



DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations**

P.O.Box 33
Russell, KS 67665

ATTN: Todd Morgenstern

6-11s-20w Ellis KS

Richards #9

Start Date: 2001.03.24 @ 03:15:00

End Date: 2001.03.24 @ 14:15:00

Job Ticket #: 14292 DST #: 1

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mai Oil Operations

Richards #9

P.O.Box 33
Russell, KS 67665

6-11s-20w Ellis KS

Job Ticket: 14292

DST#: 1

ATTN: Todd Morgenstern

Test Start: 2001.03.24 @ 03:15:00

GENERAL INFORMATION:

Formation: **Lansing**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:19:39

Time Test Ended: 14:15:00

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: **3356.00 ft (KB) To 3375.00 ft (KB) (TVD)**

Total Depth: 3375.00 ft (KB)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2057.00 ft (KB)

2052.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: **3227** Inside

Press@RunDepth: 395.18 psig @ 3357.01 ft (KB)

Start Date: 2001.03.24

End Date:

2001.03.24

Capacity: 7000.00 psig

Last Calib.: 2001.03.23

Start Time: 05:44:44

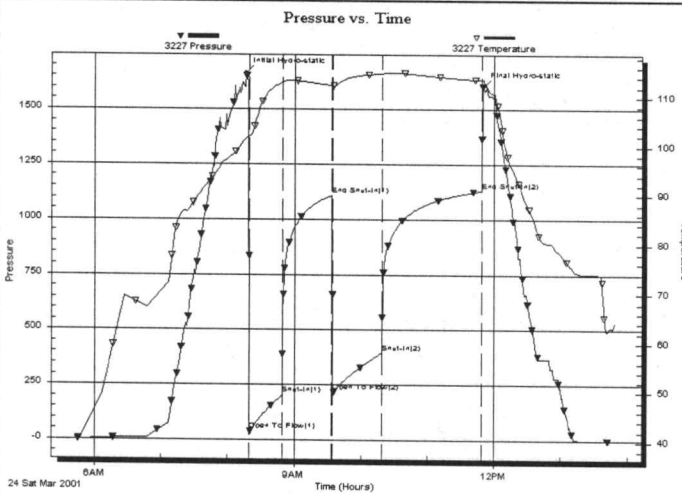
End Time:

13:48:38

Time On Btm: 2001.03.24 @ 08:16:39

Time Off Btm: 2001.03.24 @ 11:50:09

TEST COMMENT: IF-Good Bottom In 4 Min.
FF-Good Bottom In 6 Min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
152	1665.21	101.59	Initial Hydro-static
155	36.52	102.11	Open To Flow (1)
185	202.52	113.09	Shut-In(1)
229	1106.77	112.54	End Shut-In(1)
230	214.20	112.44	Open To Flow (2)
274	395.18	114.89	Shut-In(2)
364	1128.16	113.66	End Shut-In(2)
366	1604.97	113.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
800.00	Salt Water	11.22

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Mai Oil Operations

Richards #9

P.O.Box 33
Russell, KS 67665

6-11s-20w Ellis KS

Job Ticket: 14292

DST#: 1

ATTN: Todd Morgenstern

Test Start: 2001.03.24 @ 03:15:00

Tool Information

Drill Pipe:	Length: 3351.00 ft	Diameter: 3.80 inches	Volume: 47.01 bbl	Tool Weight: 2500.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
Drill Pipe Above KB:	15.00 ft			Tool Chased 0.00 ft
Depth to Top Packer:	3351.00 ft			String Weight: Initial 48000.00 lb
Depth to Bottom Packer:	ft			Final 52000.00 lb
Interval between Packers:	ft			
Tool Length:	39.02 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			3337.00	
S.I. Tool	5.00			3342.00	
HMV	5.00			3347.00	
Packer	4.00			3351.00	15.00 Bottom Of Top Packer
Packer	5.00			3356.00	
Stubb	1.00			3357.00	
Recorder	0.01	3227	Inside	3357.01	
Perforations	15.00			3372.01	
Recorder	0.01	13308	Outside	3372.02	
Bullnose	3.00			3375.02	24.02 Bottom Packers & Anchor
Total Tool Length:	39.02				

