

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita KS 67202

ATTN: Paul Gunzelman

7 3S 26W Decatur KS

RGM # 2-7

Start Date: 2008.07.19 @ 02:45:00

End Date: 2008.07.19 @ 10:12:09

Job Ticket #: 32070 DST #: 1

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NOV 10 2008
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**RECEIVED
KANSAS CORPORATION COMMISSION**

NOV 13 2008

**CONSERVATION DIVISION
WICHITA, KS**

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Murfin Drilling Company

RGM # 2-7

7 3S 26W Decatur KS

DST # 1

Toronto-Lansing "A"

2008.07.19



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Company

RGM # 2-7

250 N Water Ste 300
Wichita KS 67202

7 3S 26W Decatur KS

ATTN: Paul Gunzelman

Job Ticket: 32070

DST#: 1

Test Start: 2008.07.19 @ 02:45:00

GENERAL INFORMATION:

Formation: **Toronto-Lansing "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:14:20

Time Test Ended: 10:12:09

Test Type: Conventional Bottom Hole

Tester: Jake Fahrenbruch

Unit No: 43

Interval: **3498.00 ft (KB) To 3556.00 ft (KB) (TVD)**

Total Depth: 3556.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2595.00 ft (KB)

2590.00 ft (CF)

KB to GRVCF: 5.00 ft

Serial #: 8352

Inside

Press@RunDepth: 318.88 psig @ 3499.00 ft (KB)

Start Date: 2008.07.19

End Date: 2008.07.19

Capacity: 7000.00 psig

Last Calib.: 2008.07.19

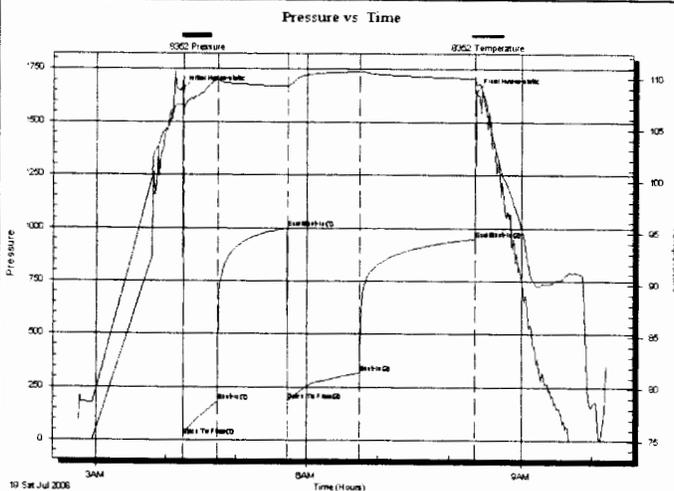
Start Time: 02:45:02

End Time: 10:12:10

Time On Btm: 2008.07.19 @ 04:13:10

Time Off Btm: 2008.07.19 @ 08:22:20

TEST COMMENT: IF Fair blow BOB 19 min.
ISI Bled off no blow back
FF Fair blow BOB 35 min.
FSI Bled off no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1654.95	107.39	Initial Hydro-static
2	19.30	107.13	Open To Flow (1)
31	180.13	109.84	Shut-In(1)
91	999.42	109.21	End Shut-In(1)
92	186.06	109.05	Open To Flow (2)
152	318.88	110.60	Shut-In(2)
248	949.91	109.98	End Shut-In(2)
250	1643.75	109.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
490.00	100%W	2.41
60.00	MCW 10%M 90%W	0.30
60.00	MW 37%M 63%W	0.84
40.00	OSWCM 3%O 27%W 70%W	0.56
0.00	Chlorides = 55,000 ppm	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

