

DRILL STEM TEST REPORT

Prepared For: **Sam Gary**

1515 Wynkoop St. Ste 700
Denver, CO
80202

ATTN: Clayton Camozzi

5-15-16/Ellis

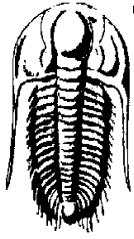
Rajewski et al 1-5

Start Date: 2011.04.17 @ 21:34:46

End Date: 2011.04.18 @ 03:42:45

Job Ticket #: 41875 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

TOOL DIAGRAM

Sam Gary
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Job Ticket: 41875 **DST#: 3**
Test Start: 2011.04.17 @ 21:34:46

Tool Information

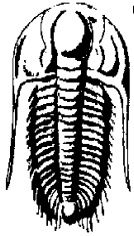
Drill Pipe:	Length: 3230.00 ft	Diameter: 3.80 inches	Volume: 45.31 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 48000.00 lb
			<u>Total Volume: 45.46 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3286.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	86.00 ft			
Tool Length:	120.00 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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Recorder	0.00	8365	Fluid	3252.00	
Blank Spacing	5.00			3257.00	
Shut In Tool	5.00			3262.00	
Sampler	2.00			3264.00	
Hydraulic tool	5.00			3269.00	
Jars	5.00			3274.00	
Safety Joint	2.00			3276.00	
Packer	5.00			3281.00	34.00 Bottom Of Top Packer
Packer	5.00			3286.00	
Stubb	1.00			3287.00	
Perforations	3.00			3290.00	
Change Over Sub	1.00			3291.00	
Recorder	0.00	8372	Inside	3291.00	
Recorder	0.00	8734	Outside	3291.00	
Blank Spacing	62.00			3353.00	
Change Over Sub	1.00			3354.00	
Perforations	15.00			3369.00	
Bullnose	3.00			3372.00	86.00 Bottom Packers & Anchor

Total Tool Length: 120.00



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FLUID SUMMARY

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Test Start: 2011.04.17 @ 21:34:46

Mud and Cushion Information

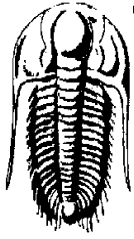
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.96 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6100.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	mud 100%	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



