



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE #300
Wichita, KS 67202

ATTN: Robert Hendrix

Cooper #1-11

11-5s-33w Rawlins,KS

Start Date: 2012.01.10 @ 22:00:00

End Date: 2012.01.11 @ 07:09:30

Job Ticket #: 43083 DST #: 1

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

Printed: 2012.01.19 @ 11:30:04



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.

11-5s-33w Rawlins, KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43083

DST#: 1

ATTN: Robert Hendrix

Test Start: 2012.01.10 @ 22:00:00

GENERAL INFORMATION:

Formation: **Tor. - Lans "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:59:45

Time Test Ended: 07:09:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 43

Interval: 3883.00 ft (KB) To 3940.00 ft (KB) (TVD)

Reference Elevations: 3013.00 ft (KB)

Total Depth: 3940.00 ft (KB) (TVD)

3004.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: 6799 Inside

Press @ Run Depth: 85.86 psig @ 3884.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.01.10

End Date:

2012.01.11

Last Calib.:

2012.01.11

Start Time: 22:00:05

End Time:

07:09:30

Time On Btm:

2012.01.11 @ 00:57:45

Time Off Btm:

2012.01.11 @ 05:00:30

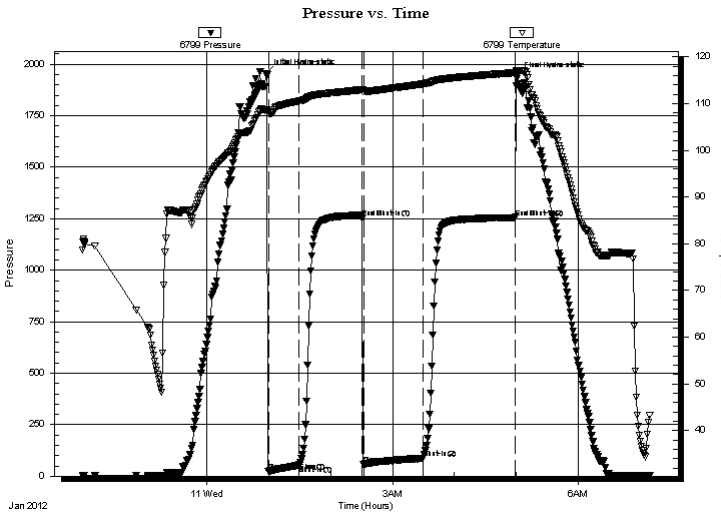
TEST COMMENT: IF- Weak Surface blow built to 3/4"

IS- No Return

FF- Surface blow built to 7"

FS- No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1954.99	108.64	Initial Hydro-static
2	22.90	108.00	Open To Flow (1)
32	52.06	110.50	Shut-In(1)
93	1254.96	112.95	End Shut-In(1)
94	55.41	112.53	Open To Flow (2)
152	85.86	114.18	Shut-In(2)
241	1256.27	116.60	End Shut-In(2)
243	1939.04	117.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCWM 10o 10W 80M	0.30
60.00	OCWM 25o 75M	0.30
70.00	Free oil 100o	0.71

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

Murfin Drilling Co.
250 N. Water STE #300
Wichita, KS 67202

ATTN: Robert Hendrix

11-5s-33w Rawlins, KS
Cooper #1-11
Job Ticket: 43083 **DST#: 1**
Test Start: 2012.01.10 @ 22:00:00

GENERAL INFORMATION:

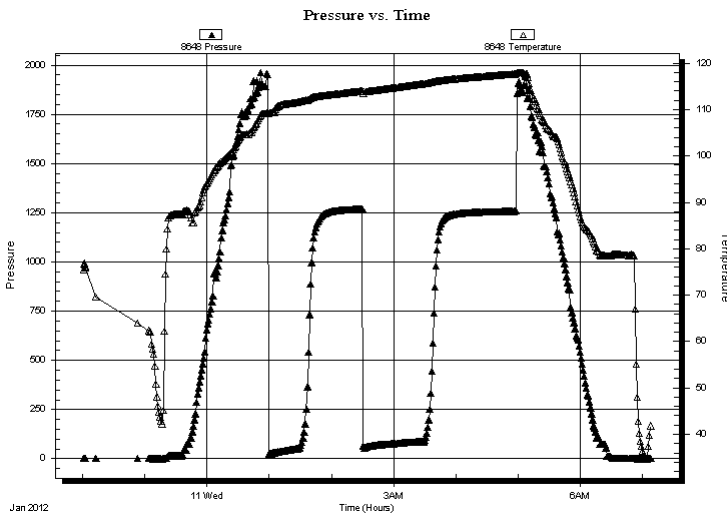
Formation: Tor. - Lans "A"	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Kevin Mack
Time Tool Opened: 00:59:45	Unit No: 43
Time Test Ended: 07:09:30	Reference Elevations: 3013.00 ft (KB)
Interval: 3883.00 ft (KB) To 3940.00 ft (KB) (TVD)	3004.00 ft (CF)
Total Depth: 3940.00 ft (KB) (TVD)	KB to GR/CF: 9.00 ft
Hole Diameter: 7.88 inches Hole Condition: Good	

Serial #: 8648 Inside

Press@RunDepth: psig @ 3884.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2012.01.10 End Date: 2012.01.11	Last Calib.: 2012.01.11
Start Time: 22:01:05 End Time: 07:08:30	Time On Btm:
	Time Off Btm:

TEST COMMENT: IF- Weak Surface blow built to 3/4"
IS- No Return
FF- Surface blow built to 7"
FS- No Return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCWM 10o 10W 80M	0.30
60.00	OCWM 25o 75M	0.30
70.00	Free oil 100o	0.71

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43083

DST#: 1

ATTN: Robert Hendrix

Test Start: 2012.01.10 @ 22:00:00

Tool Information

Drill Pipe:	Length: 3719.00 ft	Diameter: 3.80 inches	Volume: 52.17 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 150.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 52.91 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3883.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	86.00 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			3855.00	
Shut In Tool	5.00			3860.00	
Hydraulic tool	5.00			3865.00	
Jars	5.00			3870.00	
Safety Joint	3.00			3873.00	
Packer	5.00			3878.00	29.00 Bottom Of Top Packer
Packer	5.00			3883.00	
Stubb	1.00			3884.00	
Recorder	0.00	8648	Inside	3884.00	
Recorder	0.00	6799	Inside	3884.00	
Perforations	18.00			3902.00	
Change Over Sub	1.00			3903.00	
Drill Pipe	31.00			3934.00	
Change Over Sub	1.00			3935.00	
Bullnose	5.00			3940.00	57.00 Bottom Packers & Anchor

Total Tool Length: 86.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43083

DST#: 1

ATTN: Robert Hendrix

Test Start: 2012.01.10 @ 22:00:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	OCWM 10o 10W 80M	0.295
60.00	OCWM 25o 75M	0.295
70.00	Free oil 100o	0.709

Total Length: 190.00 ft Total Volume: 1.299 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 29 @ 50 deg = 30

