

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

RECEIVED

FEB 21 2002

KCC WICHITA

ATTN: Scott Robinson

32-13s-19w Ellis Ks

Kramer-Bemis Unit #1-32

Start Date: 2002.01.06 @ 01:26:12

End Date: 2002.01.06 @ 08:36:11

Job Ticket #: 15671 DST #: 1

Prepared for: **Murfin Drilling Company, Inc.**

250 N water
suite300
Wichita, KS 67202

Release

MAR 20 2003

**From
Confidential**

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N w ater
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks

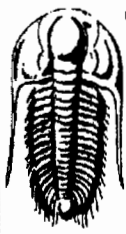
Job Ticket: 15671 **DST#: 1**
Test Start: 2002.01.06 @ 01:26:12

Tool Information

Drill Pipe:	Length: 3139.00 ft	Diameter: 3.80 inches	Volume: 44.03 bbl	Tool Weight: 2200.00 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: 44.77 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3292.00 ft			Final 52000.00 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:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3272.00	
S.I. Tool	5.00			3277.00	
HMV	5.00			3282.00	
Packer	5.00			3287.00	21.00 Bottom Of Top Packer
Packer	5.00			3292.00	
Stubb	1.00			3293.00	
Recorder	0.01	3024	Inside	3293.01	
Perforations	8.00			3301.01	
Recorder	0.01	11085	Outside	3301.02	
Bullnose	3.00			3304.02	12.02 Bottom Packers & Anchor
Total Tool Length:	33.02				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N water
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks
Job Ticket: 15671 **DST#: 1**
Test Start: 2002.01.06 @ 01:26:12

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 47.00 sec/qt
Water Loss: 7.47 in³
Resistivity: ohm.m
Salinity: 2500.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: 52000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
185.00	water	1.229
	w/show of oil RW .27 @ 38F	

Total Length: -999814.00 ft Total Volume: 1.229 bbl

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

Serial #: 3024

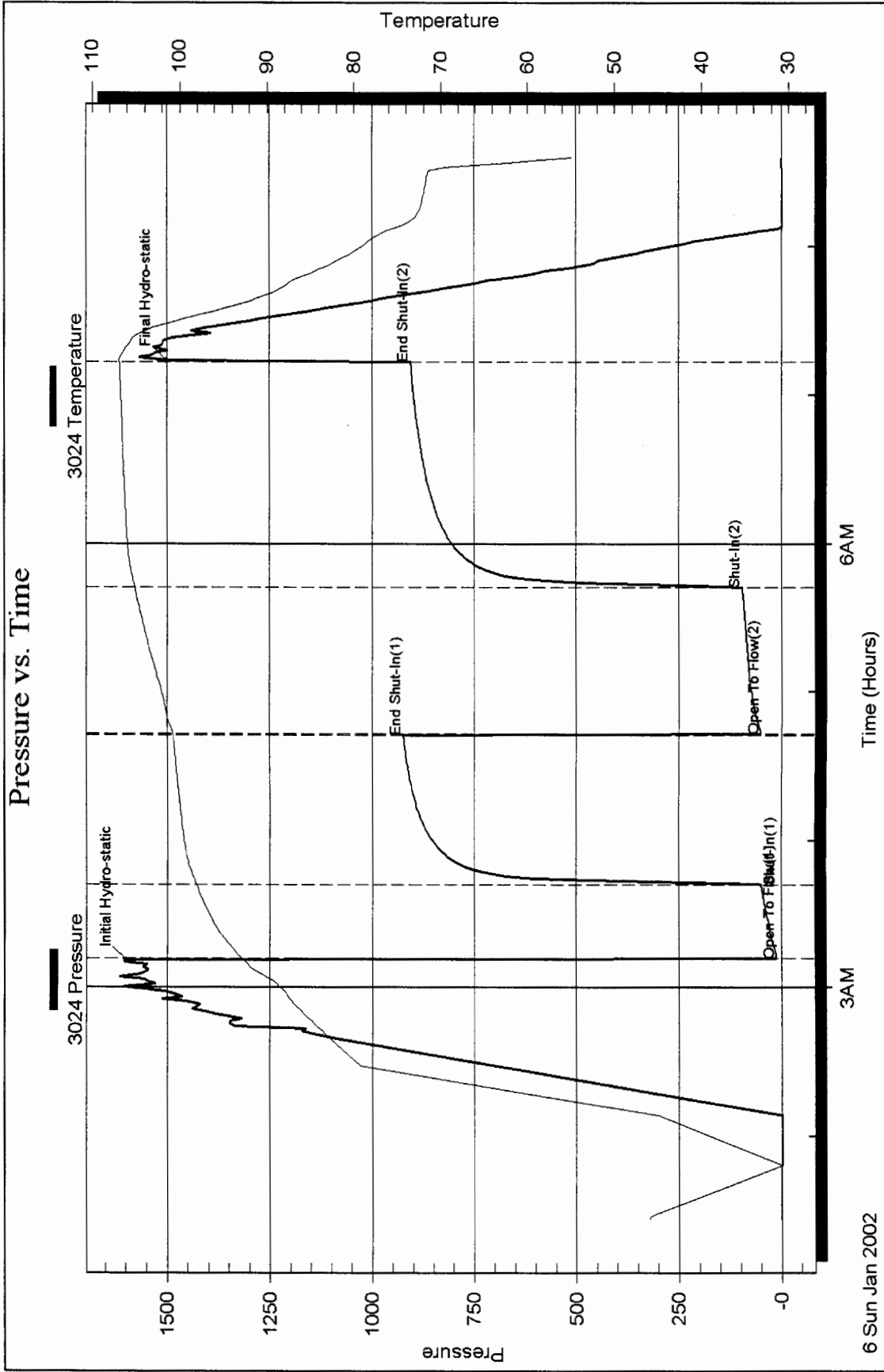
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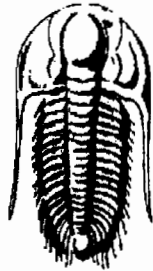
Murfin Drilling Company, Inc.

32-13s-19w Ellis Ks

DST Test Number: 1

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company, Inc.**

250 N water
suite300
Wichita, KS 67202

ATTN: Scott Robinson

32-13s-19w Ellis Ks

Kramer-Bemis Unit #1-32

Start Date: 2002.01.06 @ 21:52:26

End Date: 2002.01.07 @ 04:52:25

Job Ticket #: 15672 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Murfin Drilling Company, Inc.


Kramer-Bemis Unit #1-32

32-13s-19w Ellis Ks

DST # 2

Oread Ls

2002.01.06

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT	
	Murfin Drilling Company, Inc. 250 N water suite300 Wichita, KS 67202 ATTN: Scott Robinson	Kramer-Bemis Unit #1-32 32-13s-19w Ellis Ks Job Ticket: 15672 DST#: 2 Test Start: 2002.01.06 @ 21:52:26

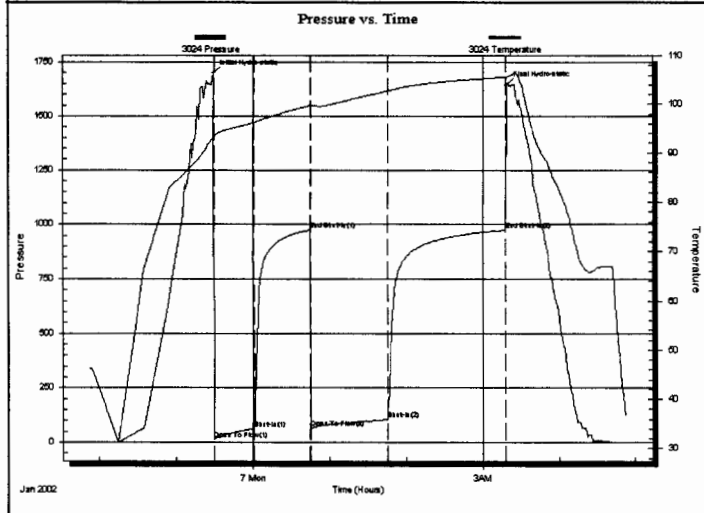
GENERAL INFORMATION:

