



DRILL STEM TEST REPORT

Prepared For: **Sam Gary Jr. & Assoc.inc.**

1515 Wynkoop
Suite 700
Denver Co. 80202

ATTN: Neil Sharp

22-16s-16w Rush Co.

Hoss 1-22

Start Date: 2010.12.02 @ 21:47:05

End Date: 2010.12.03 @ 05:34:09

Job Ticket #: 039993 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

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Hoss 1-22

1515 Wynkoop
Suite 700
Denver Co. 80202
ATTN: Neil Sharp

22-16s-16w Rush Co.

Job Ticket: 039993 **DST#: 1**

Test Start: 2010.12.02 @ 21:47:05

GENERAL INFORMATION:

Formation: **LKC "F-G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:37:10

Time Test Ended: 05:34:09

Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 31

Interval: 3300.00 ft (KB) To 3336.00 ft (KB) (TVD)

Reference Elevations: 1939.00 ft (KB)

Total Depth: 3336.00 ft (KB) (TVD)

1931.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8352 Outside

Press@RunDepth: 27.62 psig @ 3301.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2010.12.02

End Date:

2010.12.03

Last Calib.: 2010.12.03

Start Time: 21:47:05

End Time:

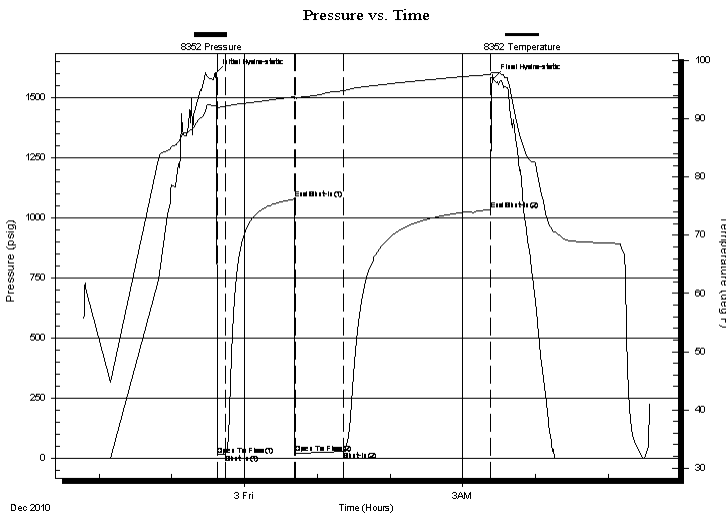
05:34:10

Time On Btm: 2010.12.02 @ 23:36:10

Time Off Btm: 2010.12.03 @ 03:24:50

TEST COMMENT: IF: Weak, 1 inch
IS: No Return
FF: Weak, 1inch
FS: No Return

PRESSURE SUMMARY



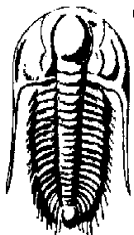
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1598.79	92.27	Initial Hydro-static
1	14.34	91.79	Open To Flow (1)
9	18.16	92.23	Shut-In(1)
66	1077.98	93.86	End Shut-In(1)
66	18.95	93.51	Open To Flow (2)
106	27.62	94.90	Shut-In(2)
227	1034.83	97.69	End Shut-In(2)
229	1580.73	97.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud with very slight oil specks	0.05

Gas Rates

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



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Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 31

Interval: **3300.00 ft (KB) To 3336.00 ft (KB) (TVD)**

Total Depth: 3336.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1939.00 ft (KB)

1931.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8017

Inside

Press@RunDepth: psig @ 3301.00 ft (KB)

Start Date: 2010.12.02

End Date:

2010.12.03

Start Time: 21:47:05

End Time:

05:33:59

Capacity: 8000.00 psig

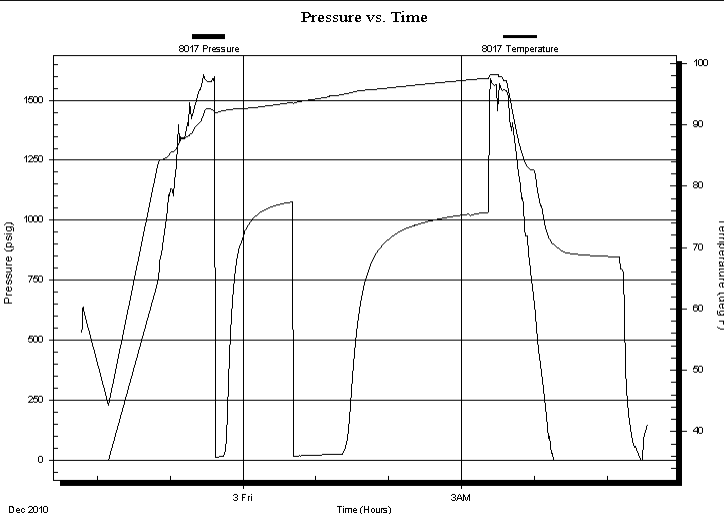
Last Calib.:

2010.12.03

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Weak, 1 inch
IS: No Return
FF: Weak, 1inch
FS: No Return



PRESSURE SUMMARY

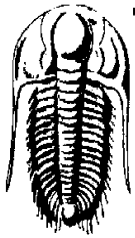
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w ith very slight oil specks	0.05

Gas Rates

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



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Job Ticket: 039993

DST#: 1

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GENERAL INFORMATION:

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Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:37:10

Time Test Ended: 05:34:09

Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 31

Interval: 3300.00 ft (KB) To 3336.00 ft (KB) (TVD)

Reference Elevations: 1939.00 ft (KB)

Total Depth: 3336.00 ft (KB) (TVD)

1931.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8650 Fluid

Press @ Run Depth: psig @ 3266.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2010.12.02

End Date: 2010.12.03

Last Calib.: 2010.12.03

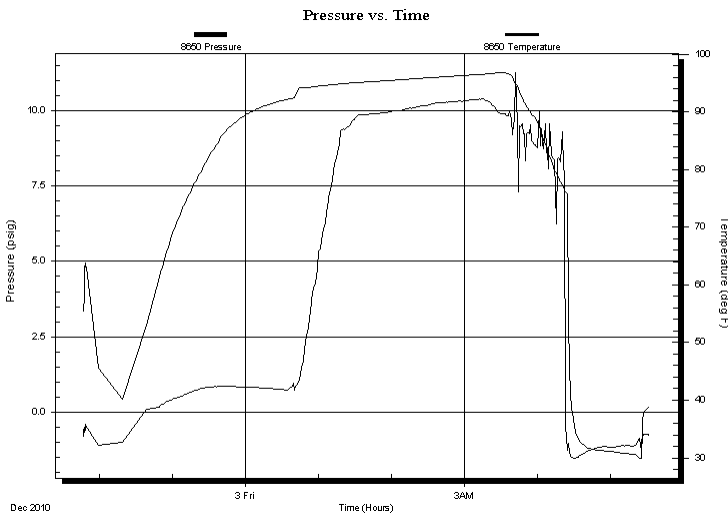
Start Time: 21:47:01

End Time: 05:32:30

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Weak, 1 inch
IS: No Return
FF: Weak, 1 inch
FS: No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w ith very slight oil specks	0.05

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Sam Gary Jr. & Assoc.inc.

Hoss 1-22

1515 Wynkoop
Suite 700
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22-16s-16w Rush Co.

Job Ticket: 039993

DST#: 1

Test Start: 2010.12.02 @ 21:47:05

Tool Information

Drill Pipe:	Length: 3266.00 ft	Diameter: 3.80 inches	Volume: 45.81 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 30.81 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 45.96 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.81 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3300.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	36.00 ft				
Tool Length:	71.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3266.00	
Recorder	0.00	8650	Fluid	3266.00	
Blank Spacing	4.00			3270.00	
Shut In Tool	5.00			3275.00	
Sampler	3.00			3278.00	
Hydraulic tool	5.00			3283.00	
Jars	5.00			3288.00	
Safety Joint	3.00			3291.00	
Packer	5.00			3296.00	35.00 Bottom Of Top Packer
Packer	4.00			3300.00	
Stubb	1.00			3301.00	
Recorder	0.00	8017	Inside	3301.00	
Recorder	0.00	8352	Outside	3301.00	
Perforations	32.00			3333.00	
Bullnose	3.00			3336.00	36.00 Bottom Packers & Anchor

