



## DRILL STEM TEST REPORT

Prepared For: **Samuel gary & Associates Inc**

1515 Wynkoop St  
Suite 700  
Denver Co 80202

ATTN: Clayton Camozzi

**20-15s-15w-Russell**

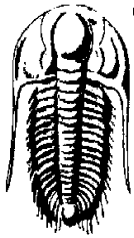
**Maier Trust et al 1-20**

Start Date: 2011.05.20 @ 12:11:41

End Date: 2011.05.20 @ 17:46:11

Job Ticket #: 43805                      DST #: 1

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



**TRILOBITE TESTING, INC**

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Samuel Gary & Associates Inc

**Maier Trust et al 1-20**

1515 Wynkoop St

**20-15s-15w-Russell**

Suite 700

Job Ticket: 43805

**DST#: 1**

Denver Co 80202

Test Start: 2011.05.20 @ 12:11:41

ATTN: Clayton Camozzi

## GENERAL INFORMATION:

Formation: **Lansing "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:35:11

Time Test Ended: 17:46:11

Test Type: Conventional Bottom Hole

Tester: Jeff Brown

Unit No: 44

**Interval: 3091.00 ft (KB) To 3134.00 ft (KB) (TVD)**

Reference Elevations: 1806.00 ft (KB)

Total Depth: 3134.00 ft (KB) (TVD)

1798.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 6672 Inside**

Press @ Run Depth: 36.44 psig @ 3098.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.05.20 End Date: 2011.05.20

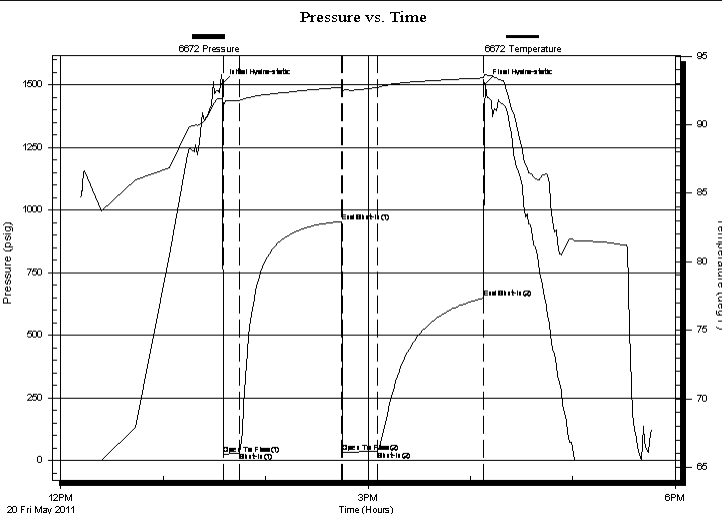
Last Calib.: 2011.05.20

Start Time: 12:11:42 End Time: 17:46:11

Time On Btm: 2011.05.20 @ 13:34:41

Time Off Btm: 2011.05.20 @ 16:08:41

**TEST COMMENT:** IFP-10 min-Weak blow built to 1 1/8 in  
 ISI-60 min-Dead no blow back  
 FFP-20 min-Weak surface blow died out in 5 min  
 FSI-60 min Dead no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1504.68	91.99	Initial Hydro-static
1	23.11	91.38	Open To Flow (1)
10	31.41	91.79	Shut-In(1)
70	953.17	92.73	End Shut-In(1)
71	32.66	92.42	Open To Flow (2)
91	36.44	92.74	Shut-In(2)
153	648.68	93.41	End Shut-In(2)
154	1503.36	93.67	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
8.00	MUD	0.04

## Gas Rates

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





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ATTN: Clayton Camozzi

**20-15s-15w-Russell**

Job Ticket: 43805 **DST#: 1**

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Reference Elevations: 1806.00 ft (KB)

Total Depth: 3134.00 ft (KB) (TVD)

1798.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 8321 Outside**

Press @ Run Depth: psig @ 3098.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.05.20 End Date: 2011.05.20