Formation: Oread Ls	Test Type: Conventional Bottom Hole
Deviated: No Whipstock: ft (KB)	Tester: Ray Schwager
Time Tool Opened: 23:29:25	Unit No: 16
Time Test Ended: 04:52:25	Reference Elevations: 2265.00 ft (KB)
Interval: 3450.00 ft (KB) To 3482.00 ft (KB) (TVD)	2260.00 ft (CF)
Total Depth: 3482.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Hole Diameter: 7.85 inches Hole Condition: Good	

Serial #: 3024 Inside

Press@RunDepth: 105.69 psig @ 3451.01 ft (KB)	Capacity: 7000.00 psig
Start Date: 2002.01.06 End Date: 2002.01.07	Last Calib.: 2002.01.07
Start Time: 21:52:26 End Time: 04:52:25	Time On Btm: 2002.01.06 @ 23:28:55
	Time Off Btm: 2002.01.07 @ 03:18:25

TEST COMMENT: IFP-weak blow thru-out 1/2" to 1 1/2" blow
 FFP-weak blow thru-out 1/2" blow
 No blow on shut-in
 times 30-45-60-90



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1698.45	93.08	Initial Hydro-static
1	15.24	93.04	Open To Flow (1)
32	62.85	96.26	Shut-In(1)
76	974.43	99.67	End Shut-In(1)
76	66.51	99.69	Open To Flow (2)
136	105.69	102.69	Shut-In(2)
229	974.05	105.60	End Shut-In(2)
230	1643.42	105.63	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
1.00	CO	0.00
90.00	MW w/ show of oil	0.44
120.00	water RW.18 @ 35F	1.15

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N water
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks

Job Ticket: 15672 **DST#:2**
Test Start: 2002.01.06 @ 21:52:26

Tool Information

Drill Pipe:	Length: 3284.00 ft	Diameter: 3.80 inches	Volume: 46.07 bbl	Tool Weight: 2200.00 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
			Total Volume: 46.81 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3450.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.02 ft			
Tool Length:	53.02 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			3430.00	
S.I. Tool	5.00			3435.00	
HMV	5.00			3440.00	
Packer	5.00			3445.00	21.00 Bottom Of Top Packer
Packer	5.00			3450.00	
Stubb	1.00			3451.00	
Recorder	0.01	3024	Inside	3451.01	
Perforations	28.00			3479.01	
Recorder	0.01	11085	Outside	3479.02	
Bullnose	3.00			3482.02	32.02 Bottom Packers & Anchor
Total Tool Length:	53.02				

101261



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N w ater
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks
Job Ticket: 15672 **DST#: 2**
Test Start: 2002.01.06 @ 21:52:26

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:	90000 ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.26 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5800.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	CO	0.005
90.00	MW w/ show of oil	0.443
120.00	water RW.18 @ 35F	1.146

Total Length: 211.00 ft Total Volume: 1.594 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 3024

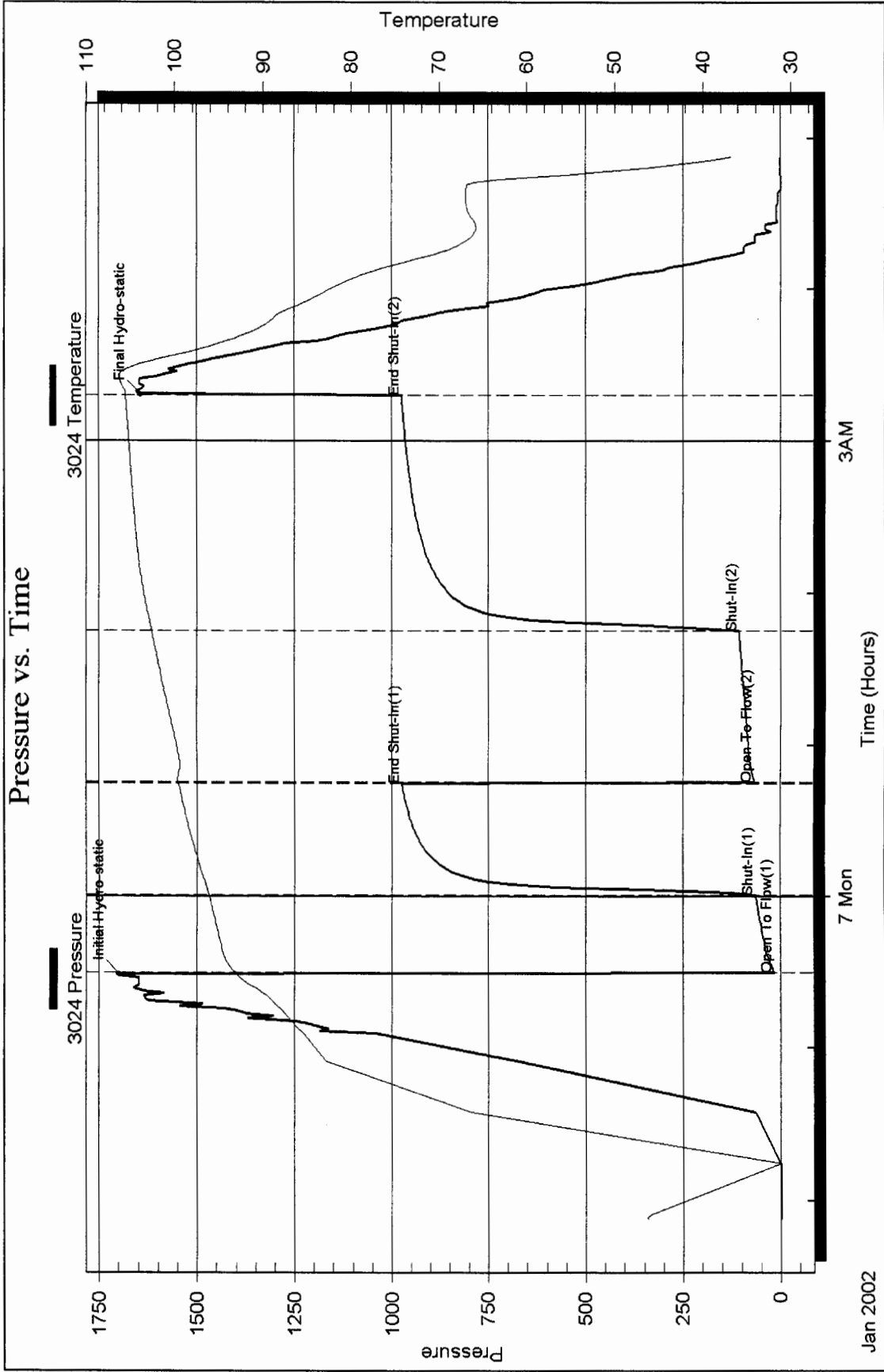
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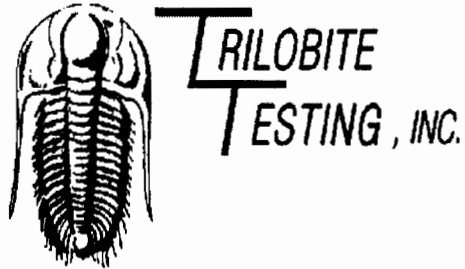
Murfin Drilling Company, Inc.

