipe:	Length: 3946.00 ft	Diameter: 3.80 inches	Volume: 55.35 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 233.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 10000.00 lb
			<u>Total Volume: 56.50 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4188.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	69.00 ft			
Tool Length:	97.00 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			4161.00	
Shut In Tool	5.00			4166.00	
Hydraulic tool	5.00			4171.00	
Jars	5.00			4176.00	
Safety Joint	3.00			4179.00	
Packer	5.00			4184.00	28.00 Bottom Of Top Packer
Packer	4.00			4188.00	
Stubb	1.00			4189.00	
Perforations	5.00			4194.00	
Change Over Sub	1.00			4195.00	
Drill Pipe	31.00			4226.00	
Change Over Sub	1.00			4227.00	
Recorder	0.00	8354	Inside	4227.00	
Recorder	0.00	8520	Outside	4227.00	
Perforations	27.00			4254.00	
Bullnose	3.00			4257.00	69.00 Bottom Packers & Anchor
Total Tool Length:	97.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

36-14s-30w Gove,KS

250 N. Water Ste. #300
Wichita, KS 67202

Lundgren #2-36

Job Ticket: 51656

DST#: 5

ATTN: Robert Hendrix

Test Start: 2012.12.01 @ 04:54:30

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

41 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3100.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
326.00	40%Gas/40%Oil/20%Mud	2.450
126.00	50%Gas/50%Oil	1.767
0.00	975' G.I.P.	0.000