Total Tool Length: 71.00



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FLUID SUMMARY

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Job Ticket: 039993

DST#: 1

Test Start: 2010.12.02 @ 21:47:05

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.20 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6300.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud with very slight oil specks	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

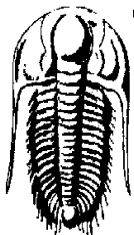
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Recovery- Gas=.1/20th CF Mud=800 ML Pressure=450LBS



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GAS RATES

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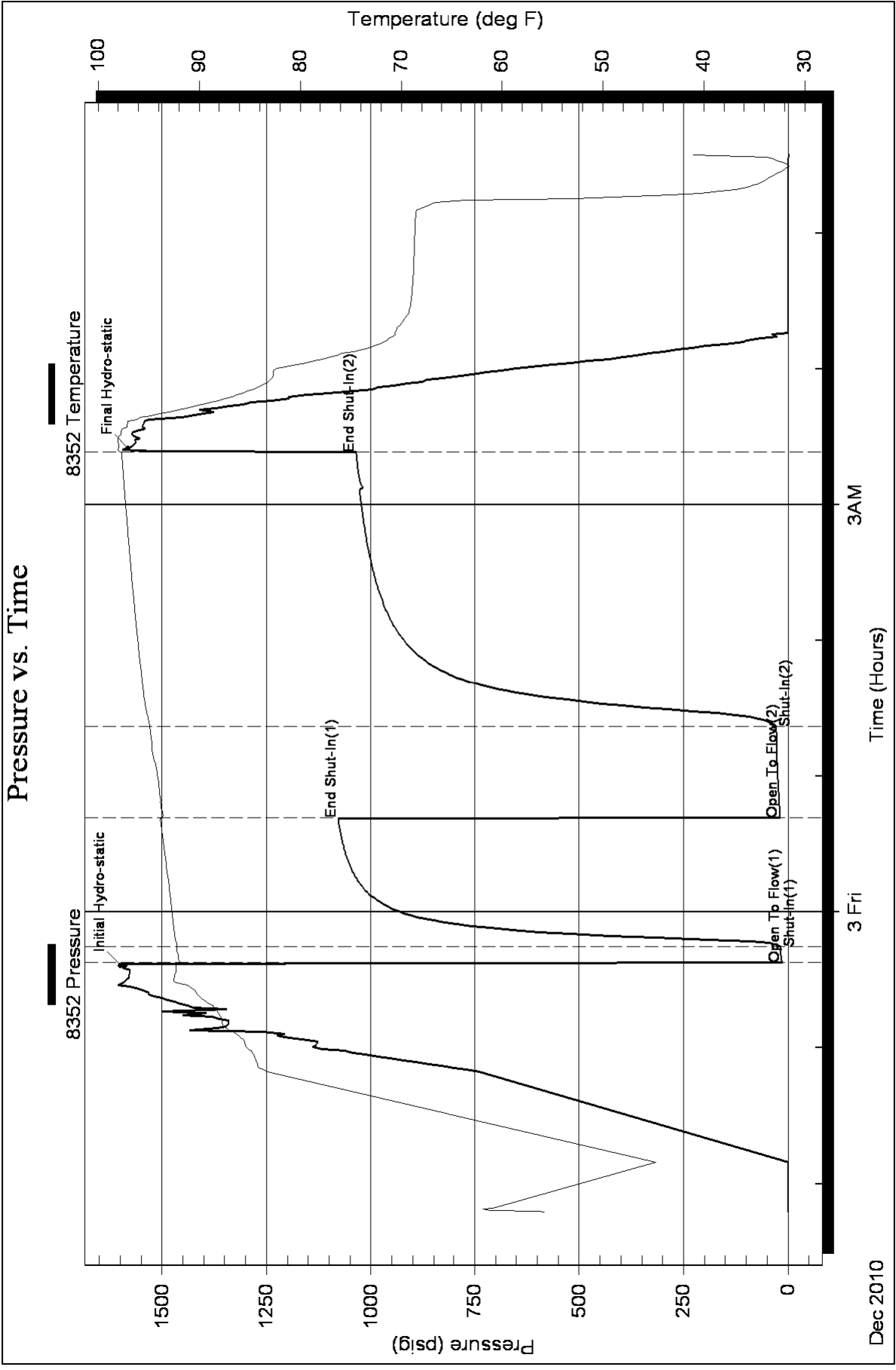
Gas Rates Information