32-13s-19w Ellis Ks

DST Test Number: 2

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company, Inc.**

250 N water
suite300
Wichita, KS 67202

ATTN: Scott Robinson

32-13s-19w Ellis Ks

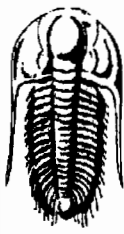
Kramer-Bemis Unit #1-32

Start Date: 2002.01.07 @ 19:46:15

End Date: 2002.01.08 @ 03:45:14

Job Ticket #: 15673 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 Company, Inc.
 250 N w ater
 suite300
 Wichita, KS 67202
 ATTN: Scott Robinson

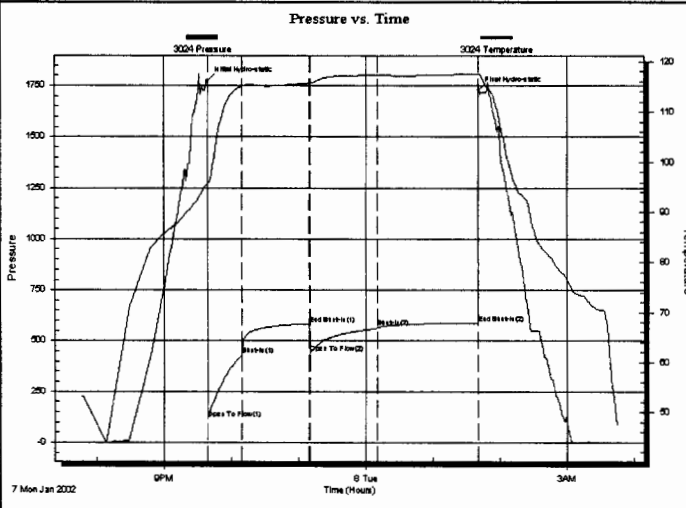
Kramer-Bemis Unit #1-32
32-13s-19w Ellis Ks
 Job Ticket: 15673 **DST#: 3**
 Test Start: 2002.01.07 @ 19:46:15

GENERAL INFORMATION:

Formation: **KC b,d&f**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:38:44
 Time Test Ended: 03:45:14
 Interval: **3570.00 ft (KB) To 3636.00 ft (KB) (TVD)**
 Total Depth: 3636.00 ft (KB) (TVD)
 Hole Diameter: 7.85 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole
 Tester: Ray Schwager
 Unit No: 16
 Reference Elevations: 2265.00 ft (KB)
 2260.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 3024 **Inside**
 Press@RunDepth: 568.00 psig @ 3576.01 ft (KB) Capacity: 7000.00 psig
 Start Date: 2002.01.07 End Date: 2002.01.08 Last Calib.: 2002.01.08
 Start Time: 19:46:15 End Time: 03:45:14 Time On Btm: 2002.01.07 @ 21:38:14
 Time Off Btm: 2002.01.08 @ 01:40:44

TEST COMMENT: IFF-strong blow in 2min
 FFP-weak to strong blow in 9 min
 No blow on shut-in
 times 30-60-60-90



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1772.75	95.56	Initial Hydro-static
1	115.92	95.74	Open To Flow (1)
31	433.03	115.09	Shut-In(1)
91	583.84	115.71	End Shut-In(1)
92	441.10	115.72	Open To Flow (2)
152	568.00	117.24	Shut-In(2)
242	588.18	117.54	End Shut-In(2)
243	1727.71	117.53	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
900.00	water RW .1 @ 50F	11.26
225.00	MW 40% mud 60% water	3.16

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N water
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks
Job Ticket: 15673 **DST#: 3**
Test Start: 2002.01.07 @ 19:46:15

Tool Information

Drill Pipe:	Length: 3409.00 ft	Diameter: 3.80 inches	Volume: 47.82 bbl	Tool Weight: 2200.00 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: 75000.00 lb
			<u>Total Volume: 48.56 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3570.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	66.02 ft			
Tool Length:	87.02 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			3550.00	
S.I. Tool	5.00			3555.00	
HMV	5.00			3560.00	
Packer	5.00			3565.00	21.00 Bottom Of Top Packer
Packer	5.00			3570.00	
Stubb	1.00			3571.00	
Perforations	4.00			3575.00	
C.O. Sub	1.00			3576.00	
Recorder	0.01	3024	Inside	3576.01	
Blank Spacing	31.00			3607.01	
C.O. Sub	1.00			3608.01	
Perforations	25.00			3633.01	
Recorder	0.01	11085	Outside	3633.02	
Bullnose	3.00			3636.02	66.02 Bottom Packers & Anchor

Total Tool Length: 87.02



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N water
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks
Job Ticket: 15673 **DST#: 3**
Test Start: 2002.01.07 @ 19:46:15

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 47.00 sec/qt
Water Loss: 8.25 in³
Resistivity: ohm.m
Salinity: 6900.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: 123000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
900.00	water RW .1 @ 50F	11.258
225.00	MW 40% mud 60% water	3.156

Total Length: 1125.00 ft Total Volume: 14.414 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 3024

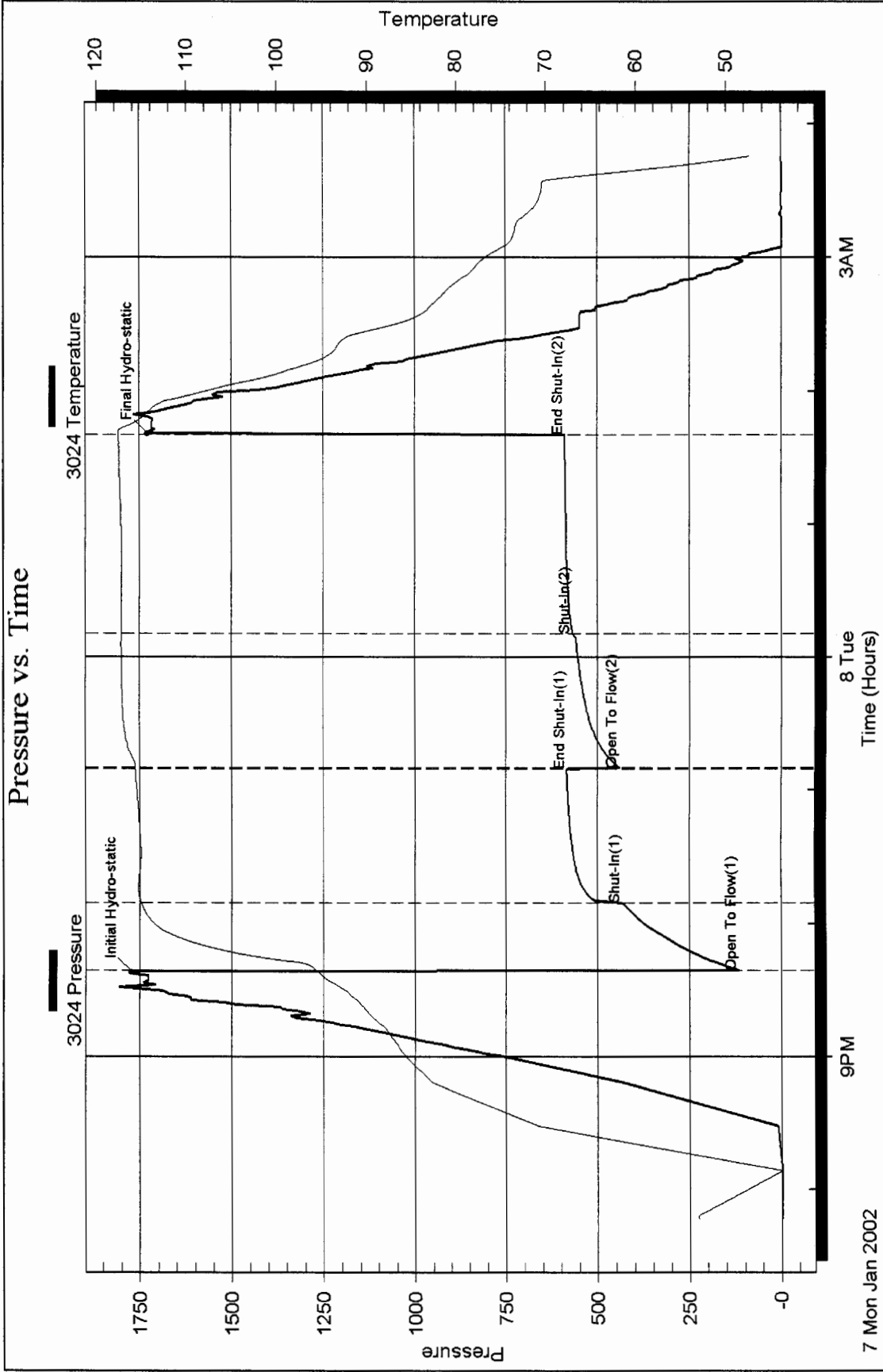
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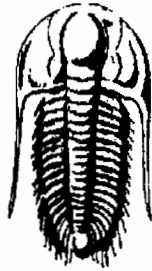
Murfin Drilling Company, Inc.