Total Length: 452.00 ft

Total Volume: 4.217 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

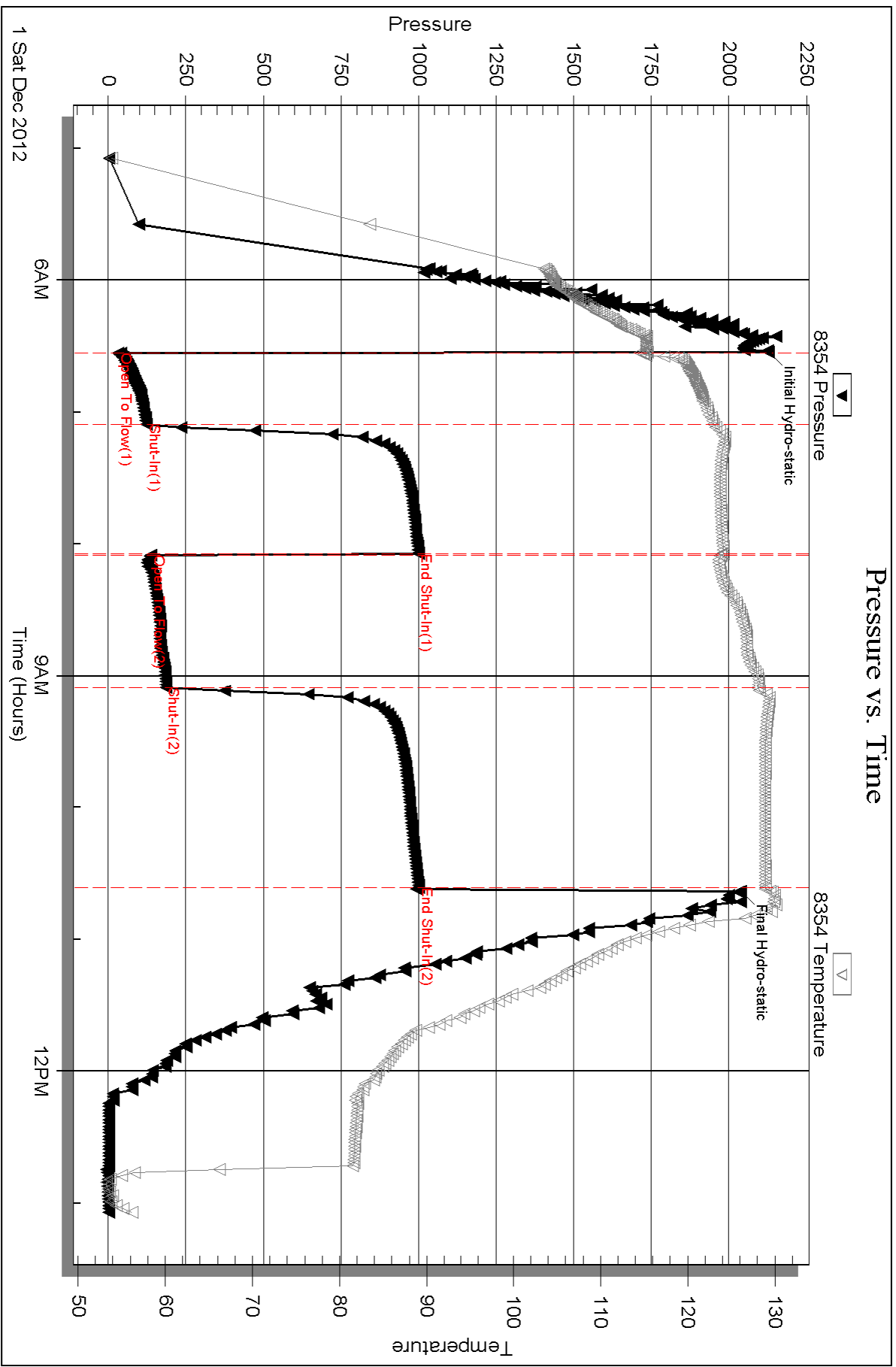
Serial #: 8354

Inside

Murfin Drilling Co Inc

Lundgren #2-36

DST Test Number: 5

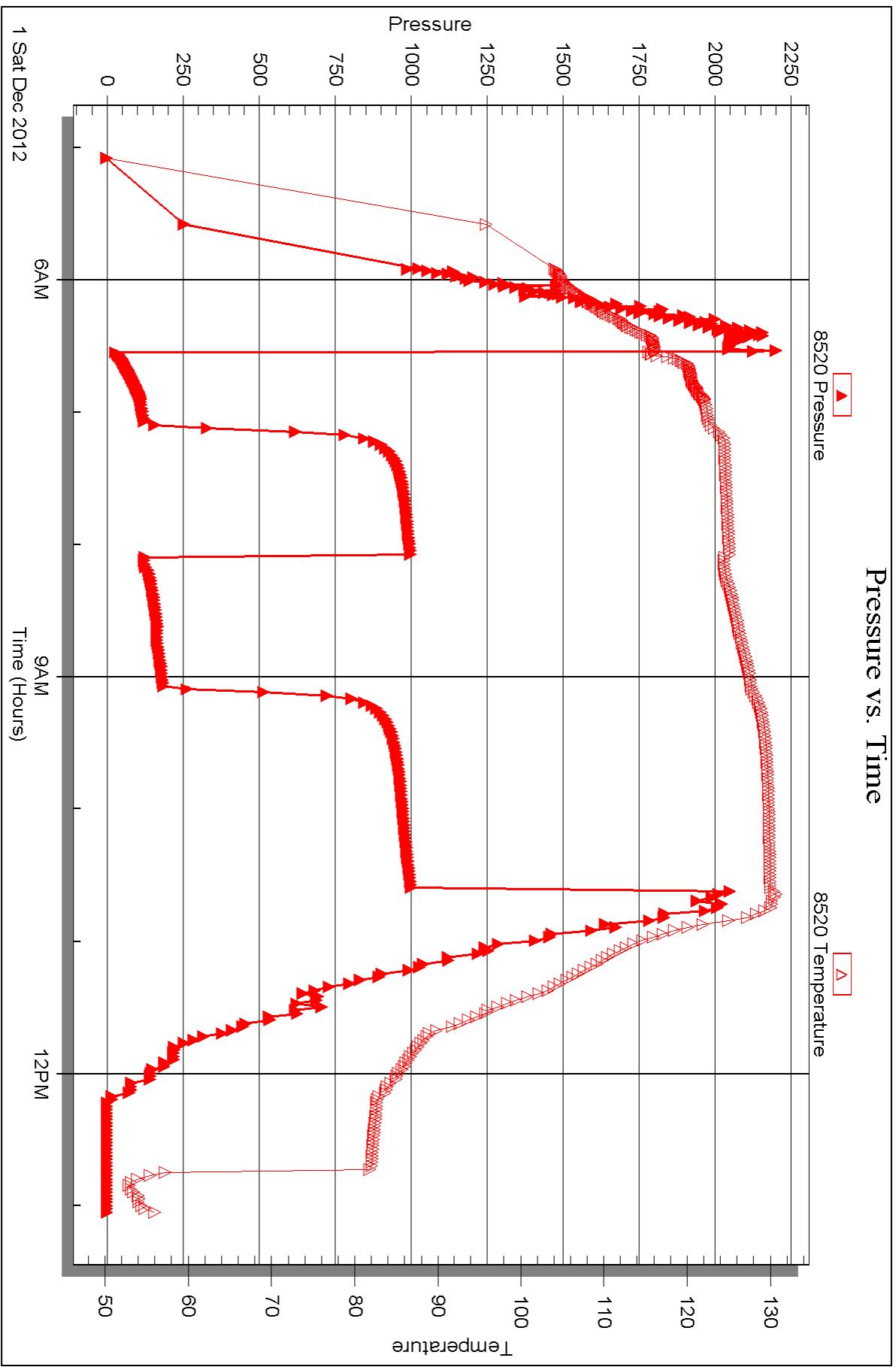


Serial #: 8520

Outside Murfin Drilling Co Inc

Lundgren #2-36

DST Test Number: 5





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water Ste. #300
Wichita, KS 67202