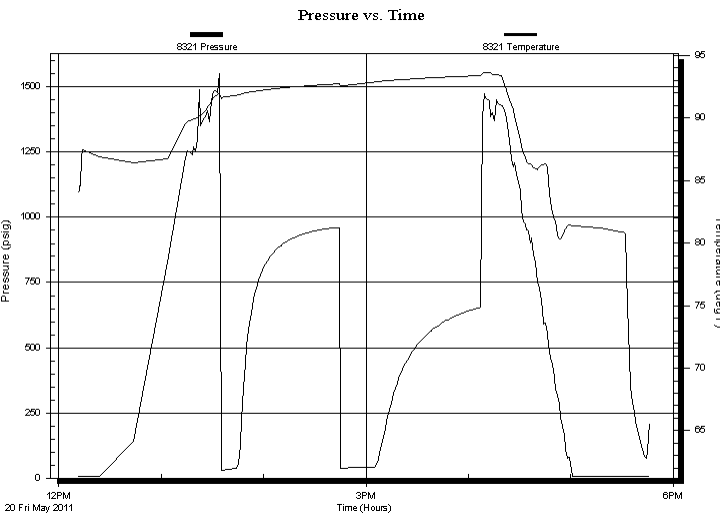
Last Calib.: 2011.05.20

Start Time: 12:11:43 End Time: 17:46:12

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IFP-10 min-Weak blow built to 1 1/8 in  
ISI-60 min-Dead no blow back  
FFP-20 min-Weak surface blow died out in 5 min  
FSI-60 min Dead no blow back



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
8.00	MUD	0.04

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Samuel Gary & Associates Inc

**Maier Trust et al 1-20**

1515 Wynkoop St

**20-15s-15w-Russell**

Suite 700

Job Ticket: 43805

**DST#: 1**

Denver Co 80202

Test Start: 2011.05.20 @ 12:11:41

ATTN: Clayton Camozzi

## Tool Information

Drill Pipe:	Length: 3042.00 ft	Diameter: 3.80 inches	Volume: 42.67 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 48000.00 lb
			<u>Total Volume: 42.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3091.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	43.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

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

Change Over Sub	1.00			3057.00	
Recorder	0.00	8679	Fluid	3057.00	
Stubb	5.00			3062.00	
Shut In Tool	5.00			3067.00	
Sampler	2.00			3069.00	
Hydraulic tool	5.00			3074.00	
Jars	5.00			3079.00	
Safety Joint	3.00			3082.00	
Packer	4.00			3086.00	35.00 Bottom Of Top Packer
Packer	5.00			3091.00	
Stubb	1.00			3092.00	
Perforations	5.00			3097.00	
Change Over Sub	1.00			3098.00	
Recorder	0.00	6672	Inside	3098.00	
Recorder	0.00	8321	Outside	3098.00	
Drill Pipe	30.00			3128.00	
Change Over Sub	1.00			3129.00	
Perforations	2.00			3131.00	
Bullnose	3.00			3134.00	43.00 Bottom Packers & Anchor

**Total Tool Length: 78.00**



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**FLUID SUMMARY**

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**20-15s-15w-Russell**  
Job Ticket: 43805      **DST#: 1**  
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**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: 41.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4000.00 ppm			
Filter Cake: inches			