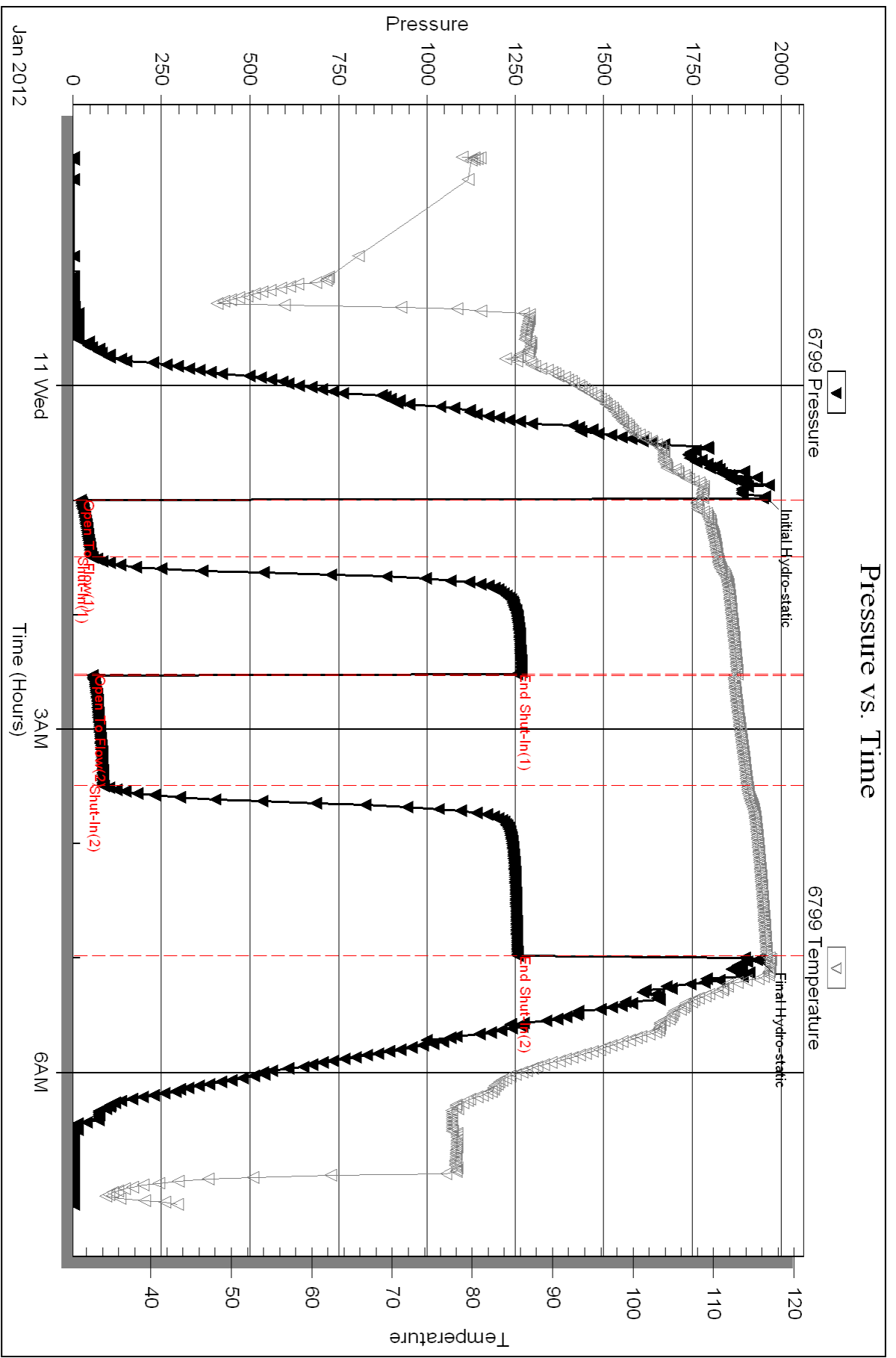
Serial #: 6799

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 1



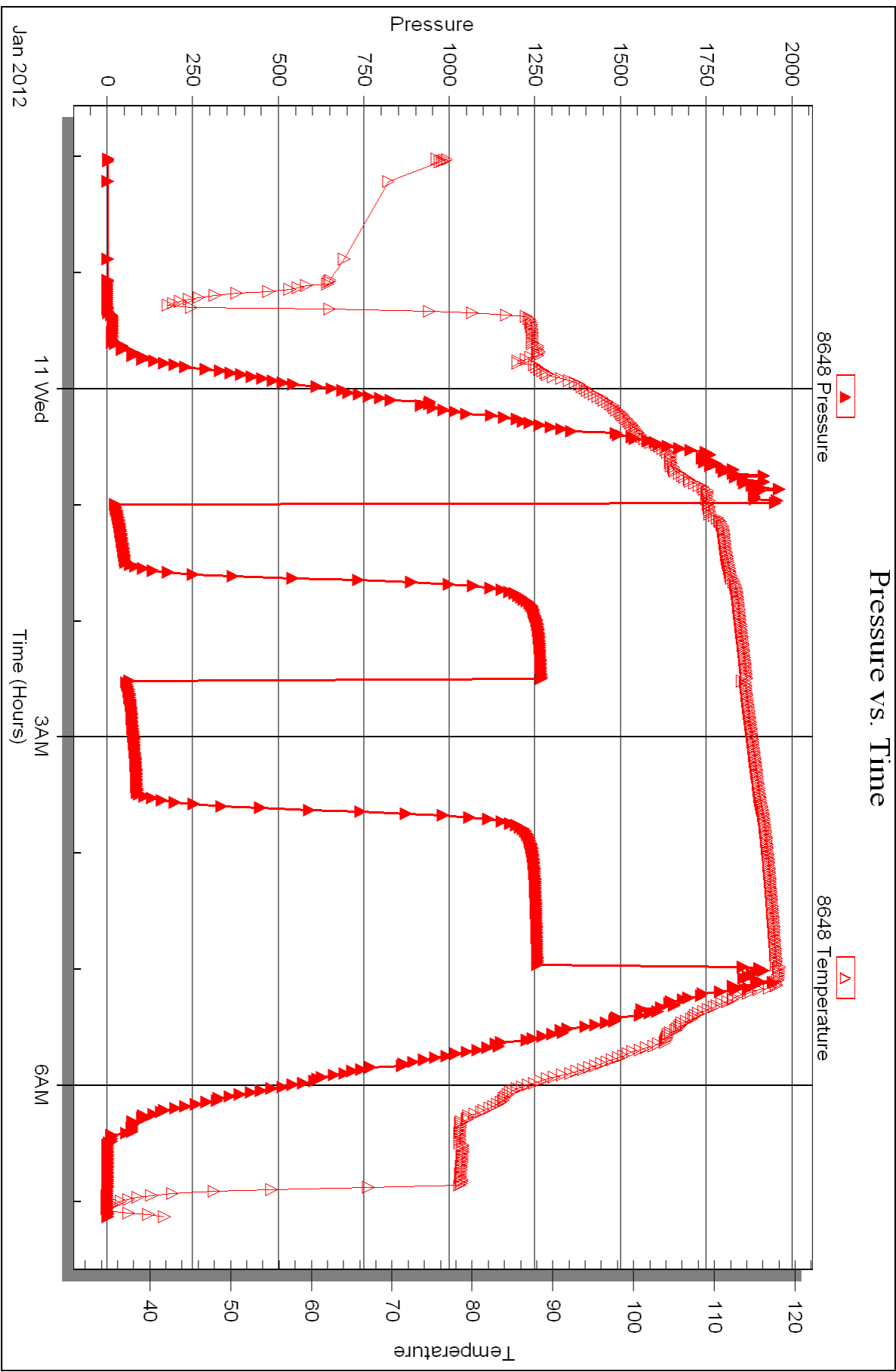
Serial #: 8648

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE #300
Wichita, KS 67202

ATTN: Robert Hendrix

Cooper #1-11

11-5s-33w Rawlins,KS

Start Date: 2012.01.11 @ 18:06:00

End Date: 2012.01.12 @ 01:33:00

Job Ticket #: 43084 DST #: 2

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

Printed: 2012.01.19 @ 11:29:28

Murfin Drilling Co. 11-5s-33w Rawlins,KS Cooper #1-11 DST # 2 Lans. "B-D" 2012.01.11



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

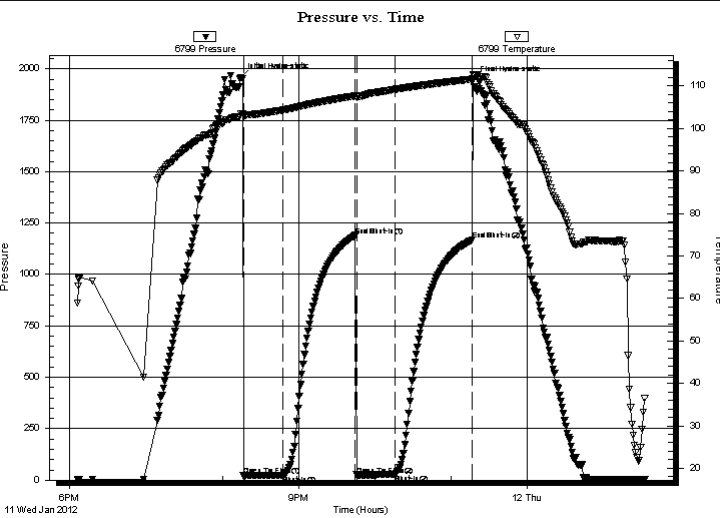
11-5s-33w Rawlins, KS
Cooper #1-11
Job Ticket: 43084 **DST#: 2**
Test Start: 2012.01.11 @ 18:06:00

GENERAL INFORMATION:

Formation: **Lans. "B-D"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 20:16:45 Tester: Kevin Mack
Time Test Ended: 01:33:00 Unit No: 43
Interval: 3942.00 ft (KB) To 3990.00 ft (KB) (TVD) Reference Elevations: 3013.00 ft (KB)
Total Depth: 3990.00 ft (KB) (TVD) 3004.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 9.00 ft

Serial #: 6799 Inside
Press @ Run Depth: 26.23 psig @ 3943.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.01.11 End Date: 2012.01.12 Last Calib.: 2012.01.12
Start Time: 18:06:05 End Time: 01:32:59 Time On Btm: 2012.01.11 @ 20:14:45
Time Off Btm: 2012.01.11 @ 23:17:45

TEST COMMENT: IF- 1/8" Blow built to 1 1/4"
IS- No Return
FF- Surface blow built to 1/4"
FS- No Return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1957.63	103.36	Initial Hydro-static
2	21.56	103.12	Open To Flow (1)
33	24.02	104.34	Shut-In(1)
90	1189.61	107.68	End Shut-In(1)
91	25.16	107.39	Open To Flow (2)
121	26.23	109.23	Shut-In(2)
182	1167.98	111.64	End Shut-In(2)
183	1943.73	112.55	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
10.00	Mud 100M	0.05

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



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DRILL STEM TEST REPORT

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

11-5s-33w Rawlins, KS

Cooper #1-11

Job Ticket: 43084 **DST#: 2**

Test Start: 2012.01.11 @ 18:06:00

GENERAL INFORMATION:

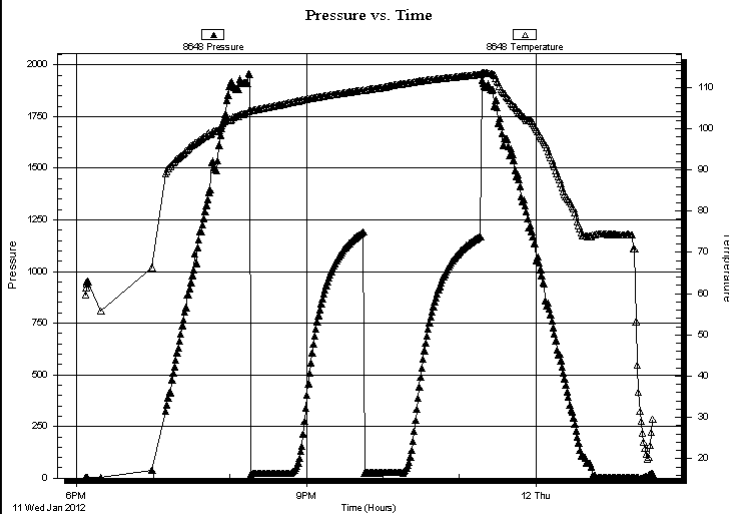
Formation: **Lans. "B-D"**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 20:16:45 Tester: Kevin Mack
 Time Test Ended: 01:33:00 Unit No: 43

Interval: 3942.00 ft (KB) To 3990.00 ft (KB) (TVD) Reference Elevations: 3013.00 ft (KB)
 Total Depth: 3990.00 ft (KB) (TVD) 3004.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 9.00 ft

Serial #: 8648 Inside

Press @ Run Depth: psig @ 3943.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.01.11 End Date: 2012.01.12 Last Calib.: 2012.01.12
 Start Time: 18:06:50 End Time: 01:31:59 Time On Btm: Time Off Btm:

TEST COMMENT: IF- 1/8" Blow built to 1 1/4"
 IS- No Return
 FF- Surface blow built to 1/4"
 FS- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100M	0.05

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43084

DST#: 2

ATTN: Robert Hendrix

Test Start: 2012.01.11 @ 18:06:00

Tool Information

Drill Pipe:	Length: 3779.00 ft	Diameter: 3.80 inches	Volume: 53.01 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 150.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 53.75 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3942.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	77.00 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			3914.00	
Shut In Tool	5.00			3919.00	
Hydraulic tool	5.00			3924.00	
Jars	5.00			3929.00	
Safety Joint	3.00			3932.00	
Packer	5.00			3937.00	29.00 Bottom Of Top Packer
Packer	5.00			3942.00	
Stubb	1.00			3943.00	
Recorder	0.00	8648	Inside	3943.00	
Recorder	0.00	6799	Inside	3943.00	
Perforations	9.00			3952.00	
Change Over Sub	1.00			3953.00	
Drill Pipe	31.00			3984.00	
Change Over Sub	1.00			3985.00	
Bullnose	5.00			3990.00	48.00 Bottom Packers & Anchor

Total Tool Length: 77.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43084

DST#: 2

ATTN: Robert Hendrix

Test Start: 2012.01.11 @ 18:06:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud 100M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