ATTN: Robert Hendrix

Lundgren #2-36

36-14s-30w Gove,KS

Start Date: 2012.12.02 @ 04:23:30

End Date: 2012.12.02 @ 11:56:30

Job Ticket #: 51657 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.12.04 @ 13:01:20

Murfin Drilling Co Inc

36-14s-30w Gove,KS

Lundgren #2-36

DST # 6

Mississippian Dolomi

2012.12.02



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N. Water Ste. #300
Wichita, KS 67202
ATTN: Robert Hendrix

36-14s-30w Gove, KS
Lundgren #2-36
Job Ticket: 51657 **DST#: 6**
Test Start: 2012.12.02 @ 04:23:30

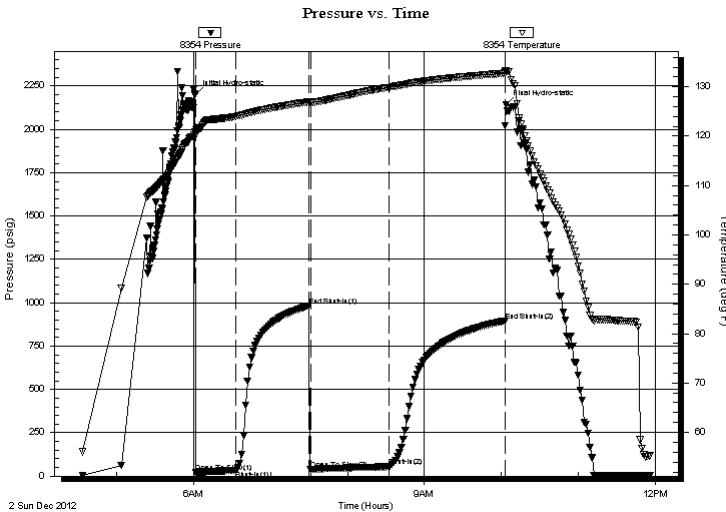
GENERAL INFORMATION:

Formation: **Mississippian Dolomi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:01:30
Time Test Ended: 11:56:30
Interval: **4349.00 ft (KB) To 4369.00 ft (KB) (TVD)**
Total Depth: 4369.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Dustin Rash
Unit No: 66
Reference Elevations: 2695.00 ft (KB)
2684.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8354 Inside
Press @ Run Depth: 55.41 psig @ 4351.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.12.02 End Date: 2012.12.02 Last Calib.: 2012.12.02
Start Time: 04:33:30 End Time: 11:56:30 Time On Btm: 2012.12.02 @ 06:01:20
Time Off Btm: 2012.12.02 @ 10:03:30

TEST COMMENT: IF-Weak surface blow . Built to 2 inches.
IS-No Return.
FF-Weak surface blow @ 5 1/2 minutes. Built to 2 inches.
FSI-No Return.

PRESSURE SUMMARY



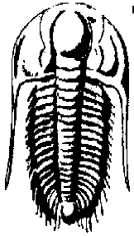
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2200.65	121.01	Initial Hydro-static
1	22.48	120.13	Open To Flow (1)
32	33.64	124.01	Shut-In(1)
89	982.32	126.98	End Shut-In(1)
90	39.06	126.83	Open To Flow (2)
152	55.41	129.88	Shut-In(2)
242	895.87	132.75	End Shut-In(2)
243	2141.55	133.24	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	10%Gas/20%Oil/70%Mud	0.15
25.00	15%Gas/85%Oil	0.12

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water Ste. #300
 Wichita, KS 67202
 ATTN: Robert Hendrix

36-14s-30w Gove,KS
Lundgren #2-36
 Job Ticket: 51657 **DST#: 6**
 Test Start: 2012.12.02 @ 04:23:30