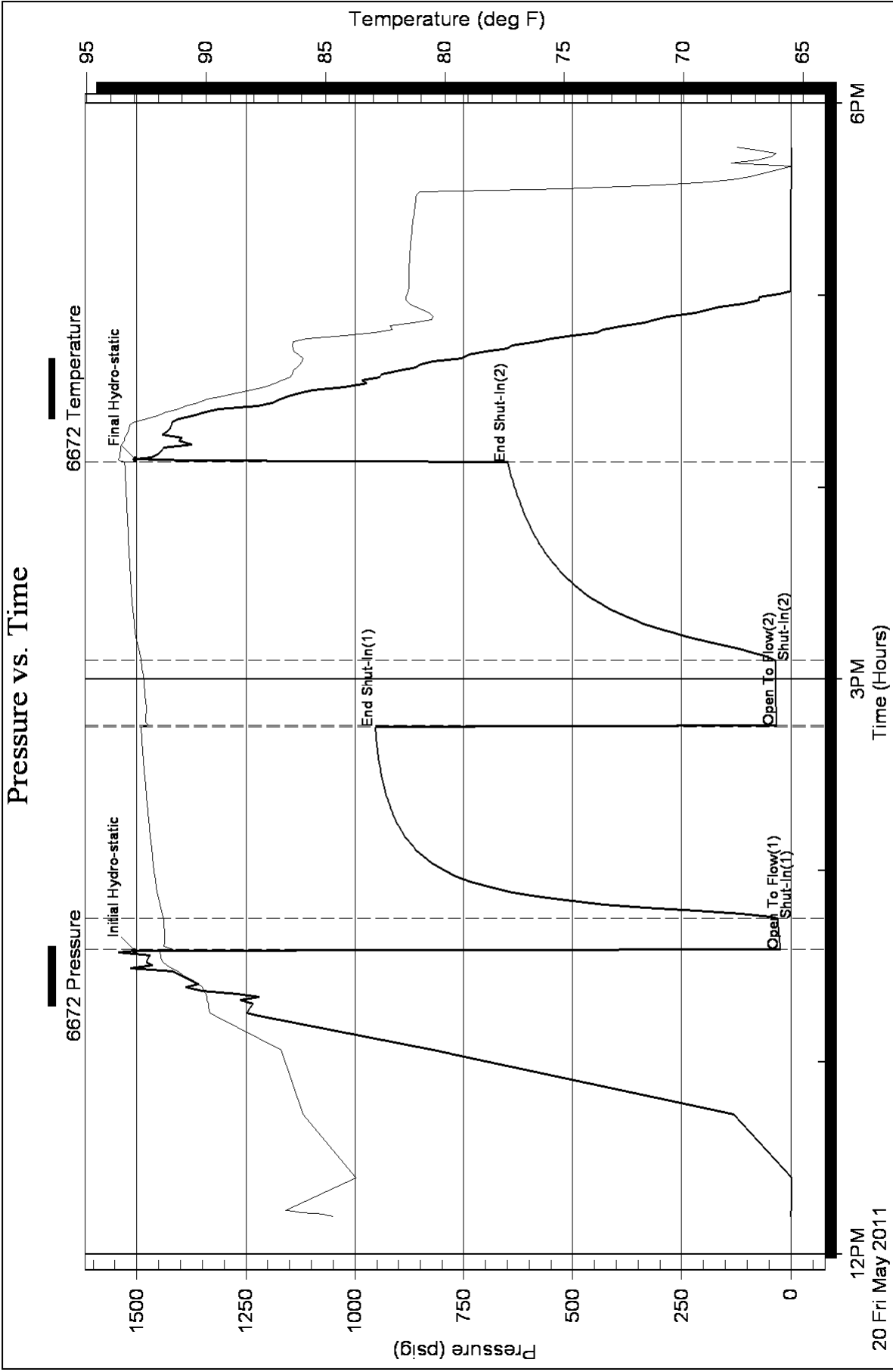
**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
8.00	MUD	0.039

Total Length: 8.00 ft      Total Volume: 0.039 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