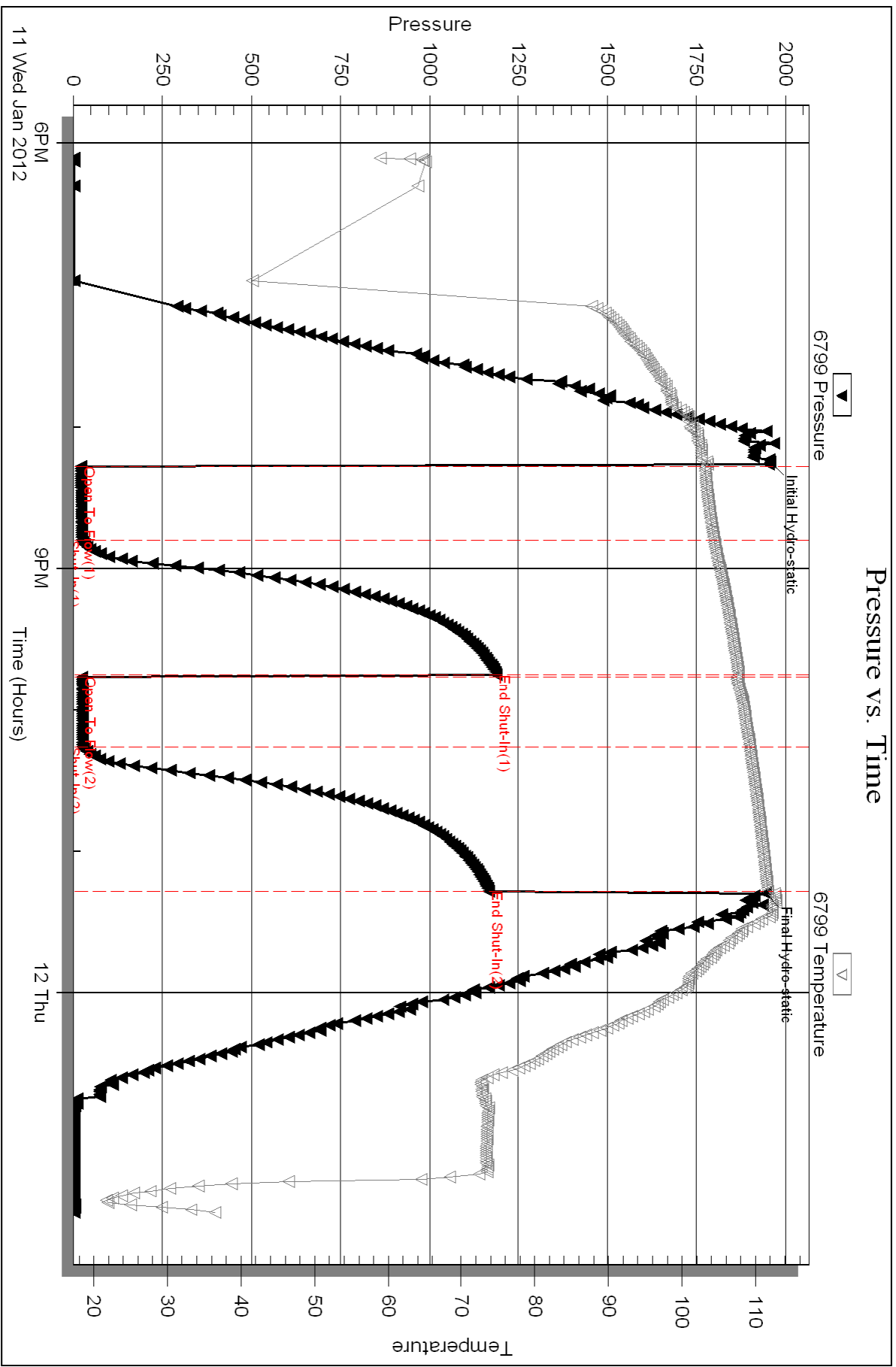
Serial #: 6799

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 43084

Printed: 2012.01.19 @ 11:29:31

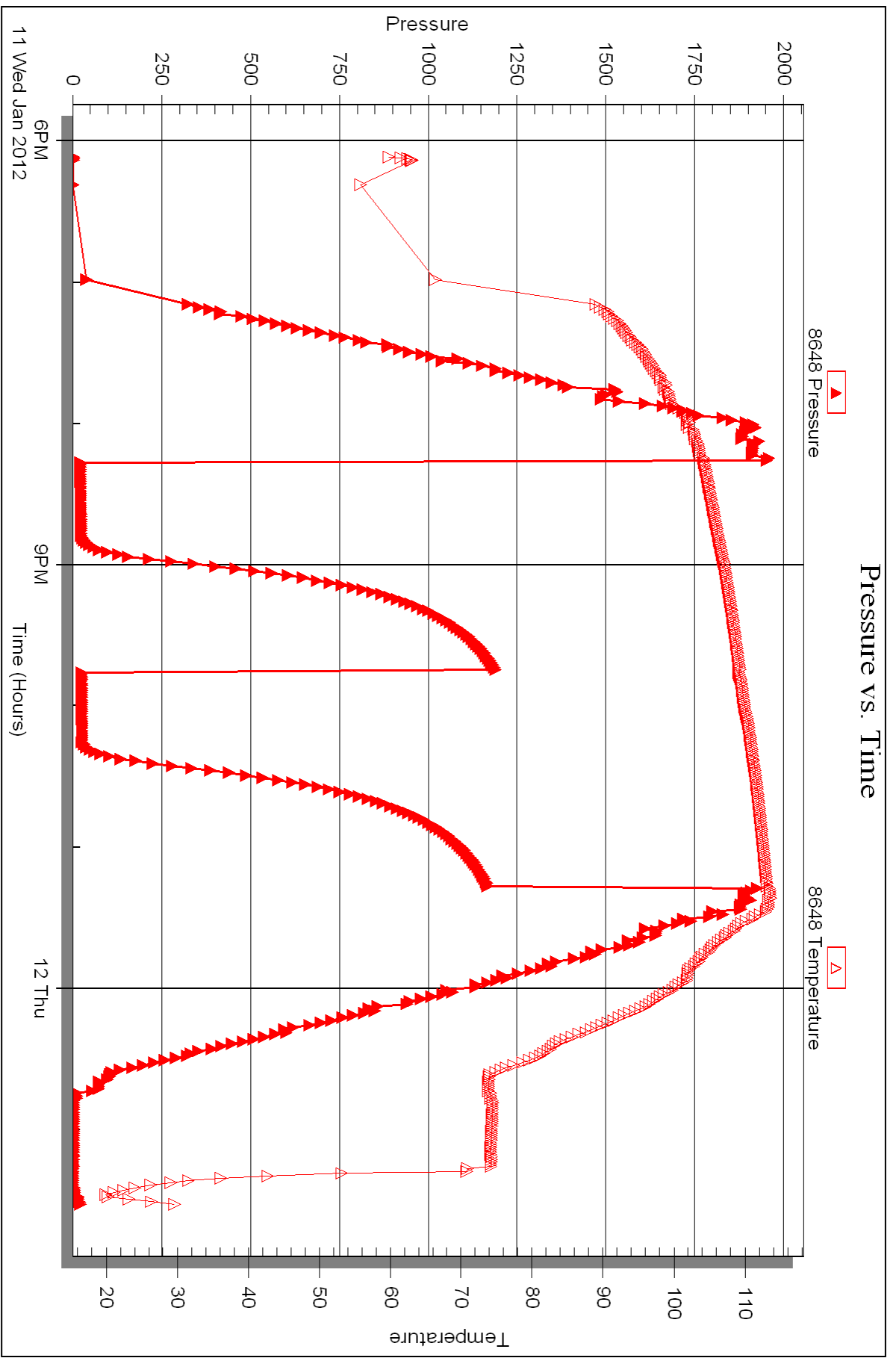
Serial #: 8648

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 43084

Printed: 2012.01.19 @ 11:29:31



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE #300
Wichita, KS 67202

ATTN: Robert Hendrix

Cooper #1-11

11-5s-33w Rawlins,KS

Start Date: 2012.01.12 @ 12:42:00

End Date: 2012.01.12 @ 21:34:45

Job Ticket #: 43085 DST #: 3

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

Printed: 2012.01.19 @ 11:28:43



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

11-5s-33w Rawlins, KS
Cooper #1-11
Job Ticket: 43085 **DST#: 3**
Test Start: 2012.01.12 @ 12:42:00

GENERAL INFORMATION:

Formation: **LKC "F-G"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:11:45
Time Test Ended: 21:34:45
Interval: **3983.00 ft (KB) To 4030.00 ft (KB) (TVD)**
Total Depth: 4030.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 43
Reference Elevations: 3013.00 ft (KB)
3004.00 ft (CF)
KB to GR/CF: 9.00 ft

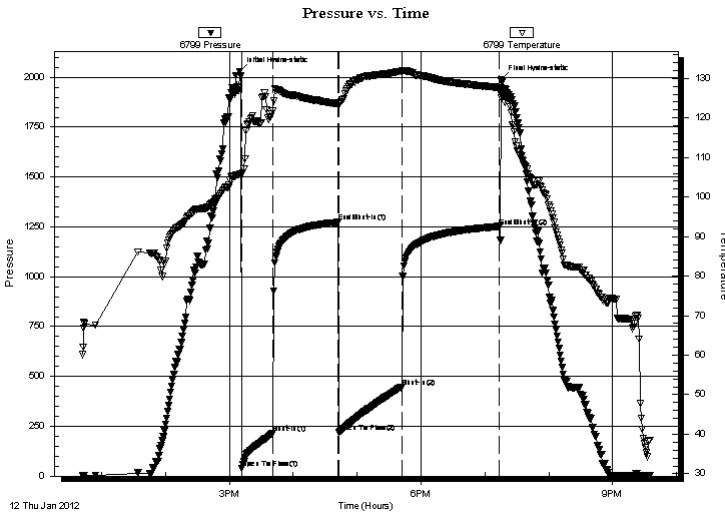
Serial #: 6799

Inside

Press @ Run Depth: 446.88 psig @ 3984.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.01.12 End Date: 2012.01.12 Last Calib.: 2012.01.12
Start Time: 12:42:05 End Time: 21:34:45 Time On Btm: 2012.01.12 @ 15:09:45
Time Off Btm: 2012.01.12 @ 19:15:15

TEST COMMENT: IF- BoB in 9 min.
IS- Surface return started at 10 min. Did not build or die.
FF- BoB in 10 min.
FS- No Return

PRESSURE SUMMARY



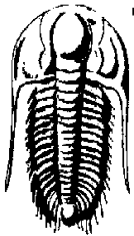
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2030.45	105.86	Initial Hydro-static
2	37.89	105.84	Open To Flow (1)
31	216.56	121.76	Shut-In(1)
92	1273.50	123.53	End Shut-In(1)
93	218.89	123.13	Open To Flow (2)
152	446.88	131.75	Shut-In(2)
244	1252.74	127.73	End Shut-In(2)
246	1989.53	125.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (Heavy) 100M	0.02
243.00	MW 5M 95W	2.09
248.00	MW 20M 80W	3.48
364.00	OSMW 50M 50W (oil spots)	5.11

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

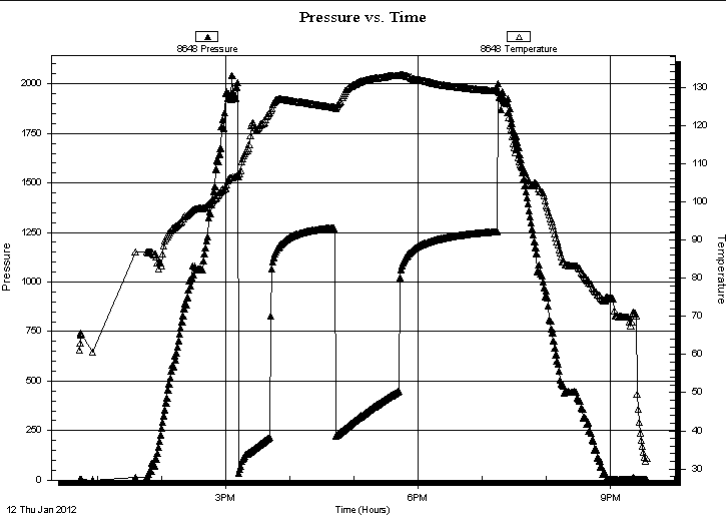
11-5s-33w Rawlins, KS
Cooper #1-11
 Job Ticket: 43085 **DST#: 3**
 Test Start: 2012.01.12 @ 12:42:00

GENERAL INFORMATION:

Formation: **LKC "F-G"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 15:11:45 Tester: Kevin Mack
 Time Test Ended: 21:34:45 Unit No: 43
 Interval: **3983.00 ft (KB) To 4030.00 ft (KB) (TVD)** Reference Elevations: 3013.00 ft (KB)
 Total Depth: 4030.00 ft (KB) (TVD) 3004.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 9.00 ft

Serial #: 8648 Inside
 Press @ Run Depth: psig @ 3984.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.01.12 End Date: 2012.01.12 Last Calib.: 2012.01.12
 Start Time: 12:42:50 End Time: 21:33:45 Time On Btm:
 Time Off Btm

TEST COMMENT: IF- BoB in 9 min.
 IS- Surface return started at 10 min. Did not build or die.
 FF- BoB in 10 min.
 FS- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (Heavy) 100M	0.02
243.00	MV 5M 95W	2.09
248.00	MV 20M 80W	3.48
364.00	OSMV 50M 50W (oil spots)	5.11

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43085

DST#: 3

ATTN: Robert Hendrix

Test Start: 2012.01.12 @ 12:42:00

Tool Information

Drill Pipe:	Length: 3810.00 ft	Diameter: 3.80 inches	Volume: 53.44 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 150.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 54.18 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3983.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	76.00 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			3955.00	
Shut In Tool	5.00			3960.00	
Hydraulic tool	5.00			3965.00	
Jars	5.00			3970.00	
Safety Joint	3.00			3973.00	
Packer	5.00			3978.00	29.00 Bottom Of Top Packer
Packer	5.00			3983.00	
Stubb	1.00			3984.00	
Recorder	0.00	8648	Inside	3984.00	
Recorder	0.00	6799	Inside	3984.00	
Perforations	8.00			3992.00	
Change Over Sub	1.00			3993.00	
Drill Pipe	31.00			4024.00	
Change Over Sub	1.00			4025.00	
Bullnose	5.00			4030.00	47.00 Bottom Packers & Anchor

Total Tool Length: 76.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43085

DST#: 3

ATTN: Robert Hendrix

Test Start: 2012.01.12 @ 12:42:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

25000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud (Heavy) 100M	0.025
243.00	MW 5M 95W	2.088
248.00	MW 20M 80W	3.479
364.00	OSMW 50M 50W (oil spots)	5.106

Total Length: 860.00 ft Total Volume: 10.698 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Last 7 stands had a strong gas odor.

