

DRILL STEM TEST REPORT

Prepared For: **Samuel Gary & AssociatesInc**

1515 Wynkoop,
Ste 700
Denver Co 80202

ATTN: Tom Fertel

3-16s-11w

TH Phillips #1-3

Start Date: 2010.07.10 @ 23:55:15

End Date: 2010.07.11 @ 06:03:24

Job Ticket #: 37249 DST #: 2

Trilobite Testing, Inc

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

Samuel Gary & AssociatesInc

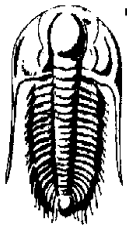
TH Phillips #1-3

3-16s-11w

DST # 2

Arbuckle

2010.07.10



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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Job Ticket: 37249

DST#: 2

Test Start: 2010.07.10 @ 23:55:15

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:13:25

Time Test Ended: 06:03:24

Test Type: Conventional Straddle

Tester: Jeff brown

Unit No: 31

Interval: 3329.00 ft (KB) To 3341.00 ft (KB) (TVD)

Reference Elevations: 1873.00 ft (KB)

Total Depth: 3414.00 ft (KB) (TVD)

1863.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8017

Inside

Press@RunDepth: 699.38 psig @ 3332.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2010.07.10

End Date:

2010.07.11

Last Calib.:

2010.07.11

Start Time: 23:55:20

End Time:

06:03:25

Time On Btm:

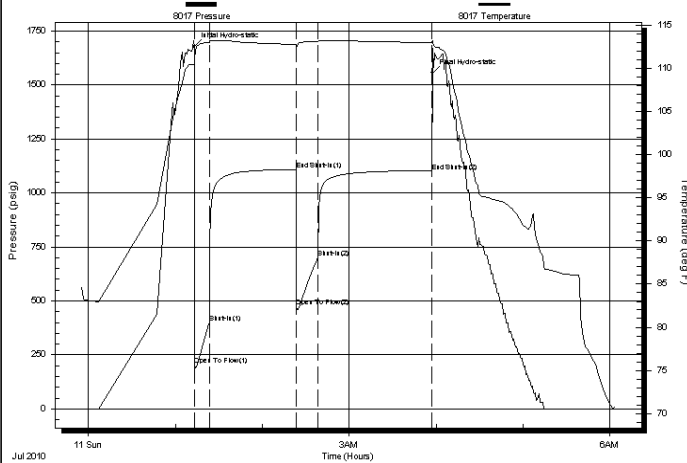
2010.07.11 @ 01:12:55

Time Off Btm:

2010.07.11 @ 03:57:15

TEST COMMENT: IFP-Strong blow BOB in 30 sec
IS-Dead no blow back
FFP-Strong blow BOB in 1 min
FSI-Dead no blow back

Pressure vs. Time



PRESSURE SUMMARY

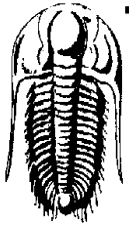
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1677.47	110.61	Initial Hydro-static
1	203.67	111.15	Open To Flow (1)
11	398.90	113.04	Shut-In(1)
71	1109.04	112.79	End Shut-In(1)
71	472.98	112.46	Open To Flow (2)
86	699.38	113.12	Shut-In(2)
165	1097.85	113.01	End Shut-In(2)
165	1555.49	113.24	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Free oil	0.14
31.00	VSOCM 2%O98%M	0.43
992.00	SOCW 5%O95%W	13.92
496.00	Water	6.96