RGM # 2-7

250 N Water Ste 300
Wichita KS 67202

7 3S 26W Decatur KS

Job Ticket: 32070

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2008.07.19 @ 02:45:00

Tool Information

Drill Pipe:	Length: 2947.00 ft	Diameter: 3.80 inches	Volume: 41.34 bbl	Tool Weight: 3000.00 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: 550.00 ft	Diameter: 2.25 inches	Volume: 2.70 bbl	Weight to Pull Loose: 100000.0 lb
		Total Volume:	44.04 bbl	Tool Chased 12.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	3498.00 ft			Final 82000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	81.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3480.00	
Hydraulic tool	5.00			3485.00	
Safety Joint	3.00			3488.00	
Packer	5.00			3493.00	23.00 Bottom Of Top Packer
Packer	5.00			3498.00	
Stubb	1.00			3499.00	
Recorder	0.00	8352	Inside	3499.00	
Recorder	0.00	6799	Inside	3499.00	
Perforations	21.00			3520.00	
Blank Spacing	33.00			3553.00	
Bullnose	3.00			3556.00	58.00 Bottom Packers & Anchor

Total Tool Length: 81.00

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**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

RGM # 2-7

250 N Water Ste 300
Wichita KS 67202

7 3S 26W Decatur KS

Job Ticket: 32070

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2008.07.19 @ 02:45:00

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:

bbf

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
490.00	100%W	2.410
60.00	MCW 10%M 90%W	0.295
60.00	MW 37%M 63%W	0.842
40.00	OSWCM 3%O 27%W 70%W	0.561
0.00	Chlorides = 55,000 ppm	0.000

Total Length: 650.00 ft

Total Volume: 4.108 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8352

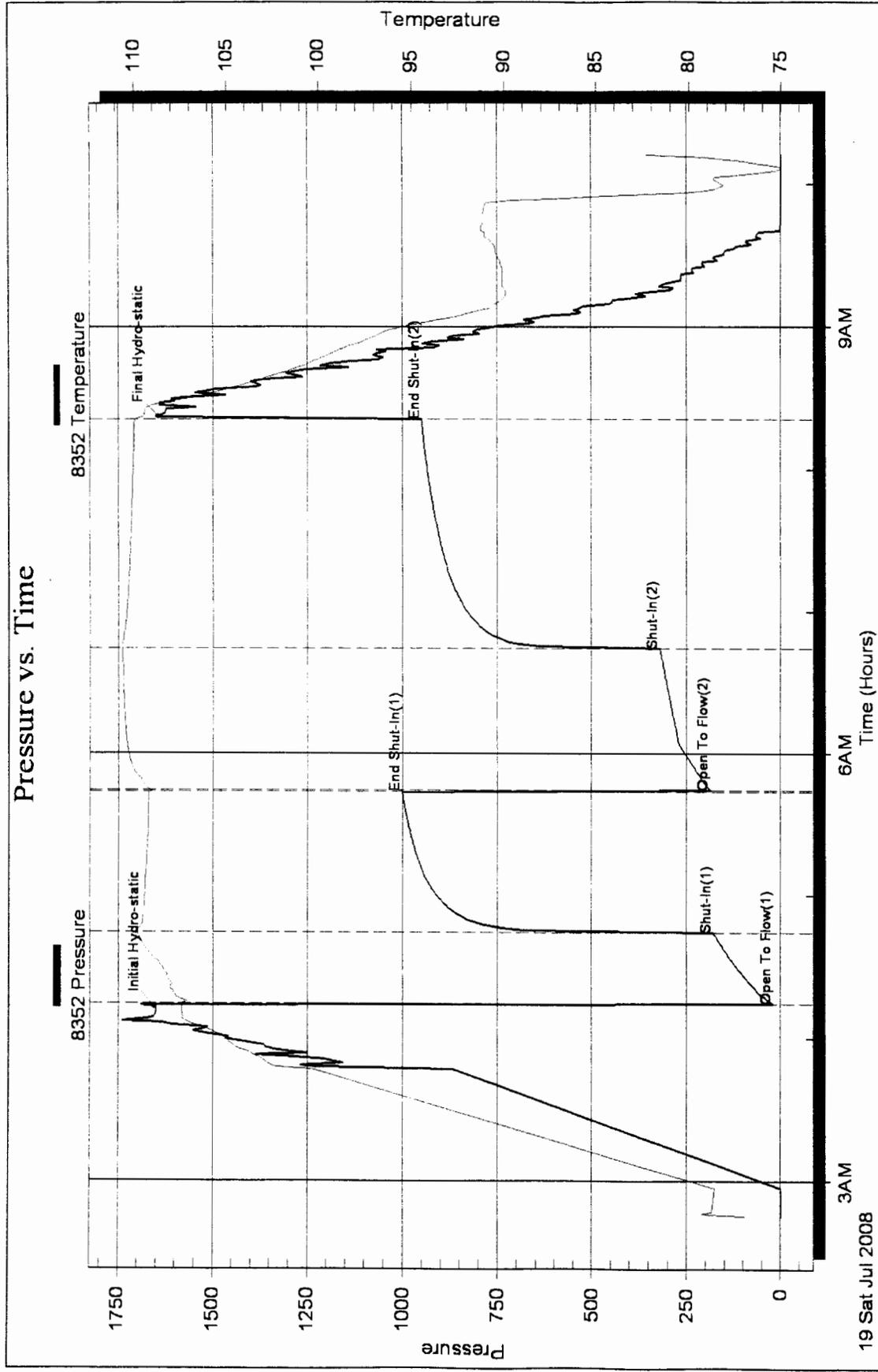
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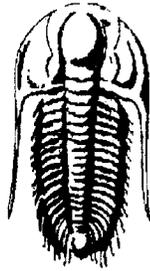
Murfin Drilling Company