RW .32 @ 60 deg = 25000 ppm

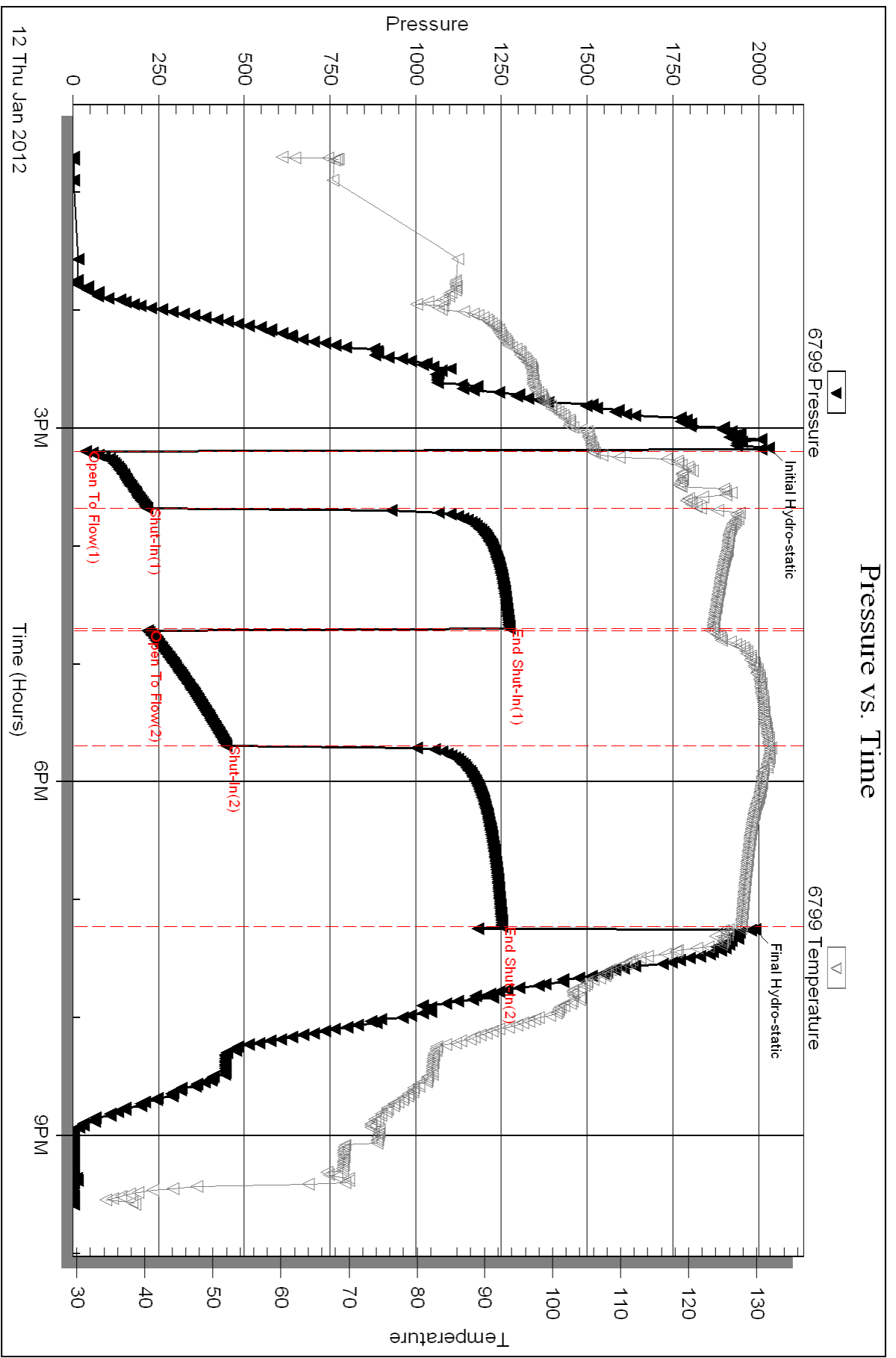
Serial #: 6799

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 43085

Printed: 2012.01.19 @ 11:28:47

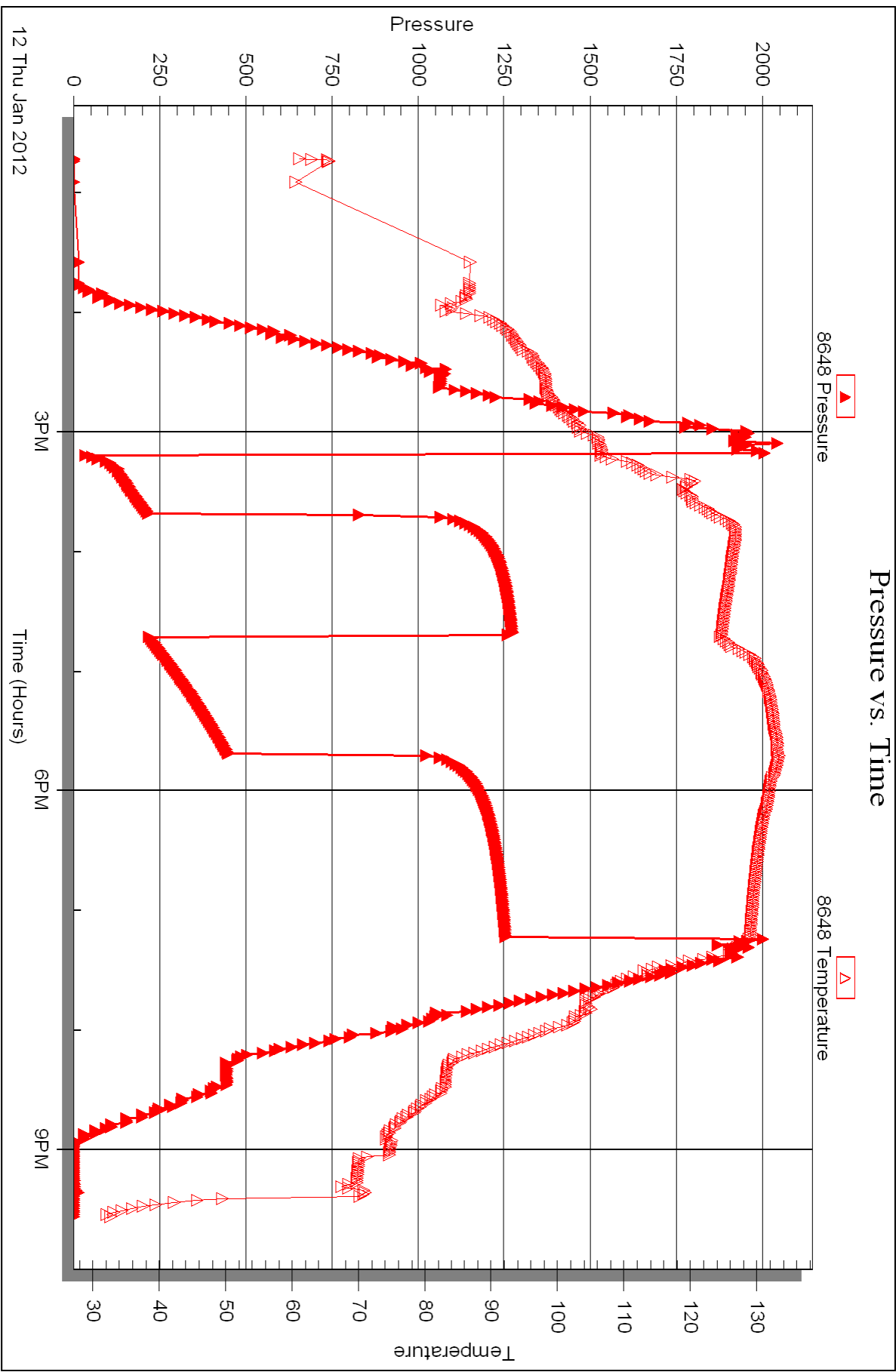
Serial #: 8648

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE #300
Wichita, KS 67202

ATTN: Robert Hendrix

Cooper #1-11

11-5s-33w Rawlins,KS

Start Date: 2012.01.13 @ 16:06:00

End Date: 2012.01.14 @ 00:48:00

Job Ticket #: 43086 DST #: 4

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

Printed: 2012.01.19 @ 11:28:01



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

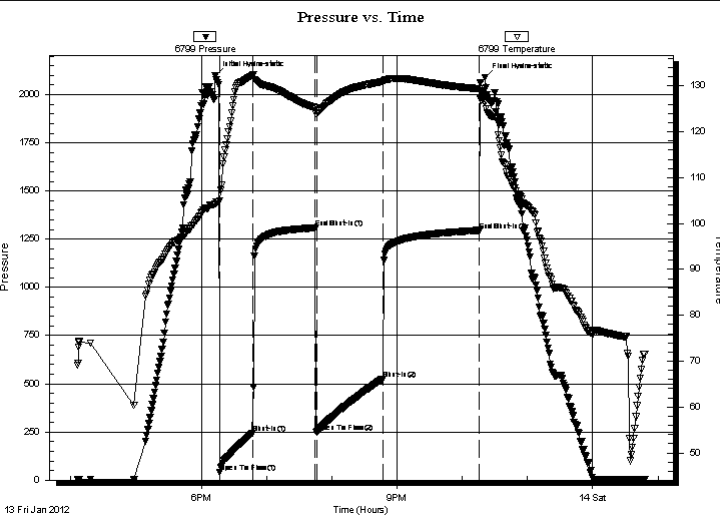
11-5s-33w Rawlins, KS
Cooper #1-11
Job Ticket: 43086 **DST#: 4**
Test Start: 2012.01.13 @ 16:06:00

GENERAL INFORMATION:

Formation: **LKC "H-J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:16:45
Time Test Ended: 00:48:00
Interval: **4048.00 ft (KB) To 4110.00 ft (KB) (TVD)**
Total Depth: 4110.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 43
Reference Elevations: 3013.00 ft (KB)
3004.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 6799 Inside
Press @ Run Depth: 524.82 psig @ 4049.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.01.13 End Date: 2012.01.14 Last Calib.: 2012.01.14
Start Time: 16:06:05 End Time: 00:48:00 Time On Btm: 2012.01.13 @ 18:12:45
Time Off Btm: 2012.01.13 @ 22:21:00

TEST COMMENT: IF- BoB in 18 min
IS- Surface return started at 8 min. Built to 1/4"
FF- BoB in 8 min.
FS- No Return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2100.56	104.30	Initial Hydro-static
4	40.35	104.94	Open To Flow (1)
34	243.33	132.25	Shut-In(1)
92	1309.01	125.24	End Shut-In(1)
93	248.94	123.90	Open To Flow (2)
154	524.82	130.90	Shut-In(2)
243	1295.91	129.37	End Shut-In(2)
249	2090.35	126.43	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
5.00	Mud (Heavy) 100M	0.02
176.00	MW 5M 95W	1.15
496.00	MW 10M 90W	6.96
464.00	MW 40M 60W	6.51

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.

250 N. Water STE #300
Wichita, KS 67202

ATTN: Robert Hendrix

11-5s-33w Rawlins, KS

Cooper #1-11

Job Ticket: 43086

DST#: 4

Test Start: 2012.01.13 @ 16:06:00

GENERAL INFORMATION:

Formation: **LKC "H-J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:16:45

Time Test Ended: 00:48:00

Interval: 4048.00 ft (KB) To 4110.00 ft (KB) (TVD)

Total Depth: 4110.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 43

Reference Elevations: 3013.00 ft (KB)

3004.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 8648

Inside

Press @ Run Depth: psig @ 4049.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.01.13

End Date:

2012.01.14

Last Calib.:

2012.01.14

Start Time: 16:06:50

End Time:

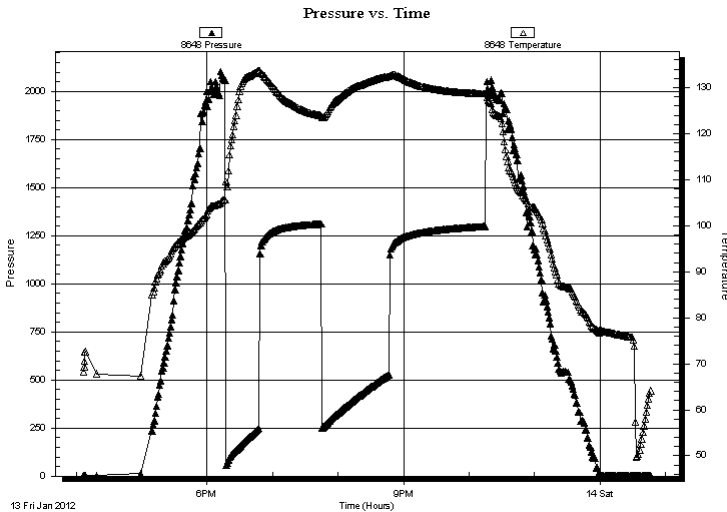
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Time On Btm:

Time Off Btm:

TEST COMMENT: IF- BoB in 18 min
IS- Surface return started at 8 min. Built to 1/4"
FF- BoB in 8 min.
FS- No Return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (Heavy) 100M	0.02
176.00	MW 5M 95W	1.15
496.00	MW 10M 90W	6.96
464.00	MW 40M 60W	6.51

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43086

DST#: 4

ATTN: Robert Hendrix

Test Start: 2012.01.13 @ 16:06:00

Tool Information

Drill Pipe:	Length: 3875.00 ft	Diameter: 3.80 inches	Volume: 54.36 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 150.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 55.10 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4048.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	91.00 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			4020.00	
Shut In Tool	5.00			4025.00	
Hydraulic tool	5.00			4030.00	
Jars	5.00			4035.00	
Safety Joint	3.00			4038.00	
Packer	5.00			4043.00	29.00 Bottom Of Top Packer
Packer	5.00			4048.00	
Stubb	1.00			4049.00	
Recorder	0.00	8648	Inside	4049.00	
Recorder	0.00	6799	Inside	4049.00	
Perforations	23.00			4072.00	
Change Over Sub	1.00			4073.00	
Drill Pipe	31.00			4104.00	
Change Over Sub	1.00			4105.00	
Bullnose	5.00			4110.00	62.00 Bottom Packers & Anchor