### Pressure vs. Time



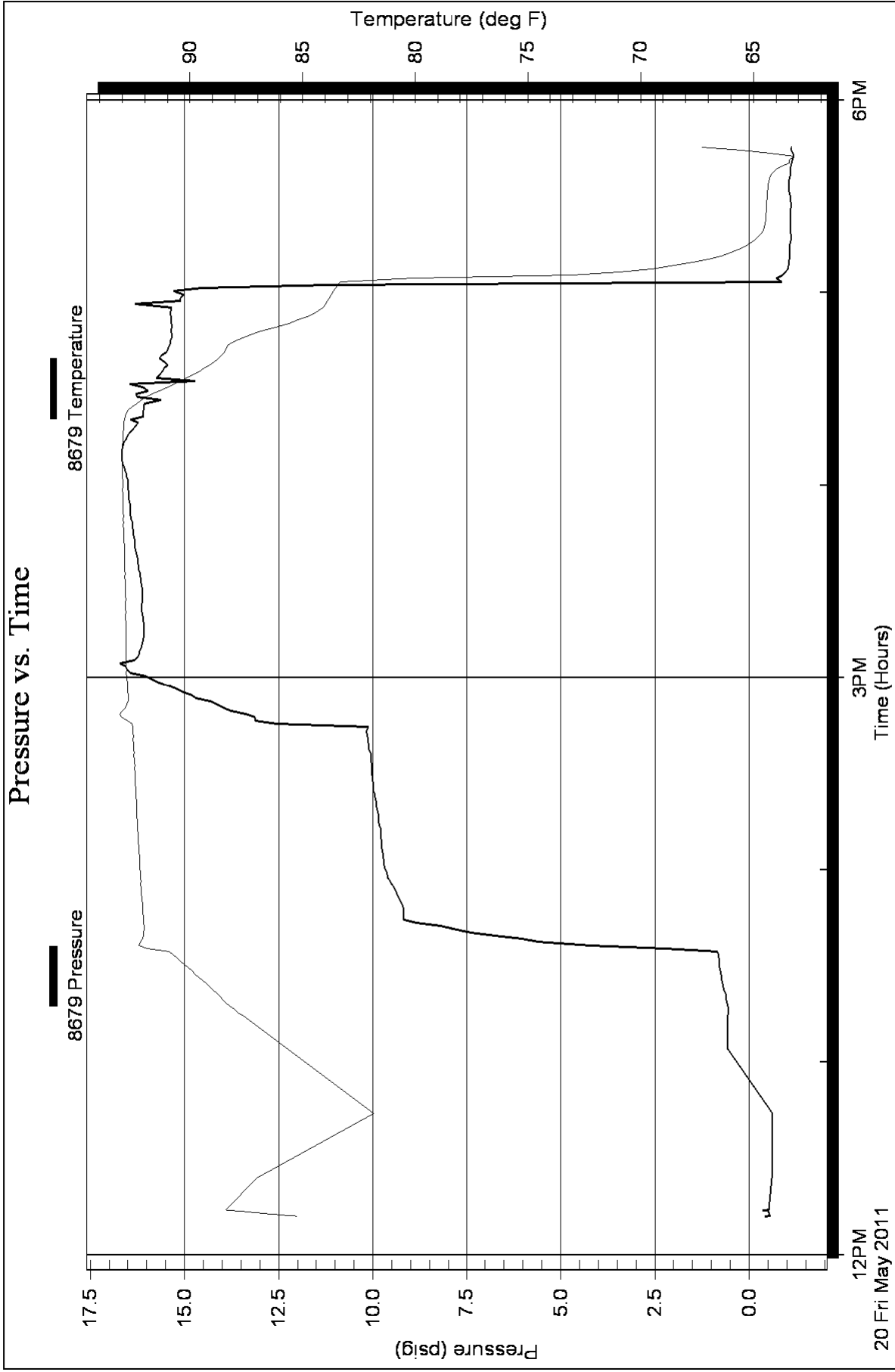
Serial #: 8679

Fluid

