



**TRILOBITE
TESTING, INC.**

RECEIVED
MAY 30 2002
KCC WICHITA

DRILL STEM TEST REPORT

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

250 N. Water, Suite 300
Wichita, KS 67207

CONFIDENTIAL KCC

ATTN: Scott Robinson

MAY 28 2002

RELEASED

24-11s-20w-Ellis-Ks

CONFIDENTIAL

JUN 18 2003

Western Star # 1-24

FROM CONFIDENTIAL

End Date: 2002.04.20 @ 15:09:51

Job Ticket #: 15783

DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

CONFIDENTIAL

100203

ORIGINAL


TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

250 N. Water, Suite 300
Wichita, KS 67202

ATTN: Scott Robinson

Western Star # 1-24

24-11s-20w-Ellis-Ks

Job Ticket: 15783

DST#: 1

Test Start: 2002.04.20 @ 07:31:52

GENERAL INFORMATION:

Formation: **A-B LKC**
 Deviated: **No Whipstock:** ft (KB)
 Time Tool Opened: 09:12:51
 Time Test Ended: 15:09:51

KCC

MAY 28 2002

CONFIDENTIAL

Test Type: Conventional Bottom Hole

Tester: Dan Bangle

Unit No: 21

Interval: **3246.00 ft (KB) To 3304.00 ft (KB) (TVD)**
 Total Depth: **3304.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **1976.00 ft (KB)**
1971.00 ft (CF)
 KB to GR/CF: **5.00 ft**

Serial #: 2357

Inside

Press@RunDepth: 252.87 psig @ 3253.01 ft (KB)

Start Date: 2002.04.20

End Date:

2002.04.20

Start Time: 07:31:52

End Time:

15:09:51

Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Time On Btm: 2002.04.20 @ 09:12:21

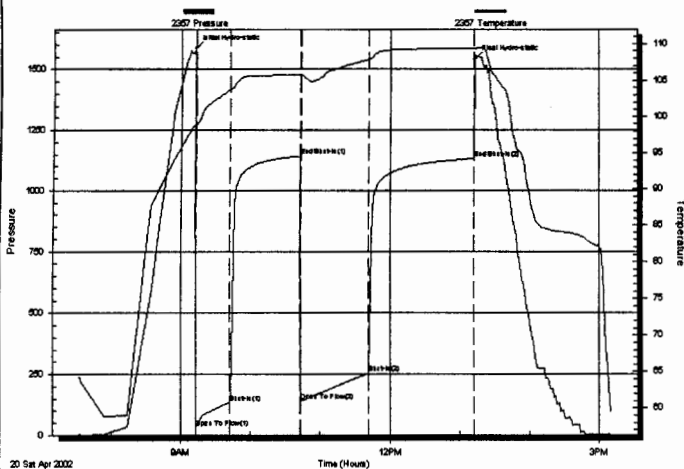
Time Off Btm: 2002.04.20 @ 13:12:51

RELEASED

TEST COMMENT: IF-Strong-BOB in 10 min
 FF-Strong BOB in 7 min
 Times-30-60-60-90

FROM CONFIDENTIAL

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1584.48	98.98	Initial Hydro-static
1	30.23	99.00	Open To Flow (1)
30	132.44	103.78	Shut-In(1)
91	1142.78	105.81	End Shut-In(1)
92	141.04	105.77	Open To Flow (2)
150	252.87	107.87	Shut-In(2)
240	1132.34	109.30	End Shut-In(2)
241	1540.28	109.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	OCGsyM 20%g 30%o 50%m	1.29
62.00	MCGsyO 25%g 55%o 20%m	0.87
372.00	CGsyO 30%g 70%o	5.22
1178.00	GIP	16.52

Gas Rates

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

ORIGINAL

TRILOBITE TESTING, INC.		DRILL STEM TEST REPORT				TOOL DIAGRAM																																																																																																																		
		Murfin Drilling Co. Inc.		Western Star # 1-24																																																																																																																				
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Tool Information																																																																																																																								
Drill Pipe:	Length: 3113.00 ft	Diameter: 3.80 inches	Volume: 43.67 bbl	Tool Weight:	1200.00 lb																																																																																																																			
Heavy Wt. Pipe:	Length: 0.01 ft	Diameter: 0.01 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb																																																																																																																			
Drill Collar:	Length: 145.00 ft	Diameter: 2.25 inches	Volume: 0.71 bbl	Weight to Pull Loose:	55000.00 lb																																																																																																																			
		Total Volume: 44.38 bbl		Tool Chased	0.01 ft																																																																																																																			
Drill Pipe Above KB:	33.01 ft			String Weight: Initial	52000.00 lb																																																																																																																			
Depth to Top Packer:	3246.00 ft			Final	52000.00 lb																																																																																																																			
Depth to Bottom Packer:	ft			RELEASED FROM CONFIDENTIAL																																																																																																																				
Interval between Packers:	58.02 ft																																																																																																																							
Tool Length:	79.02 ft																																																																																																																							
Number of Packers:	2	Diameter:	6.75 inches																																																																																																																					
Tool Comments:																																																																																																																								
<table border="1"> <thead> <tr> <th>Tool Description</th> <th>Length (ft)</th> <th>Serial No.</th> <th>Position</th> <th>Depth (ft)</th> <th>Accum. Lengths</th> <th></th> </tr> </thead> <tbody> <tr> <td>C.O. Sub</td> <td>1.00</td> <td></td> <td></td> <td>3226.00</td> <td></td> <td></td> </tr> <tr> <td>S.I. Tool</td> <td>5.00</td> <td></td> <td></td> <td>3231.00</td> <td></td> <td></td> </tr> <tr> <td>HMV</td> <td>5.00</td> <td></td> <td></td> <td>3236.00</td> <td></td> <td></td> </tr> <tr> <td>Packer</td> <td>5.00</td> <td></td> <td></td> <td>3241.00</td> <td>21.00</td> <td>Bottom Of Top Packer</td> </tr> <tr> <td>Packer</td> <td>5.00</td> <td></td> <td></td> <td>3246.00</td> <td></td> <td></td> </tr> <tr> <td>Stubb</td> <td>1.00</td> <td></td> <td></td> <td>3247.00</td> <td></td> <td></td> </tr> <tr> <td>Perforations</td> <td>5.00</td> <td></td> <td></td> <td>3252.00</td> <td></td> <td></td> </tr> <tr> <td>C.O. Sub</td> <td>1.00</td> <td></td> <td></td> <td>3253.00</td> <td></td> <td></td> </tr> <tr> <td>Recorder</td> <td>0.01</td> <td>2357</td> <td>Inside</td> <td>3253.01</td> <td></td> <td></td> </tr> <tr> <td>Blank Spacing</td> <td>31.00</td> <td></td> <td></td> <td>3284.01</td> <td></td> <td></td> </tr> <tr> <td>C.O. Sub</td> <td>1.00</td> <td></td> <td></td> <td>3285.01</td> <td></td> <td></td> </tr> <tr> <td>Recorder</td> <td>0.01</td> <td>13254</td> <td>Outside</td> <td>3285.02</td> <td></td> <td></td> </tr> <tr> <td>Perforations</td> <td>16.00</td> <td></td> <td></td> <td>3301.02</td> <td></td> <td></td> </tr> <tr> <td>Bullnose</td> <td>3.00</td> <td></td> <td></td> <td>3304.02</td> <td>58.02</td> <td>Bottom Packers & Anchor</td> </tr> <tr> <td colspan="2">Total Tool Length:</td> <td colspan="6">79.02</td> </tr> </tbody> </table>								Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths		C.O. Sub	1.00			3226.00			S.I. Tool	5.00			3231.00			HMV	5.00			3236.00			Packer	5.00			3241.00	21.00	Bottom Of Top Packer	Packer	5.00			3246.00			Stubb	1.00			3247.00			Perforations	5.00			3252.00			C.O. Sub	1.00			3253.00			Recorder	0.01	2357	Inside	3253.01			Blank Spacing	31.00			3284.01			C.O. Sub	1.00			3285.01			Recorder	0.01	13254	Outside	3285.02			Perforations	16.00			3301.02			Bullnose	3.00			3304.02	58.02	Bottom Packers & Anchor	Total Tool Length:		79.02					
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DATE: 04/24/02