Total Tool Length: 91.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43086

DST#: 4

ATTN: Robert Hendrix

Test Start: 2012.01.13 @ 16:06:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

25000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud (Heavy) 100M	0.025
176.00	MW 5M 95W	1.148
496.00	MW 10M 90W	6.958
464.00	MW 40M 60W	6.509

Total Length: 1141.00 ft Total Volume: 14.640 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

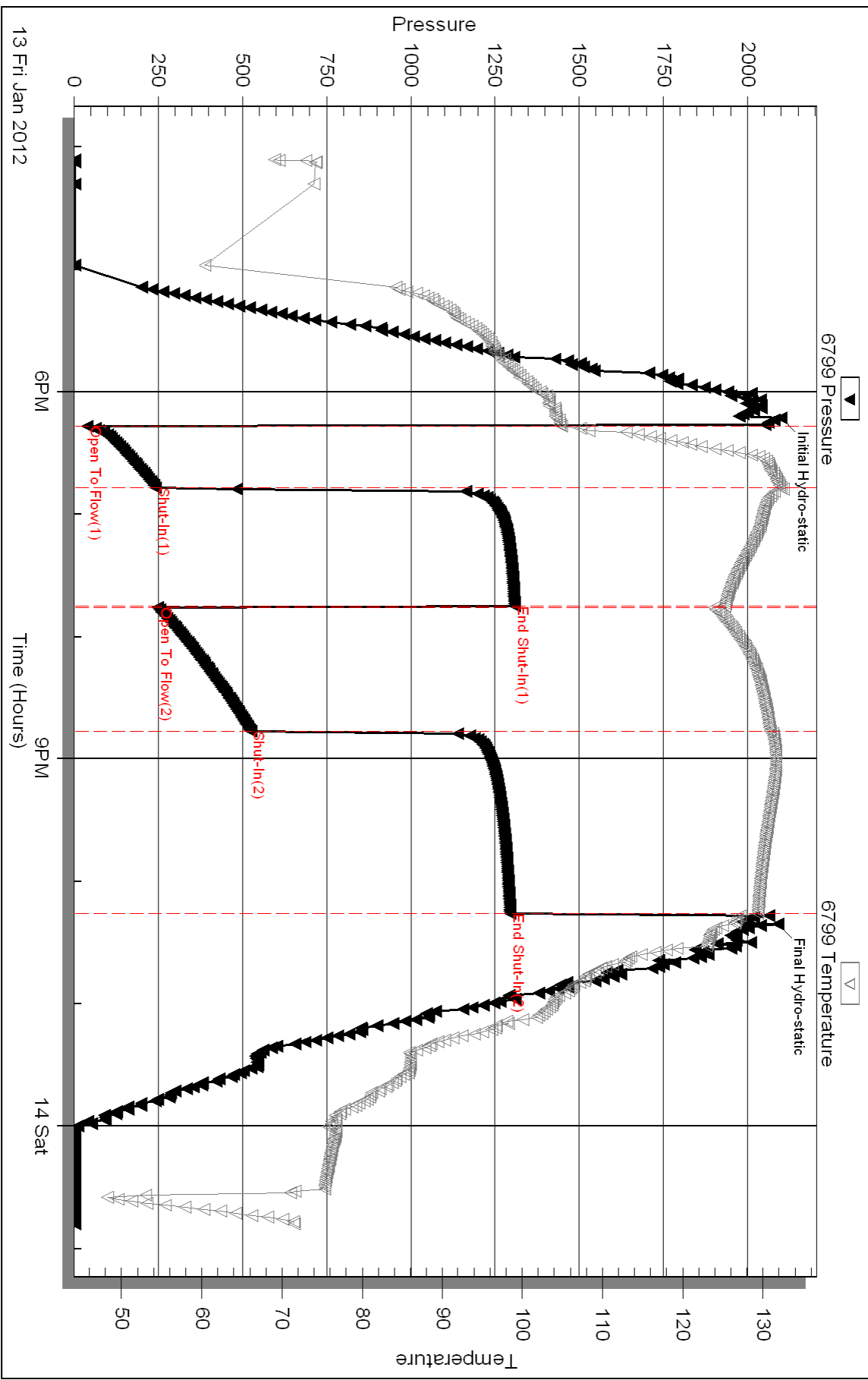
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .3 @ 67 deg. = 25000ppm

Pressure vs. Time



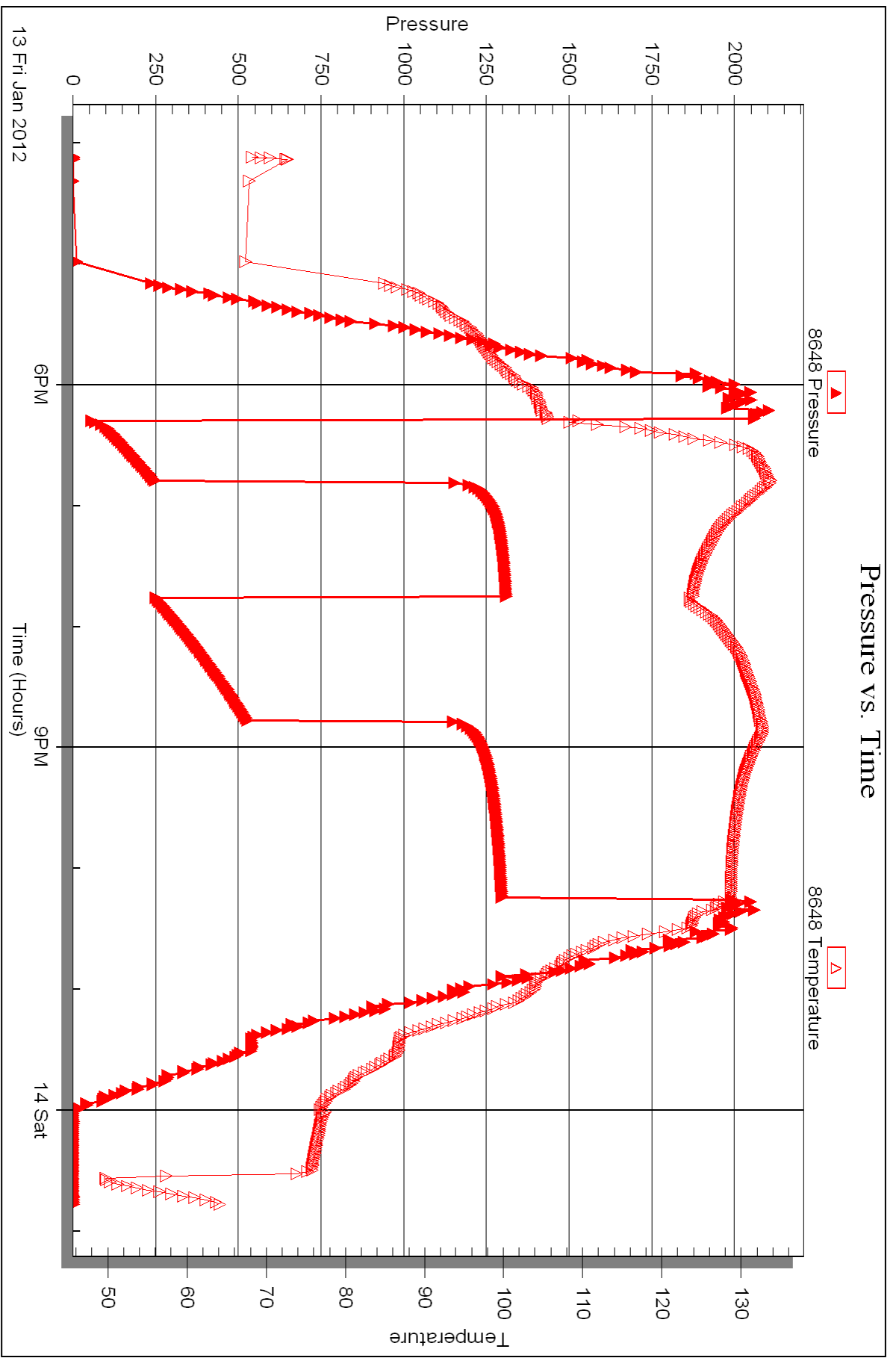
Serial #: 8648

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 43086

Printed: 2012.01.19 @ 11:28:04



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE #300
Wichita, KS 67202

ATTN: Robert Hendrix

Cooper #1-11

11-5s-33w Rawlins,KS

Start Date: 2012.01.15 @ 05:53:00

End Date: 2012.01.15 @ 13:48:30

Job Ticket #: 43087 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.01.19 @ 11:27:27



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

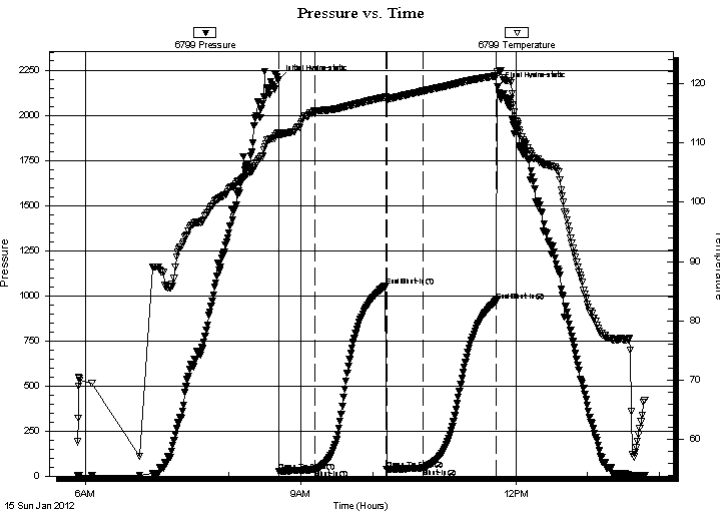
11-5s-33w Rawlins, KS
Cooper #1-11
 Job Ticket: 43087 **DST#: 5**
 Test Start: 2012.01.15 @ 05:53:00

GENERAL INFORMATION:

Formation: **Pawnee - Myric Stati**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 08:41:45 Tester: KevinMack
 Time Test Ended: 13:48:30 Unit No: 43
 Interval: **4281.00 ft (KB) To 4337.00 ft (KB) (TVD)** Reference Elevations: 3013.00 ft (KB)
 Total Depth: 4337.00 ft (KB) (TVD) 3004.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 9.00 ft

Serial #: 6799 Inside
 Press @ RunDepth: 43.29 psig @ 4282.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.01.15 End Date: 2012.01.15 Last Calib.: 2012.01.15
 Start Time: 05:53:05 End Time: 13:48:29 Time On Btm: 2012.01.15 @ 08:41:30
 Time Off Btm: 2012.01.15 @ 11:44:45

TEST COMMENT: IF- 1/4" Blow died in 15 min.
 IS- No Return
 FF- Surface blow started at 3 min. Built to 1/4" then died at 20 min.
 FS- No Return



PRESSURE SUMMARY

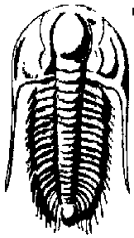
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2197.55	111.75	Initial Hydro-static
1	26.98	111.23	Open To Flow (1)
31	37.42	115.32	Shut-In(1)
90	1055.55	117.70	End Shut-In(1)
91	38.27	117.38	Open To Flow (2)
121	43.29	118.68	Shut-In(2)
183	972.79	121.28	End Shut-In(2)
184	2157.82	121.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	OCM 90M 10o	0.07

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

11-5s-33w Rawlins, KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43087

DST#: 5

ATTN: Robert Hendrix

Test Start: 2012.01.15 @ 05:53:00

GENERAL INFORMATION:

Formation: **Pawnee - Myric Stati**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:41:45

Time Test Ended: 13:48:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 43

Interval: **4281.00 ft (KB) To 4337.00 ft (KB) (TVD)**

Reference Elevations: 3013.00 ft (KB)

Total Depth: 4337.00 ft (KB) (TVD)

3004.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: **8648** Inside

Press @ Run Depth: psig @ 4282.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.01.15 End Date: 2012.01.15

Last Calib.: 2012.01.15

Start Time: 05:54:05 End Time: 13:47:44

Time On Btm:

Time Off Btm:

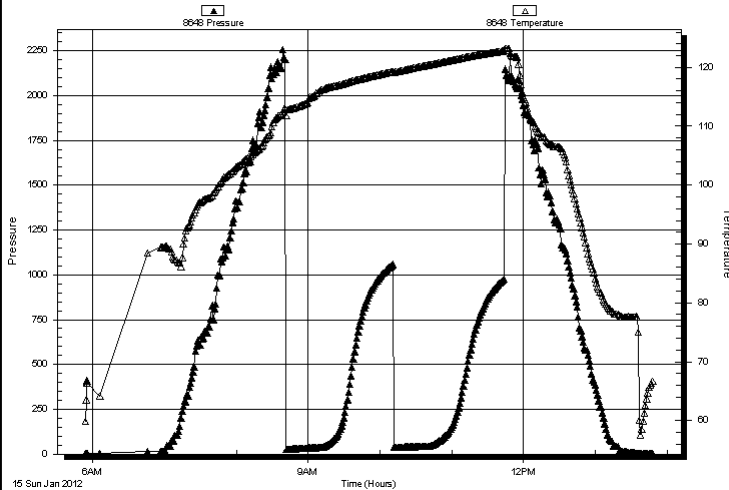
TEST COMMENT: IF- 1/4" Blow died in 15 min.