32-13s-19w Ellis Ks

DST Test Number: 3

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company, Inc.**

250 N water
suite300
Wichita, KS 67202

ATTN: Scott Robinson

32-13s-19w Ellis Ks

Kramer-Bemis Unit #1-32

Start Date: 2002.01.08 @ 13:11:36

End Date: 2002.01.08 @ 20:40:35

Job Ticket #: 15674 DST #: 4

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 Company, Inc.

Kramer-Bemis Unit #1-32

250 N w ar
suite300
Wichita, KS 67202
ATTN: Scott Robinson

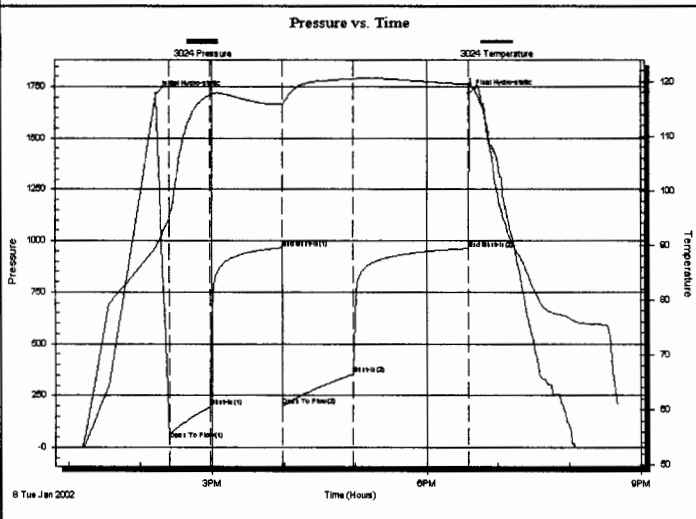
32-13s-19w Ellis Ks
Job Ticket: 15674 **DST#: 4**
Test Start: 2002.01.08 @ 13:11:36

GENERAL INFORMATION:

Formation: **lansing**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:24:05
Time Test Ended: 20:40:35
Test Type: Conventional Bottom Hole
Tester: Ray Schwager
Unit No: 16
Interval: **3672.00 ft (KB) To 3690.00 ft (KB) (TVD)**
Reference Elevations: 2265.00 ft (KB)
Total Depth: 3690.00 ft (KB) (TVD) 2260.00 ft (CF)
Hole Diameter: 7.85 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 3024 Inside
Press@RunDepth: 355.53 psig @ 3673.01 ft (KB) Capacity: 7000.00 psig
Start Date: 2002.01.08 End Date: 2002.01.08 Last Calib.: 2002.01.08
Start Time: 13:11:36 End Time: 20:40:35 Time On Btm: 2002.01.08 @ 14:13:35
Time Off Btm: 2002.01.08 @ 18:35:35

TEST COMMENT: IFP-weak to strong blow in 10 min
FFP-weak to strong blow in 1 min
times 30-60-60-90
weak blow back on shut-in



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1713.77	89.55	Initial Hydro-static
11	38.86	94.97	Open To Flow (1)
45	196.13	117.62	Shut-In(1)
105	965.50	115.93	End Shut-In(1)
106	199.38	115.96	Open To Flow (2)
165	355.53	120.51	Shut-In(2)
262	956.79	119.48	End Shut-In(2)
262	1717.92	119.55	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
600.00	w ar RW .08 @ 65F	7.05
140.00	SOCMW 1%oil 20% mud 79% w ar	1.96
20.00	clean oil	0.28
580.00	gip	8.14

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N w ater
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks
Job Ticket: 15674 **DST#: 4**
Test Start: 2002.01.08 @ 13:11:36


Tool Information

Drill Pipe:	Length: 3532.00 ft	Diameter: 3.80 inches	Volume: 49.54 bbl	Tool Weight: 2200.00 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: 85000.00 lb
			<u>Total Volume: 50.28 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	3672.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.02 ft			
Tool Length:	39.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3652.00	
S.I. Tool	5.00			3657.00	
HMV	5.00			3662.00	
Packer	5.00			3667.00	21.00 Bottom Of Top Packer
Packer	5.00			3672.00	
Stubb	1.00			3673.00	
Recorder	0.01	3024	Inside	3673.01	
Perforations	14.00			3687.01	
Recorder	0.01	11085	Outside	3687.02	
Bullnose	3.00			3690.02	18.02 Bottom Packers & Anchor
Total Tool Length:	39.02				

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT	FLUID SUMMARY
	Murfin Drilling Company, Inc. 250 N water suite300 Wichita, KS 67202 ATTN: Scott Robinson	Kramer-Bemis Unit #1-32 32-13s-19w Ellis Ks Job Ticket: 15674 DST#: 4 Test Start: 2002.01.08 @ 13:11:36

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 40 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 115000 ppm
Viscosity: 47.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.48 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 8200.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
600.00	water RW .08 @ 65F	7.050
140.00	SOCMW 1%oil 20% mud 79% w ater	1.964
20.00	clean oil	0.281
580.00	gip	8.136

Total Length: 1340.00 ft Total Volume: 17.431 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