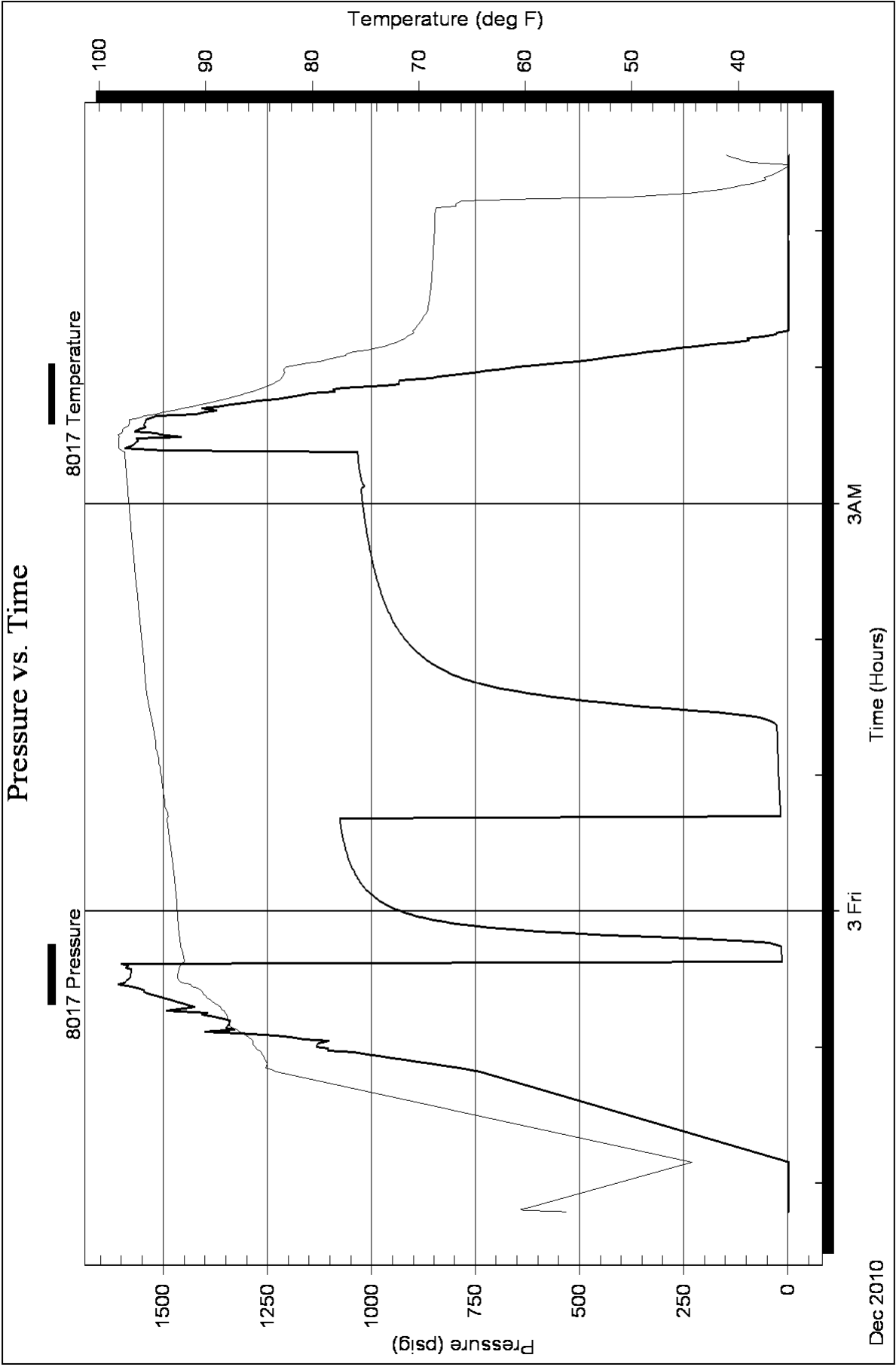
Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