IS- No Return

FF- Surface blow started at 3 min. Built to 1/4" then died at 20 min.

FS- No Return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
15.00	OCM 90M 10o	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43087

DST#: 5

ATTN: Robert Hendrix

Test Start: 2012.01.15 @ 05:53:00

Tool Information

Drill Pipe:	Length: 4124.00 ft	Diameter: 3.80 inches	Volume: 57.85 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 150.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 58.59 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4281.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	85.00 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			4253.00	
Shut In Tool	5.00			4258.00	
Hydraulic tool	5.00			4263.00	
Jars	5.00			4268.00	
Safety Joint	3.00			4271.00	
Packer	5.00			4276.00	29.00 Bottom Of Top Packer
Packer	5.00			4281.00	
Stubb	1.00			4282.00	
Recorder	0.00	8648	Inside	4282.00	
Recorder	0.00	6799	Inside	4282.00	
Perforations	18.00			4300.00	
Change Over Sub	1.00			4301.00	
Drill Pipe	30.00			4331.00	
Change Over Sub	1.00			4332.00	
Bullnose	5.00			4337.00	56.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43087

DST#: 5

ATTN: Robert Hendrix

Test Start: 2012.01.15 @ 05:53:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	OCM 90M 10o	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

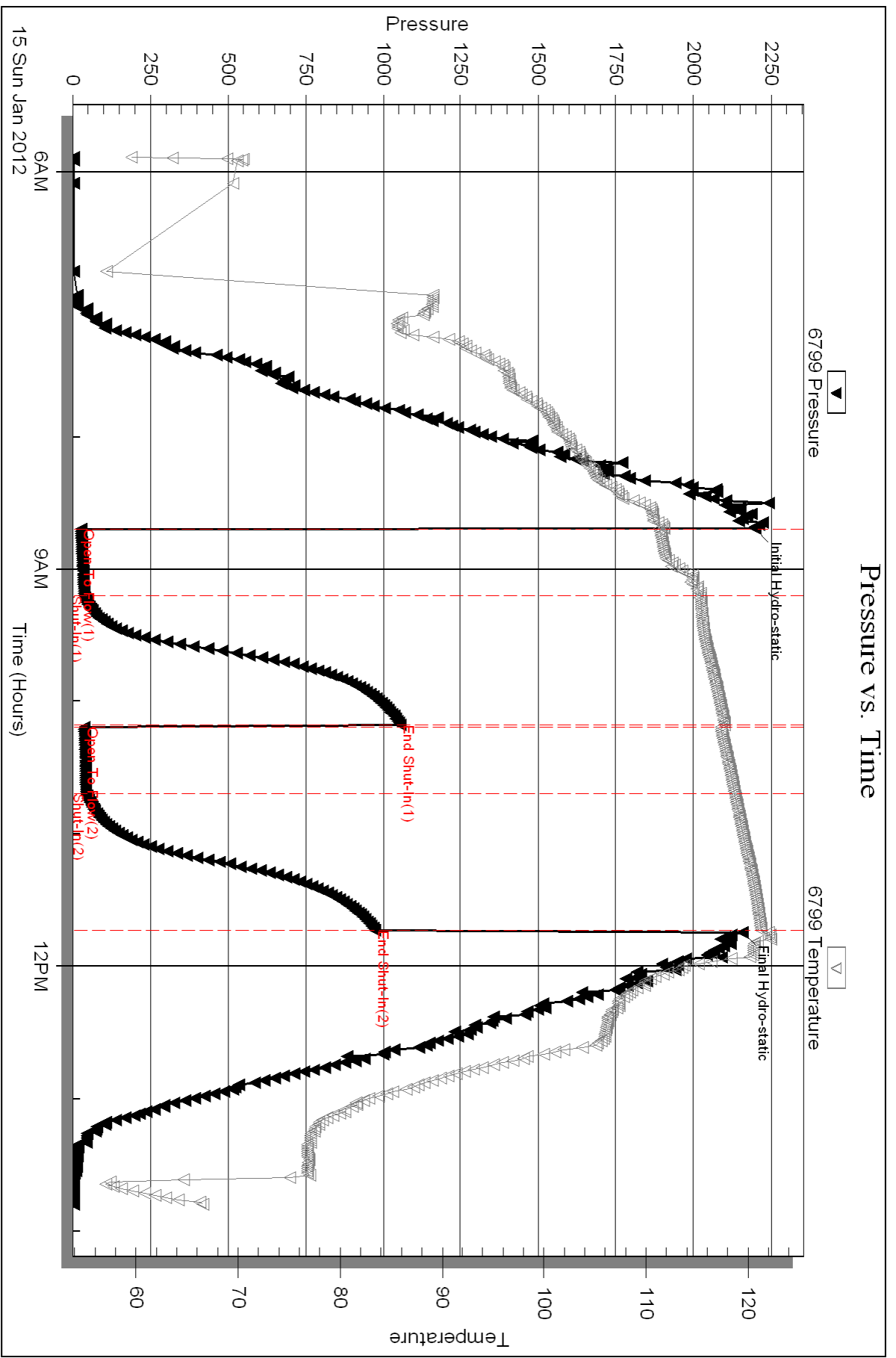
Serial #: 6799

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 5



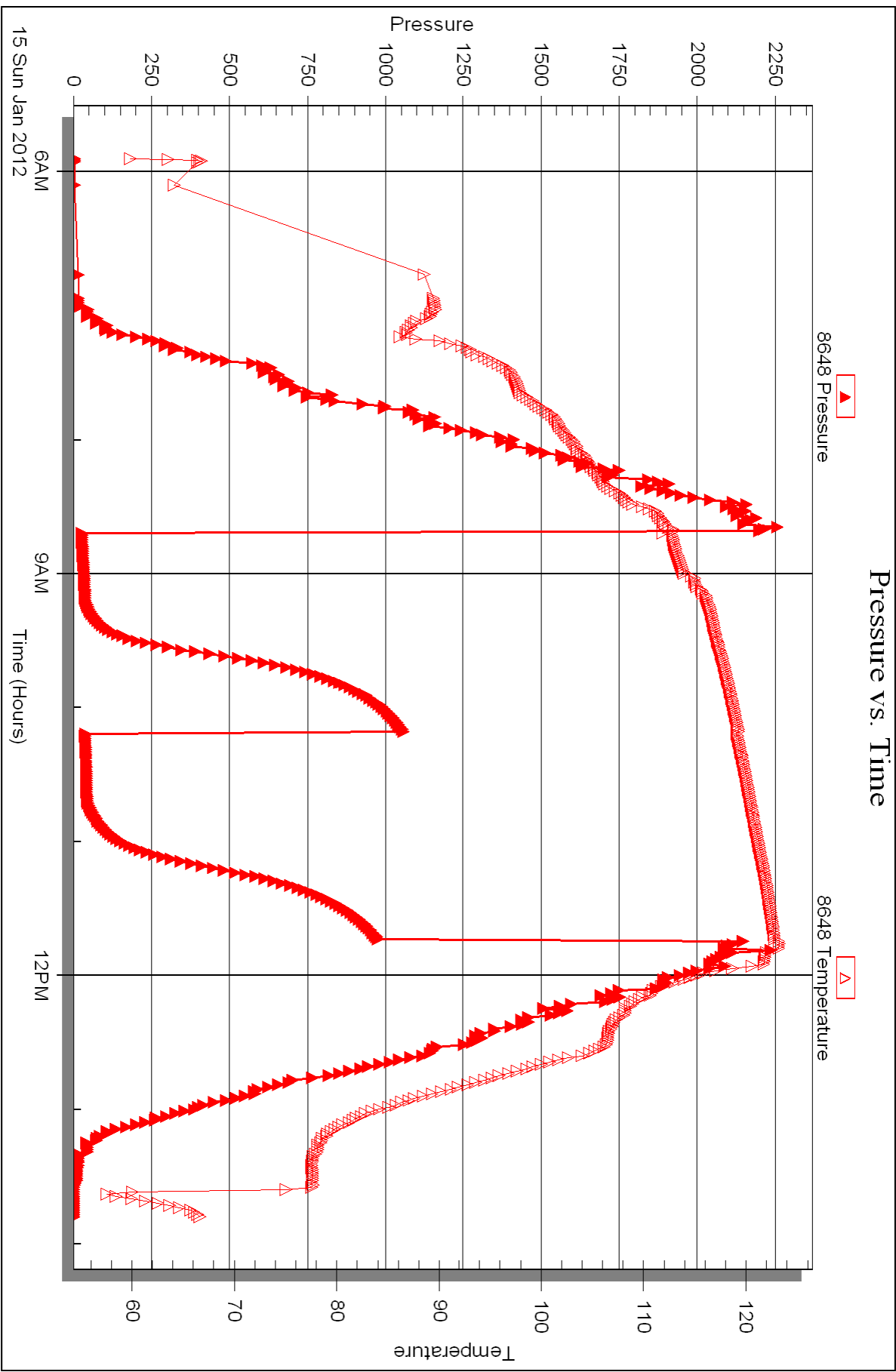
Serial #: 8648

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 5





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE #300
Wichita, KS 67202

ATTN: Robert Hendrix

Cooper #1-11

11-5s-33w Rawlins,KS

Start Date: 2012.01.16 @ 01:30:00

End Date: 2012.01.16 @ 09:30:15

Job Ticket #: 43088 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.01.19 @ 11:26:42



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

11-5s-33w Rawlins, KS
Cooper #1-11
Job Ticket: 43088 **DST#: 6**
Test Start: 2012.01.16 @ 01:30:00

GENERAL INFORMATION:

Formation: **Ft. Scott - Cherokee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:59:45
Time Test Ended: 09:30:15
Interval: **4339.00 ft (KB) To 4395.00 ft (KB) (TVD)**
Total Depth: 4395.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 43
Reference Elevations: 3013.00 ft (KB)
3004.00 ft (CF)
KB to GR/CF: 9.00 ft

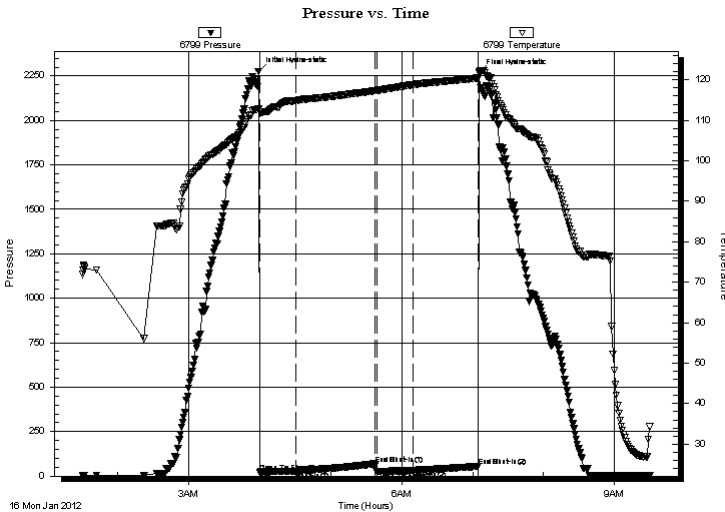
Serial #: 6799

Inside

Press @ Run Depth: 31.91 psig @ 4340.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.01.16 End Date: 2012.01.16 Last Calib.: 2012.01.16
Start Time: 01:30:05 End Time: 09:30:14 Time On Btm: 2012.01.16 @ 03:58:45
Time Off Btm: 2012.01.16 @ 07:05:45