100263

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT		FLUID SUMMARY																												
	Murfin Drilling Co. Inc. 250 N. Water, Suite 300 Wichita, KS 67202 ATTN: Scott Robinson	Western Star # 1-24 24-11s-20w-Ellis-Ks Job Ticket: 15783 DST#: 1 Test Start: 2002.04.20 @ 07:31:52																													
Mud and Cushion Information																															
<table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">Mud Type: Gel Chem</td> <td style="width: 20%;">Cushion Type:</td> <td style="width: 20%;">Oil API:</td> <td style="width: 20%;">34 deg API</td> </tr> <tr> <td>Mud Weight: 9.00 lb/gal</td> <td>Cushion Length:</td> <td>ft</td> <td>Water Salinity:</td> </tr> <tr> <td>Viscosity: 48.00 sec/qt</td> <td>Cushion Volume:</td> <td>bbl</td> <td>ppm</td> </tr> <tr> <td>Water Loss: 7.14 in³</td> <td>Gas Cushion Type:</td> <td></td> <td></td> </tr> <tr> <td>Resistivity: ohm.m</td> <td>Gas Cushion Pressure:</td> <td>psig</td> <td></td> </tr> <tr> <td>Salinity: 3500.00 ppm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Filter Cake: inches</td> <td></td> <td></td> <td></td> </tr> </table>				Mud Type: Gel Chem	Cushion Type:	Oil API:	34 deg API	Mud Weight: 9.00 lb/gal	Cushion Length:	ft	Water Salinity:	Viscosity: 48.00 sec/qt	Cushion Volume:	bbl	ppm	Water Loss: 7.14 in ³	Gas Cushion Type:			Resistivity: ohm.m	Gas Cushion Pressure:	psig		Salinity: 3500.00 ppm				Filter Cake: inches			
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<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Total Length: 1798.00 ft</td> <td style="width: 33%;">Total Volume: 23.900 bbl</td> <td style="width: 34%;"></td> </tr> <tr> <td>Num Fluid Samples: 0</td> <td>Num Gas Bombs: 0</td> <td>Serial #:</td> </tr> <tr> <td>Laboratory Name:</td> <td>Laboratory Location:</td> <td></td> </tr> <tr> <td colspan="3">Recovery Comments:</td> </tr> </table>				Total Length: 1798.00 ft	Total Volume: 23.900 bbl		Num Fluid Samples: 0	Num Gas Bombs: 0	Serial #:	Laboratory Name:	Laboratory Location:		Recovery Comments:																		
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DST Test Number: 1

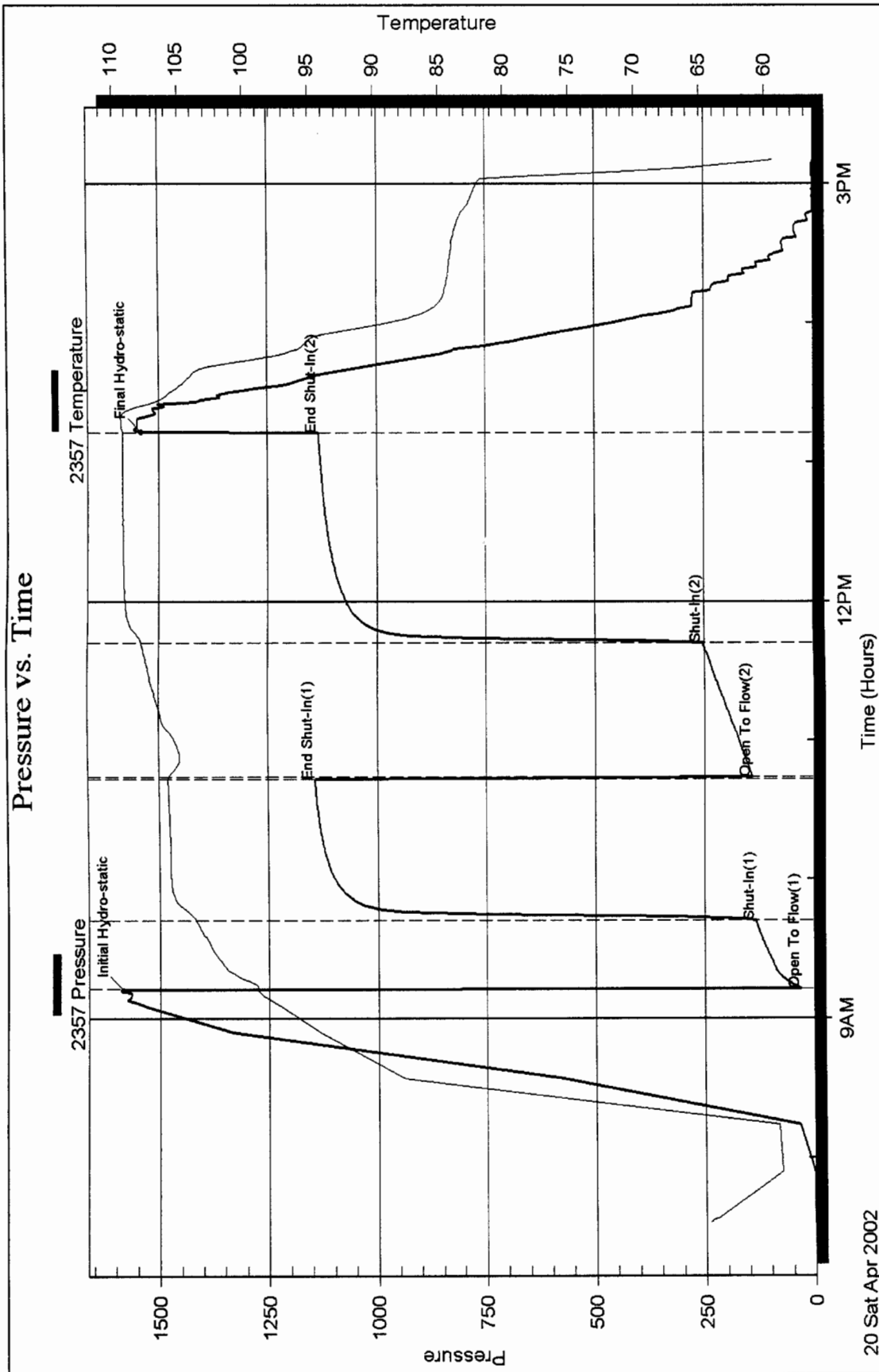
24-11s-20w-Ellis-Ks

Murfin Drilling Co. Inc.

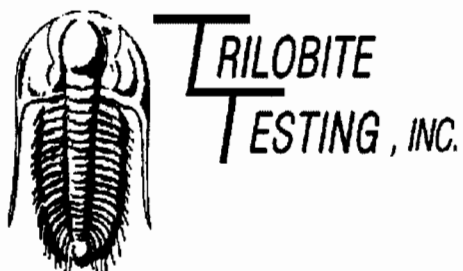
Inside

Serial #: 2357

Pressure vs. Time



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DRILL STEM TEST REPORT

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

250 N. Water, Suite 300
Wichita, KS 67202

RECEIVED
MAY 30 2002
KCC WICHITA

ATTN: Scott Robinson

24-11s-20w-Ellis-Ks

Western Star # 1-24

Start Date: 2002.04.20 @ 22:53:33

End Date: 2002.04.21 @ 05:57:33

Job Ticket #: 15784 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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


**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

 250 N. Water, Suite 300
Wichita, KS 67202

ATTN: Scott Robinson

Western Star # 1-24
24-11s-20w-Ellis-Ks

Job Ticket: 15784

DST#: 2

Test Start: 2002.04.20 @ 22:53:33

GENERAL INFORMATION:

 Formation: **C**

 Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 00:26:33

Time Test Ended: 05:57:33

 Test Type: **Conventional Bottom Hole**

 Tester: **Dan Bangle**

 Unit No: **21**

 Interval: **3308.00 ft (KB) To 3327.00 ft (KB) (TVD)**

 Total Depth: **3327.00 ft (KB) (TVD)**

 Hole Diameter: **7.88 inches** Hole Condition: **Good**

 Reference Elevations: **1976.00 ft (KB)**
1971.00 ft (CF)

 KB to GR/CF: **5.00 ft**
Serial #: 2357
Inside

 Press@RunDepth: **33.27 psig @ 3309.01 ft (KB)**

 Start Date: **2002.04.20**

End Date:

2002.04.21

 Capacity: **7000.00 psig**

 Last Calib.: **1899.12.30**

 Start Time: **22:53:34**

End Time:

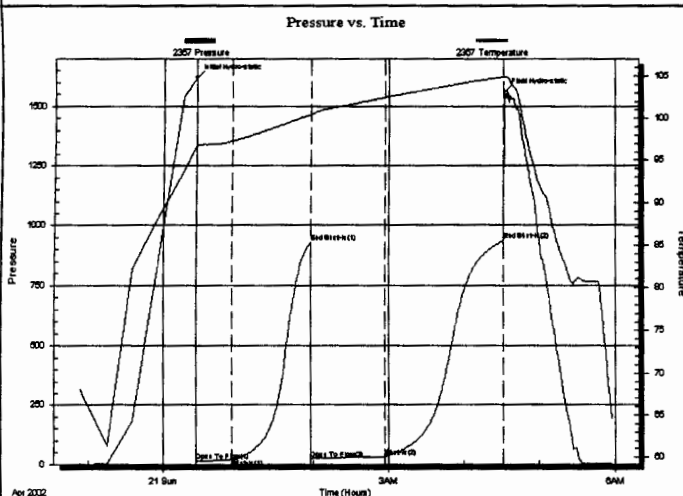
05:57:33

 Time On Btm: **2002.04.21 @ 00:26:03**

 Time Off Btm: **2002.04.21 @ 04:32:03**
TEST COMMENT: IF-Weak steady surface blow

FF-Weak building to 1"

Times-30-60-60-90



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1620.69	96.70	Initial Hydro-static
1	15.28	96.78	Open To Flow (1)
29	21.87	97.30	Shut-In (1)
92	930.51	100.40	End Shut-In (1)
92	24.94	100.42	Open To Flow (2)
151	33.27	102.44	Shut-In (2)
246	938.22	104.87	End Shut-In (2)
246	1560.07	104.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	MCGsyO 10%g 60%o 30%m	0.20
20.00	CGsyO 10%g 90%o	0.10
120.00	GIP	0.91

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

250 N. Water, Suite 300
Wichita, KS 67202

ATTN: Scott Robinson

Western Star # 1-24

24-11s-20w-Ellis-Ks

Job Ticket: 15784

DST#: 2

Test Start: 2002.04.20 @ 22:53:33

Tool Information

Drill Pipe:	Length: 3176.00 ft	Diameter: 3.80 inches	Volume: 44.55 bbl	Tool Weight: 1000.00 lb
Heavy Wt. Pipe:	Length: 0.01 ft	Diameter: 0.01 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 145.00 ft	Diameter: 2.25 inches	Volume: 0.71 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 45.26 bbl</u>	Tool Chased 0.01 ft
Drill Pipe Above KB:	34.01 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3308.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.02 ft			
Tool Length:	40.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

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MAY 30 2002
KCC WICHITA

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
C.O. Sub	1.00			3288.00		
S.I. Tool	5.00			3293.00		
HMV	5.00			3298.00		
Packer	5.00			3303.00	21.00	Bottom Of Top Packer
Packer	5.00			3308.00		
Stubb	1.00			3309.00		
Recorder	0.01	2357	Inside	3309.01		
Perforations	15.00			3324.01		
Recorder	0.01	13254	Outside	3324.02		
Bullnose	3.00			3327.02	19.02	Bottom Packers & Anchor
Total Tool Length:		40.02				

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT		FLUID SUMMARY												
	Murfin Drilling Co. Inc. 250 N. Water, Suite 300 Wichita, KS 67202 ATTN: Scott Robinson		Western Star # 1-24 24-11s-20w-Ellis-Ks Job Ticket: 15784 DST#: 2 Test Start: 2002.04.20 @ 22:53:33												
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Recovery Information															
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Length ft	Description	Volume bbl													
40.00	MCGsyO 10%g 60%o 30%m	0.197													
20.00	CGsyO 10%g 90%o	0.098													
120.00	GIP	0.909													
Total Length: 180.00 ft		Total Volume: 1.204 bbl													
Num Fluid Samples: 0		Num Gas Bombs: 0 Serial #:													
Laboratory Name:		Laboratory Location:													
Recovery Comments:															

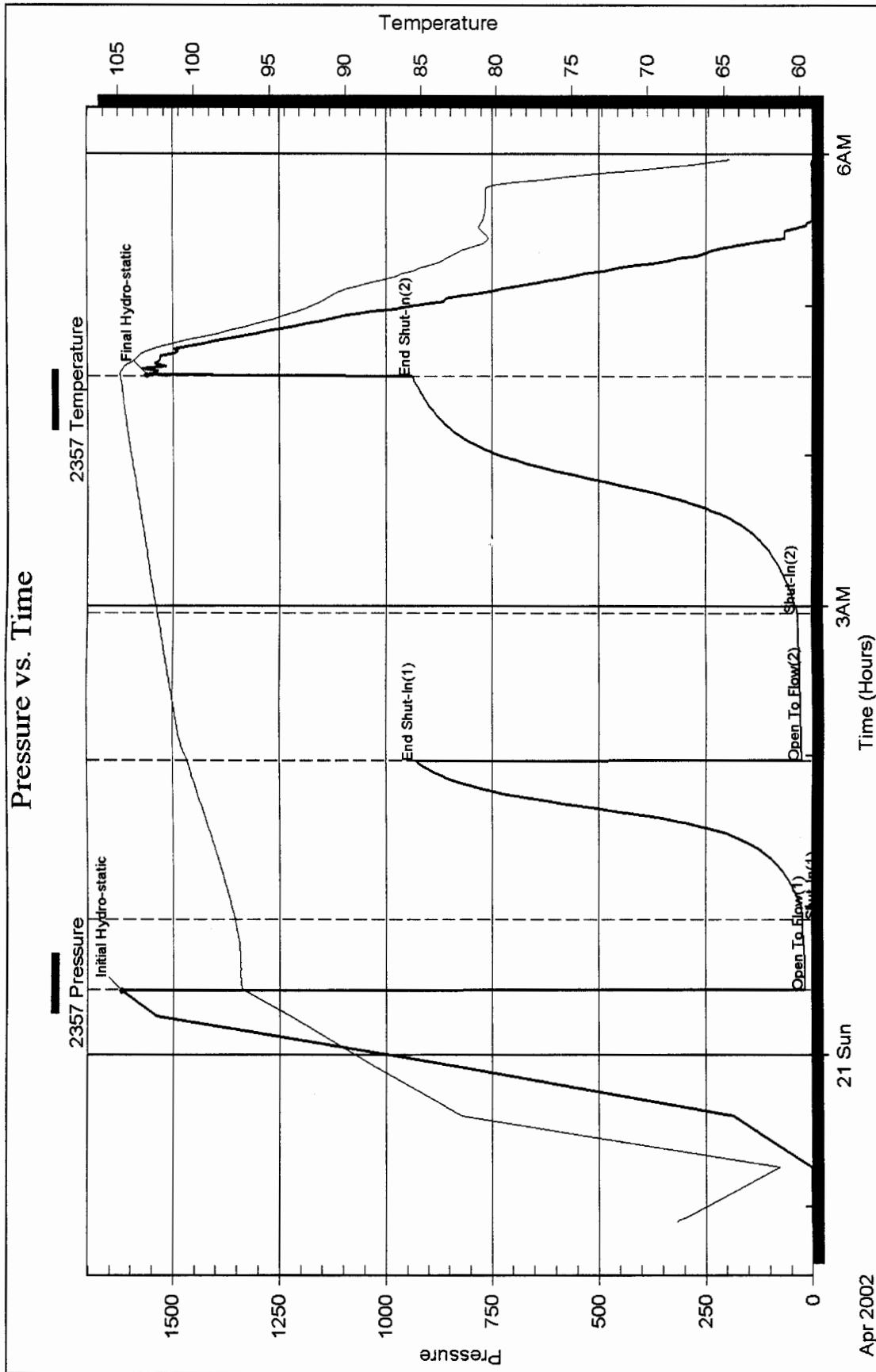
Serial #: 2357

Inside

Murfin Drilling Co. Inc.