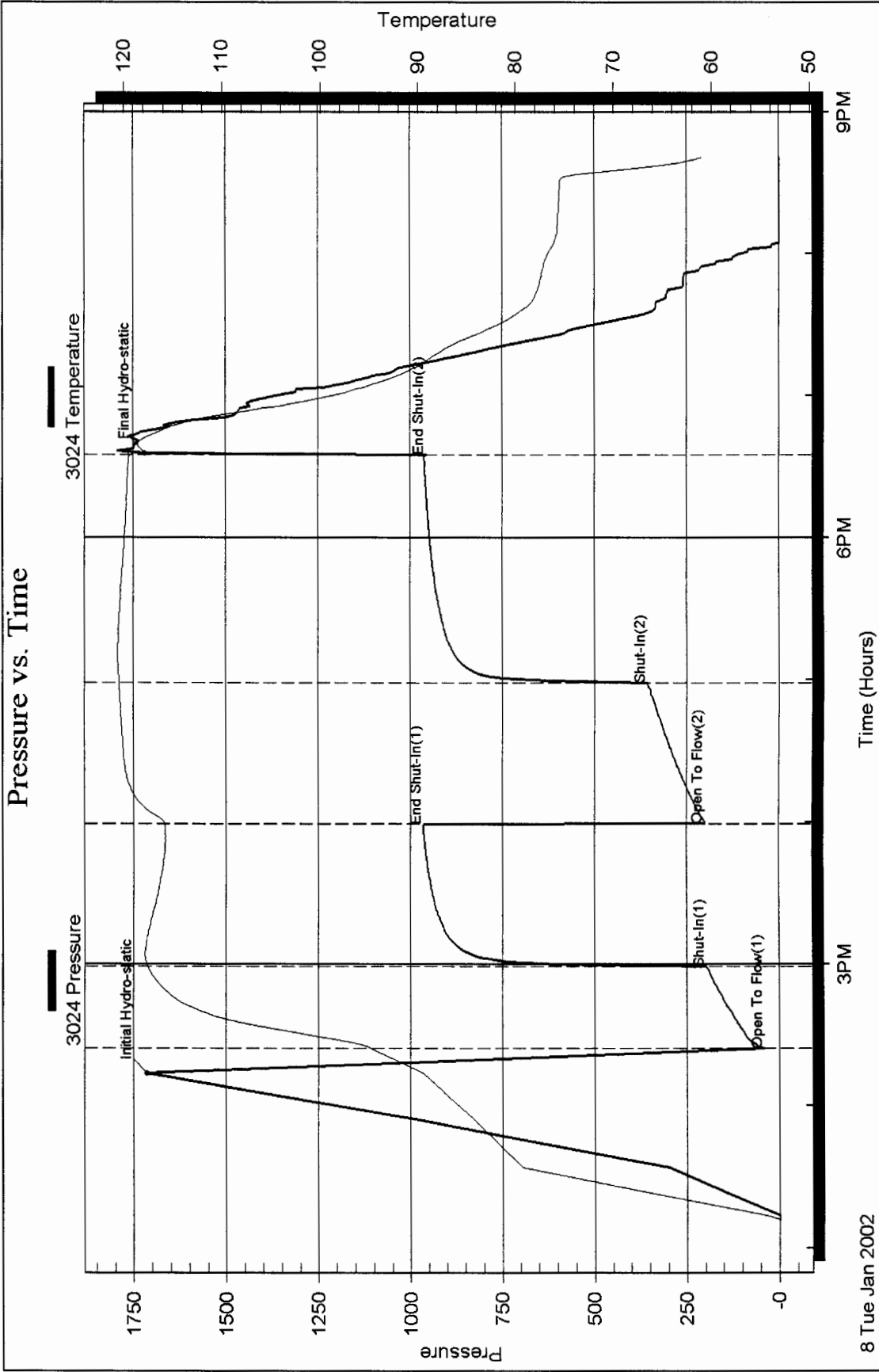
Serial #: 3024

Inside Murfin Drilling Company, Inc.

32-13s-19w Ellis Ks

DST Test Number: 4

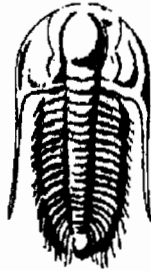
Pressure vs. Time



8 Tue Jan 2002

Ref. No: 15674

Printed: 2002.01.14 @ 09:57:10 Page 5



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company, Inc.**

250 N water
suite300
Wichita, KS 67202

ATTN: Scott Robinson

32-13s-19w Ellis Ks

Kramer-Bemis Unit #1-32

Start Date: 2002.01.09 @ 05:20:50

End Date: 2002.01.09 @ 13:30:19


Job Ticket #: 15675 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2002.01.14 @ 09:55:36 Page 1



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Kramer-Bemis Unit #1-32

32-13s-19w Ellis Ks

Job Ticket: 15675 **DST#: 5**

Test Start: 2002.01.09 @ 05:20:50

Murfin Drilling Company, Inc.

250 N water suite300
Wichita, KS 67202
ATTN: Scott Robinson

GENERAL INFORMATION:

Formation: **lansing J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:14:19
 Time Test Ended: 13:30:19

Test Type: Conventional Bottom Hole
 Tester: Ray Schwager
 Unit No: 16

Interval: **3700.00 ft (KB) To 3742.00 ft (KB) (TVD)**
 Total Depth: 3742.00 ft (KB) (TVD)
 Hole Diameter: 7.85 inches Hole Condition: Good

Reference Elevations: 2265.00 ft (KB)
 2260.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 3024 **Inside**

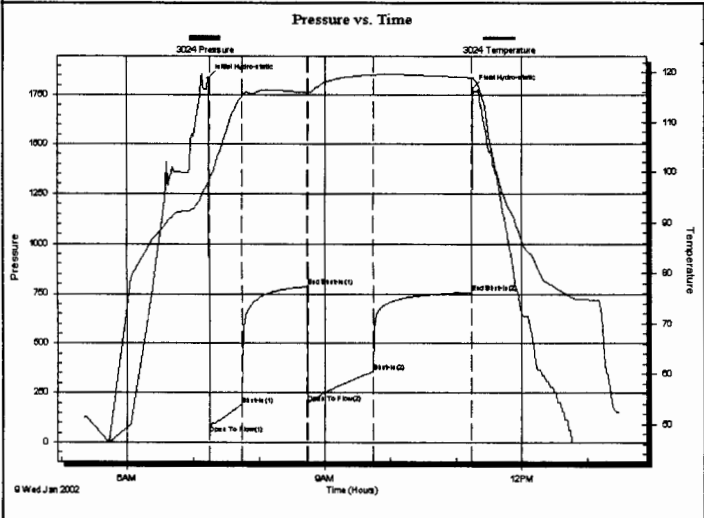
Press@RunDepth: 358.25 psig @ 3701.01 ft (KB) Capacity: 7000.00 psig

Start Date: 2002.01.09 End Date: 2002.01.09 Last Calib.: 2002.01.09

Start Time: 05:20:50 End Time: 13:30:19 Time On Btm: 2002.01.09 @ 07:13:49

Time Off Btm: 2002.01.09 @ 11:14:49

TEST COMMENT: IFP-weak to strong in 6 min
 FFP-weak to strong in 6 min
 times 30-60-60-90
 weak blow back on shut-in



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1836.98	97.93	Initial Hydro-static
1	43.44	98.17	Open To Flow (1)
30	189.00	115.12	Shut-in(1)
90	785.83	115.90	End Shut-in(1)
91	197.45	115.90	Open To Flow (2)
150	358.25	119.49	Shut-in(2)
240	759.34	118.89	End Shut-in(2)
241	1786.33	118.85	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
300.00	water RW .07 @ 62F	2.84
120.00	O&GCMW 25%gas 10%oil 50%water 25%	1.68d
240.00	GMO 50%gas 45%oil 5%mud	3.37
120.00	CO	1.68
1320.00	GIP	18.52

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N w ater
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks

Job Ticket: 15675

DST#: 5

Test Start: 2002.01.09 @ 05:20:50

Tool Information

Drill Pipe:	Length: 3533.00 ft	Diameter: 3.80 inches	Volume: 49.56 bbl	Tool Weight: 2200.00 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: 85000.00 lb
			<u>Total Volume: 50.30 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	3700.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.02 ft			
Tool Length:	63.02 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			3680.00	
S.I. Tool	5.00			3685.00	
HMV	5.00			3690.00	
Packer	5.00			3695.00	21.00 Bottom Of Top Packer
Packer	5.00			3700.00	
Stubb	1.00			3701.00	
Recorder	0.01	3024	Inside	3701.01	
Perforations	38.00			3739.01	
Recorder	0.01	11085	Outside	3739.02	
Bullnose	3.00			3742.02	42.02 Bottom Packers & Anchor
Total Tool Length:	63.02				



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N w ater
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks
Job Ticket: 15675 **DST#: 5**
Test Start: 2002.01.09 @ 05:20:50

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 47.00 sec/qt
Water Loss: 8.30 in³
Resistivity: ohm.m
Salinity: 8200.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 33 deg API
Water Salinity: 130000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	w ater RW .07 @ 62F	2.842
120.00	O&GCMW 25%gas 10%oil 50%w ater 25%mu	1.683
240.00	GMO 50%gas 45%oil 5%mud	3.367
120.00	CO	1.683
1320.00	GIP	18.516