TEST COMMENT: IF- 1/4" Blow built to 2"
IS- No Return
FF- No Blow
FS- No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2276.48	112.76	Initial Hydro-static
1	22.75	112.17	Open To Flow (1)
32	27.19	114.88	Shut-In(1)
99	68.24	117.31	End Shut-In(1)
100	27.34	117.36	Open To Flow (2)
131	31.91	118.80	Shut-In(2)
186	55.90	120.46	End Shut-In(2)
187	2266.23	122.04	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	OSM 100M (oil spots)	0.15

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43088 **DST#: 6**

ATTN: Robert Hendrix

Test Start: 2012.01.16 @ 01:30:00

GENERAL INFORMATION:

Formation: **Ft. Scott - Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:59:45

Time Test Ended: 09:30:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 43

Interval: 4339.00 ft (KB) To 4395.00 ft (KB) (TVD)

Reference Elevations: 3013.00 ft (KB)

Total Depth: 4395.00 ft (KB) (TVD)

3004.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: 8648 Inside

Press @ Run Depth: psig @ 4340.00 ft (KB)

Start Date: 2012.01.16 End Date: 2012.01.16

Start Time: 01:30:50 End Time: 09:29:14

Capacity: 8000.00 psig

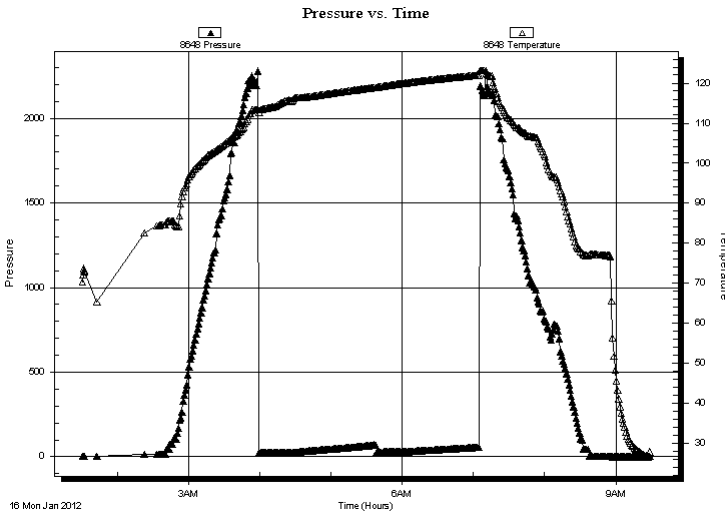
Last Calib.: 2012.01.16

Time On Btm

Time Off Btm

TEST COMMENT: IF- 1/4" Blow built to 2"
IS- No Return
FF- No Blow
FS- No Return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	OSM 100M (oil spots)	0.15

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43088

DST#: 6

ATTN: Robert Hendrix

Test Start: 2012.01.16 @ 01:30:00

Tool Information

Drill Pipe:	Length: 4190.00 ft	Diameter: 3.80 inches	Volume: 58.77 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 150.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 77000.00 lb
			<u>Total Volume: 59.51 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4339.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	85.00 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			4311.00	
Shut In Tool	5.00			4316.00	
Hydraulic tool	5.00			4321.00	
Jars	5.00			4326.00	
Safety Joint	3.00			4329.00	
Packer	5.00			4334.00	29.00 Bottom Of Top Packer
Packer	5.00			4339.00	
Stubb	1.00			4340.00	
Recorder	0.00	8648	Inside	4340.00	
Recorder	0.00	6799	Inside	4340.00	
Perforations	16.00			4356.00	
Change Over Sub	1.00			4357.00	
Drill Pipe	32.00			4389.00	
Change Over Sub	1.00			4390.00	
Bullnose	5.00			4395.00	56.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

11-5s-33w Rawlins,KS

250 N. Water STE #300
Wichita, KS 67202

Cooper #1-11

Job Ticket: 43088

DST#: 6

ATTN: Robert Hendrix

Test Start: 2012.01.16 @ 01:30:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 80.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	OSM 100M(oil spots)	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6799

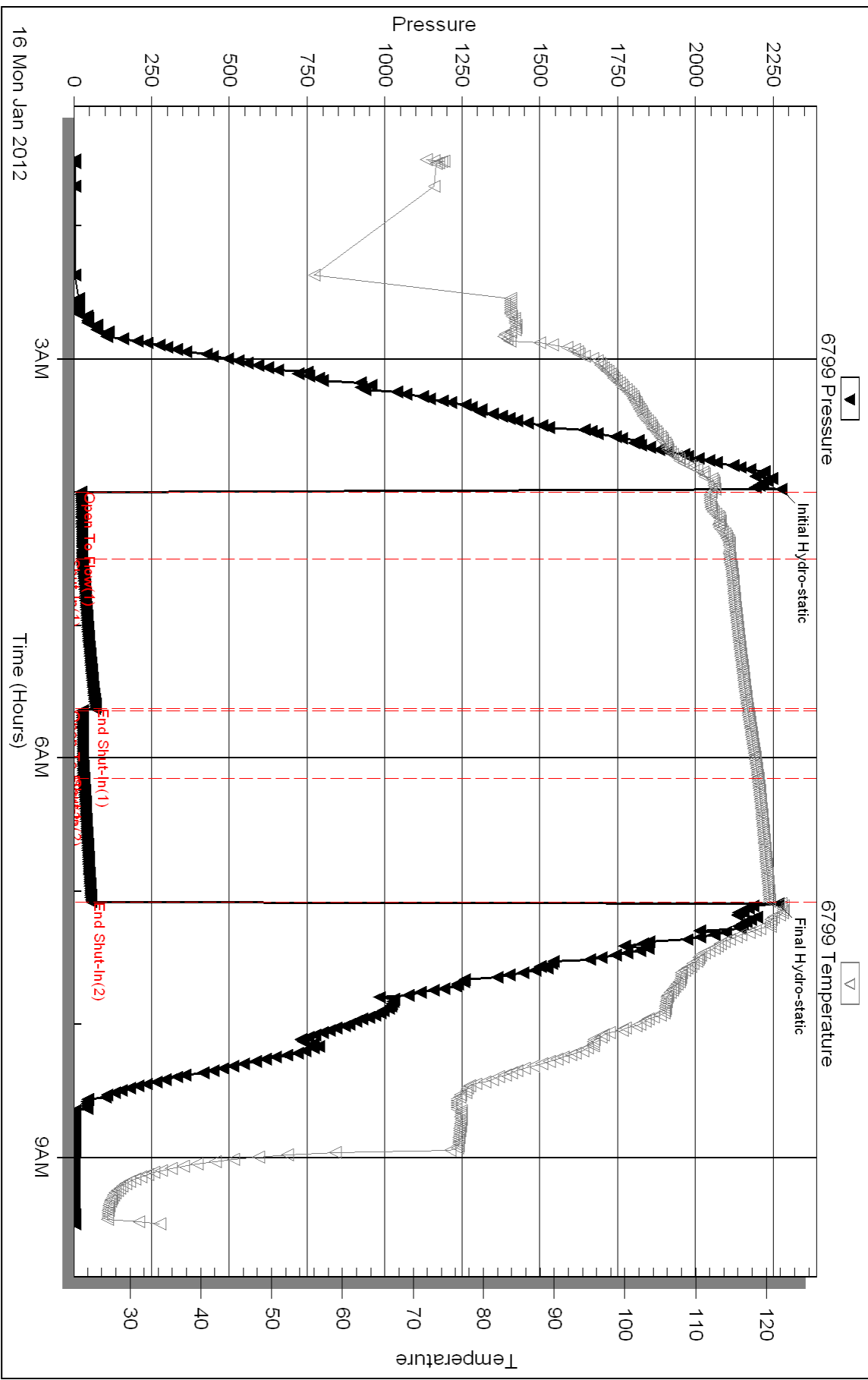
Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 6

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 43088

Printed: 2012.01.19 @ 11:26:46

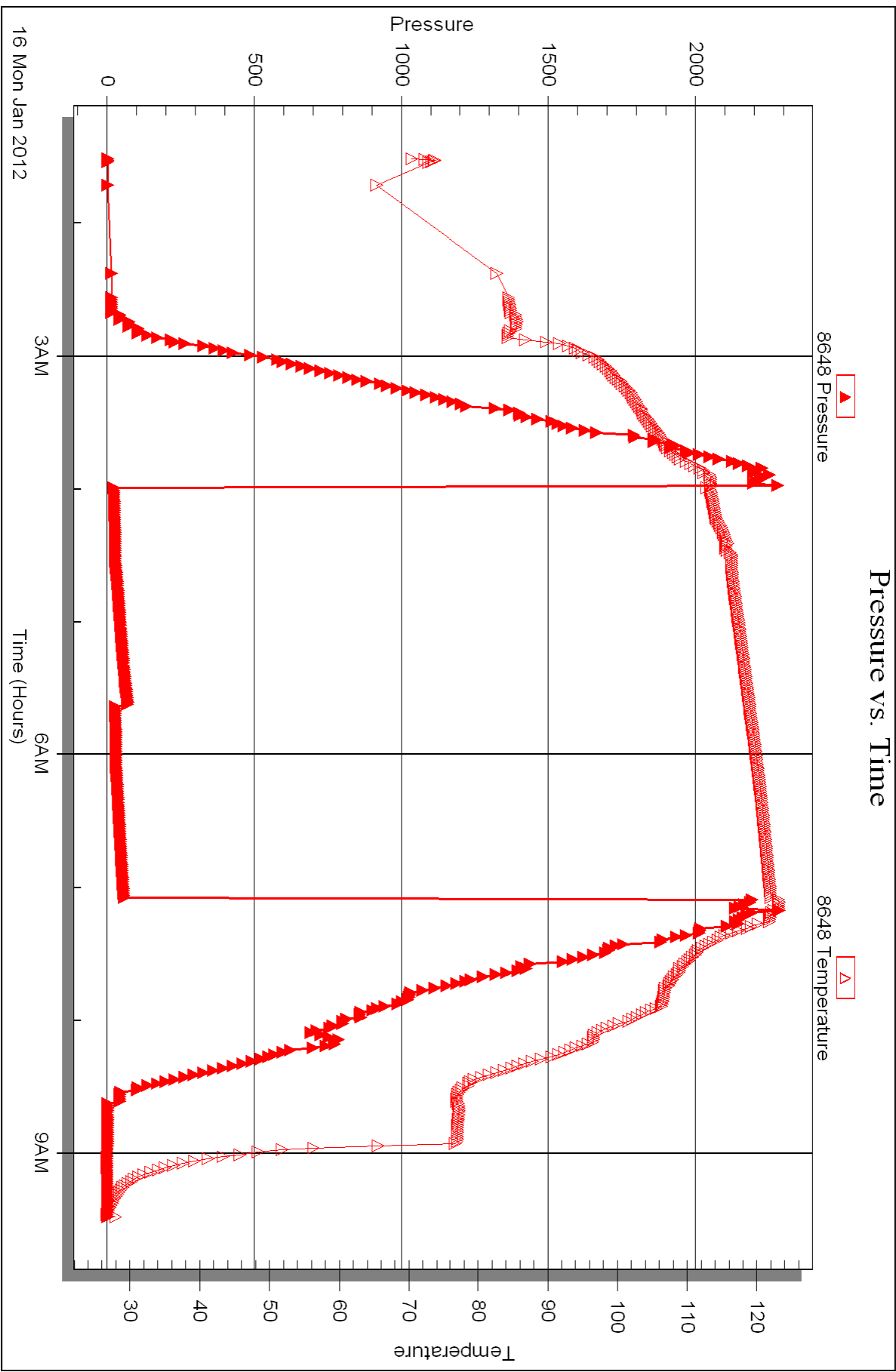
Serial #: 8648

Inside

Murfin Drilling Co.

Cooper #1-11

DST Test Number: 6





TRILOBITE TESTING INC.