24-11s-20w-Ellis-Ks

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 15784

Printed: 2002.04.25 @ 13:06:41 Page 5

RECEIVED
MAY 30 2002
KCC WICHITA



**TRILOBITE
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DRILL STEM TEST REPORT

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

250 N. Water, Suite 300
Wichita, KS 67202

RECEIVED
MAY 30 11
KCC WICHITA

ATTN: Scott Robinson

24-11s-20w-Ellis-Ks

Western Star # 1-24

Start Date: 2002.04.21 @ 13:03:32

End Date: 2002.04.21 @ 20:43:02

Job Ticket #: 15785

DST #: 3

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


**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

 250 N. Water, Suite 300
Wichita, KS 67202

ATTN: Scott Robinson

Western Star # 1-24
24-11s-20w-Ellis-Ks

Job Ticket: 15785

DST#: 3

Test Start: 2002.04.21 @ 13:03:32

GENERAL INFORMATION:

 Formation: **F LKC**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:52:32

Time Test Ended: 20:43:02

Test Type: Conventional Bottom Hole

Tester: Dan Bangle

Unit No: 21

 Interval: **3325.00 ft (KB) To 3350.00 ft (KB) (TVD)**

Total Depth: 3350.00 ft (KB) (TVD)

Reference Elevations: 1976.00 ft (KB)

1971.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 2357
Inside

Press@RunDepth: 203.06 psig @ 3326.01 ft (KB)

Start Date: 2002.04.21

End Date:

2002.04.21

Start Time: 13:03:33

End Time:

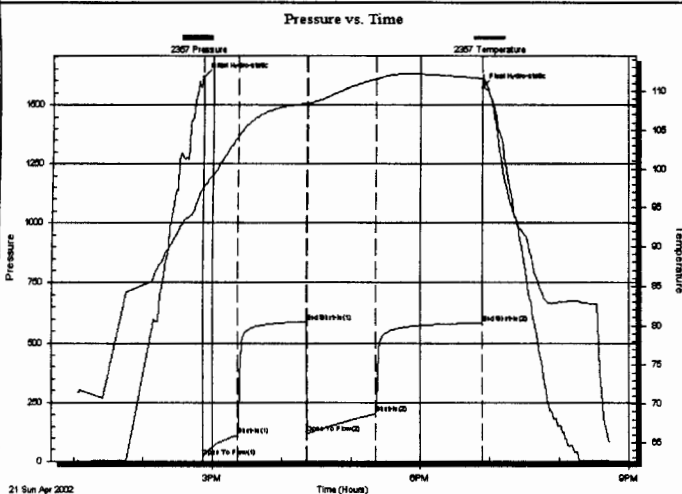
20:43:02

Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Time On Btm: 2002.04.21 @ 14:52:02

Time Off Btm: 2002.04.21 @ 18:53:32

TEST COMMENT: IF-Strong BOB in 20 min
FF-Strong BOB in 20 min
Times-30-60-60-90


PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1616.34	97.59	Initial Hydro-static
1	19.63	97.69	Open To Flow (1)
31	112.78	104.25	Shut-In(1)
90	588.62	108.41	End Shut-In(1)
90	118.39	108.40	Open To Flow (2)
150	203.06	111.54	Shut-In(2)
241	583.78	111.61	End Shut-In(2)
242	1572.14	111.62	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
278.00	Mudy w ter Rw .08 @ 80 = 85000ppm	2.58
75.00	CGsyo 10%g 90%o	1.05
186.00	GIP	2.61

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, Suite 300
Wichita, KS 67202

ATTN: Scott Robinson

Western Star # 1-24

24-11s-20w-Ellis-Ks

Job Ticket: 15785

DST#: 3

Test Start: 2002.04.21 @ 13:03:32

Tool Information

Drill Pipe:	Length: 3177.00 ft	Diameter: 3.80 inches	Volume: 44.56 bbl	Tool Weight: 1100.00 lb
Heavy Wt. Pipe:	Length: 0.01 ft	Diameter: 0.01 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 145.00 ft	Diameter: 2.25 inches	Volume: 0.71 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 45.27 bbl</u>	Tool Chased 0.01 ft
Drill Pipe Above KB:	18.01 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3325.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.02 ft			
Tool Length:	46.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
C.O. Sub	1.00			3305.00		
S.I. Tool	5.00			3310.00		
HMV	5.00			3315.00		
Packer	5.00			3320.00	21.00	Bottom Of Top Packer
Packer	5.00			3325.00		
Stubb	1.00			3326.00		
Recorder	0.01	2357	Inside	3326.01		
Perforations	21.00			3347.01		
Recorder	0.01	13254	Outside	3347.02		
Bullnose	3.00			3350.02	25.02	Bottom Packers & Anchor
Total Tool Length:	46.02					


**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

Western Star # 1-24

 250 N. Water, Suite 300
 Wichita, KS 67202

24-11s-20w-Ellis-Ks

Job Ticket: 15785

DST#: 3

ATTN: Scott Robinson

Test Start: 2002.04.21 @ 13:03:32

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

85000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbl

 Water Loss: 7.94 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
278.00	Mudy w ter Rw .08 @ 80 = 85000ppm	2.579
75.00	CGsyo 10%g 90%o ₂	1.052
186.00	GIP	2.609