Gas Rates

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



**TRILOBITE
TESTING, INC**

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TOOL DIAGRAM

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DST#: 2

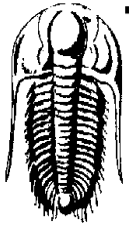
Test Start: 2010.07.10 @ 23:55:15

Tool Information

Drill Pipe:	Length: 3327.00 ft	Diameter: 3.80 inches	Volume: 46.67 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 46.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3329.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	3341.00 ft			
Interval between Packers:	12.00 ft			
Tool Length:	113.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3306.00	
Hydraulic tool	5.00			3311.00	
Jars	5.00			3316.00	
Safety Joint	3.00			3319.00	
Packer	5.00			3324.00	28.00 Bottom Of Top Packer
Packer	5.00			3329.00	
Stubb	1.00			3330.00	
Perforations	2.00			3332.00	
Recorder	0.00	8017	Inside	3332.00	
Recorder	0.00	8650	Outside	3332.00	
Perforations	5.00			3337.00	
Blank Off Sub	1.00			3338.00	
Blank Spacing	3.00			3341.00	12.00 Tool Interval
Packer	1.00			3342.00	
Stubb	1.00			3343.00	
Perforations	3.00			3346.00	
Change Over Sub	1.00			3347.00	
Recorder	0.00	8352	Outside	3347.00	
Drill Pipe	62.00			3409.00	
Change Over Sub	1.00			3410.00	
Recorder	0.00	6668	Inside	3410.00	
Perforations	1.00			3411.00	
Bullnose	3.00			3414.00	73.00 Bottom Packers & Anchor
Total Tool Length:	113.00				



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FLUID SUMMARY

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DST#: 2

Test Start: 2010.07.10 @ 23:55:15

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 37 deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity: 21000 ppm
Viscosity: 44.00 sec/qt	Cushion Volume: bbl	
Water Loss: 11.18 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 5300.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Free oil	0.140
31.00	VSOCM 2%O98%M	0.435
992.00	SOCW 5%O95%W	13.915
496.00	Water	6.958

Total Length: 1529.00 ft Total Volume: 21.448 bbl

Num Fluid Samples: 0

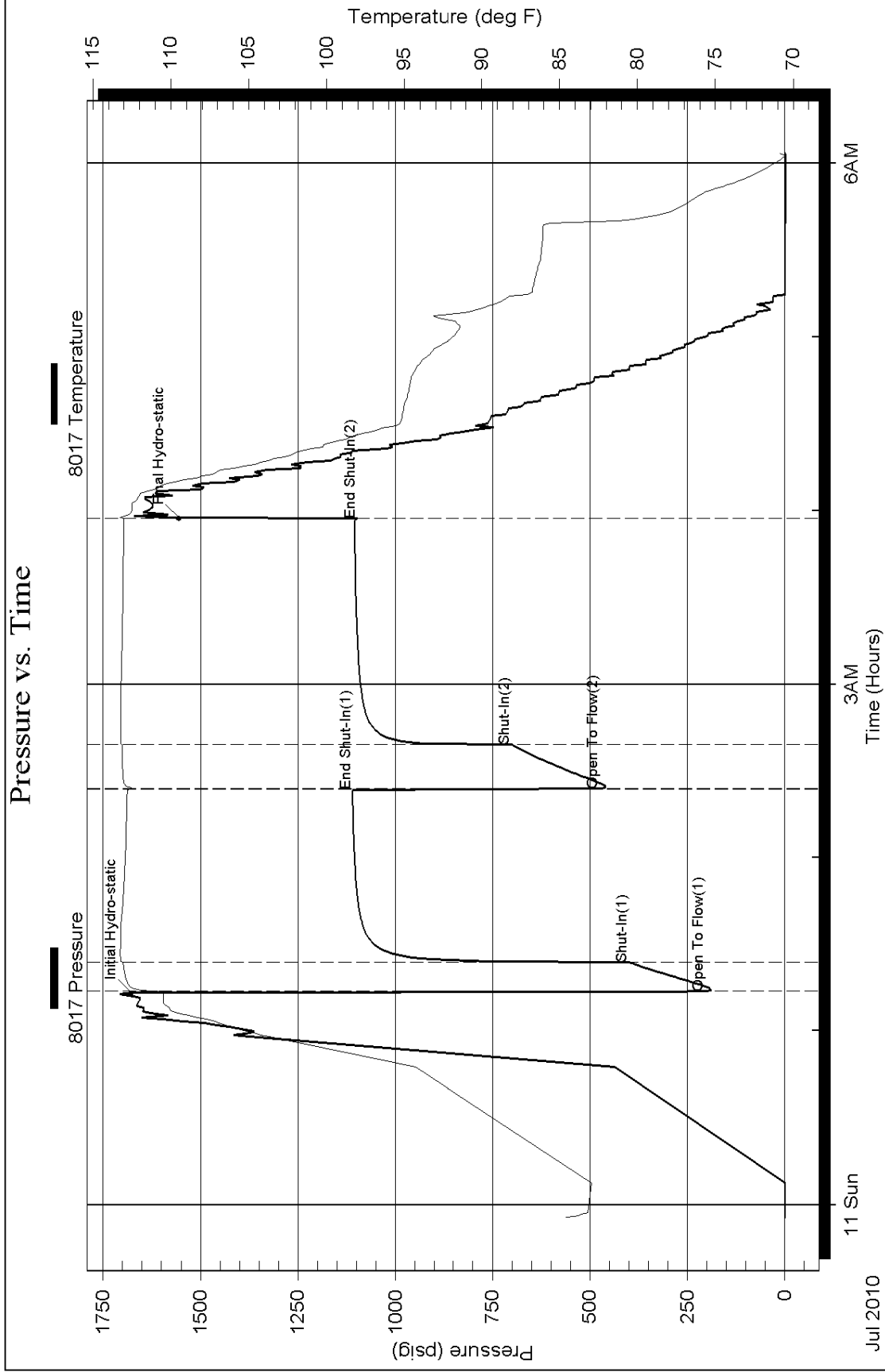
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