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JAN 13 2012

Test Ticket

NO. 043083

4/10

BY: _____

Well Name & No. Cooper #1-11 Test No. 1 Date 1-10-12
 Company Murfin Drilling Co. Elevation 3004 KB 3013 GL
 Address 250 N Water STE #300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #8
 Location: Sec. 11 Twp. 5s Rge. 33w Co. Rawlins State KS

Interval Tested 3883-3940 Zone Tested Top - Lens. "A"
 Anchor Length 57' Drill Pipe Run 3719 Mud Wt. 9.2
 Top Packer Depth 3879 Drill Collars Run 150 Vis 56
 Bottom Packer Depth 3883 Wt. Pipe Run Ø WL 7.6
 Total Depth 3940 Chlorides 1,700 ppm System LCM 1#
 Blow Description IF - Weak surface blow built to 3/4"
IS - NO RETURN
FF - Surface Blow built to 7"
FS - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>70</u>	<u>Free Oil</u>	<u>100</u>			
<u>60</u>	<u>OCM</u>	<u>25</u>		<u>75</u>	
<u>60</u>	<u>OCWM</u>	<u>10</u>	<u>10</u>	<u>80</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 190 BHT 117 Gravity 30 API RW - @ - °F Chlorides - ppm
 (A) Initial Hydrostatic 1954 Test 1125' T-On Location 8:50 PM
 (B) First Initial Flow 22 Jars 250' T-Started 10:00 PM
 (C) First Final Flow 52 Safety Joint 75' T-Open 12:59 AM
 (D) Initial Shut-In 1254 Circ Sub NIC T-Pulled 4:59 AM
 (E) Second Initial Flow 55 Hourly Standby 1 1/2 hrs 150' T-Out 7:10 AM
 (F) Second Final Flow 85 Mileage 126 90 RT Comments _____
 (G) Final Shut-In 1256 Sampler _____
 (H) Final Hydrostatic 1939 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Initial Open 30 Extra Packer _____ Extra Copies _____
 Initial Shut-In 60 Extra Recorder _____ Sub Total Ø
 Final Flow 60 Day Standby _____ Total 1726
 Final Shut-In 90 Accessibility _____ MP/DST Disc't _____
 Sub Total 1726

Approved By _____ Our Representative

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RECEIVED
JAN 13 2012

Test Ticket

NO. 043084

Well Name & No. Cooper # 1-11 Test No. 2 Date 1-11-12
 Company MURFIN Drilling Co. Elevation 3004 KB 3013 GL
 Address 250 N Water STE #300 - Wichita, KS 67202
 Co. Rep / Geo. Roberta Hendrix Rig MURFIN #8
 Location: Sec. 11 Twp. 5s Rge. 33w Co. Rawlins State KS

Interval Tested 3942 - 3990 Zone Tested Lens. "B-D"
 Anchor Length 48' Drill Pipe Run 3779 Mud Wt. 9.2
 Top Packer Depth 3938 Drill Collars Run 150' Vis 50
 Bottom Packer Depth 3942 Wt. Pipe Run Ø WL 8.0
 Total Depth 3990 Chlorides 14800 ppm System LCM 1#
 Blow Description IF - 1/8" Blow built to 1 1/4"
IS - NO Return
FF - Surface Blow built to 1/4"
FS - NO Return

Rec	Feet of	%gas	spots	%oil	%water	%mud
<u>10</u>	<u>OSM</u>				<u>60</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 10 BHT 112 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1957 Test 1125' T-On Location 5:50 PM
 (B) First Initial Flow 21 Jars 250' T-Started 6:06 PM
 (C) First Final Flow 24 Safety Joint 75' T-Open 8:15 PM
 (D) Initial Shut-In 1189 Circ Sub N/C T-Pulled 11:15 PM
 (E) Second Initial Flow 25 Hourly Standby _____ T-Out 1:34 AM
 (F) Second Final Flow 26 Mileage 126 90 RT Comments _____
 (G) Final Shut-In 1167 Sampler _____
 (H) Final Hydrostatic 1943 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total Ø
 Initial Shut-In 60 Day Standby _____ Total 1576'
 Final Flow 36 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1576'

Approved By _____ Our Representative [Signature]

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JAN 13 2012

Test Ticket

NO. 043085

Well Name & No. Cooper #1-11 Test No. 3 Date 1-12-12
 Company Murfin Drilling Co. Elevation 3004 KB 3013 GL
 Address 250 N Water STE #300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #8
 Location: Sec. 11 Twp. S5 Rge. 33w Co. Rawlins State KS

Interval Tested 3983-4030 Zone Tested LKC "F-6"
 Anchor Length 47' Drill Pipe Run 3810 Mud Wt. 9.2
 Top Packer Depth 3979 Drill Collars Run 150' Vis 51
 Bottom Packer Depth 3983 Wt. Pipe Run Ø WL 7.2
 Total Depth 4030 Chlorides 1,800 ppm System LCM 1.5#

Blow Description IF- BoB in 9 min
IS- Surface Blow started at 10 min. Did not build or die.
FF- BoB in 10 min.
FS- No Return

Rec	Feet of	%gas	SPOTS	%oil	%water	%mud
<u>364</u>	<u>OSMW</u>			<u>50</u>	<u>50</u>	
<u>248</u>	<u>MW</u>			<u>80</u>	<u>20</u>	
<u>243</u>	<u>MW</u>			<u>95</u>	<u>5</u>	
<u>5</u>	<u>Mud (heavy)</u>				<u>100</u>	

Rec Total 860 BHT 128 Gravity - API RW. 32 @ 60 °F Chlorides 2500 ppm

(A) Initial Hydrostatic	<u>2030</u>	<input checked="" type="checkbox"/> Test	<u>1225'</u>	T-On Location	<u>12:06 PM</u>
(B) First Initial Flow	<u>37</u>	<input checked="" type="checkbox"/> Jars	<u>250'</u>	T-Started	<u>12:42 PM</u>
(C) First Final Flow	<u>216</u>	<input checked="" type="checkbox"/> Safety Joint	<u>76'</u>	T-Open	<u>3:11 PM</u>
(D) Initial Shut-In	<u>1273</u>	<input checked="" type="checkbox"/> Circ Sub	<u>NIC</u>	T-Pulled	<u>7:11 PM</u>
(E) Second Initial Flow	<u>218</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>9:35 PM</u>
(F) Second Final Flow	<u>446</u>	<input checked="" type="checkbox"/> Mileage	<u>126' 90 RT</u>	Comments	<u>last 2 stands had a strong gas smell.</u>
(G) Final Shut-In	<u>1252</u>	<input type="checkbox"/> Sampler		<input type="checkbox"/> Ruined Shale Packer	
(H) Final Hydrostatic	<u>1489</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Packer	

Initial Open	<u>30</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
Initial Shut-In	<u>60</u>	<input type="checkbox"/> Extra Recorder		Sub Total	<u>Ø</u>
Final Flow	<u>60</u>	<input type="checkbox"/> Day Standby		Total	<u>1676'</u>
Final Shut-In	<u>90</u>	<input type="checkbox"/> Accessibility		MP/DST Disc't	
Sub Total	<u>1676'</u>				

Approved By _____ Our Representative

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BY: _____

Test Ticket

NO. 043086

Well Name & No. Cooper # 1-11 Test No. 4 Date 1-13-12
 Company Murfin Drilling Co. Elevation ~~3000~~ 3004 GL
 Address 250 N. Water STE #300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #8
 Location: Sec. 11 Twp. 5s Rge. 33w Co. Rawlins State KS

Interval Tested 4048 - 4110 Zone Tested LKC "H-5"
 Anchor Length 62 Drill Pipe Run 3875 Mud Wt. 9.2
 Top Packer Depth 4044 Drill Collars Run 150 Vis 65
 Bottom Packer Depth 4048 Wt. Pipe Run Ø WL 8.4
 Total Depth 4110 Chlorides 3,700 ppm System LCM 1#

Blow Description IF - BoB in 18 min.
IS - Surface Return started at 8 min. Built to 1/4"
FF - BoB in 8 min.
FS - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>464</u>	<u>MW</u>		<u>60</u>	<u>40</u>	
<u>496</u>	<u>MW</u>		<u>90</u>	<u>10</u>	
<u>176</u>	<u>MW</u>		<u>95</u>	<u>5</u>	
<u>5</u>	<u>Mud (heavy)</u>			<u>100</u>	

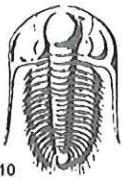
Rec Total 1141' BHT 129 Gravity — API RW .3 @ 67 °F Chlorides 25700 ppm

(A) Initial Hydrostatic <u>2100</u>	<input checked="" type="checkbox"/> Test <u>1225'</u>	T-On Location <u>3:30 PM</u>
(B) First Initial Flow <u>40</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>4:06 PM</u>
(C) First Final Flow <u>243</u>	<input checked="" type="checkbox"/> Safety Joint <u>75'</u>	T-Open <u>6:16 PM</u>
(D) Initial Shut-In <u>1309</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/K</u>	T-Pulled <u>10:16 PM</u>
(E) Second Initial Flow <u>248</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>12:48 AM</u>
(F) Second Final Flow <u>524</u>	<input checked="" type="checkbox"/> Mileage <u>126</u> <u>90 RT</u>	Comments _____
(G) Final Shut-In <u>1259</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2090</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>Ø</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Total <u>None</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>None</u>	

Approved By _____

Our Representative 

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RECEIVED
JAN 18 2012
BY: _____

Test Ticket

NO. 043087

Well Name & No. Cooper # 1-11 Test No. 5 Date 1-15-12
 Company Murfin Drilling Company Elevation 3013 KB 3004 GL
 Address 250 N. Water STE #300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #8
 Location: Sec. 11 Twp. 5s Rge. 33w Co. Rawlins State KS

Interval Tested 4281-4337 Zone Tested Pawnee - Myric Station
 Anchor Length 56' Drill Pipe Run 4124 Mud Wt. 9.0
 Top Packer Depth 4277 Drill Collars Run 150' Vis 56
 Bottom Packer Depth 4281 Wt. Pipe Run Ø WL 6.8
 Total Depth 4337 Chlorides 2,400 ppm System LCM 1.5#

Blow Description IF - 1/4" Blow died at 15 min.
IS - No Return
FF - Surface Blow started at 3 min. Built to 1/4" then died at 20 min.
FS - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</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	Feet of	%gas	%oil	%water	%mud

Rec Total 15 BHT 121° Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2197</u>	<input checked="" type="checkbox"/> Test <u>1225'</u>	T-On Location <u>5:45 AM</u>
(B) First Initial Flow <u>26</u>	<input checked="" type="checkbox"/> Jars <u>250'</u>	T-Started <u>5:53 AM</u>
(C) First Final Flow <u>37</u>	<input checked="" type="checkbox"/> Safety Joint <u>75'</u>	T-Open <u>8:41 AM</u>
(D) Initial Shut-In <u>1055</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>11:41 AM</u>
(E) Second Initial Flow <u>38</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1:49 PM</u>
(F) Second Final Flow <u>43</u>	<input checked="" type="checkbox"/> Mileage <u>120' 90 RT</u>	Comments <u>Finished last test</u>
(G) Final Shut-In <u>972</u>	<input type="checkbox"/> Sampler	<u>1-18-12 - 12:48 AM</u>
(H) Final Hydrostatic <u>2157</u>	<input type="checkbox"/> Straddle	<u>5 hrs stand-by</u>

Initial Open <u>30</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Copies
Final Shut-In <u>60</u>	Sub Total <u>1166.70</u>
	Total <u>1842.70</u>
	MP/DST Disc't _____
Sub Total <u>1166.70</u>	

Approved By _____ Our Representative

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JAN 18 2012
BY: _____

Test Ticket

NO. 043088

4/10

Well Name & No. Couper # 1-11 Test No. 6 Date 1-16-12
 Company Murrin Drilling Company Elevation 3013 KB 3004 GL
 Address 250 N Water STE #300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murrin #8
 Location: Sec. 11 Twp. 5s Rge. 33w Co. Rawlins State KS

Interval Tested 4339-4395 Zone Tested Ft. Scott - Cherokee
 Anchor Length 4335-58' Drill Pipe Run 4190 Mud Wt. 9.2
 Top Packer Depth 4339 4335 Drill Collars Run 150 Vis 80
 Bottom Packer Depth 4339 Wt. Pipe Run Ø WL 7.2
 Total Depth 4395 Chlorides 3,000 ppm System LCM 1#
 Blow Description IF- 1/4" Blow built to 2"
IS- No Return
FF- No Blow
FS- No Return

Rec	Feet of	%gas (SPSS)	%oil	%water	%mud
<u>30</u>	<u>OSM</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 122 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2276</u>	<input checked="" type="checkbox"/> Test <u>1225</u>	T-On Location <u>1:00 AM</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1:30 AM</u>
(C) First Final Flow <u>27</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>4:00 AM</u>
(D) Initial Shut-In <u>68</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>7:00 AM</u>
(E) Second Initial Flow <u>27</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:30 AM</u>
(F) Second Final Flow <u>31</u>	<input checked="" type="checkbox"/> Mileage <u>126 90 RT</u>	Comments _____
(G) Final Shut-In <u>55</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2266</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>Ø</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1676</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1676</u>	

Approved By _____ Our Representative [Signature]

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