Total Length: 539.00 ft

Total Volume: 6.240 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

DST Test Number: 3

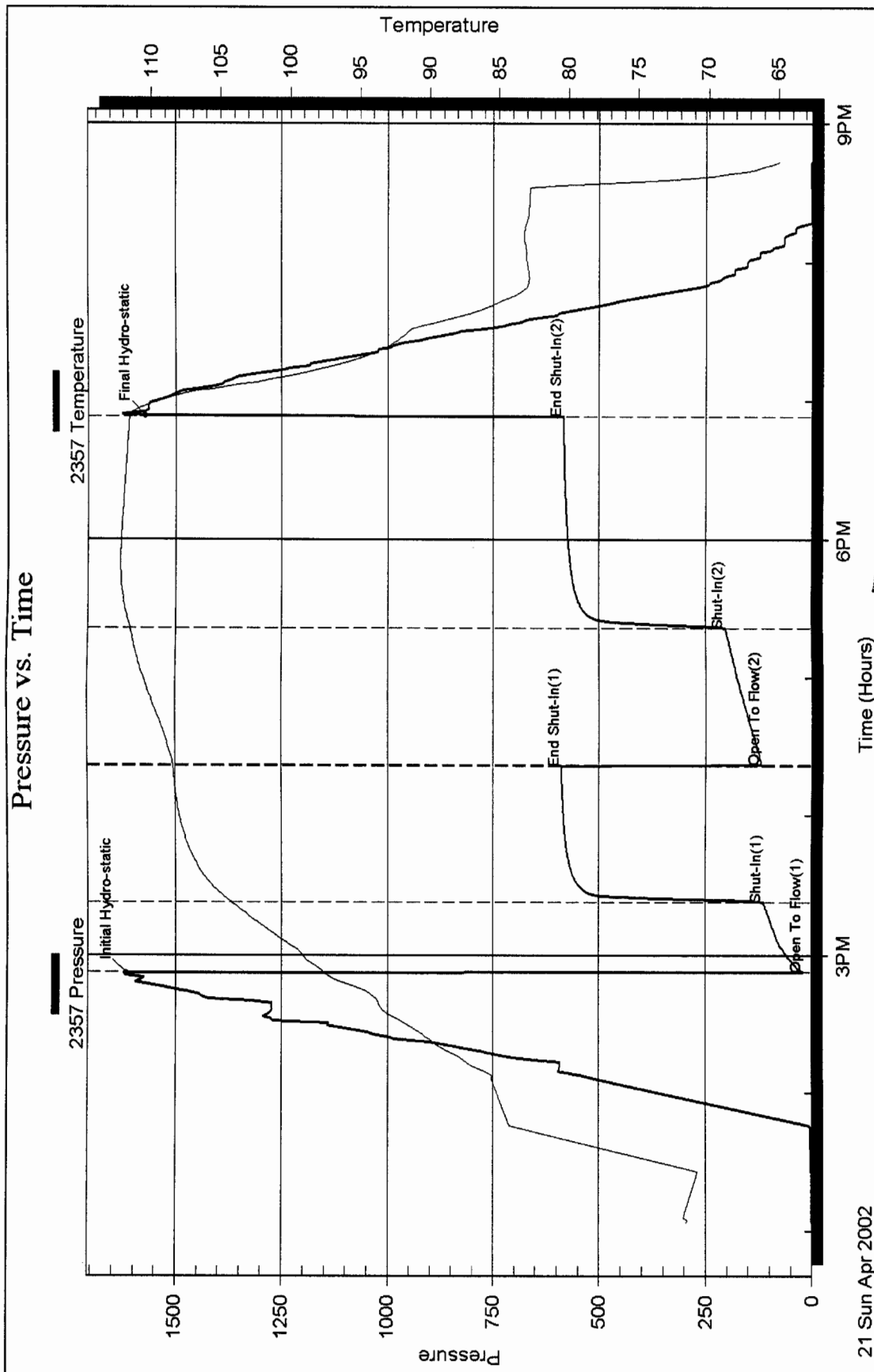
24-11s-20w -Ellis-Ks

Murfin Drilling Co. Inc.

Inside

Serial #: 2357

Pressure vs. Time

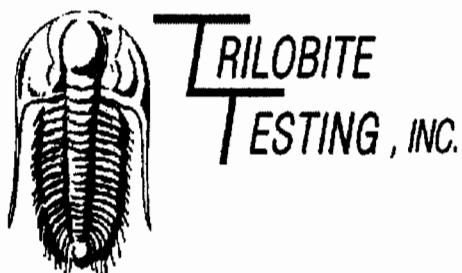


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Ref. No: 15785

Trilobite Testing, Inc

Printed: 2002.04.25 @ 13:11:44 Page 5



DRILL STEM TEST REPORT

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

250 N. Water, Suite 300
Wichita, KS 67202

ATTN: Scott Robinson

24-11s-20w-Ellis-Ks

Western Star # 1-24

Start Date: 2002.04.22 @ 11:56:48

End Date: 2002.04.22 @ 20:15:48

Job Ticket #: 15786 DST #: 4

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

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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

 250 N. Water, Suite 300
Wichita, KS 67202

ATTN: Scott Robinson

Western Star # 1-24
24-11s-20w-Ellis-Ks

Job Ticket: 15786

DST#: 4

Test Start: 2002.04.22 @ 11:56:48

GENERAL INFORMATION:

Formation: I-J-K

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:42:18

Time Test Ended: 20:15:48

Test Type: Conventional Bottom Hole

Tester: Dan Bangle

Unit No: 21

Interval: 3404.00 ft (KB) To 3468.00 ft (KB) (TVD)

Total Depth: 3468.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1976.00 ft (KB)

1971.00 ft (CF)

KB to GRVCF: 5.00 ft

Serial #: 2357
Inside

Press@RunDepth: 414.43 psig @ 3411.01 ft (KB)

Start Date: 2002.04.22

End Date:

2002.04.22

Start Time: 11:56:49

End Time:

20:15:48

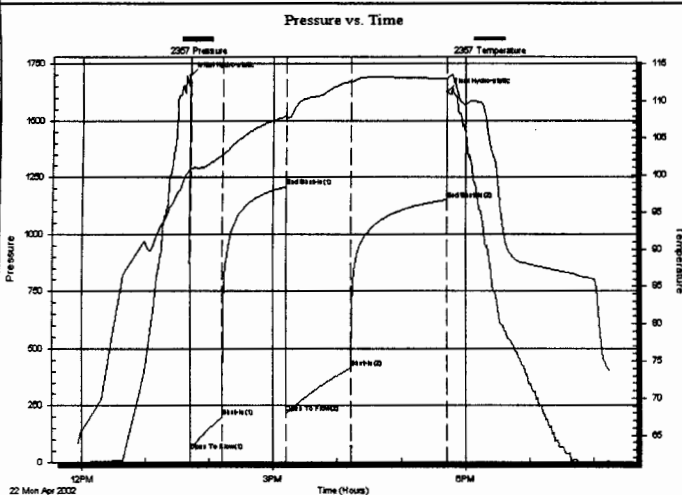
Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Time On Btm: 2002.04.22 @ 13:41:48

Time Off Btm: 2002.04.22 @ 17:42:48

TEST COMMENT: IF-Strong BOB in 4 min
IS-Strong BOB in 8 min
FF-Strong BOB in 4 min
FSI-Weak building to 3"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1698.01	100.83	Initial Hydro-static
1	49.77	100.87	Open To Flow (1)
31	202.38	102.71	Shut-In (1)
90	1208.01	107.97	End Shut-In (1)
91	218.64	107.97	Open To Flow (2)
151	414.43	112.61	Shut-In (2)
241	1148.97	112.97	End Shut-In (2)
241	1627.50	112.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	OCGsyM 20%g 30%o 50%m	0.61
62.00	MCGsyO 30%g 50%o 20%m	0.68
992.00	CGsyO 50%g 50%O	13.92
1270.00	GIP	17.81

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

Western Star # 1-24

250 N. Water, Suite 300
Wichita, KS 67202

24-11s-20w-Ellis-Ks

Job Ticket: 15786

DST#: 4

ATTN: Scott Robinson

Test Start: 2002.04.22 @ 11:56:48

Tool Information

Drill Pipe:	Length: 3269.00 ft	Diameter: 3.80 inches	Volume: 45.86 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.01 ft	Diameter: 0.01 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 145.00 ft	Diameter: 2.25 inches	Volume: 0.71 bbl	Weight to Pull Loose: 61000.00 lb
		Total Volume: 46.57 bbl		Tool Chased 0.01 ft
Drill Pipe Above KB:	31.01 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	3404.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.02 ft			
Tool Length:	85.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

C.O. Sub	1.00			3384.00	
S.I. Tool	5.00			3389.00	
HMV	5.00			3394.00	
Packer	5.00			3399.00	21.00 Bottom Of Top Packer
Packer	5.00			3404.00	
Stubb	1.00			3405.00	
Perforations	5.00			3410.00	
C.O. Sub	1.00			3411.00	
Recorder	0.01	2357	Inside	3411.01	
Blank Spacing	30.00			3441.01	
C.O. Sub	1.00			3442.01	
Recorder	0.01	13254	Outside	3442.02	
Perforations	23.00			3465.02	
Bullnose	3.00			3468.02	64.02 Bottom Packers & Anchor

Total Tool Length: 85.02

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 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT		FLUID SUMMARY
	Murfin Drilling Co. Inc. 250 N. Water, Suite 300 Wichita, KS 67202 ATTN: Scott Robinson	Western Star # 1-24 24-11s-20w-Ellis-Ks Job Ticket: 15786 DST#: 4 Test Start: 2002.04.22 @ 11:56:48	

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 36 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.57 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 10800.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	OCGsyM 20%g 30%o 50%m	0.610
62.00	MCGsyO 30%g 50%o 20%m	0.678
992.00	CGsyO 50%g 50%O	13.915
1270.00	GIP	17.815