Samuel Gary & Associates Inc

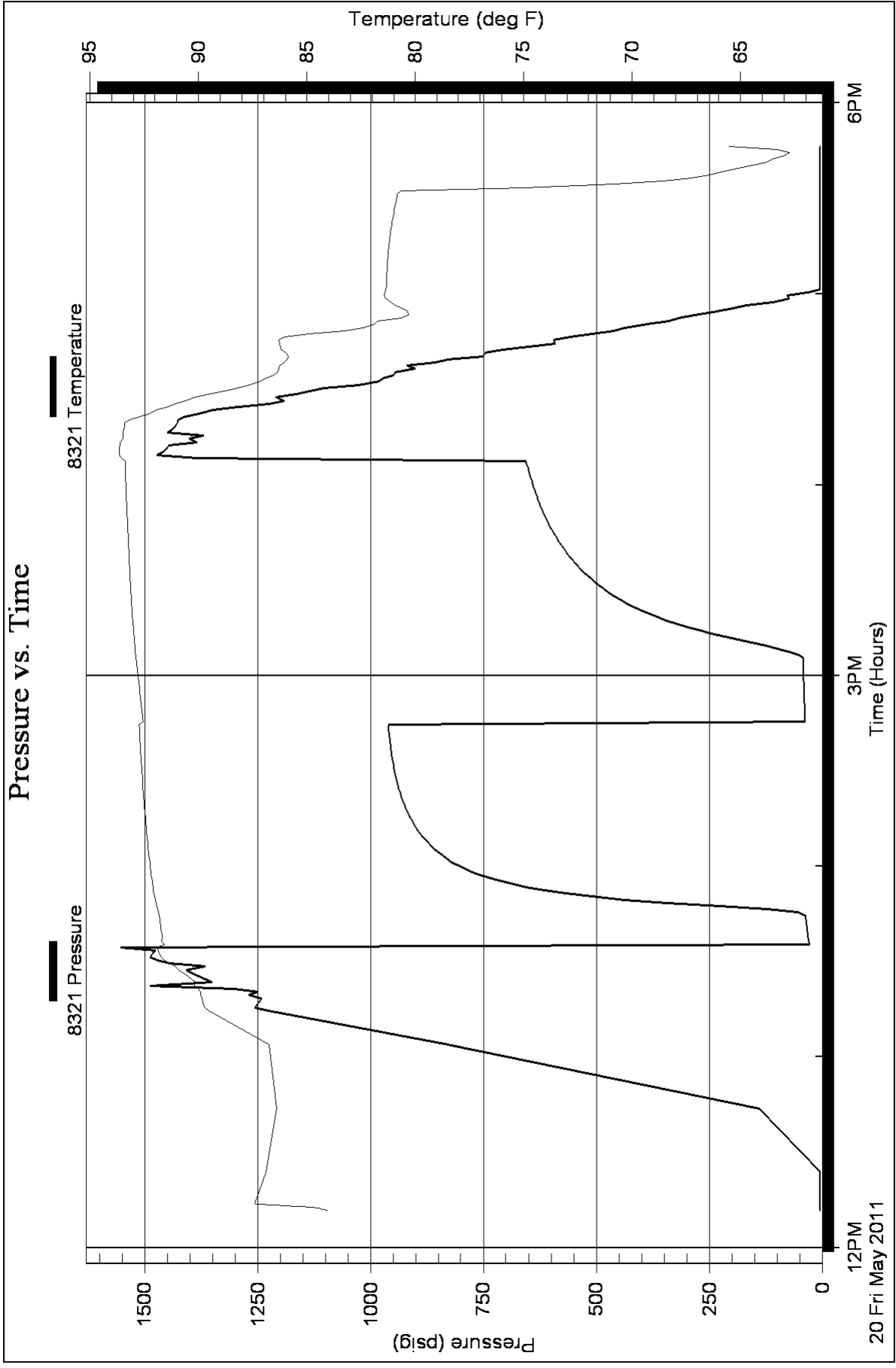
20-15s-15w - Russell