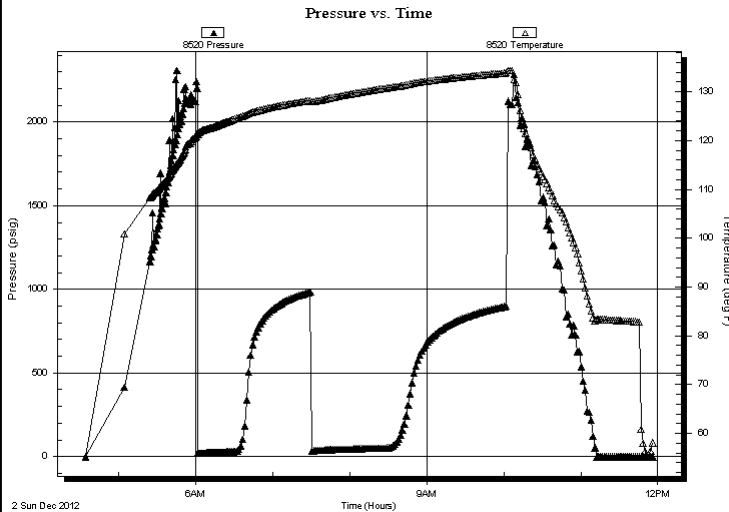
GENERAL INFORMATION:

Formation: **Mississippian Dolomi**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 06:01:30
 Time Test Ended: 11:56:30
 Interval: **4349.00 ft (KB) To 4369.00 ft (KB) (TVD)**
 Total Depth: 4369.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Dustin Rash
 Unit No: 66
 Reference Elevations: 2695.00 ft (KB)
 2684.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8520 Outside

Press @RunDepth: psig @ 4351.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.12.02 End Date: 2012.12.02 Last Calib.: 2012.12.02
 Start Time: 04:34:00 End Time: 11:56:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF-Weak surface blow . Built to 2 inches.
 IS-No Return.
 FF-Weak surface blow @ 5 1/2 minutes. Built to 2 inches.
 FS-No Return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	10%Gas/20%Oil/70%Mud	0.15
25.00	15%Gas/85%Oil	0.12

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc
250 N. Water Ste. #300
Wichita, KS 67202
ATTN: Robert Hendrix

36-14s-30w Gove, KS
Lundgren #2-36
Job Ticket: 51657 **DST#: 6**
Test Start: 2012.12.02 @ 04:23:30

Tool Information

Drill Pipe:	Length: 4105.00 ft	Diameter: 3.80 inches	Volume: 57.58 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 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: 10000.00 lb
			<u>Total Volume: 58.73 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4349.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	48.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4322.00	
Shut In Tool	5.00			4327.00	
Hydraulic tool	5.00			4332.00	
Jars	5.00			4337.00	
Safety Joint	3.00			4340.00	
Packer	5.00			4345.00	28.00 Bottom Of Top Packer
Packer	4.00			4349.00	
Stubb	1.00			4350.00	
Perforations	1.00			4351.00	
Recorder	0.00	8354	Inside	4351.00	
Recorder	0.00	8520	Outside	4351.00	
Perforations	15.00			4366.00	
Bullnose	3.00			4369.00	20.00 Bottom Packers & Anchor

Total Tool Length: 48.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

36-14s-30w Gove,KS

250 N. Water Ste. #300
Wichita, KS 67202

Lundgren #2-36

Job Ticket: 51657

DST#: 6

ATTN: Robert Hendrix

Test Start: 2012.12.02 @ 04:23:30

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

41 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3100.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	10%Gas/20%Oil/70%Mud	0.148
25.00	15%Gas/85%Oil	0.123