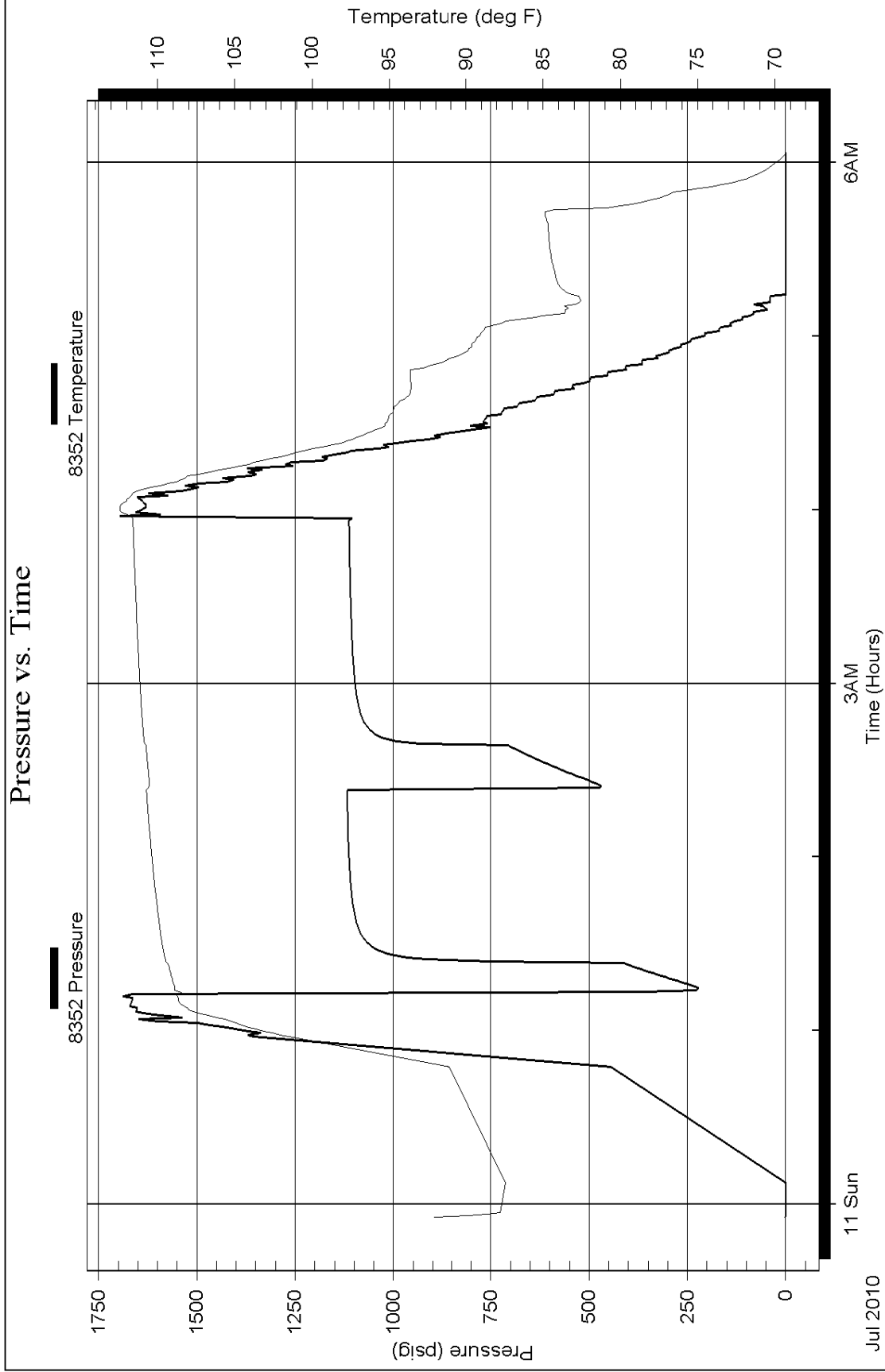


Serial #: 8352

Outside Samuel Gary & Associates Inc

3-16s-11w