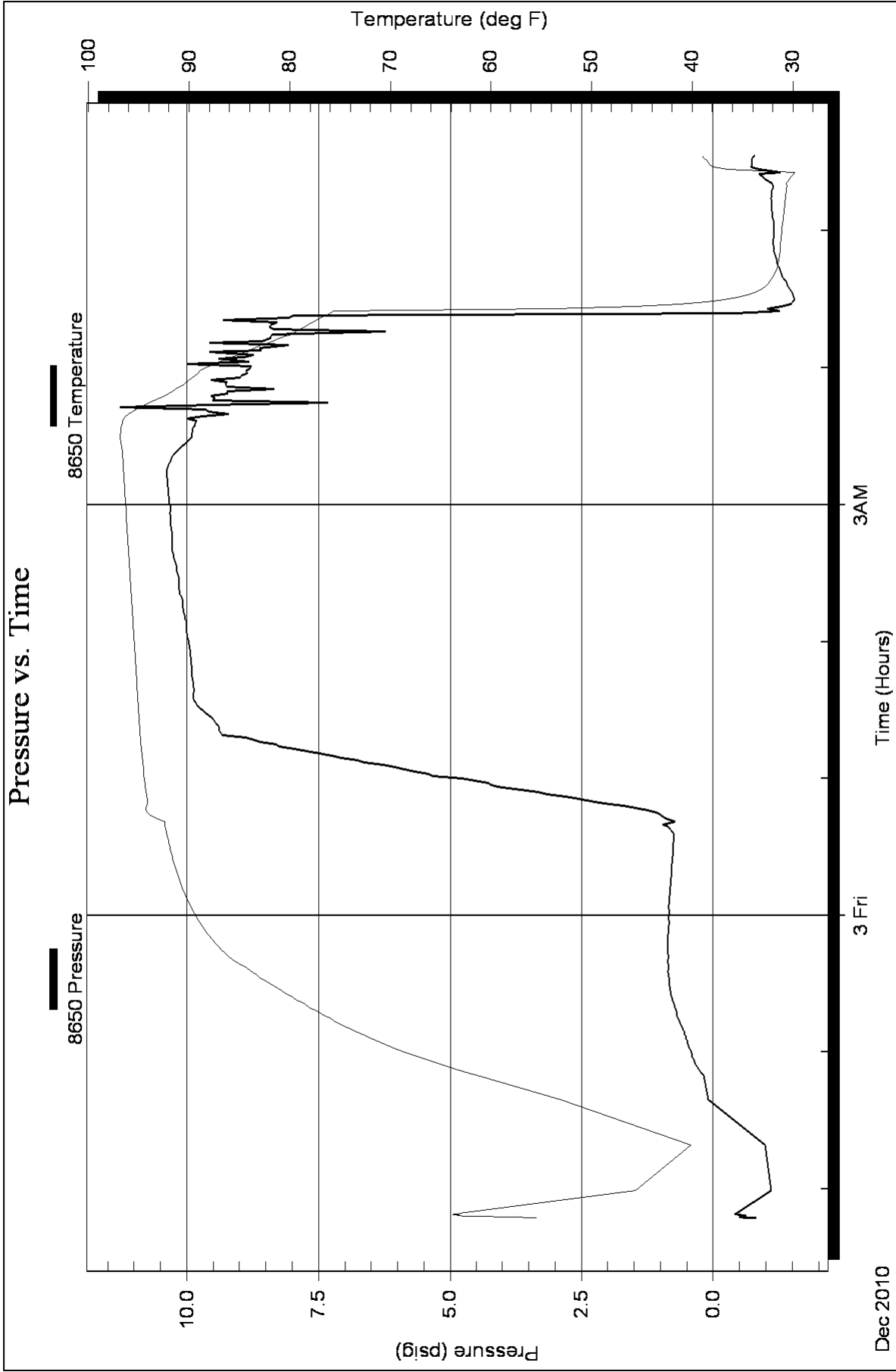
Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m ³ /d)
		0.00	0.00	0.00