Total Length: 55.00 ft

Total Volume: 0.271 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

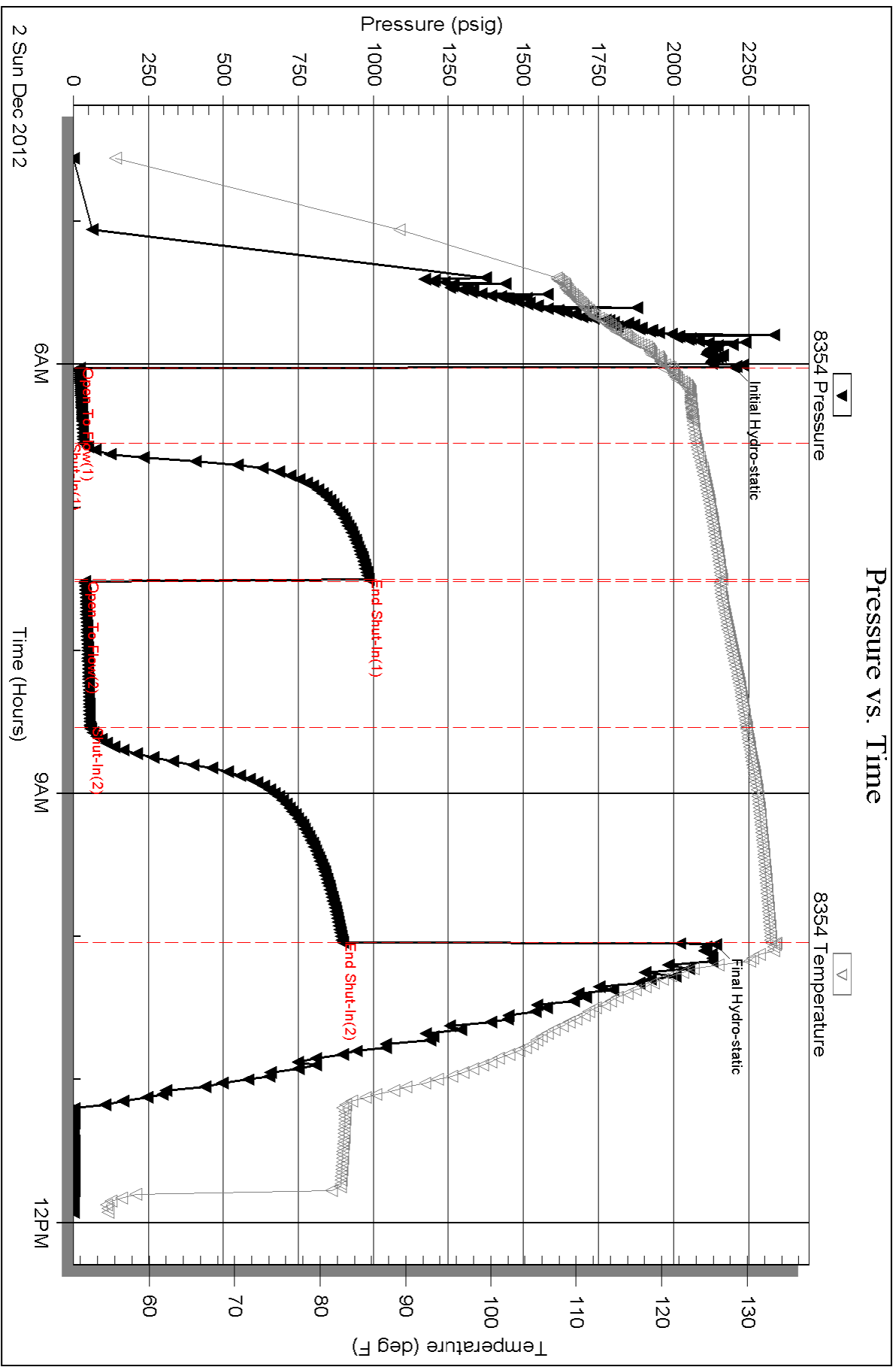
Serial #: 8354

Inside

Murfin Drilling Co Inc

Lundgren #2-36

DST Test Number: 6

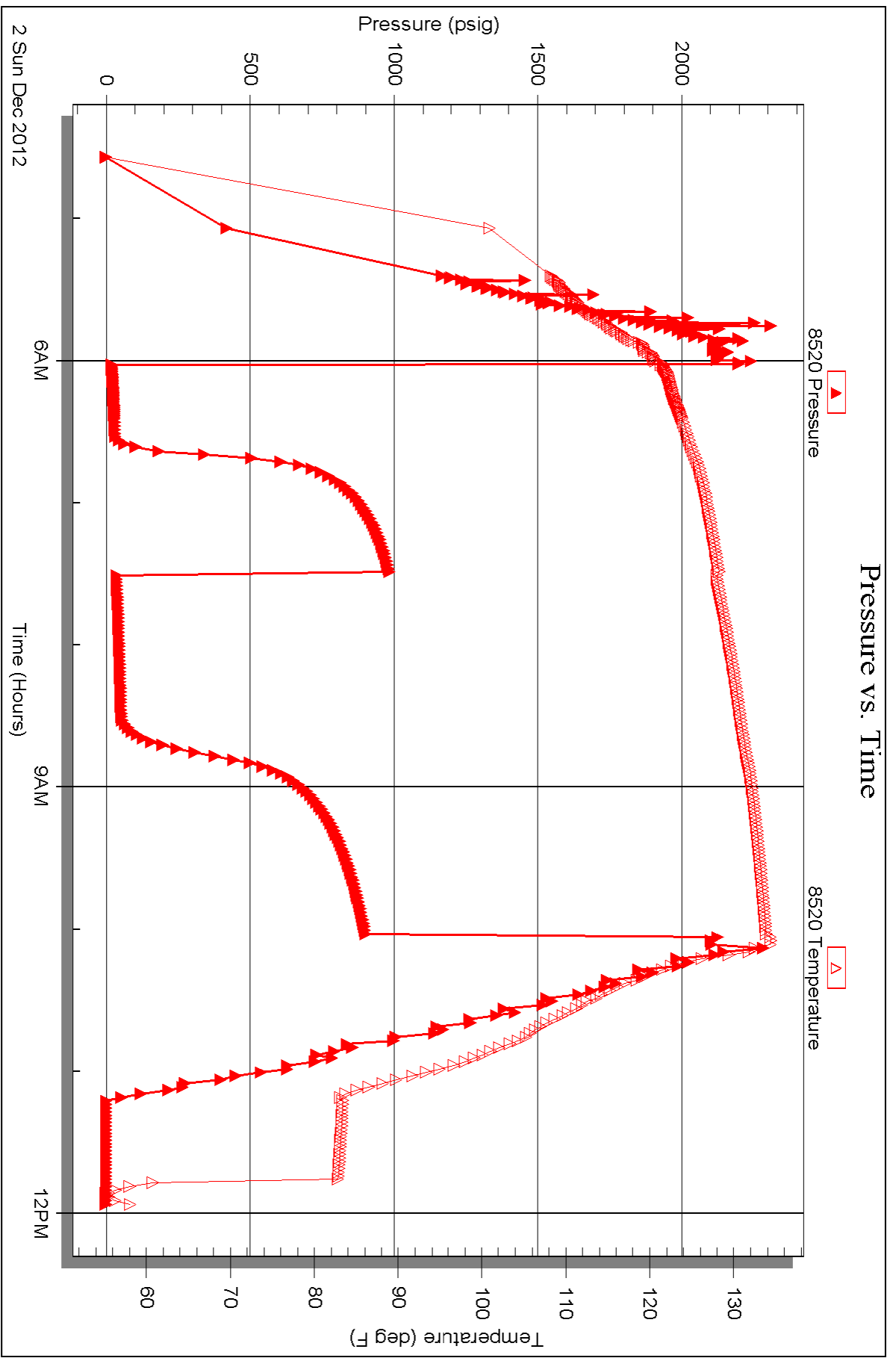


Serial #: 8520

Outside Murfin Drilling Co Inc

Lundgren #2-36

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51652

Well Name & No. Lundgren #2-36 Test No. 1 Date _____
 Company Murphy Drilling Co., Inc. Elevation 2695 KB 2684 GL _____
 Address 250 N. Water St. #300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murphy #2
 Location: Sec. 36 Twp. 14S Rge. 30W Co. Gove State KS

Interval Tested 3748-3828 Zone Tested Landing "B-F"
 Anchor Length 80' Drill Pipe Run 3507 Mud Wt. 9.3
 Top Packer Depth 3743 Drill Collars Run 233.08 Vis 63
 Bottom Packer Depth 3748 Wt. Pipe Run 0 WL 7.2
 Total Depth 3828 Chlorides 2800 ppm System LCM 6.0

Blow Description IF - Fair building blow, BOB @ 16 1/2 minutes,
ISI - 8 1/2 minutes of surging surface return,
FF - Fair building blow, BOB @ 16 1/2 minutes,
FBI - Very weak surface return for 22 minutes,

Rec	Feet of	%gas	%oil	%water	%mud
15	Gassy Oil	20	80		
136	SOCMW		10	50	40