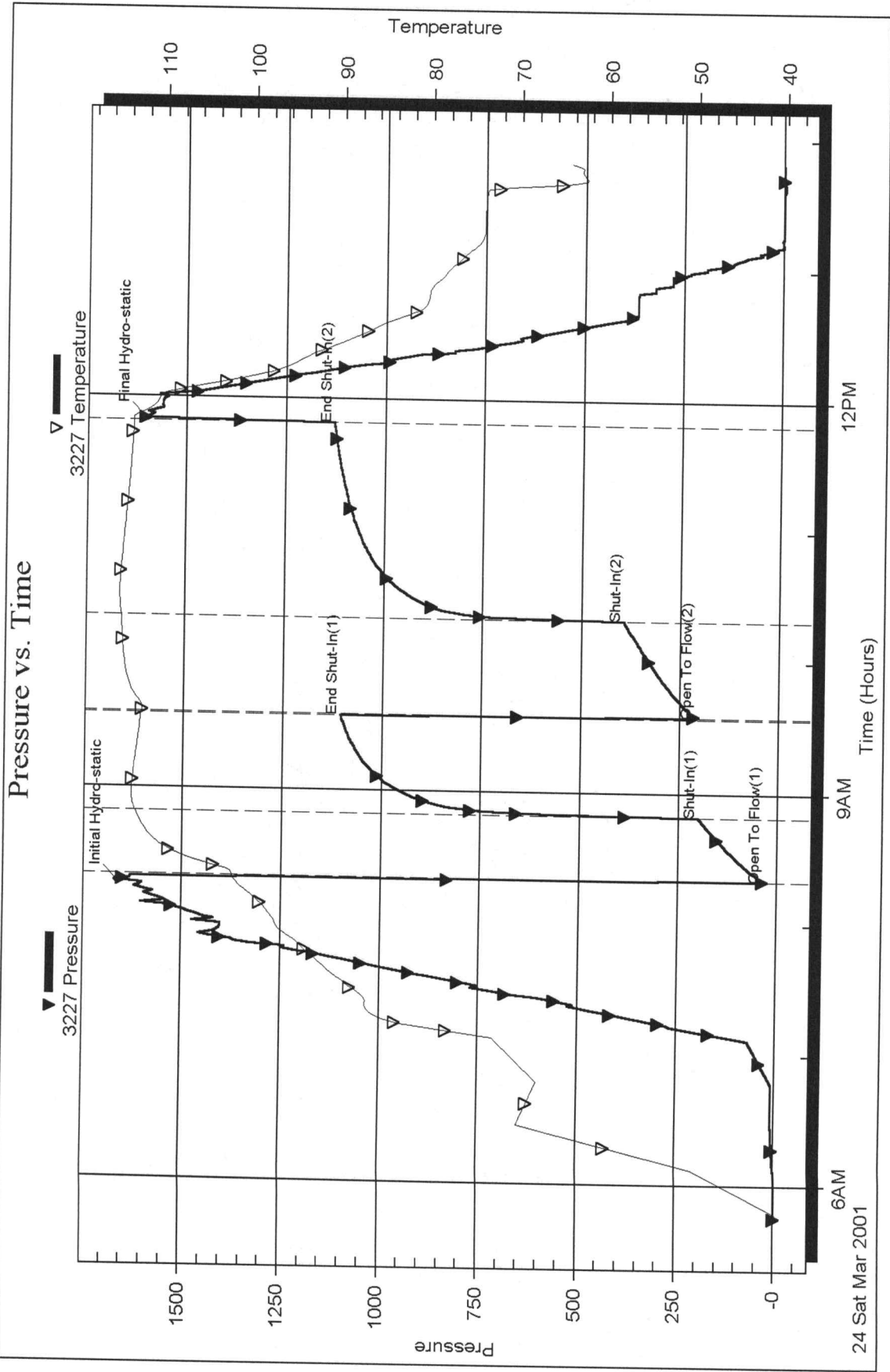
6-11s-20w Ellis KS

Inside Mai Oil Operations

Serial #: 3227

24 Sat Mar 2001

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations**

P.O.Box 33
Russell, KS 67665

ATTN: Todd Morgenstern

6-11s-20w Ellis KS

Richards #9

Start Date: 2001.03.24 @ 23:30:00

End Date: 2001.03.25 @ 09:00:00

Job Ticket #: 14293 DST #: 2

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DRILL STEM TEST REPORT

Mai Oil Operations

Richards #9

P.O.Box 33
Russell, KS 67665

6-11s-20w Ellis KS

Job Ticket: 14293

DST#: 2

ATTN: Todd Morgenstern

Test Start: 2001.03.24 @ 23:30:00

GENERAL INFORMATION:

Formation: **Lansing--G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:28:36

Time Test Ended: 09:00:00

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: **3425.00 ft (KB) To 3431.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3431.00 ft (KB)

2052.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: **3227** Inside

Press@RunDepth: 81.74 psig @ 3426.01 ft (KB)

Capacity: 7000.00 psig

Start Date: 2001.03.25

End Date:

2001.03.25

Last Calib.: 2001.03.23

Start Time: 00:51:11

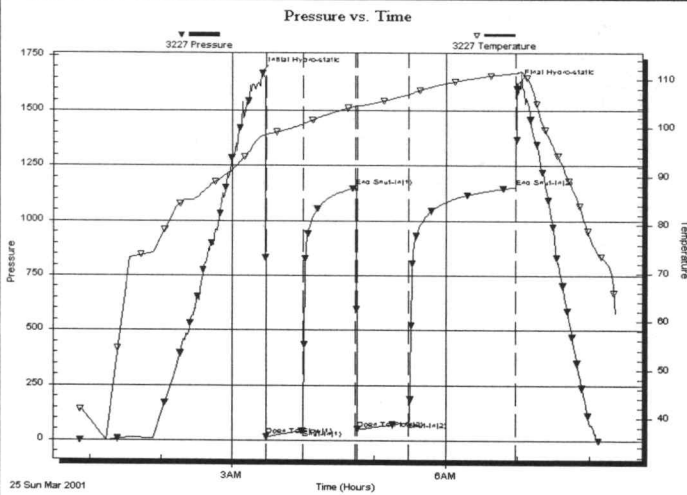
End Time:

08:22:35

Time On Btm: 2001.03.25 @ 03:25:06

Time Off Btm: 2001.03.25 @ 06:59:36

TEST COMMENT: IF-Fair 5" In
FF-Weak 3" In



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
154	1676.01	98.34	Initial Hydro-static
158	15.57	98.64	Open To Flow (1)
189	43.24	100.81	Shut-In(1)
233	1149.97	104.57	End Shut-In(1)
235	50.01	104.56	Open To Flow (2)
278	81.74	107.00	Shut-In(2)
368	1152.37	111.42	End Shut-In(2)
369	1620.87	111.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
135.00	Salt Water	1.89