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GAS RATES

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DST#: 3

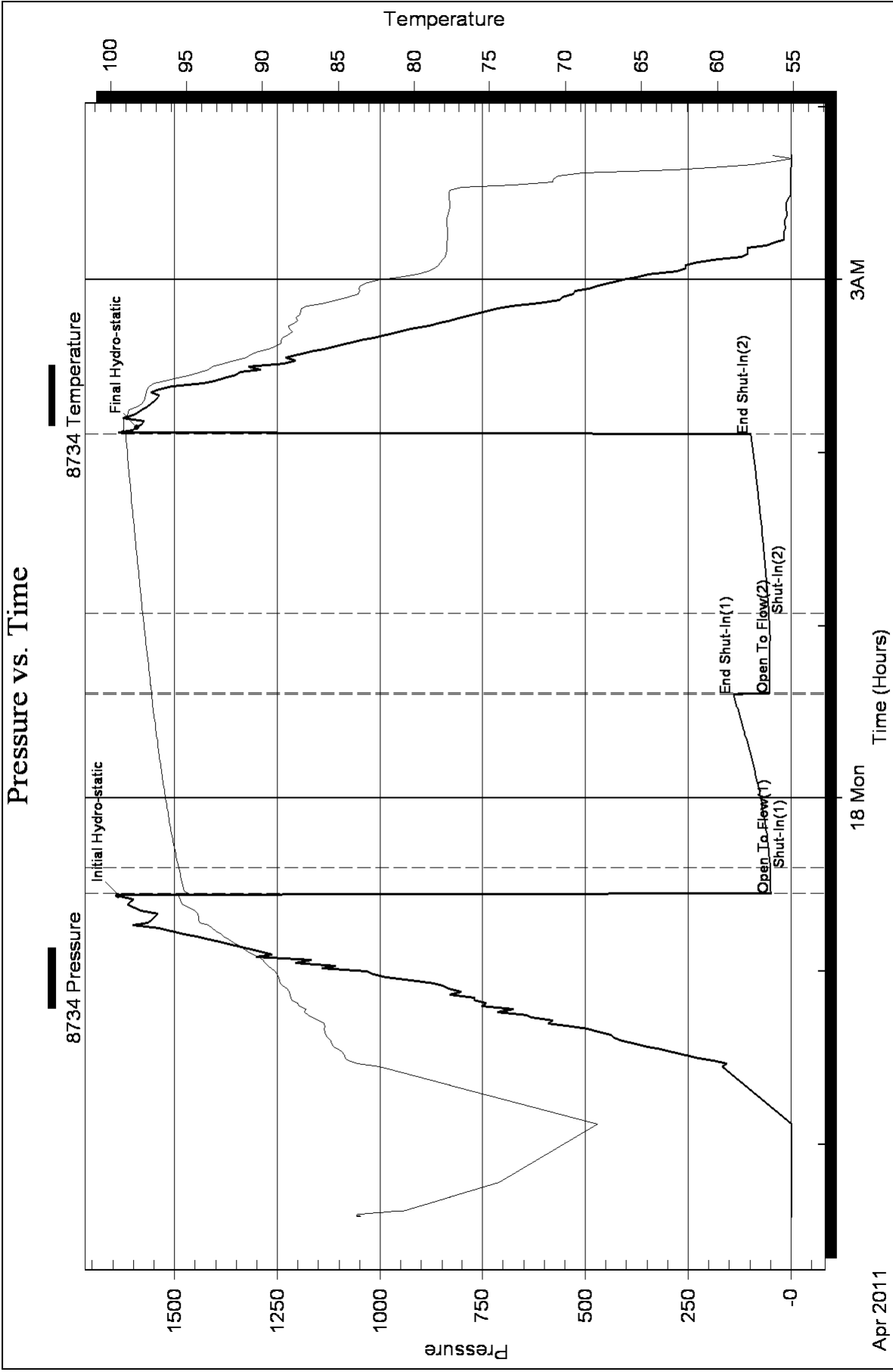