484	Muddy Water			90	10

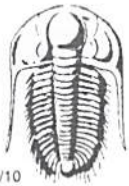
Rec Total 635 BHT 127 Gravity 39 API RW 1.541 @ 30 °F Chlorides 28000 ppm

(A) Initial Hydrostatic 1915 Test 1150 T-On Location 1815
 (B) First Initial Flow 34 Jars 250 T-Started 1905
 (C) First Final Flow 181 Safety Joint 75 T-Open 2115
 (D) Initial Shut-In 662 Circ Sub T-Pulled 0120
 (E) Second Initial Flow 185 Hourly Standby T-Out 0330
 (F) Second Final Flow 323 Mileage 100X2 84rt 130.20 Comments Batt-1905
 (G) Final Shut-In 659 Sampler _____
 (H) Final Hydrostatic 1923 Straddle _____

Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 60 Extra Packer _____ Ruined Packer _____
 Final Flow 60 Extra Recorder _____ Sub Total 0
 Final Shut-In 90 Day Standby _____ Total 1605.20
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1605.20

Approved By _____ Our Representative D. Rosh

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. 51653

Well Name & No. Lurdron #2-36 Test No. 2 Date 11-28-12
 Company Mulvan Drilling Co., Inc. Elevation 2695 KB 2684 GL
 Address 250 N. Water St. #300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Mulvan 2
 Location: Sec. 36 Twp. 14S Rge. 30W Co. Gove State KS