Total Length: 2100.00 ft Total Volume: 28.091 bbl

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

Serial #: 3024

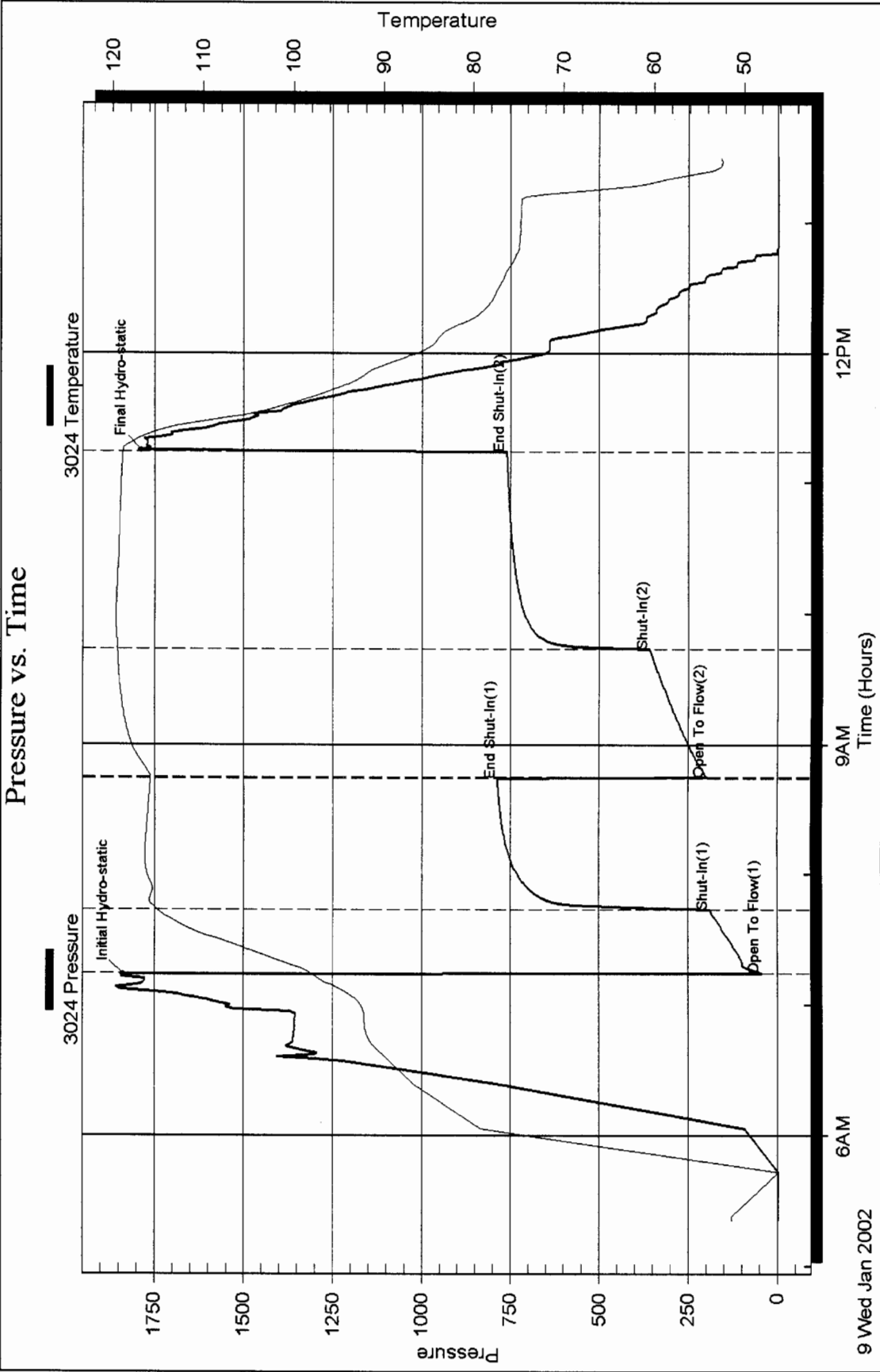
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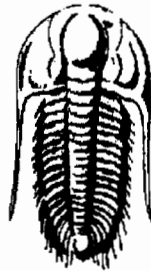
Murfin Drilling Company, Inc.

32-13s-19w Ellis Ks

DST Test Number: 5

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company, Inc.**

250 N water
suite300
Wichita, KS 67202

ATTN: Scott Robinson

32-13s-19w Ellis Ks

Kramer-Bemis Unit #1-32

Start Date: 2002.01.10 @ 05:10:21

End Date: 2002.01.10 @ 14:31:20

Job Ticket #: 15526 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

TOOL DIAGRAM

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N water
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks

Job Ticket: 15526 **DST#: 6**

Test Start: 2002.01.10 @ 05:10:21

Tool Information

Drill Pipe:	Length: 3719.00 ft	Diameter: 3.80 inches	Volume: 52.17 bbl	Tool Weight: 2200.00 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: 52.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3880.00 ft			Final 64000.00 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:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3860.00	
S.I. Tool	5.00			3865.00	
HMV	5.00			3870.00	
Packer	5.00			3875.00	21.00 Bottom Of Top Packer
Packer	5.00			3880.00	
Stubb	1.00			3881.00	
Recorder	0.01	3024	Inside	3881.01	
Perforations	8.00			3889.01	
Recorder	0.01	11085	Outside	3889.02	
Bullnose	3.00			3892.02	12.02 Bottom Packers & Anchor
Total Tool Length:	33.02				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N w ater
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks
Job Ticket: 15526 **DST#: 6**
Test Start: 2002.01.10 @ 05:10:21

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 35 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.54 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 7600.00 ppm		
Filter Cake: 2.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GMO 20%gas 25%mud 55%oil	0.590
2830.00	Clean Oil	39.424

Total Length: 2950.00 ft Total Volume: 40.014 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 3024

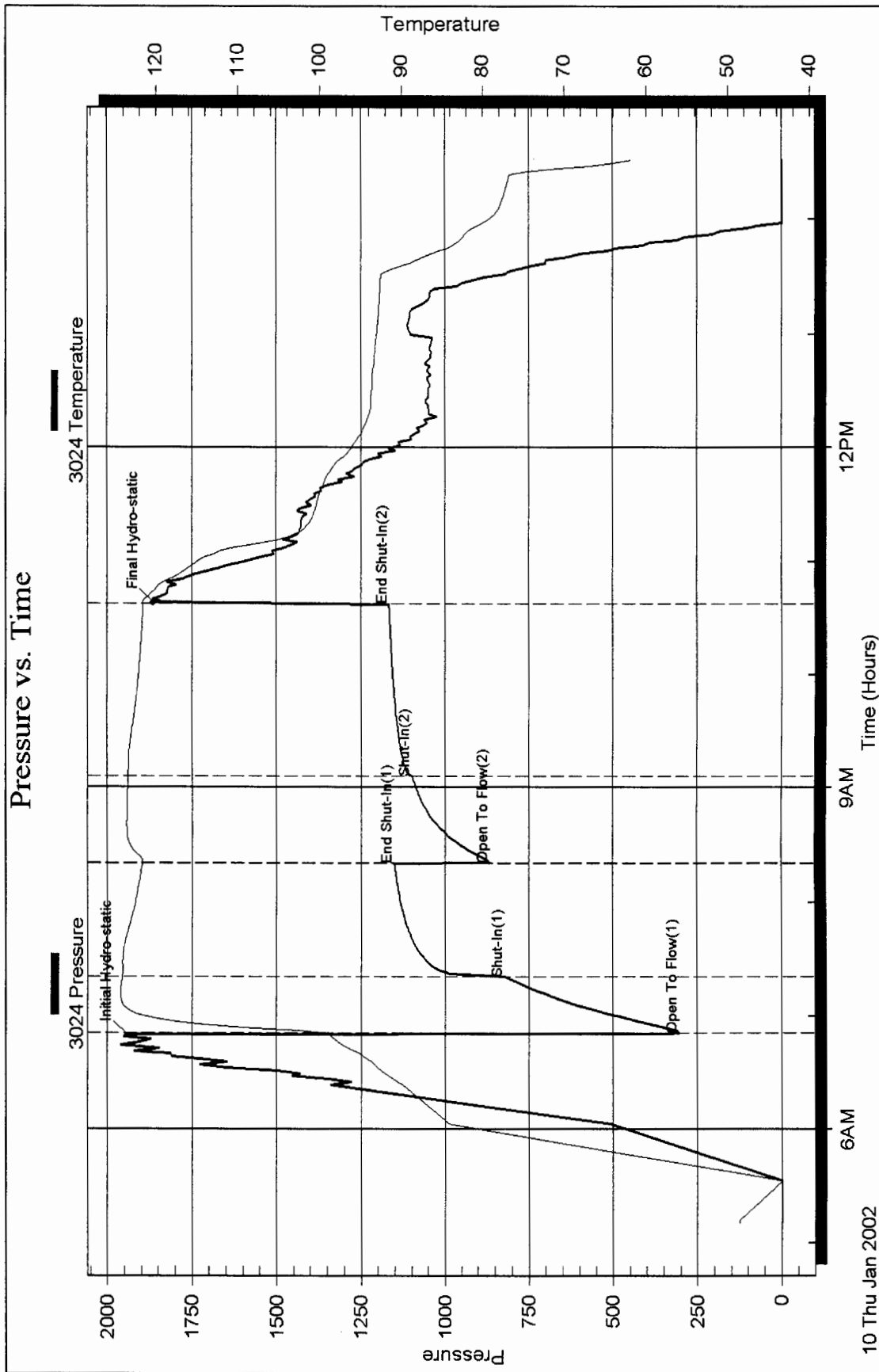
Inside

Murfin Drilling Company, Inc.