7 3S 26W Decatur KS

DST Test Number: 1

Pressure vs. Time





**TRILOBITE
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DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita KS 67202

ATTN: Paul Gunzelman

7 3S 26W Decatur KS

RGM # 2-7

Start Date: 2008.07.19 @ 15:25:00

End Date: 2008.07.19 @ 20:34:09

Job Ticket #: 32071 DST #: 2

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Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company

RGM # 2-7

250 N Water Ste 300
Wichita KS 67202

7 3S 26W Decatur KS

ATTN: Paul Gunzelman

Job Ticket: 32071

DST#: 2

Test Start: 2008.07.19 @ 15:25:00

GENERAL INFORMATION:

Formation: **Lansing "B"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:53:10

Time Test Ended: 20:34:09

Test Type: Conventional Bottom Hole

Tester: Jake Fahrenbruch

Unit No: 43

Interval: **3553.00 ft (KB) To 3573.00 ft (KB) (TVD)**

Total Depth: 3573.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2595.00 ft (KB)

2590.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8352

Inside

Press@RunDepth: 62.29 psig @ 3554.00 ft (KB)

Start Date: 2008.07.19

End Date:

2008.07.19

Capacity:

7000.00 psig

Start Time:

15:25:02

End Time:

20:34:10

Last Calib.:

2008.07.19

Time On Btm:

2008.07.19 @ 16:52:50

Time Off Btm:

2008.07.19 @ 18:54:00

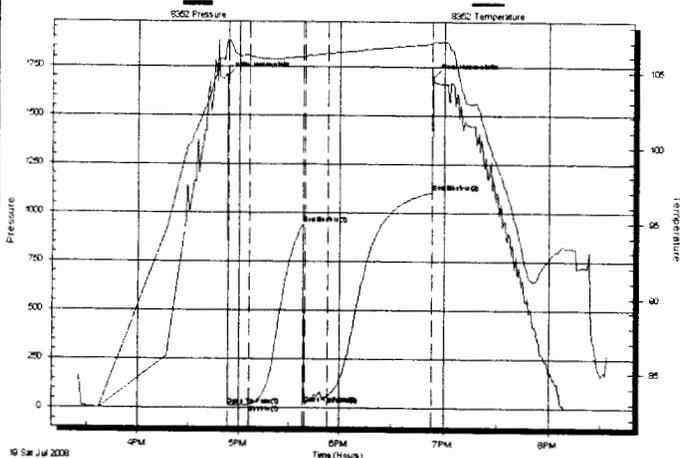
TEST COMMENT: IF Very weak blow died in 7 min.