Interval Tested 3883-3974 Zone Tested Landing "H, I, J"
 Anchor Length 91' Drill Pipe Run _____ Mud Wt. 8.9
 Top Packer Depth 3878 Drill Collars Run 233.08 Vis 81
 Bottom Packer Depth 3883 Wt. Pipe Run 0 WL 6.0
 Total Depth 3974 Chlorides 1800 ppm System LCM 5.0#

Blow Description IF-Weak building blow, Burt to 10 inches.
IST- No Return,
FF- Weak building blow, BOB @ 52 minutes.
FST- No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>162</u>	<u>60CM</u>	<u>10</u>	<u>20</u>	<u>70</u>	<u>0</u>
<u>116</u>	<u>0CWM</u>	<u>0</u>	<u>20</u>	<u>20</u>	<u>60</u>
____	____	____	____	____	____
____	____	____	____	____	____
____	____	____	____	____	____

Rec Total 278 BHT 122 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1920 Test 1150 T-On Location 1845
 (B) First Initial Flow 24 Jars 250 T-Started 1920
 (C) First Final Flow 82 Safety Joint 75 T-Open 2059
 (D) Initial Shut-In 993 Circ Sub _____ T-Pulled 0100
 (E) Second Initial Flow 95 Hourly Standby _____ T-Out 0245
 (F) Second Final Flow 150 Mileage 130.20 Comments Burt- 1918
 (G) Final Shut-In 973 Sampler _____
 (H) Final Hydrostatic 1924 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1605.20
 Accessibility _____ MP/DST Disc _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1605.20

Approved By _____ Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51654

Well Name & No. Ludgion #2-36 Test No. 3 Date 11-29-12
 Company Murray Drilling Co., Inc. Elevation 2695 KB 2684 GL
 Address 250 N. Water St. #300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murray 2
 Location: Sec. 36 Twp. 14S Rge. 30W Co. Cove State KS

Interval Tested 3975-4076 Zone Tested Lansing "K-L"
 Anchor Length 101' Drill Pipe Run 3729 Mud Wt. 8.9
 Top Packer Depth 3970 Drill Collars Run 233.08 Vis 81
 Bottom Packer Depth 3975 Wt. Pipe Run 0 WL 6.0
 Total Depth 4076 Chlorides 1800 ppm System LCM 5.0*

Blow Description IF-Strong building blow, BOB in 8 minutes,
FST-Return @ 30 seconds, Built to 4 inches,
FF-Strong building blow, BOB in 8 minutes,
FST-Return @ 30 seconds, Built to 9 inches,

Rec	Feet of	%gas	%oil	%water	%mud
126	Gassy Oil	40	60		
156	GWMCO	20	50	10	20
116	GOCWM	20	10	10	60
116	GOCMW	15	5	40	40
	660' G.I.P.				

Rec Total 514 BHT 178 Gravity 41 API RW 441 @ 37 °F Chlorides 30500 ppm

(A) Initial Hydrostatic 2008 Test 1250 T-On Location 1400
 (B) First Initial Flow 40 Jars 250 T-Started 1445
 (C) First Final Flow 149 Safety Joint 75 T-Open 1612
 (D) Initial Shut-In 746 Circ Sub T-Pulled 2015
 (E) Second Initial Flow 166 Hourly Standby T-Out 2230
 (F) Second Final Flow 238 Mileage 130.20 Comments Butt-1430
 (G) Final Shut-In 715 Sampler Ruined Shale Packer
 (H) Final Hydrostatic 1938 Straddle Ruined Packer
 Shale Packer Extra Copies

Initial Open 30 Extra Packer
 Initial Shut-In 60 Extra Recorder
 Final Flow 60 Day Standby
 Final Shut-In 90 Accessibility
 Sub Total 1705.20 MP/DST Disc't

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51655

Well Name & No. Lundgren #2-36 Test No. 4 Date 11-30-12
 Company Mulfin Drilling Co., Inc. Elevation 2695 KB 2684 GL
 Address 250 N. Water St #300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Mulfin #2
 Location: Sec. 36 Twp. 14S Rge. 30W Co. Gove State KS

Interval Tested 4088-4196 Zone Tested Marmaton-Pawnee
 Anchor Length 108' Drill Pipe Run 3850 Mud Wt. 9.2
 Top Packer Depth 4083 Drill Collars Run 233.08 Vis 83
 Bottom Packer Depth 4088 Wt. Pipe Run 0 WL 6.4
 Total Depth 4196 Chlorides 2000 ppm System LCM 8.0

Blow Description IF - Very weak blow. Built to 3/4 inch. Died to 1/4 inch.
~~JST - No Return.~~
FF - Weak surface blow. Died @ 14 minutes.
~~FST - No Return.~~