Total Length: 2448.00 ft Total Volume: 33.018 bbl

 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

DST Test Number: 4

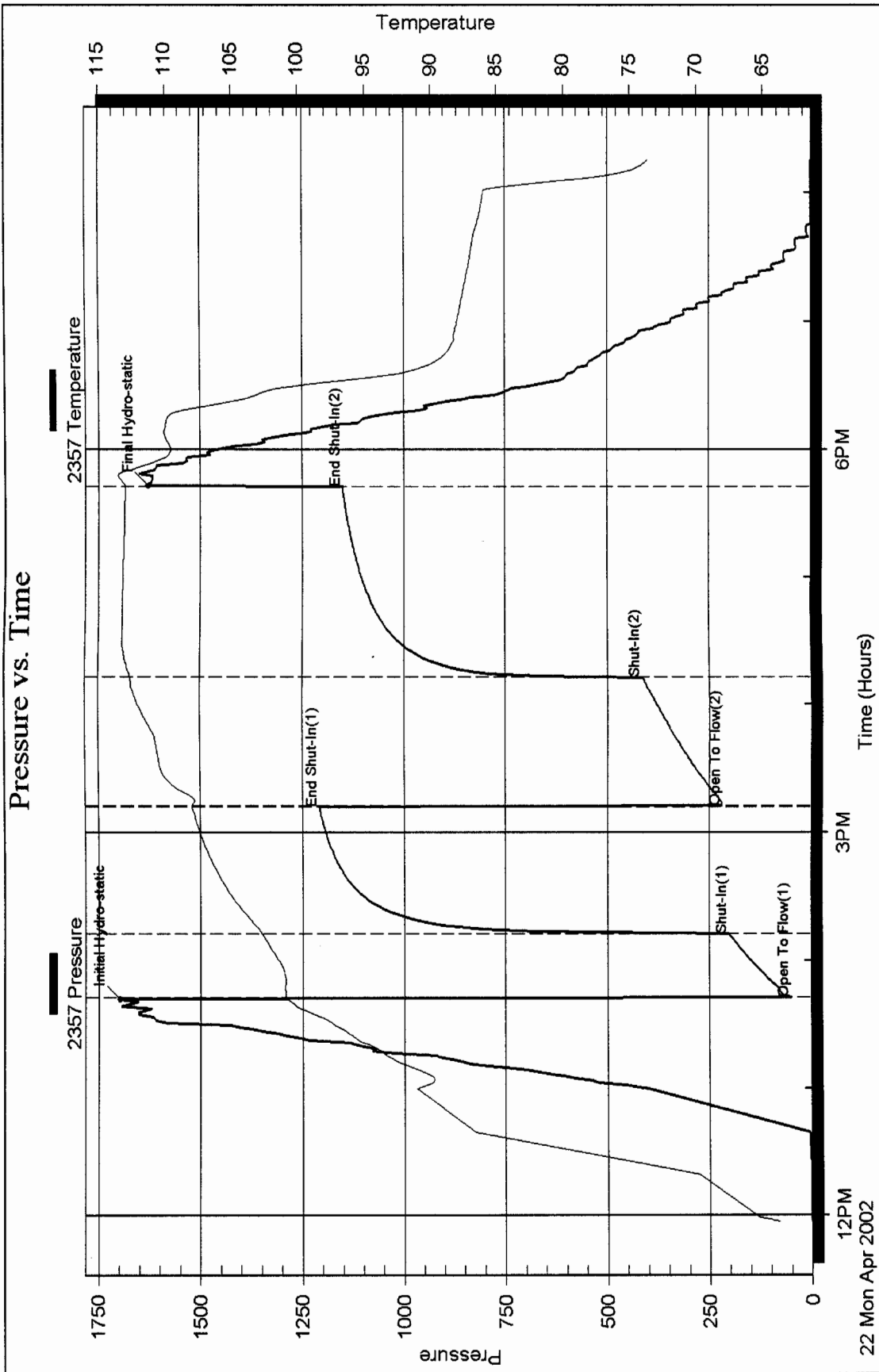
24-11s-20w - Ellis-Ks

Murfin Drilling Co. Inc.

Inside

Serial #: 2357

Pressure vs. Time

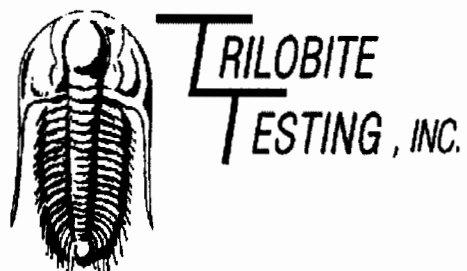


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Ref. No: 15786

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Printed: 2002.04.25 @ 13:21:26 Page 5



DRILL STEM TEST REPORT

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

250 N. Water, Suite 300
Wichita, KS 67202

ATTN: Scott Robinson

24-11s-20w-Ellis-Ks

Western Star # 1-24

Start Date: 2002.04.23 @ 08:27:47

End Date: 2002.04.23 @ 16:14:47

Job Ticket #: 15787 DST #: 5

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

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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfine Drilling Co. Inc.

250 N. Water, Suite 300
Wichita, KS 67202

ATTN: Scott Robinson

Western Star # 1-24
24-11s-20w-Ellis-Ks

Job Ticket: 15787

DST#: 5

Test Start: 2002.04.23 @ 08:27:47

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:22:17

Time Test Ended: 16:14:47

Test Type: Conventional Bottom Hole

Tester: Dan Bangle

Unit No: 21

Interval: **3530.00 ft (KB) To 3577.00 ft (KB) (TVD)**

Total Depth: 3577.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1976.00 ft (KB)

1971.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 2357
Inside

Press@RunDepth: 56.78 psig @ 3537.01 ft (KB)

Start Date: 2002.04.23

End Date:

2002.04.23

Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Start Time: 08:27:48

End Time:

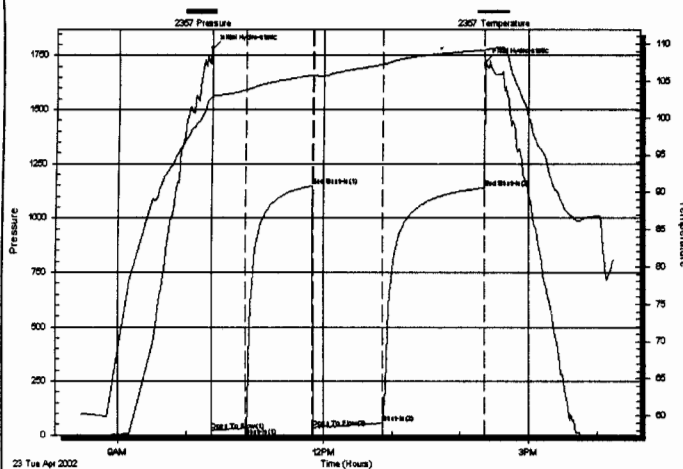
16:14:47

Time On Btm: 2002.04.23 @ 10:21:47

Time Off Btm: 2002.04.23 @ 14:22:17

TEST COMMENT: IF-Weak steady 1/2" blow
FFWeak steady surface blow
Times-30-60-60-90

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1784.09	102.87	Initial Hydro-static
1	22.05	102.92	Open To Flow (1)
30	34.27	103.80	Shut-In(1)
89	1147.48	105.81	End Shut-In(1)
90	34.09	105.81	Open To Flow (2)
151	56.78	107.23	Shut-In(2)
240	1139.13	109.16	End Shut-In(2)
241	1721.83	109.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	OCM 7%o 93%rm	0.34

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, Suite 300
Wichita, KS 67202

ATTN: Scott Robinson

Western Star # 1-24

24-11s-20w-Ellis-Ks

Job Ticket: 15787

DST#: 5

Test Start: 2002.04.23 @ 08:27:47

Tool Information

Drill Pipe:	Length: 3393.00 ft	Diameter: 3.80 inches	Volume: 47.59 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.01 ft	Diameter: 0.01 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 145.00 ft	Diameter: 2.25 inches	Volume: 0.71 bbl	Weight to Pull Loose: 60000.00 lb
		Total Volume:	48.30 bbl	Tool Chased 0.01 ft
Drill Pipe Above KB:	31.01 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3530.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	51.02 ft			
Tool Length:	74.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