32-13s-19w Ellis Ks

DST Test Number: 6

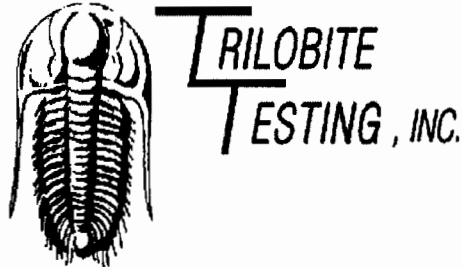
Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 15526

Printed: 2002.01.14 @ 09:55:15 Page 5



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company, Inc.**

250 N water
suite300
Wichita, KS 67202

ATTN: Scott Robinson

32-13s-19w Ellis Ks


Kramer-Bemis Unit #1-32

Start Date: 2002.01.10 @ 22:58:45

End Date: 2002.01.11 @ 08:07:44

Job Ticket #: 15527 DST #: 7

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 Company, Inc. 250 N w ater suite300 Wichita, KS 67202 ATTN: Scott Robinson	Kramer-Bemis Unit #1-32 32-13s-19w Ellis Ks Job Ticket: 15527 DST#:7 Test Start: 2002.01.10 @ 22:58:45

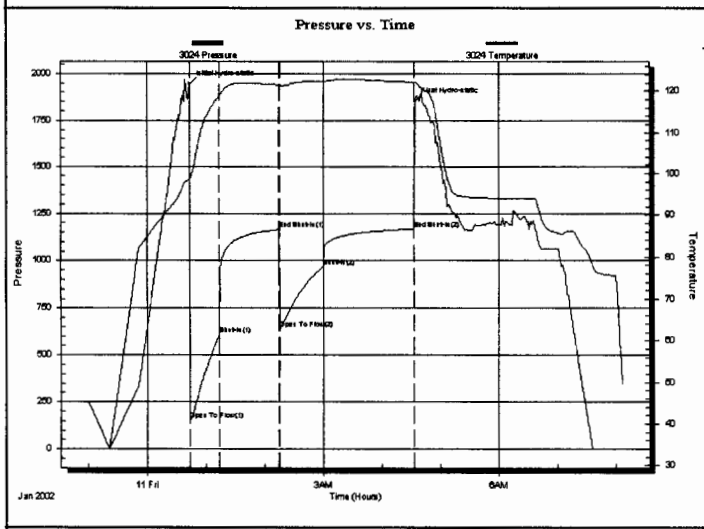
GENERAL INFORMATION:

Formation: Arbuckle	Test Type: Conventional Bottom Hole
Deviated: No Whipstock: ft (KB)	Tester: Ray Schwager
Time Tool Opened: 00:43:44	Unit No: 16
Time Test Ended: 08:07:44	Reference Elevations: 2265.00 ft (KB)
Interval: 3892.00 ft (KB) To 3911.00 ft (KB) (TVD)	2260.00 ft (CF)
Total Depth: 3911.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Hole Diameter: 7.85 inches Hole Condition: Good	

Serial #: 3024 Inside

Press@RunDepth: 966.80 psig @ 3893.01 ft (KB)	Capacity: 7000.00 psig
Start Date: 2002.01.10	End Date: 2002.01.11
Start Time: 22:58:45	End Time: 08:07:44
	Last Calib.: 2002.01.11
	Time On Btm: 2002.01.11 @ 00:43:14
	Time Off Btm: 2002.01.11 @ 04:33:44

TEST COMMENT: IFP-strong blow thru-out bob in 1min
 FFP-strong blow thru-out bob in 3min
 times 30-60-45-90
 weak blow back on shut-in



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1943.33	98.62	Initial Hydro-static
1	155.20	98.75	Open To Flow (1)
31	610.25	118.88	Shut-In(1)
92	1164.21	121.48	End Shut-In(1)
92	640.03	121.47	Open To Flow(2)
137	966.80	122.45	Shut-In(2)
230	1166.95	122.12	End Shut-In(2)
231	1852.52	122.10	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
120.00	MGO 10%gas 30%mud 60%oil	0.59
2520.00	clean oil	35.08

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N water
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks
Job Ticket: 15527 **DST#: 7**
Test Start: 2002.01.10 @ 22:58:45

Tool Information

Drill Pipe:	Length: 3751.00 ft	Diameter: 3.80 inches	Volume: 52.62 bbl	Tool Weight: 2200.00 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: 53.36 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3892.00 ft			Final 60000.00 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:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3872.00	
S.I. Tool	5.00			3877.00	
HMV	5.00			3882.00	
Packer	5.00			3887.00	21.00 Bottom Of Top Packer
Packer	5.00			3892.00	
Stubb	1.00			3893.00	
Recorder	0.01	3024	Inside	3893.01	
Perforations	15.00			3908.01	
Recorder	0.01	11085	Outside	3908.02	
Bullnose	3.00			3911.02	19.02 Bottom Packers & Anchor
Total Tool Length:	40.02				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company, Inc.

Kramer-Bemis Unit #1-32

250 N w ater
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks
Job Ticket: 15527 **DST#: 7**
Test Start: 2002.01.10 @ 22:58:45

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	35 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.80 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MGO 10%gas 30%mud 60%oil	0.590
2520.00	clean oil	35.076

Total Length: 2640.00 ft Total Volume: 35.666 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 3024