Test Start: 2011.04.17 @ 21:34:46

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



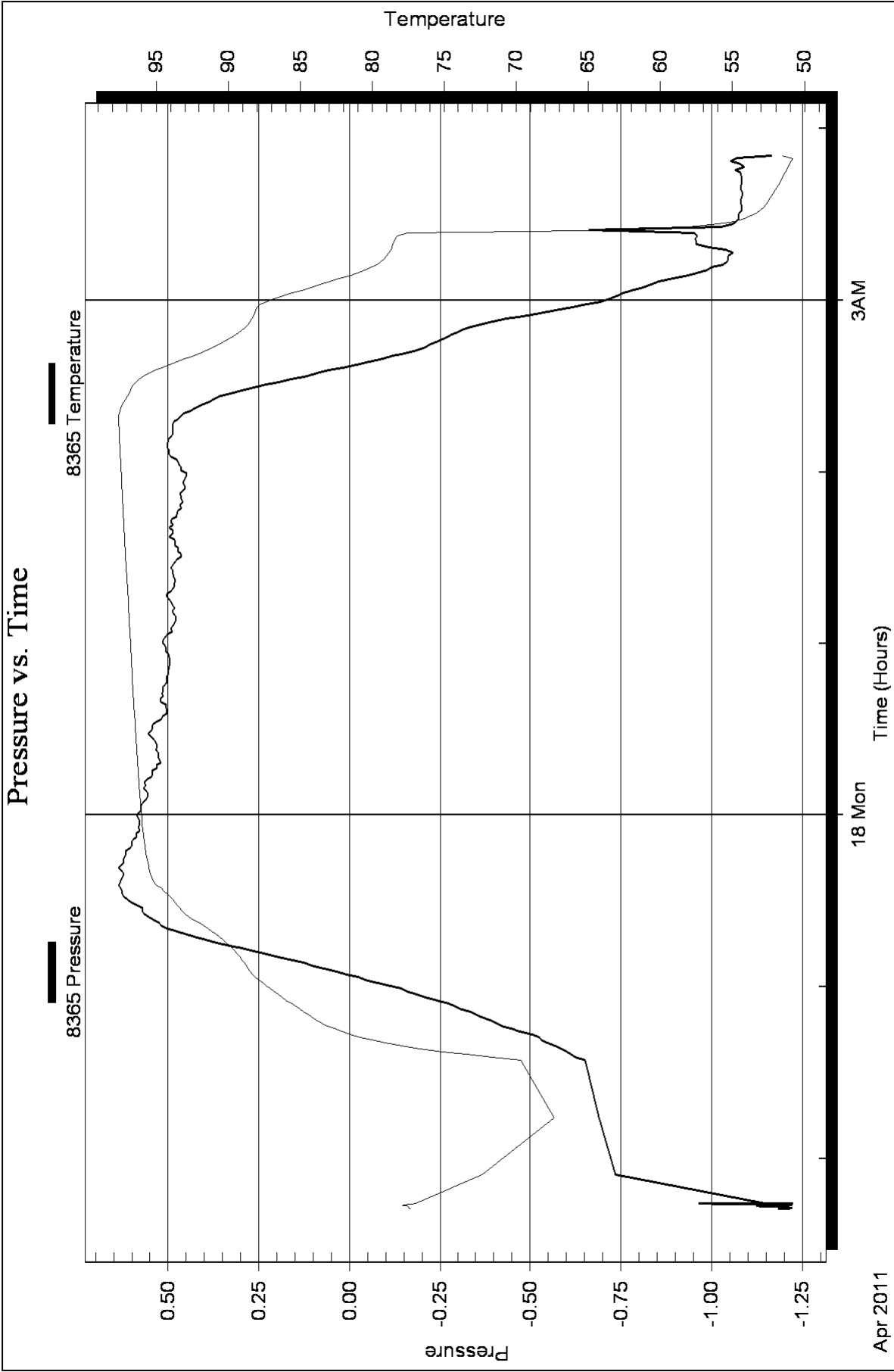