DST Test Number: 1

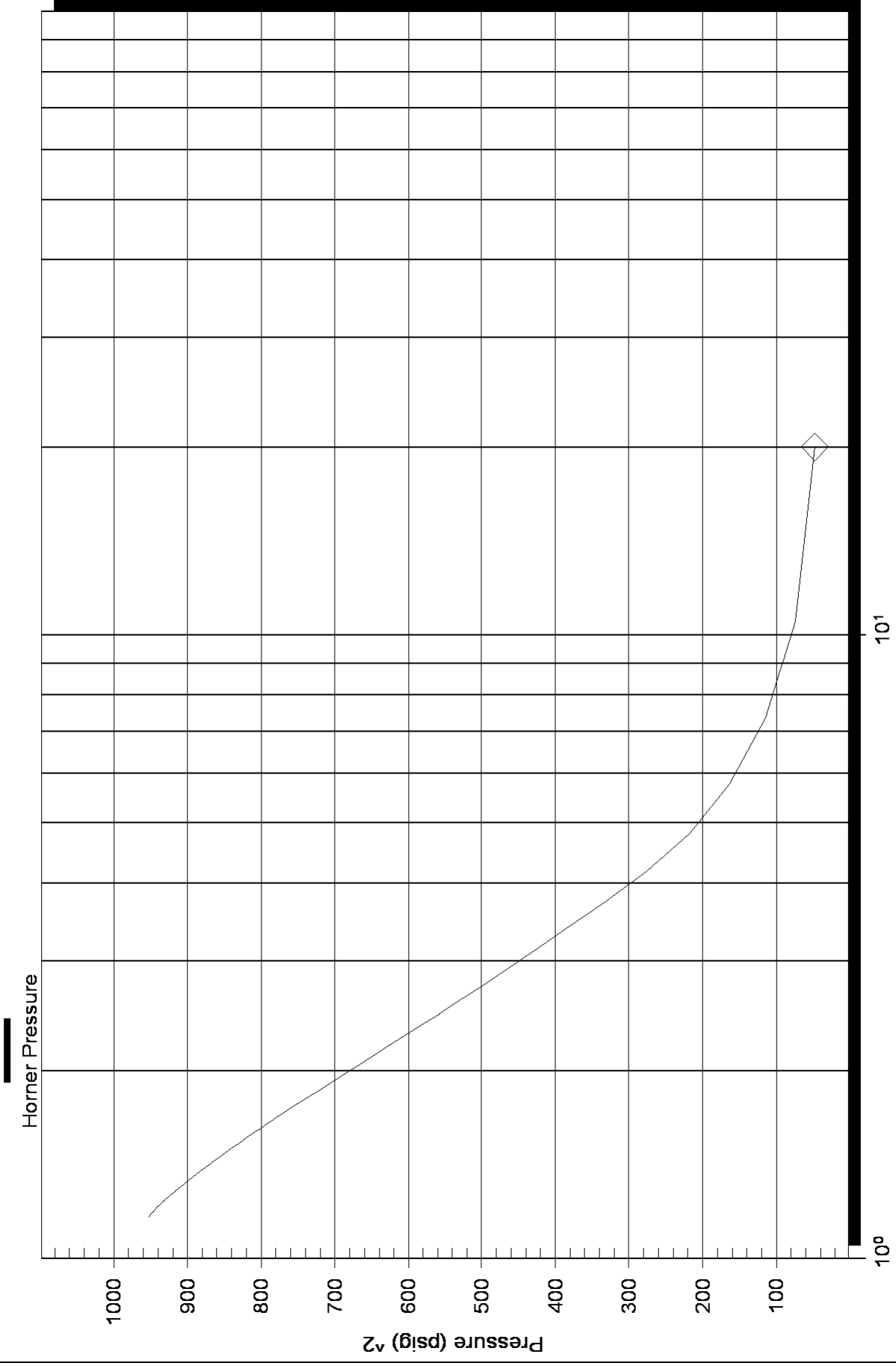




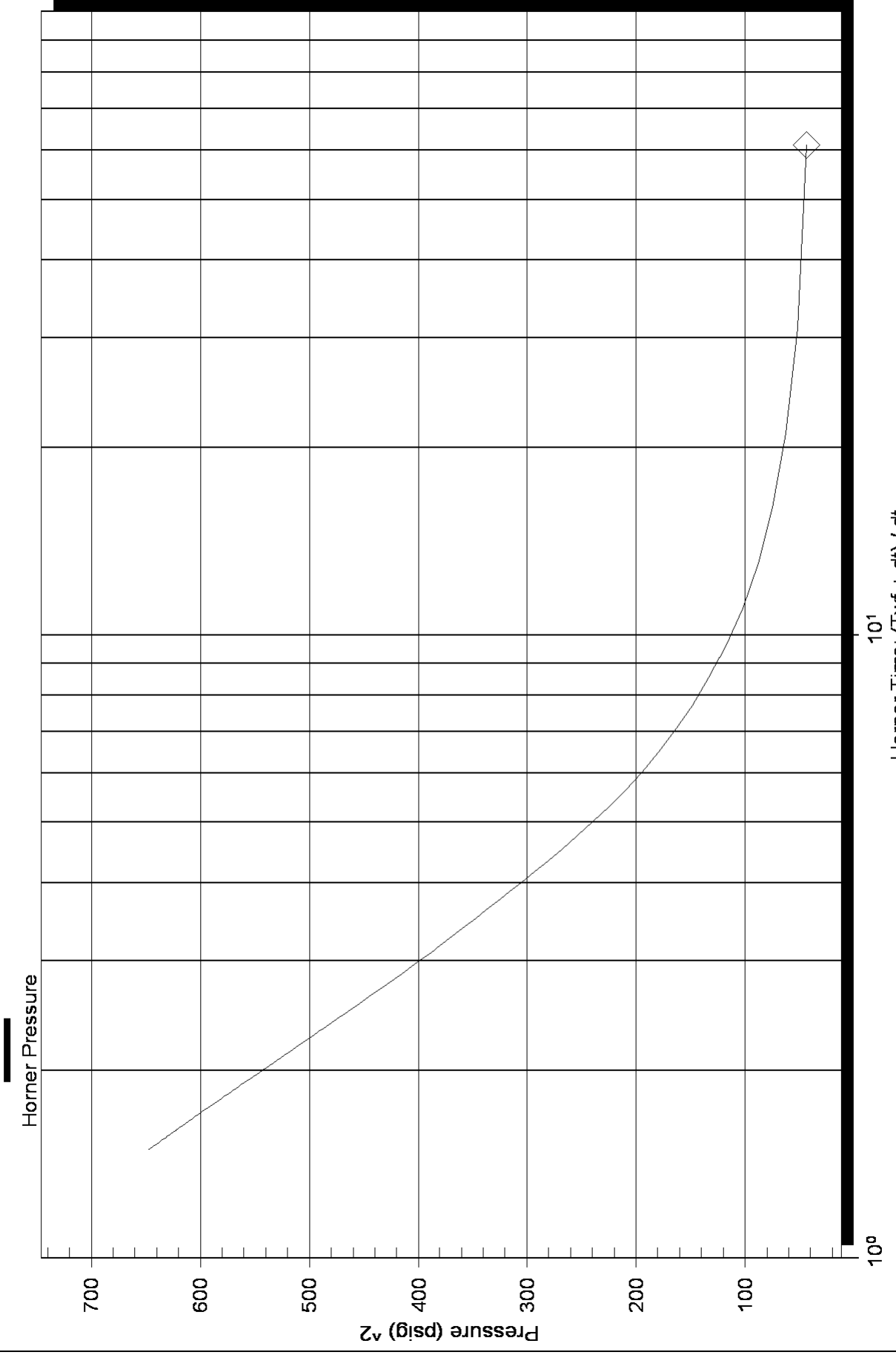