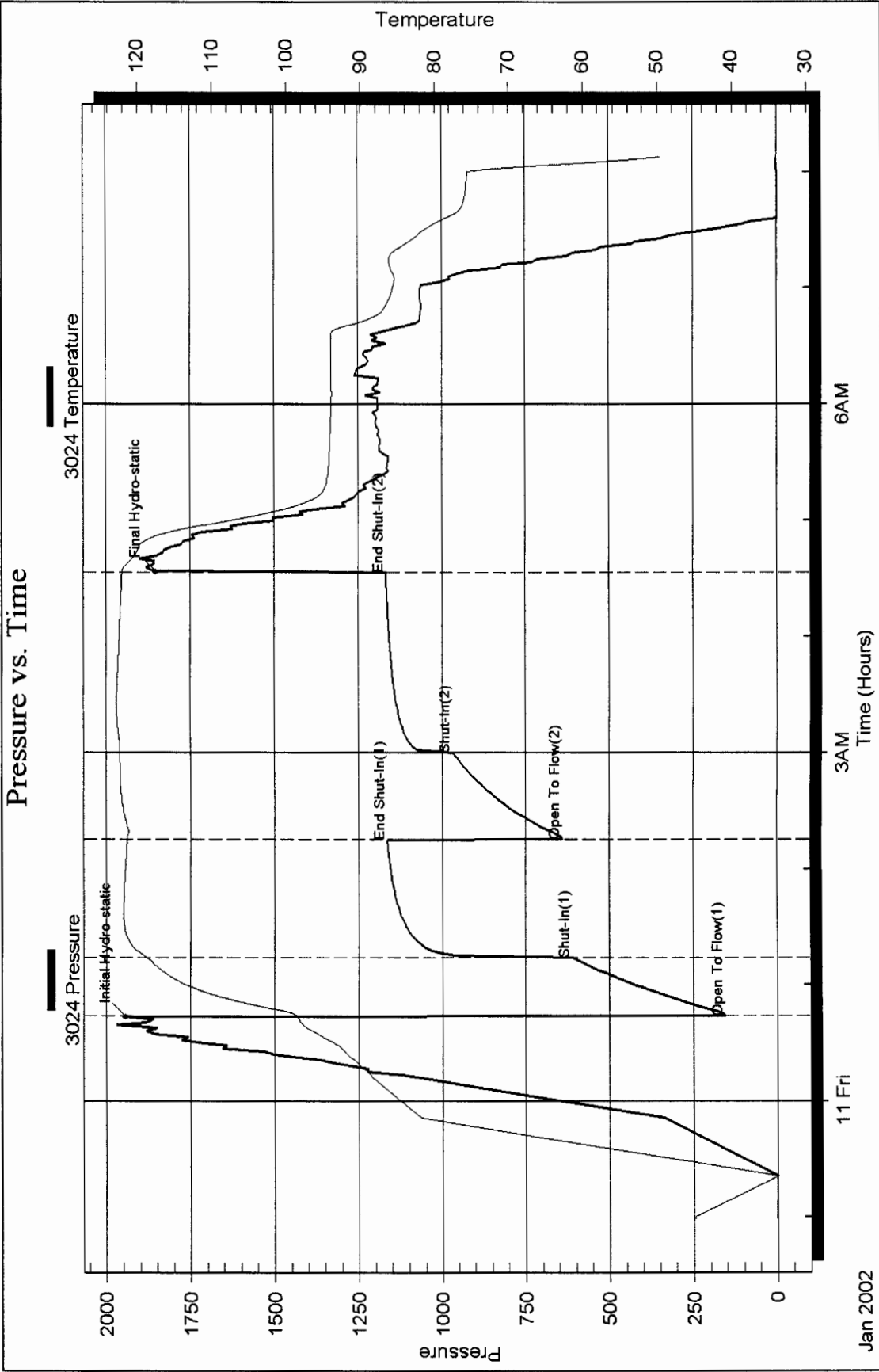
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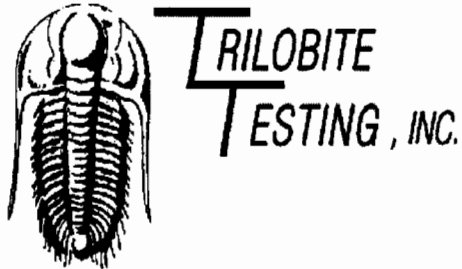
Murfin Drilling Company, Inc.

32-13s-19w Ellis Ks

DST Test Number: 7

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company, Inc.**

250 N water
suite300
Wichita, KS 67202

ATTN: Scott Robinson

32-13s-19w Ellis Ks

Kramer-Bemis Unit #1-32

Start Date: 2002.01.11 @ 16:35:31

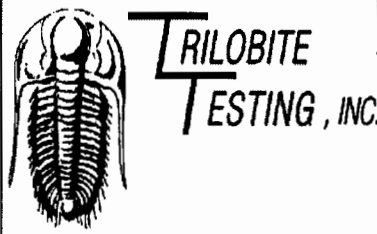
End Date: 2002.01.12 @ 01:22:00

Job Ticket #: 15528 DST #: 8

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



DRILL STEM TEST REPORT

Kramer-Bemis Unit #1-32

Murfin Drilling Company, Inc.

250 N water
suite300
Wichita, KS 67202
ATTN: Scott Robinson

32-13s-19w Ellis Ks

Job Ticket: 15528 **DST#: 8**

Test Start: 2002.01.11 @ 16:35:31

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:32:00

Time Test Ended: 01:22:00

Test Type: Conventional Bottom Hole

Tester: Ray Schwager

Unit No: 16

Interval: **3911.00 ft (KB) To 3930.00 ft (KB) (TVD)**

Reference Elevations: 2265.00 ft (KB)

Total Depth: 3930.00 ft (KB) (TVD)

2260.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 3024 **Inside**

Press@RunDepth: 1184.37 psig @ 3912.01 ft (KB)

Capacity: 7000.00 psig

Start Date: 2002.01.11 End Date: 2002.01.12

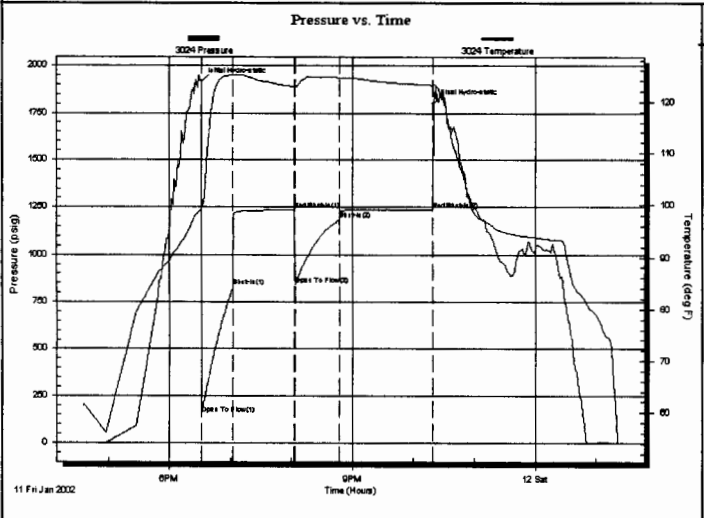
Last Calib.: 2002.01.12

Start Time: 16:35:31 End Time: 01:22:00

Time On Btm: 2002.01.11 @ 18:31:30

Time Off Btm: 2002.01.11 @ 22:20:00

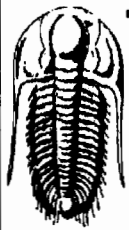
TEST COMMENT: IFP-strong blow in 1 min
FFP-strong blow in 3 min
times 30-60-45-90
no blow on shut-in



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1916.21	99.30	Initial Hydro-static
1	150.79	99.41	Open To Flow (1)
31	832.52	125.09	Shut-In(1)
91	1235.19	122.91	End Shut-In(1)
92	839.29	122.90	Open To Flow (2)
136	1184.37	124.65	Shut-In(2)
228	1235.91	123.17	End Shut-In(2)
229	1803.00	123.24	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
1980.00	water RW .24 @ 50F	26.41
630.00	HOCW 25% oil 75% w ater	8.84
90.00	clean oil	1.26

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company, Inc.

250 N w ater
suite300
Wichita, KS 67202
ATTN: Scott Robinson

Kramer-Bemis Unit #1-32

32-13s-19w Ellis Ks

Job Ticket: 15528 **DST#: 8**
Test Start: 2002.01.11 @ 16:35:31

Tool Information

Drill Pipe:	Length: 3752.00 ft	Diameter: 3.80 inches	Volume: 52.63 bbl	Tool Weight: 2200.00 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: 53.37 bbl</u>	Tool Chased: 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3911.00 ft			Final 66000.00 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:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3891.00	
S.I. Tool	5.00			3896.00	
HMV	5.00			3901.00	
Packer	5.00			3906.00	21.00 Bottom Of Top Packer
Packer	5.00			3911.00	
Stubb	1.00			3912.00	
Recorder	0.01	3024	Inside	3912.01	
Perforations	15.00			3927.01	
Recorder	0.01	11085	Outside	3927.02	
Bullnose	3.00			3930.02	19.02 Bottom Packers & Anchor
Total Tool Length:	40.02				



DRILL STEM TEST REPORT **FLUID SUMMARY**

Murfin Drilling Company, Inc. 250 N w ater suite300 Wichita, KS 67202 ATTN: Scott Robinson	Kramer-Bemis Unit #1-32 32-13s-19w Ellis Ks Job Ticket: 15528 DST#: 8 Test Start: 2002.01.11 @ 16:35:31
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Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 34 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 42000 ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.38 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 8200.00 ppm		
Filter Cake: 2.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1980.00	w ater RW .24 @ 50F	26.408
630.00	HOCW 25% oil 75% w ater	8.837
90.00	clean oil	1.262

Total Length: 2700.00 ft Total Volume: 36.507 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 3024

Inside

Murfin Drilling Company, Inc.

32-13s-19w Ellis Ks

DST Test Number: 8

Pressure vs. Time