Serial #: 8365

Fluid

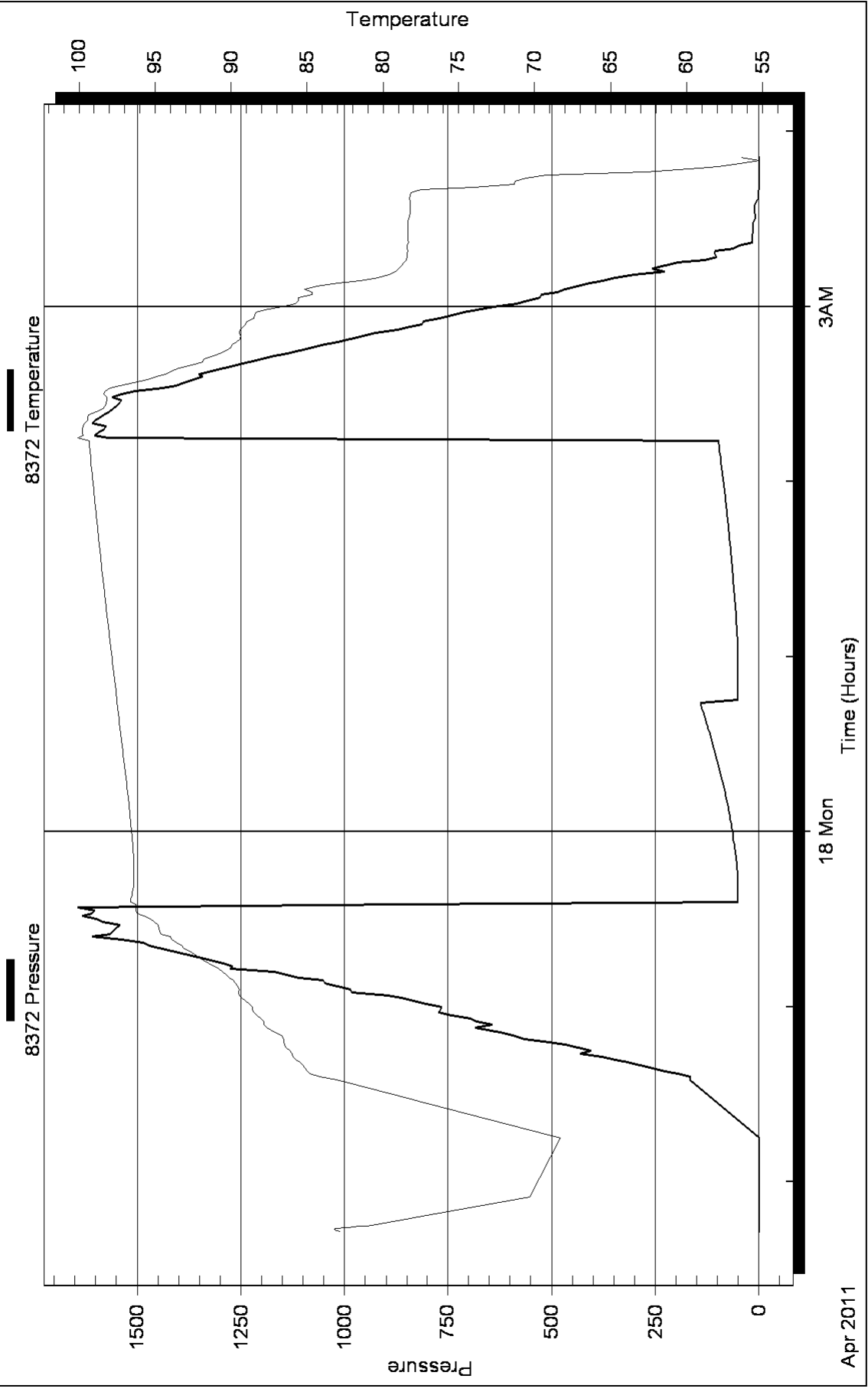
Sam Gary

5-15-16/Ellis

DST Test Number: 3

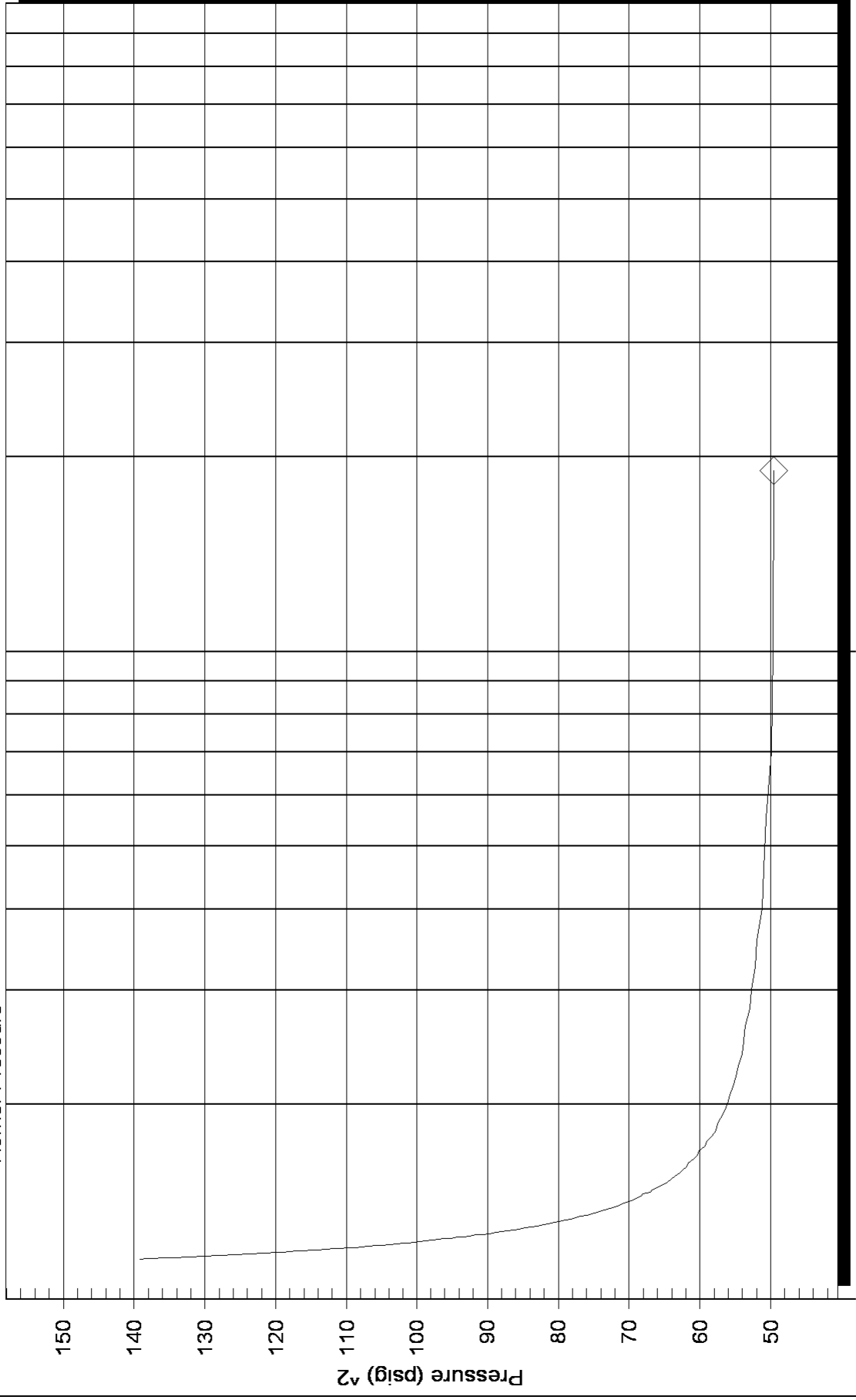