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Mai Oil Operations

Richards #9

P.O.Box 33
Russell, KS 67665

6-11s-20w Ellis KS

Job Ticket: 14293

DST#: 2

ATTN: Todd Morgenstern

Test Start: 2001.03.24 @ 23:30:00

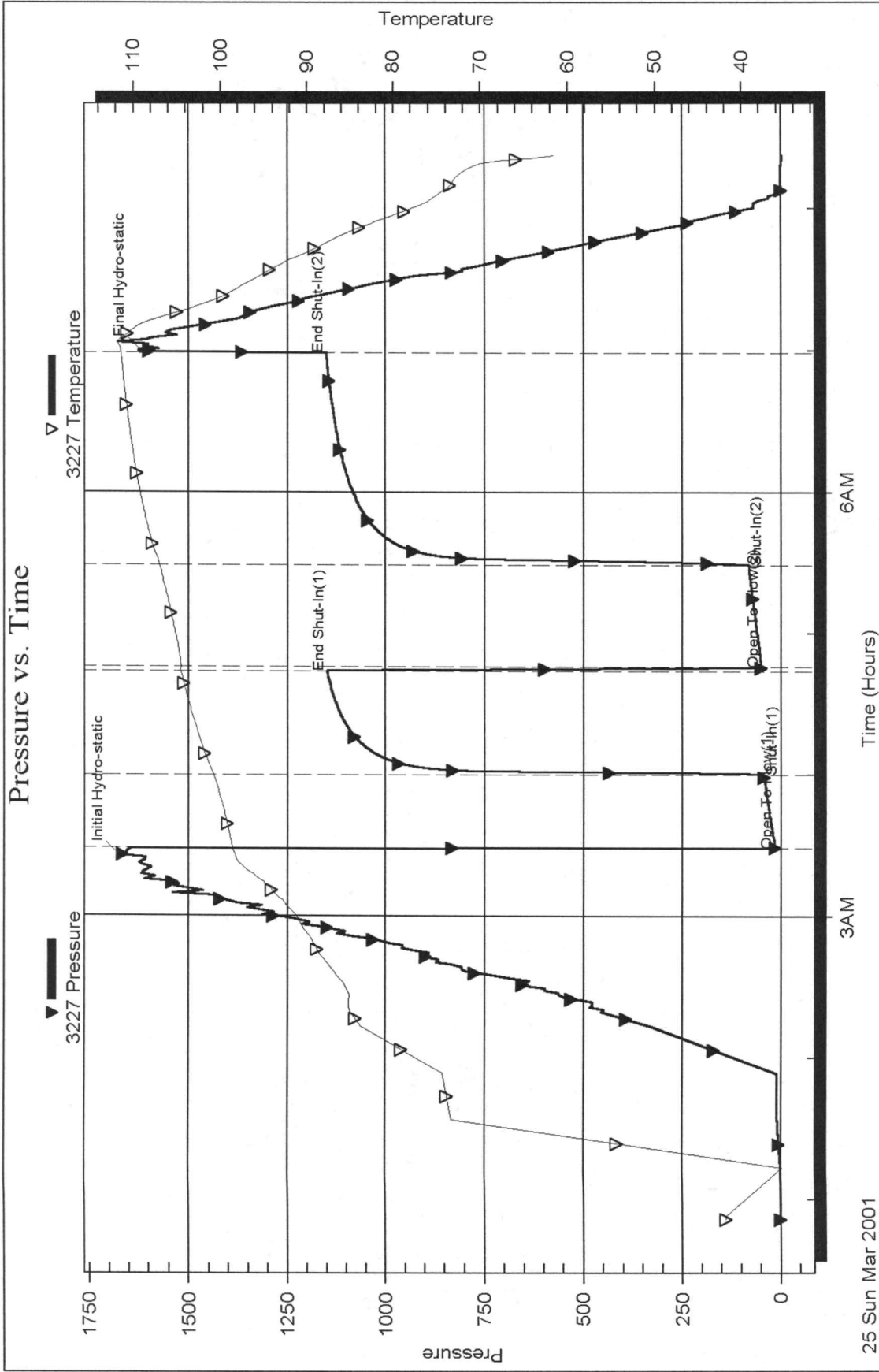
Tool Information

Drill Pipe:	Length: 3412.00 ft	Diameter: 3.80 inches	Volume: 47.86 bbl	Tool Weight: 2000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 53000.00 lb
Drill Pipe Above KB:	7.00 ft			Tool Chased 0.00 ft
Depth to Top Packer:	3420.00 ft			String Weight: Initial 48000.00 lb
Depth to Bottom Packer:	ft			Final 48000.00 lb
Interval between Packers:	ft			
Tool Length:	26.01 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			3406.00	
S.I. Tool	5.00			3411.00	
HMV	5.00			3416.00	
Packer	4.00			3420.00	15.00 Bottom Of Top Packer
Packer	5.00			3425.00	
Stubb	1.00			3426.00	
Recorder	0.01	3227	Inside	3426.01	
Perforations	2.00			3428.01	
Bullnose	3.00			3431.01	11.01 Bottom Packers & Anchor
Total Tool Length:	26.01				

Pressure vs. Time





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ATTN: Todd Morgenstern

6-11s-20w Ellis KS

Richards #9

Start Date: 2001.03.25 @ 22:30:00

End Date: 2001.03.26 @ 08:45:00

Job Ticket #: 14294 DST #: 3

Trilobite Testing, Inc
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DRILL STEM TEST REPORT