ISI No blow

FF No blow

FSI No blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1702.25	107.17	Initial Hydro-static
1	13.90	106.76	Open To Flow (1)
13	17.39	106.15	Shut-In(1)
46	941.20	106.05	End Shut-In(1)
47	22.96	106.06	Open To Flow (2)
61	62.29	106.26	Shut-In(2)
121	1106.05	106.90	End Shut-In(2)
122	1696.14	107.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	DM 100%M	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

RGM # 2-7

250 N Water Ste 300
Wichita KS 67202

7 3S 26W Decatur KS

Job Ticket: 32071

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2008.07.19 @ 15:25:00

Tool Information

Drill Pipe:	Length: 3010.00 ft	Diameter: 3.80 inches	Volume: 42.22 bbl	Tool Weight:	2700.00 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: 550.00 ft	Diameter: 2.25 inches	Volume: 2.70 bbl	Weight to Pull Loose:	98000.00 lb
			<u>Total Volume: 44.92 bbl</u>	Tool Chased	5.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	80000.00 lb
Depth to Top Packer:	3553.00 ft			Final	80000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	20.00 ft				
Tool Length:	43.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3535.00	
Hydraulic tool	5.00			3540.00	
Safety Joint	3.00			3543.00	
Packer	5.00			3548.00	23.00 Bottom Of Top Packer
Packer	5.00			3553.00	
Stubb	1.00			3554.00	
Recorder	0.00	8352	Inside	3554.00	
Recorder	0.00	6799	Inside	3554.00	
Perforations	16.00			3570.00	
Bullnose	3.00			3573.00	20.00 Bottom Packers & Anchor
Total Tool Length:	43.00				



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

RGM # 2-7

250 N Water Ste 300
Wichita KS 67202

7 3S 26W Decatur KS

Job Ticket: 32071

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2008.07.19 @ 15:25:00

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:

bbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	DM 100%M	0.025

Total Length: 5.00 ft

Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

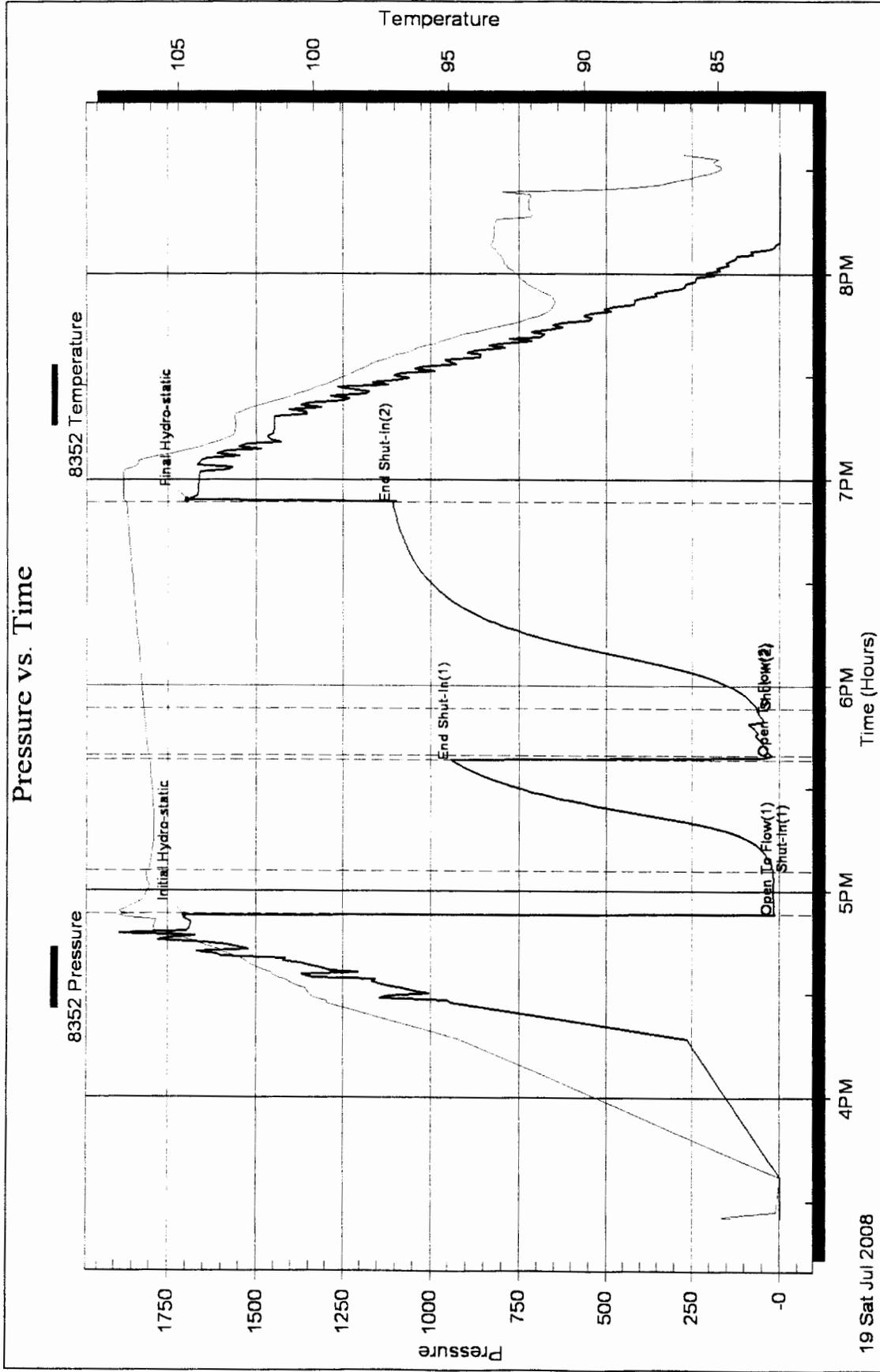
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