Pressure vs. Time



Homer Plot

Horner Pressure



Horner Time: (Twf + dt) / dt

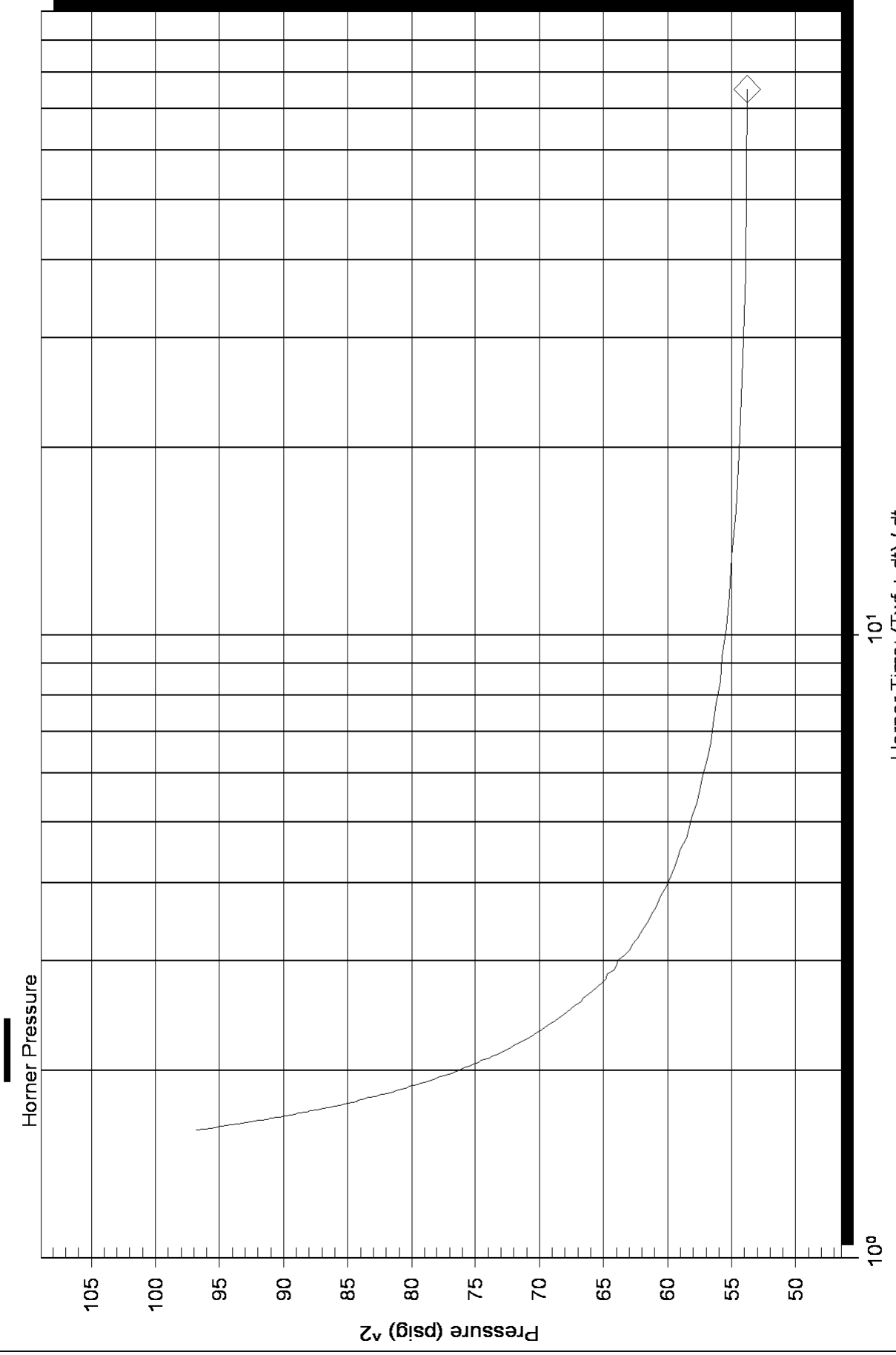
Slope (m) : kpa/log cycle

P* :