Mai Oil Operations

Richards #9

P.O.Box 33
Russell, KS 67665

6-11s-20w Ellis KS

Job Ticket: 14294

DST#: 3

ATTN: Todd Morgenstern

Test Start: 2001.03.25 @ 22:30:00

GENERAL INFORMATION:

Formation: **Lansing-H-I&J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:57:44

Time Test Ended: 08:45:00

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: **3454.00 ft (KB) To 3522.00 ft (KB) (TVD)**

Total Depth: 3375.00 ft (KB)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2057.00 ft (KB)

2052.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: **3227** Inside

Press@RunDepth: 81.66 psig @ 3457.01 ft (KB)

Start Date: 2001.03.25

End Date: 2001.03.26

Capacity: 7000.00 psig

Last Calib.: 2001.03.23

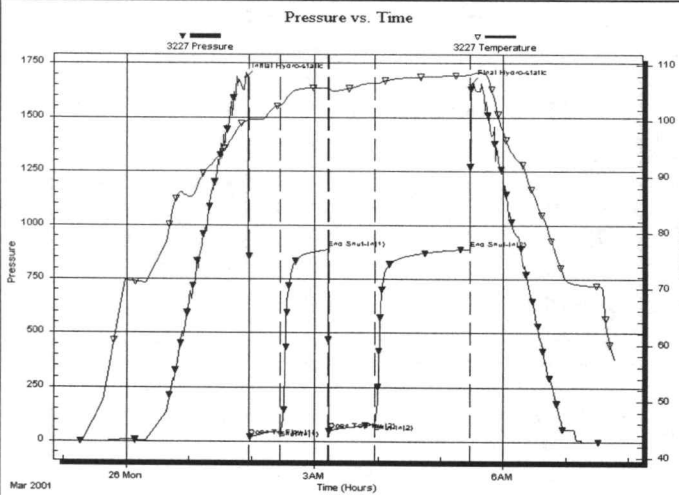
Start Time: 23:16:19

End Time: 07:47:13

Time On Btm: 2001.03.26 @ 01:54:14

Time Off Btm: 2001.03.26 @ 05:28:44

TEST COMMENT: 560--Gas In Pipe IF-Good Bottom In 20 Min.
FF-Good Bottom In 15 Min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
158	1681.55	99.82	Initial Hydro-static
162	18.37	100.11	Open To Flow (1)
192	47.95	102.83	Shut-In(1)
236	885.79	105.94	End Shut-In(1)
237	48.83	105.86	Open To Flow (2)
281	81.66	106.72	Shut-In(2)
372	889.54	108.24	End Shut-In(2)
373	1652.25	108.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	O--C--Mud	0.28
30.00	F--Oil	0.42
115.00	G--M--C--Oil	1.61

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Mai Oil Operations

Richards #9

P.O.Box 33
Russell, KS 67665

6-11s-20w Ellis KS

Job Ticket: 14294

DST#: 3

ATTN: Todd Morgenstern

Test Start: 2001.03.25 @ 22:30:00

Tool Information

Drill Pipe:	Length: 3450.00 ft	Diameter: 3.80 inches	Volume: 48.39 bbl	Tool Weight: 3000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
Drill Pipe Above KB:	16.00 ft			Tool Chased 0.00 ft
Depth to Top Packer:	3449.00 ft			String Weight: Initial 50000.00 lb
Depth to Bottom Packer:	ft			Final 51000.00 lb
Interval between Packers:	ft			
Tool Length:	88.02 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			3435.00	
S.I. Tool	5.00			3440.00	
HMV	5.00			3445.00	
Packer	4.00			3449.00	15.00 Bottom Of Top Packer
Packer	5.00			3454.00	
Stubb	1.00			3455.00	
Perforations	2.00			3457.00	
Recorder	0.01	3227	Inside	3457.01	
C.O. Sub	1.00			3458.01	
Blank Spacing	32.00			3490.01	
C.O. Sub	1.00			3491.01	
Perforations	28.00			3519.01	
Recorder	0.01	13308	Outside	3519.02	
Bullnose	3.00			3522.02	73.02 Bottom Packers & Anchor