TRILOBITE
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DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita KS 67202

ATTN: Paul Gunzelman

7 3S 26W Decatur KS

RGM # 2-7

Start Date: 2008.07.20 @ 04:55:00

End Date: 2008.07.20 @ 11:45:50

Job Ticket #: 32072 DST #: 3

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Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

RGM # 2-7

250 N Water Ste 300
Wichita KS 67202

7 3S 26W Decatur KS

Job Ticket: 32072

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2008.07.20 @ 04:55:00

Tool Information

Drill Pipe:	Length: 3010.00 ft	Diameter: 3.80 inches	Volume: 42.22 bbl	Tool Weight: 3000.00 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: 550.00 ft	Diameter: 2.25 inches	Volume: 2.70 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 44.92 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 85000.00 lb
Depth to Top Packer:	3577.00 ft			Final 90000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 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
Shut In Tool	5.00			3559.00	
Hydraulic tool	5.00			3564.00	
Safety Joint	3.00			3567.00	
Packer	5.00			3572.00	23.00 Bottom Of Top Packer
Packer	5.00			3577.00	
Stubb	1.00			3578.00	
Recorder	0.00	8352	Inside	3578.00	
Recorder	0.00	6799	Inside	3578.00	
Perforations	19.00			3597.00	
Blank Spacing	31.00			3628.00	
Bullnose	3.00			3631.00	54.00 Bottom Packers & Anchor

Total Tool Length: 77.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

RGM # 2-7

250 N Water Ste 300
Wichita KS 67202

7 3S 26W Decatur KS

Job Ticket: 32072

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2008.07.20 @ 04:55:00

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: 55.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
560.00	SW 100%W	2.845
180.00	MCW 20%M 80%W	2.525
75.00	VM 40%W 60%M	1.052
0.00	Chlorides = 56,000 ppm	0.000