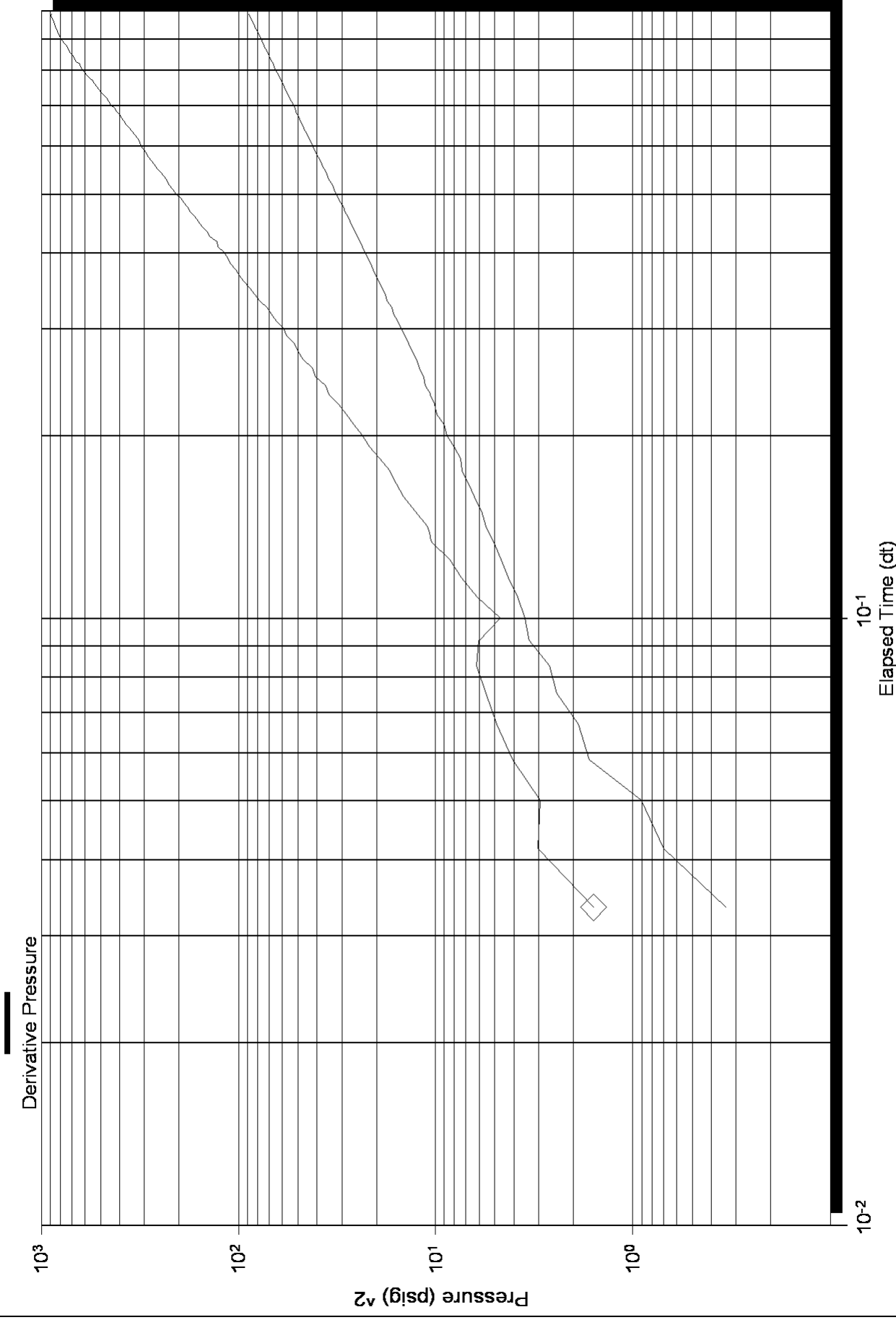
Serial Number: 8734 (Outside)

Flow Cycle: 1

Homer Plot



Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Derivative