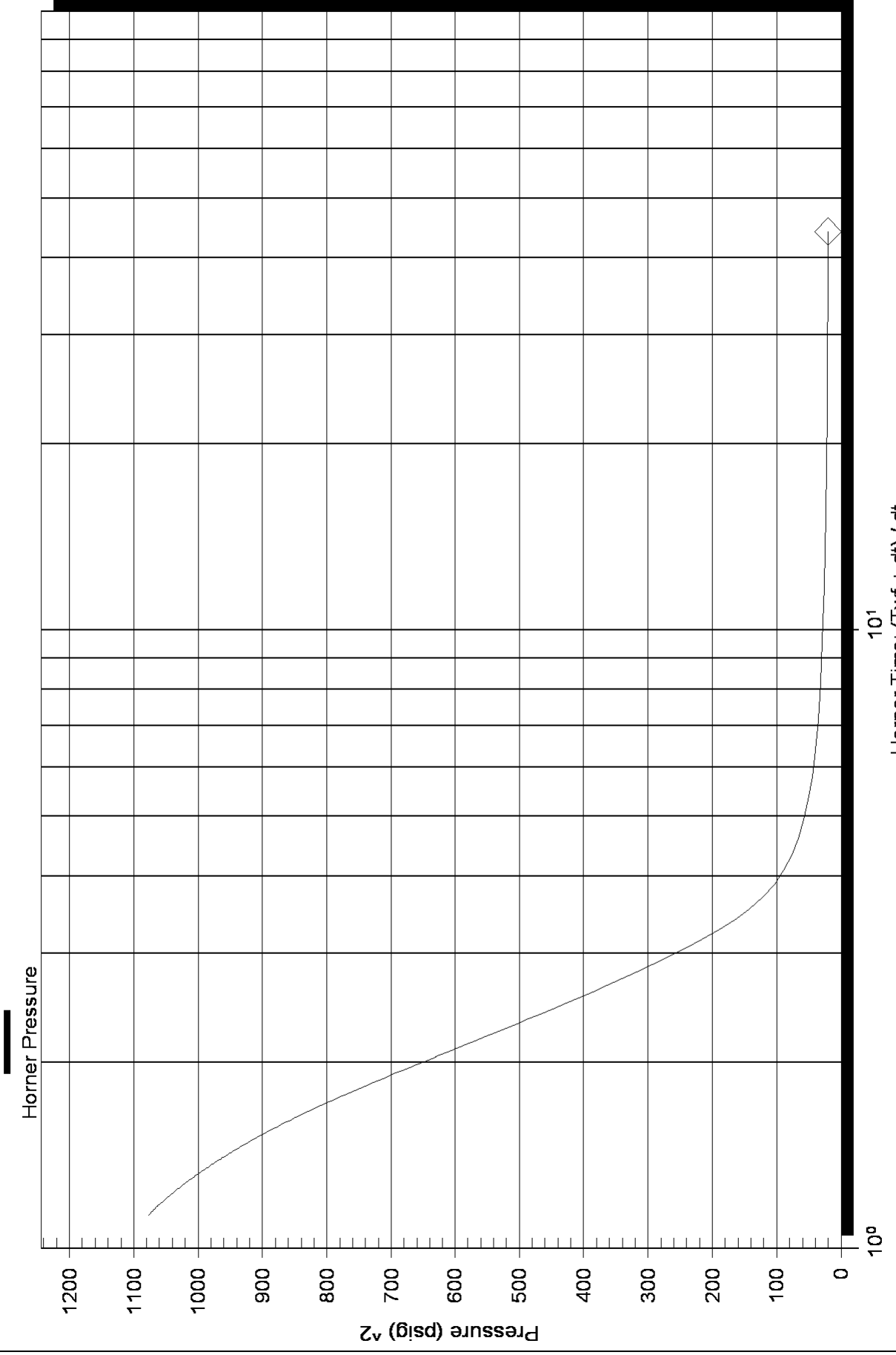
Pressure vs. Time