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Oil</u>	<u>100</u>			
<u>10</u>	<u>OCM</u>	<u>10</u>			<u>90</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 12 BHT 122 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2094 Test 1250 T-On Location 1145
 (B) First Initial Flow 26 Jars 250 T-Started 1245
 (C) First Final Flow 29 Safety Joint 75 T-Open 1437
 (D) Initial Shut-In 93 Circ Sub _____ T-Pulled 1740
 (E) Second Initial Flow 30 Hourly Standby _____ T-Out 1930
 (F) Second Final Flow 31 Mileage 130.20 Comments Bot-1223
 (G) Final Shut-In 51 Sampler _____
 (H) Final Hydrostatic 2054 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60
 Sub Total 0
 Total 1705.20
 Sub Total 1705.20
 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.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51656

4/10

Well Name & No. Lundgren #236 Test No. 5 Date 12-1-12
 Company Mulpin Drilling Co., Inc. Elevation 2695 KB 2684 GL
 Address 250 N. Ward St. #300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Mulpin #2
 Location: Sec. 36 Twp. 14S Rge. 30W Co. Cove State KS

Interval Tested 4188-4257 Zone Tested Lower Pawnee - Ft. Scott
 Anchor Length 69' Drill Pipe Run _____ Mud Wt. 9.3
 Top Packer Depth 4183 Drill Collars Run 233.08 Vis 62
 Bottom Packer Depth 4188 Wt. Pipe Run 0 WL 6.8
 Total Depth 4257 Chlorides 3100 ppm System LCM 5.0#

Blow Description IF - Strong building blow, BOB @ 6 minutes,
ISI - Return @ 30 seconds. Built to 3 inches,
FF - Strong building blow, BOB @ 7 minutes,
ISI - Return @ 30 seconds. Built to 8 inches.

Rec	Feet of	%gas	%oil	%water	%mud
<u>126</u>	<u>Gassy Oil</u>	<u>50%</u>	<u>50%</u>		
<u>326</u>	<u>G HOCM</u>	<u>40%</u>	<u>40%</u>		<u>20%</u>
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of <u>975' G.I.P.</u>	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 452 BHT 129 Gravity 41 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2129</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>0430</u>
(B) First Initial Flow <u>32</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>0500</u>
(C) First Final Flow <u>123</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>0633</u>
(D) Initial Shut-In <u>999</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>1035</u>
(E) Second Initial Flow <u>138</u>	<input type="checkbox"/> Hourly Standby _____	T-Out _____
(F) Second Final Flow <u>186</u>	<input checked="" type="checkbox"/> Mileage 130.20	Comments <u>BOB-0454</u>
(G) Final Shut-In <u>999</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2039</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____

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

Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1705.20

Total 1705.20

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.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51657

Well Name & No. Lundgren #2-36 Test No. 6 Date 12-2-12
 Company Murphy Drilling Co., Inc. Elevation 2695 KB 2684 GL
 Address 250 N. Water St. #300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murphy 2
 Location: Sec. 36 Twp. 14S Rge. 30W Co. Gove State KS

Interval Tested 4349-4369 Zone Tested Mississippian Dolomite
 Anchor Length 20' Drill Pipe Run 4105 Mud Wt. 9.3
 Top Packer Depth 4344 Drill Collars Run 233.08 Vis 62
 Bottom Packer Depth 4349 Wt. Pipe Run 0 WL 6.8
 Total Depth 4369 Chlorides 3100 ppm System LCM 5.0#

Blow Description IF-Weak surface blow Built to 2 inches,
IF- No Return,
FF-Weak surface blow @ 5 1/2 minutes. Built to 2 inches,
FF- No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>25</u>	<u>Casey 0.1</u>	<u>15</u>	<u>85</u>		
<u>30</u>	<u>GOCM</u>	<u>10</u>	<u>20</u>		<u>70</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 55 BHT 133 Gravity 41 API RW @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2201 Test 1250 T-On Location 0345
 (B) First Initial Flow 22 Jars 250 T-Started 0430
 (C) First Final Flow 34 Safety Joint 75 T-Open 0601
 (D) Initial Shut-In 982 Circ Sub T-Pulled 1005
 (E) Second Initial Flow 39 Hourly Standby T-Out 1200
 (F) Second Final Flow 55 Mileage 130.20 Comments BHT-0423
 (G) Final Shut-In 896 Sampler
 (H) Final Hydrostatic 2142 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies

Initial Open 30
 Initial Shut-In 60
 Final Flow 80
 Final Shut-In 90
 Sub Total 1705.20
 Total 1705.20
 MP/DST Disc't _____

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