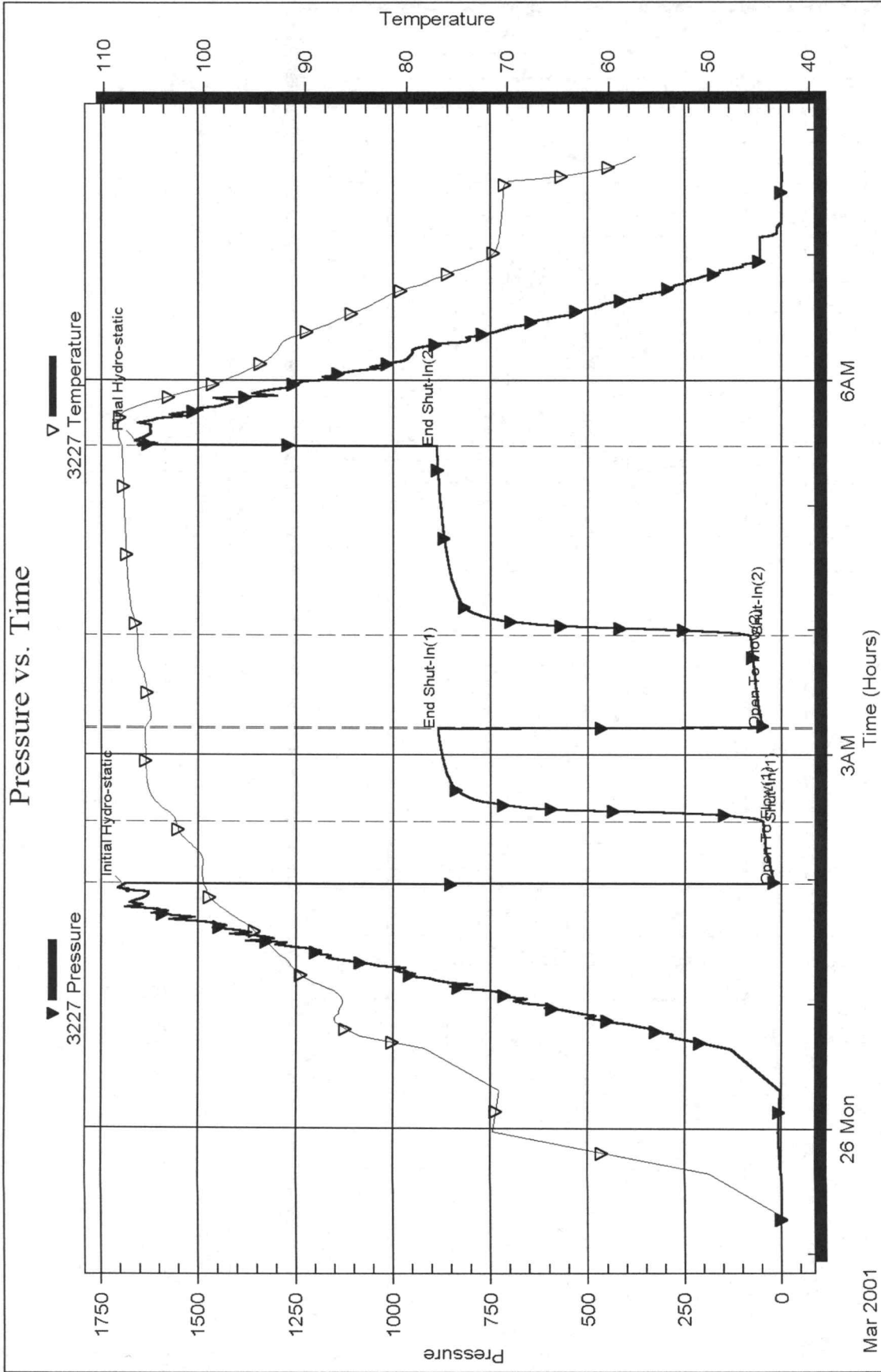
Total Tool Length: 88.02

Serial #: 3227

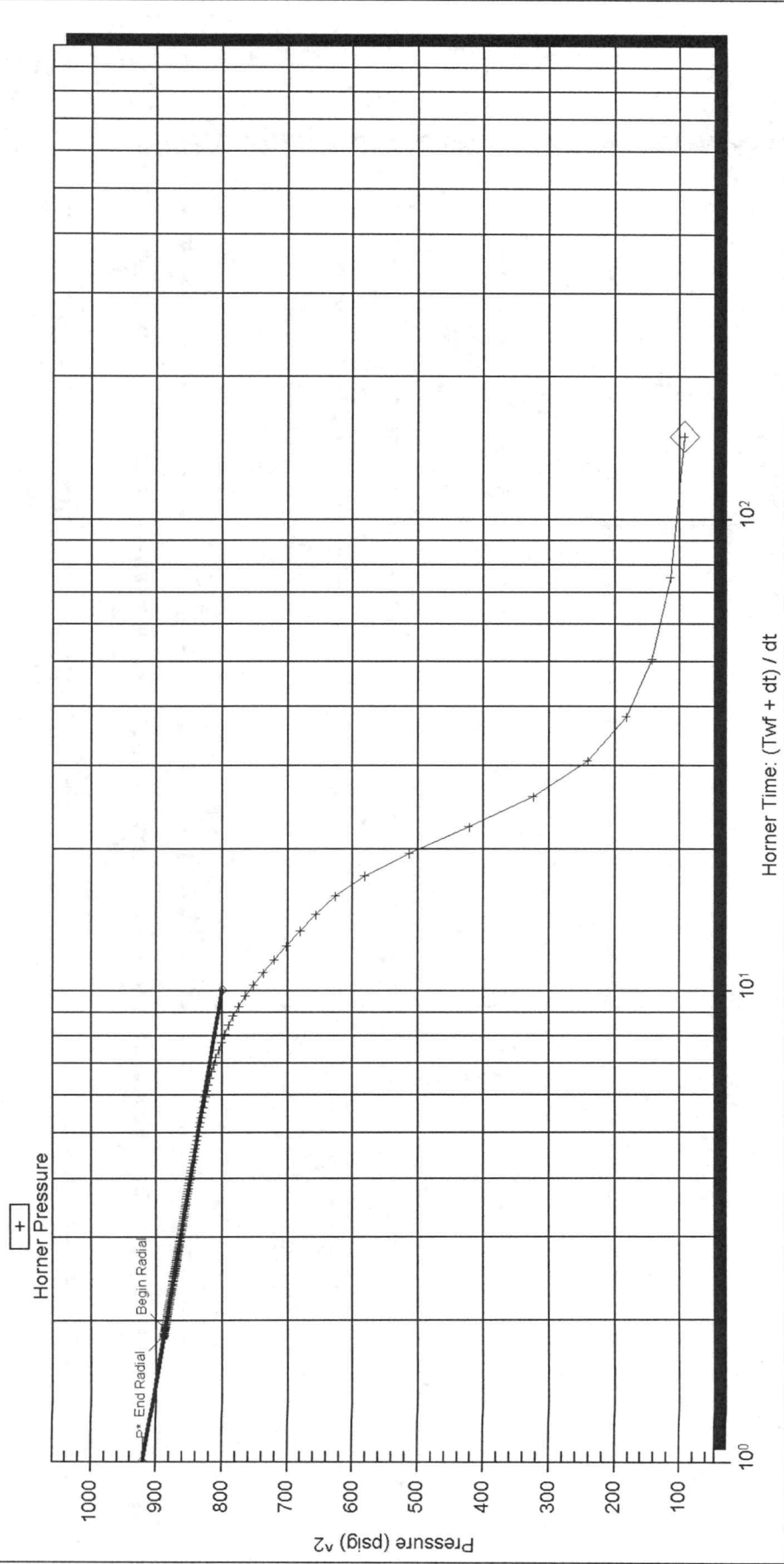
Inside

Mai Oil Operations

6-11s-20w Ellis KS



Horner Plot



Serial Number: 3227 (Inside)

Flow Cycle: 1

Analysis (Fluid)