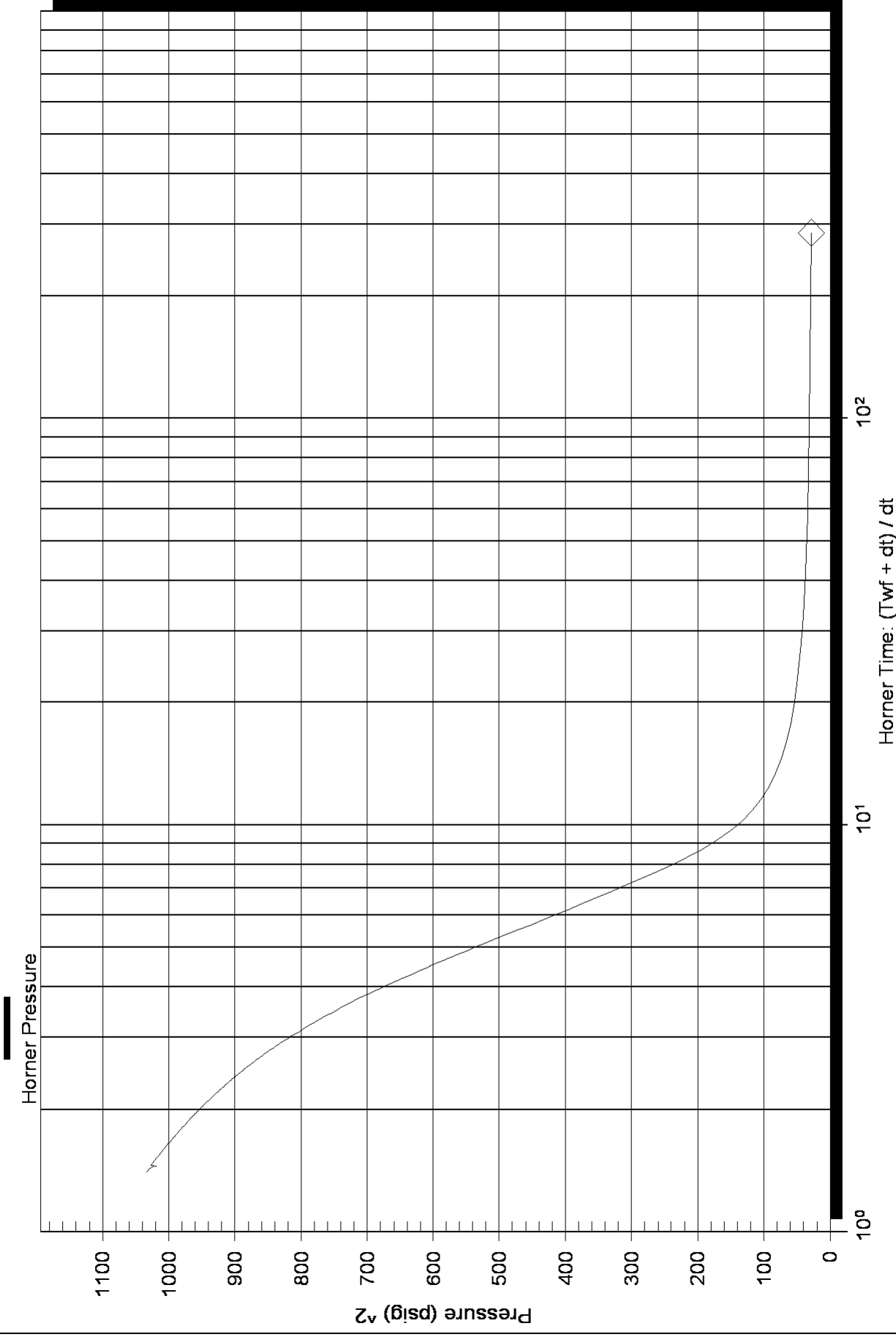




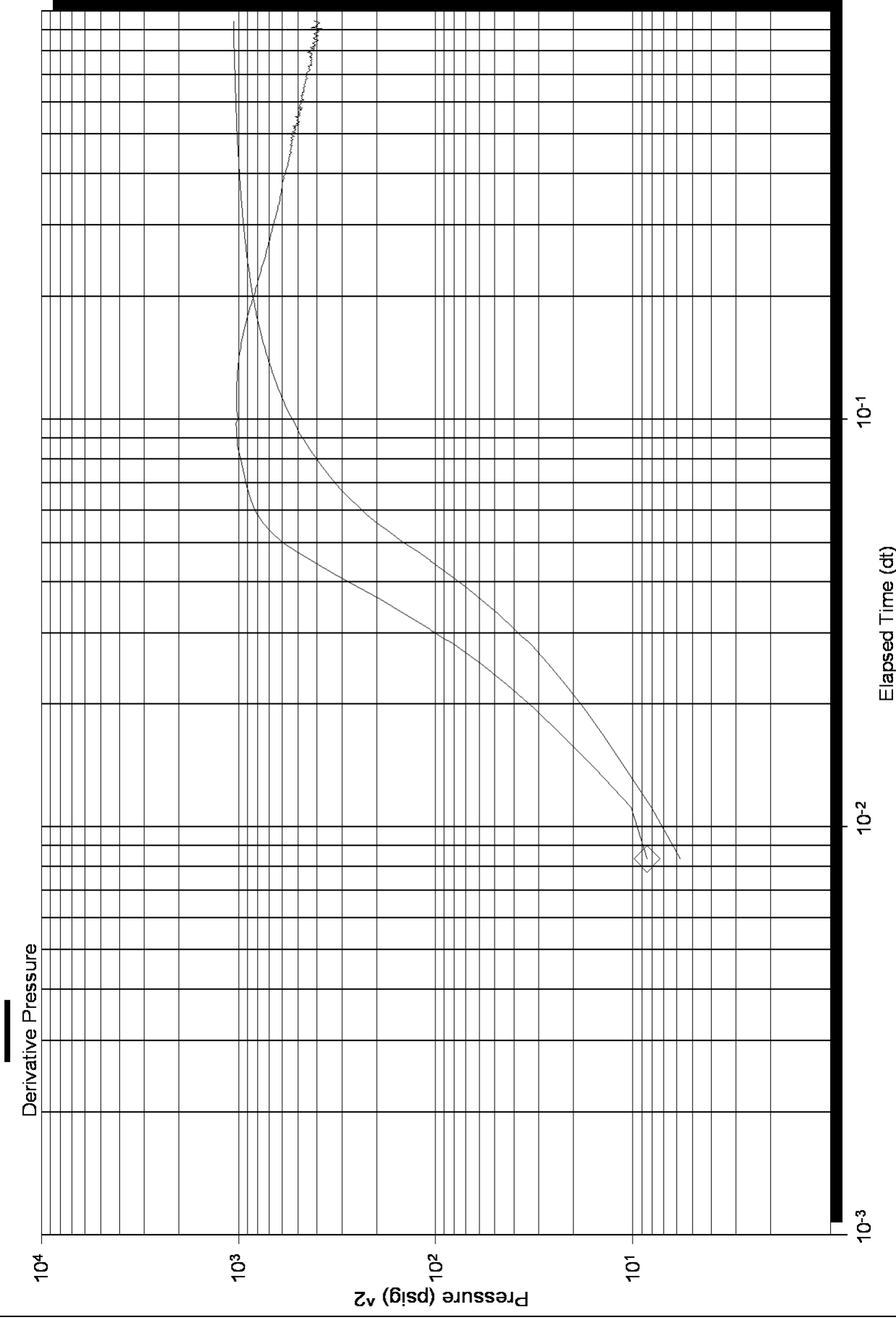
Homer Plot



Homer Plot



Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Log-Derivative