Total Length: 815.00 ft

Total Volume: 6.422 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

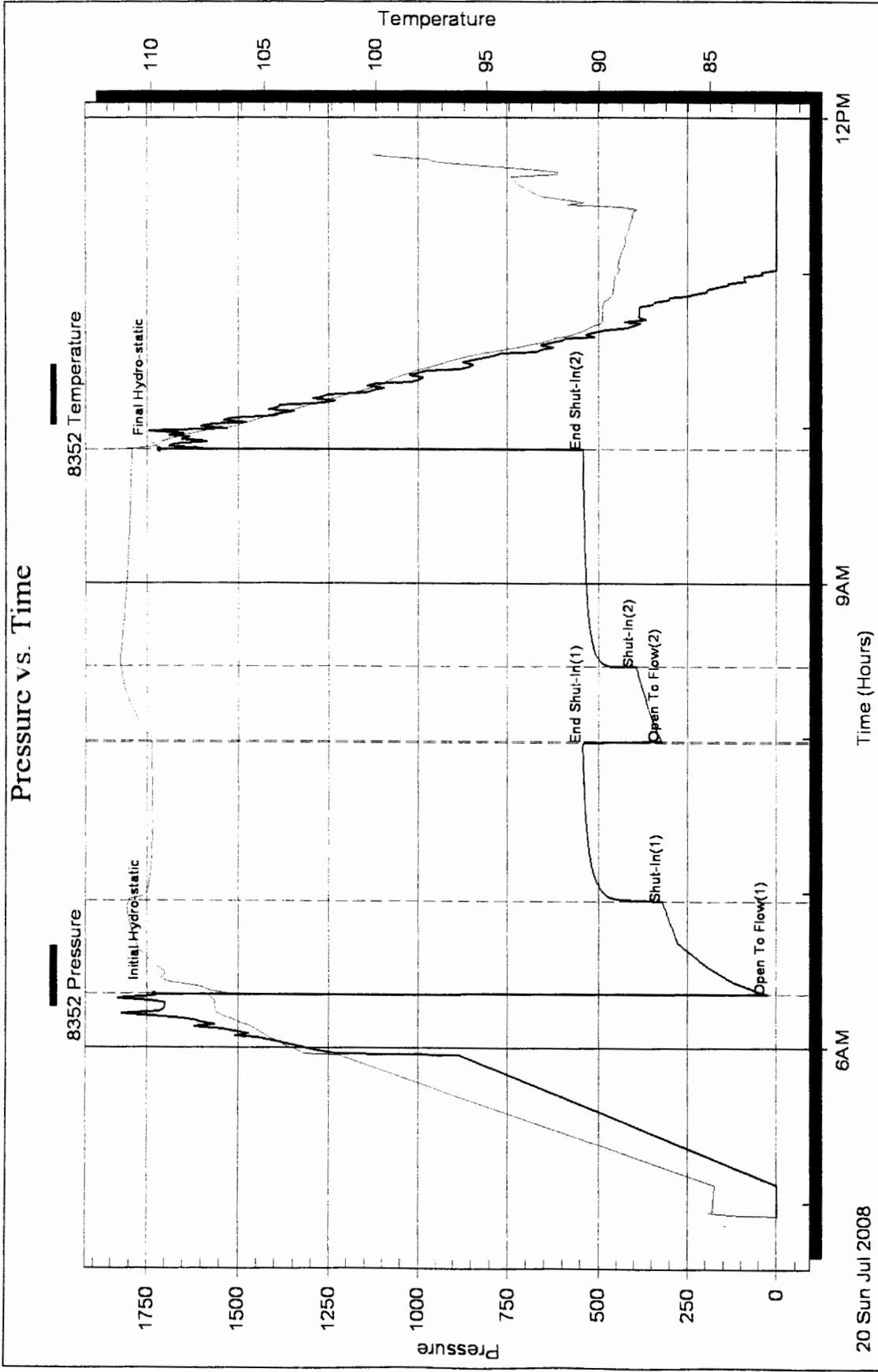
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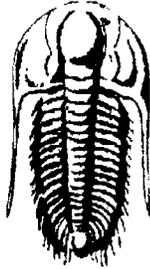
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita KS 67202

ATTN: Paul Gunzelman

7 3S 26W Decatur KS

RGM # 2-7

Start Date: 2008.07.20 @ 22:50:00

End Date: 2008.07.21 @ 06:06:39

Job Ticket #: 32073 DST #: 4

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Murfin Drilling Company

RGM # 2-7

7 3S 26W Decatur KS

DST # 4

Kansas City "H.L."