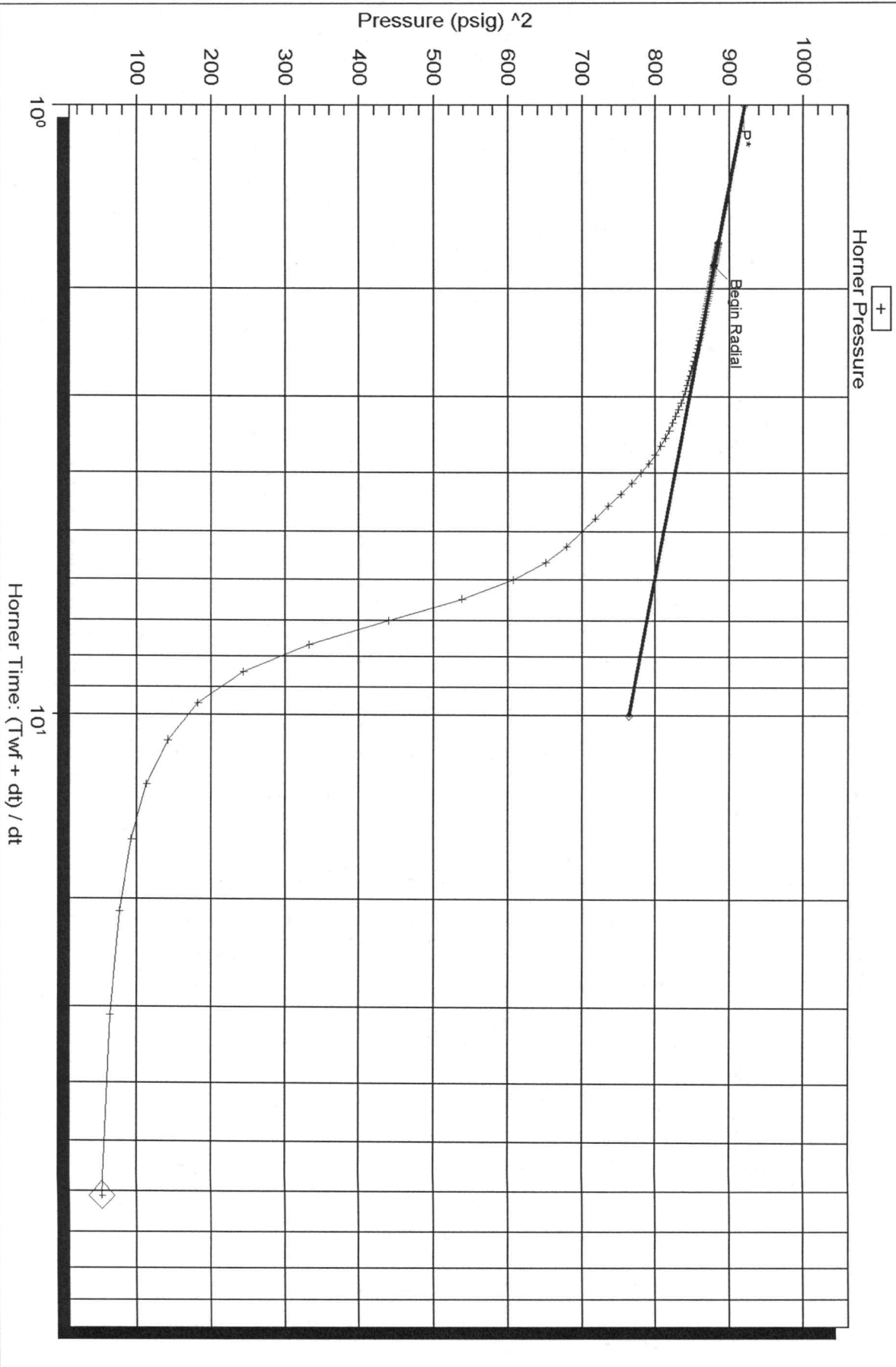
Inputs

Average Fluid Viscosity: Net Pay Thickness: Initial Static Reservoir Pressure: 920.85 Volume of Recovered Fluid: 2.31
 Total System Compress: Formation Porosity: Flowing Bottom Hole Pressure: 81.66 Total Flowing Time: 1.23
 Formation Volume Factor: Water Saturation: Wellbore Radius: 3.94

Outputs

Horner Slope (m): 121.2 Effective Permeability:
 Radius of Investigation: Apparent Skin Factor:
 Fluid Flow Rate: kh:

Horner Plot



Serial Number: 3227 (inside)

Flow Cycle: 1

Horner Plot