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Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3508.00	
S.I. Tool	5.00			3513.00	
HMV	5.00			3518.00	
Safety Joint	2.00			3520.00	
Packer	5.00			3525.00	23.00 Bottom Of Top Packer
Packer	5.00			3530.00	
Stubb	1.00			3531.00	
Perforations	5.00			3536.00	
C.O. Sub	1.00			3537.00	
Recorder	0.01	2357	Inside	3537.01	
Blank Spacing	31.00			3568.01	
C.O. Sub	1.00			3569.01	
Recorder	0.01	13254	Outside	3569.02	
Perforations	6.00			3575.02	
Bullnose	6.00			3581.02	51.02 Bottom Packers & Anchor
Total Tool Length:		74.02			


**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

Western Star # 1-24

 250 N. Water, Suite 300
 Wichita, KS 67202

24-11s-20w-Ellis-Ks

Job Ticket: 15787

DST#: 5

ATTN: Scott Robinson

Test Start: 2002.04.23 @ 08:27:47

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: 48.00 sec/qt

Cushion Volume:

bbl

 Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	OCM 7%o 93%m	0.344

Total Length: 70.00 ft

Total Volume: 0.344 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

DST Test Number: 5

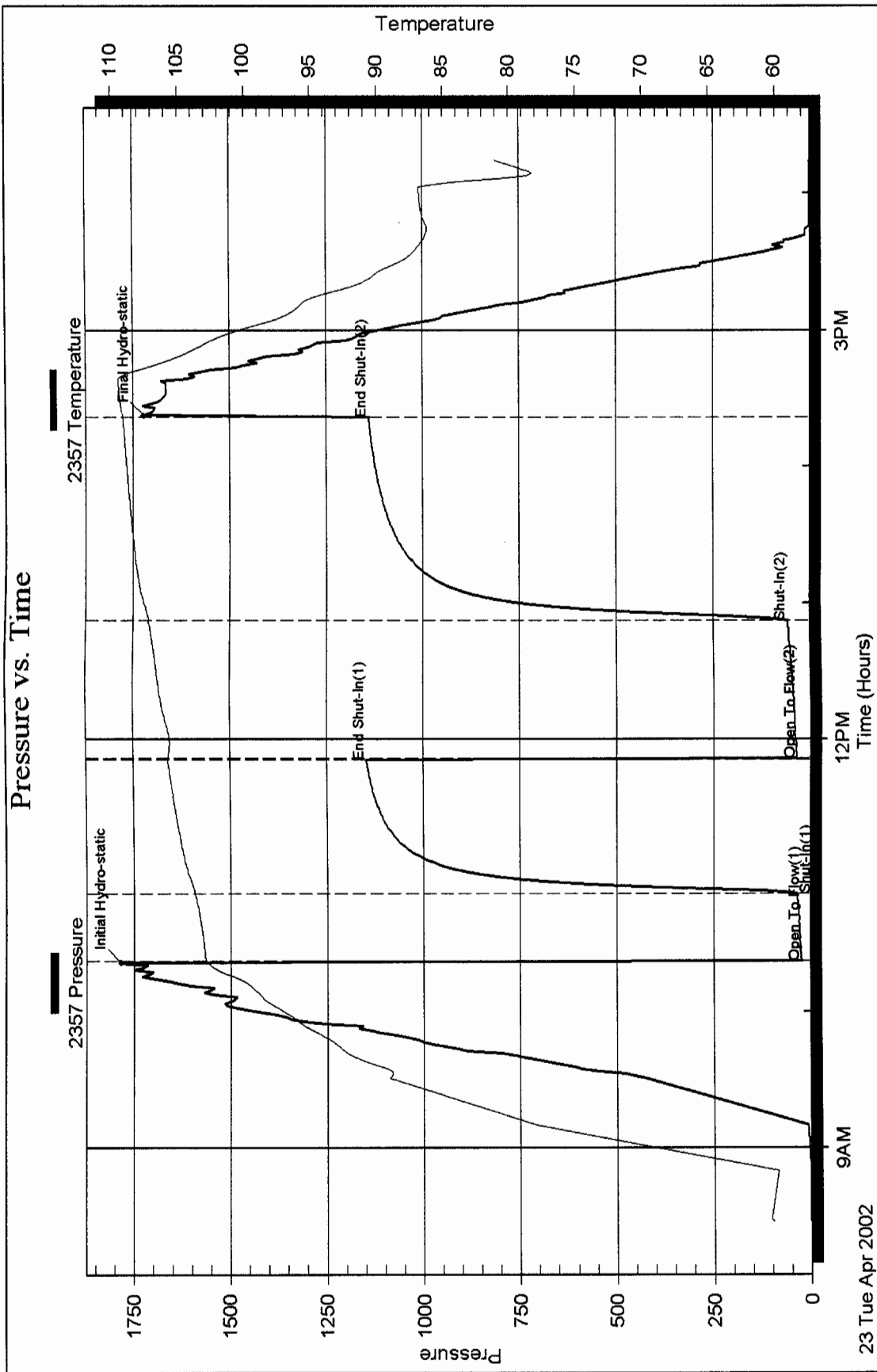
24-11s-20w-Ellis-Ks

Murfin Drilling Co. Inc.

Inside

Serial #: 2357

Pressure vs. Time

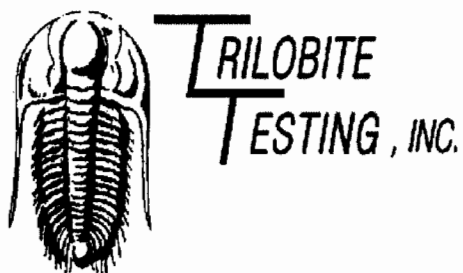


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Ref. No: 15787

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DRILL STEM TEST REPORT

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

250 N. Water, Suite 300
Wichita, KS 67202

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ATTN: Scott Robinson

24-11s-20w-Ellis-Ks

Western Star # 1-24

Start Date: 2002.04.23 @ 22:11:38

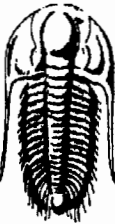
End Date: 2002.04.24 @ 06:02:08

Job Ticket #: 15788 DST #: 6

Trilobite Testing, Inc

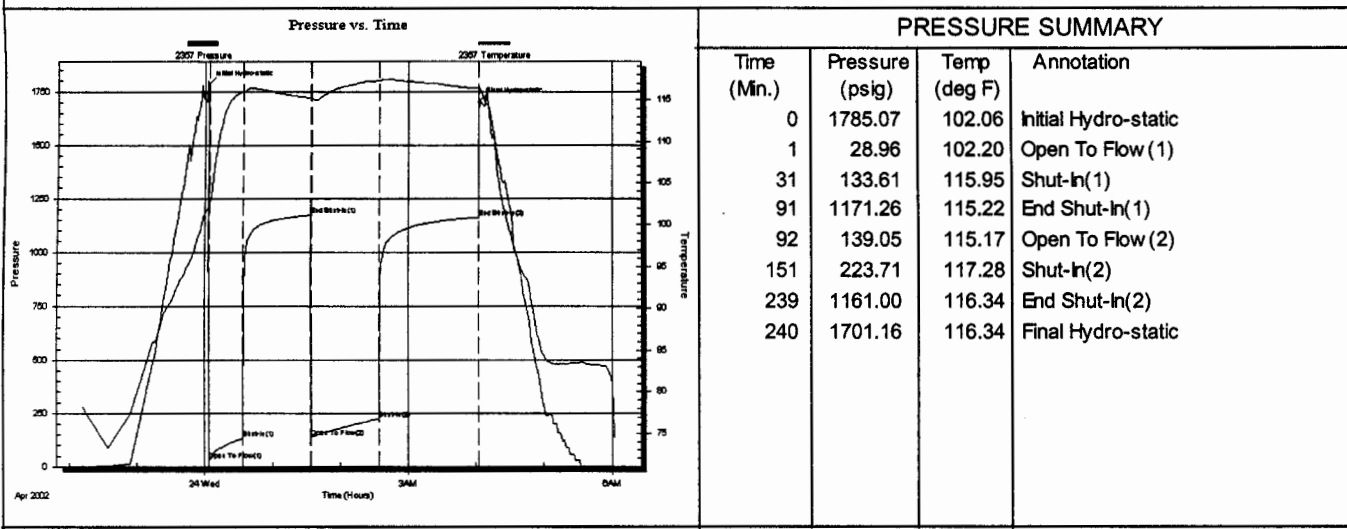
PO Box 362 Hays, KS 67601

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

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT	
	Murfin Drilling Co. Inc. 250 N. Water, Suite 300 Wichita, KS 67202 ATTN: Scott Robinson	Western Star # 1-24 24-11s-20w-Ellis-Ks Job Ticket: 15788 DST#: 6 Test Start: 2002.04.23 @ 22:11:38
	GENERAL INFORMATION:	