2008.07.20



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Company

RGM # 2-7

250 N Water Ste 300
Wichita KS 67202

7 3S 26W Decatur KS

Job Ticket: 32073

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2008.07.20 @ 22:50:00

GENERAL INFORMATION:

Formation: **Kansas City "H-L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:24:20

Test Type: Conventional Bottom Hole

Time Test Ended: 06:06:39

Tester: Jake Fahrenbruch

Unit No: 43

Interval: **3630.00 ft (KB) To 3737.00 ft (KB) (TVD)**

Reference Elevations: 2595.00 ft (KB)

Total Depth: 3737.00 ft (KB) (TVD)

2590.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8352

Inside

Press@RunDepth: 1112.69 psig @ 3631.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2008.07.20

End Date: 2008.07.21

Last Calib.: 2008.07.21

Start Time: 22:50:02

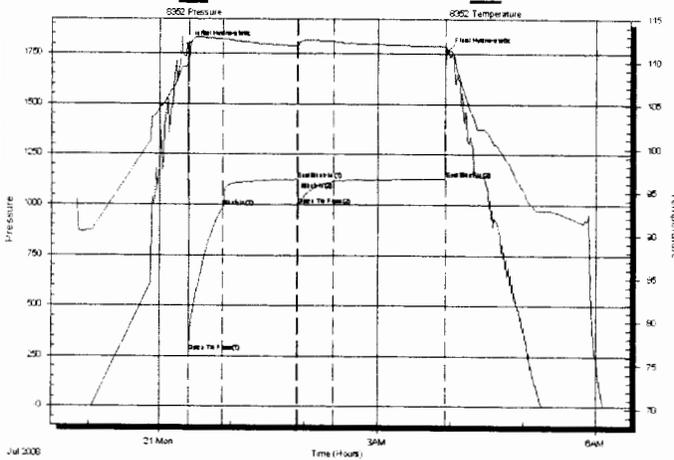
End Time: 06:06:40

Time On Btm: 2008.07.21 @ 00:23:50

Time Off Btm: 2008.07.21 @ 03:57:00

TEST COMMENT: IF Very strong blow BOB 55 sec.
ISI Bled off no blow back
FF Very strong blow BOB 1 min
FSI Bled off no blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1795.72	109.79	Initial Hydro-static
1	267.96	109.43	Open To Flow (1)
30	986.88	112.66	Shut-In(1)
91	1125.99	111.89	End Shut-In(1)
91	995.36	111.82	Open To Flow (2)
120	1112.69	112.41	Shut-In(2)
212	1128.36	111.84	End Shut-In(2)
214	1764.65	111.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbi)
2115.00	100%W	24.66
120.00	SMCW 10%M 90%W	1.68
140.00	MCW 30%M 70%W	1.96
0.00	Chlorides = 69,000 ppm	0.00

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

RGM # 2-7

250 N Water Ste 300
Wichita KS 67202

7 3S 26W Decatur KS

Job Ticket: 32073

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2008.07.20 @ 22:50:00

Tool Information

Drill Pipe:	Length: 3071.00 ft	Diameter: 3.80 inches	Volume: 43.08 bbl	Tool Weight: 3500.00 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: 550.00 ft	Diameter: 2.25 inches	Volume: 2.70 bbl	Weight to Pull Loose: 102000.0 lb
			<u>Total Volume: 45.78 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 85000.00 lb
Depth to Top Packer:	3630.00 ft			Final 97000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	107.00 ft			
Tool Length:	130.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3612.00	
Hydraulic tool	5.00			3617.00	
Safety Joint	3.00			3620.00	
Packer	5.00			3625.00	23.00 Bottom Of Top Packer
Packer	5.00			3630.00	
Stubb	1.00			3631.00	
Recorder	0.00	8352	inside	3631.00	
Recorder	0.00	6799	inside	3631.00	
Perforations	39.00			3670.00	
Blank Spacing	64.00			3734.00	
Bullnose	3.00			3737.00	107.00 Bottom Packers & Anchor
Total Tool Length:		130.00			



**TRIOLOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

RGM # 2-7

250 N Water Ste 300
Wichita KS 67202

7 3S 26W Decatur KS

Job Ticket: 32073

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2008.07.20 @ 22:50:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 50.00 sec/qt

Water Loss: 6.39 in³

Resistivity: ohm.m

Salinity: 700.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API: deg API

Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2115.00	100%W	24.658
120.00	SMCW 10%M 90%W	1.683
140.00	MCW 30%M 70%W	1.964
0.00	Chlorides = 69,000 ppm	0.000

Total Length: 2375.00 ft

Total Volume: 28.305 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