### Pressure vs. Time



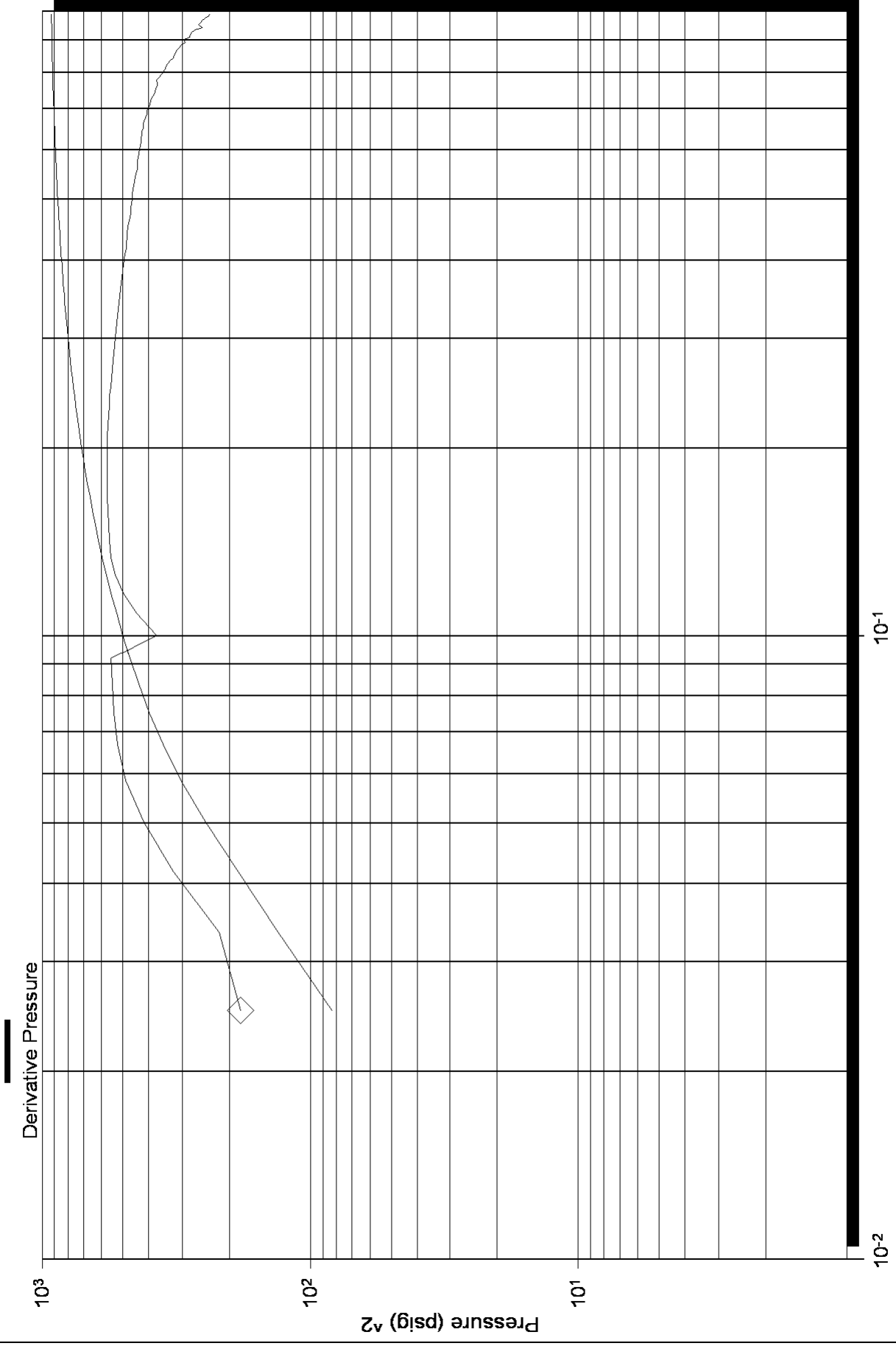
### Homer Plot



### Homer Plot



# Log-Log and Pseudo-Log-Derivative



# Log-Log and Pseudo-Derivative