Formation: Arbuckle Deviated: No Whipstock: ft (KB) Time Tool Opened: 00:03:38 Time Test Ended: 06:02:08 Interval: 3575.00 ft (KB) To 3587.00 ft (KB) (TVD) Total Depth: 3587.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Good	Test Type: Conventional Bottom Hole Tester: Dan Bangle Unit No: 21 Reference Elevations: 1976.00 ft (KB) 1971.00 ft (CF) KB to GR/CF: 5.00 ft
--	--

Serial #: 2357 Inside Press@RunDepth: 223.71 psig @ 3576.01 ft (KB) Start Date: 2002.04.23 End Date: 2002.04.24 Start Time: 22:11:39 End Time: 06:02:08	Capacity: 7000.00 psig Last Calib.: 1899.12.30 Time On Btm: 2002.04.24 @ 00:03:08 Time Off Btm: 2002.04.24 @ 04:02:38
TEST COMMENT: IF-Strong BOB in 12 min FF-Strong BOB in 25 min Times-30-60-60-90	



Recovery		
Length (ft)	Description	Volume (bbl)
248.00	Water Rw .23 @ 80= 27000ppm	2.16
124.00	HOCWtr 70%o 30%w	1.74
134.00	Heavy oil	1.88
62.00	GIP	0.87

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

Western Star # 1-24

250 N. Water, Suite 300
Wichita, KS 67202

24-11s-20w-Ellis-Ks

Job Ticket: 15788

DST#: 6

ATTN: Scott Robinson

Test Start: 2002.04.23 @ 22:11:38

Tool Information

Drill Pipe:	Length: 3426.00 ft	Diameter: 3.80 inches	Volume: 48.06 bbl	Tool Weight:	1000.00 lb
Heavy Wt. Pipe:	Length: 0.01 ft	Diameter: 0.01 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 145.00 ft	Diameter: 2.25 inches	Volume: 0.71 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 48.77 bbl</u>	Tool Chased	0.01 ft
Drill Pipe Above KB:	17.01 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	3575.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	12.02 ft				
Tool Length:	33.02 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

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Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
C.O. Sub	1.00			3555.00		
S.I. Tool	5.00			3560.00		
HMV	5.00			3565.00		
Packer	5.00			3570.00	21.00	Bottom Of Top Packer
Packer	5.00			3575.00		
Stubb	1.00			3576.00		
Recorder	0.01	2357	Inside	3576.01		
Perforations	8.00			3584.01		
Recorder	0.01	13254	Outside	3584.02		
Bullnose	3.00			3587.02	12.02	Bottom Packers & Anchor
Total Tool Length:		33.02				

100203

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT		FLUID SUMMARY
	Murfin Drilling Co. Inc. 250 N. Water, Suite 300 Wichita, KS 67202 ATTN: Scott Robinson		Western Star # 1-24 24-11s-20w-Ellis-Ks Job Ticket: 15788 DST#: 6 Test Start: 2002.04.23 @ 22:11:38

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 23 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 27000 ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.59 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 11600.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
248.00	Water Rw .23 @ 80= 27000ppm	2.158
124.00	HOCWtr 70%o 30%w	1.739
134.00	Heavy oil	1.880
62.00	GIP	0.870

Total Length: 568.00 ft	Total Volume: 6.647 bbl
-------------------------	-------------------------

Num Fluid Samples: 0	Num Gas Bombs: 0	Serial #:
Laboratory Name:	Laboratory Location:	
Recovery Comments:		

DST Test Number: 6

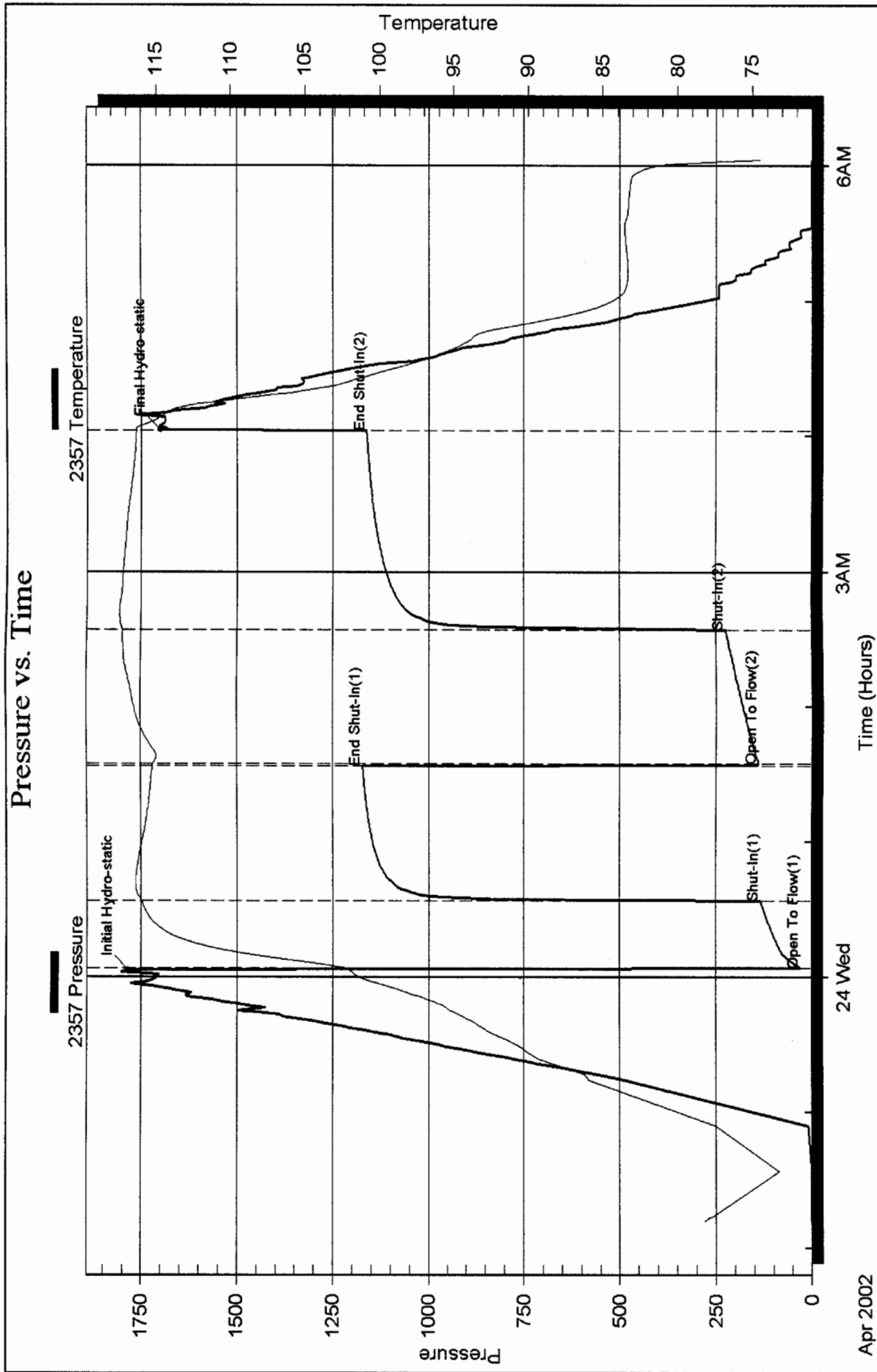
24-11s-20w - Ellis-Ks

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Inside

Serial #: 2357

Pressure vs. Time



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