DST Test Number: 2

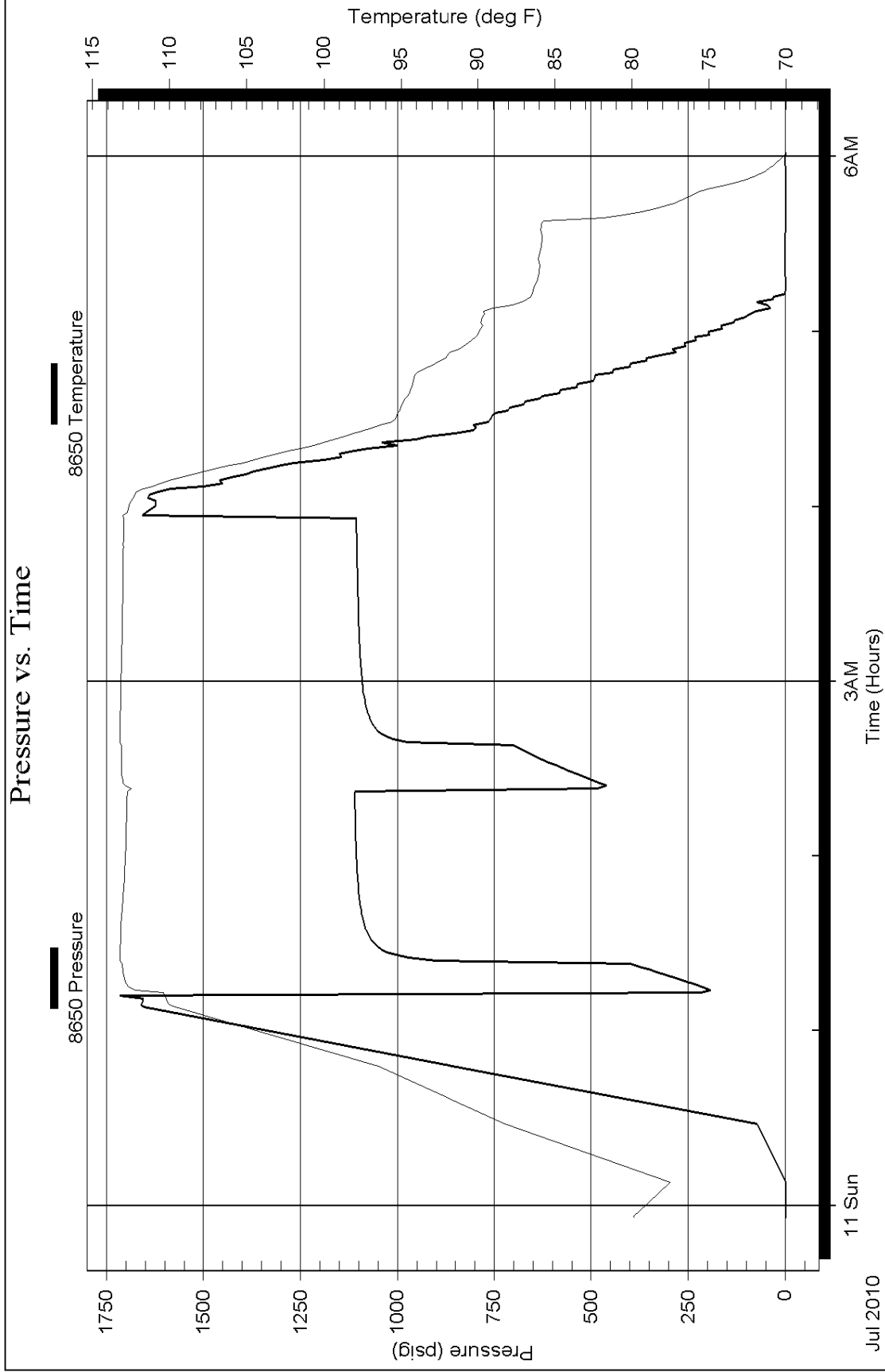


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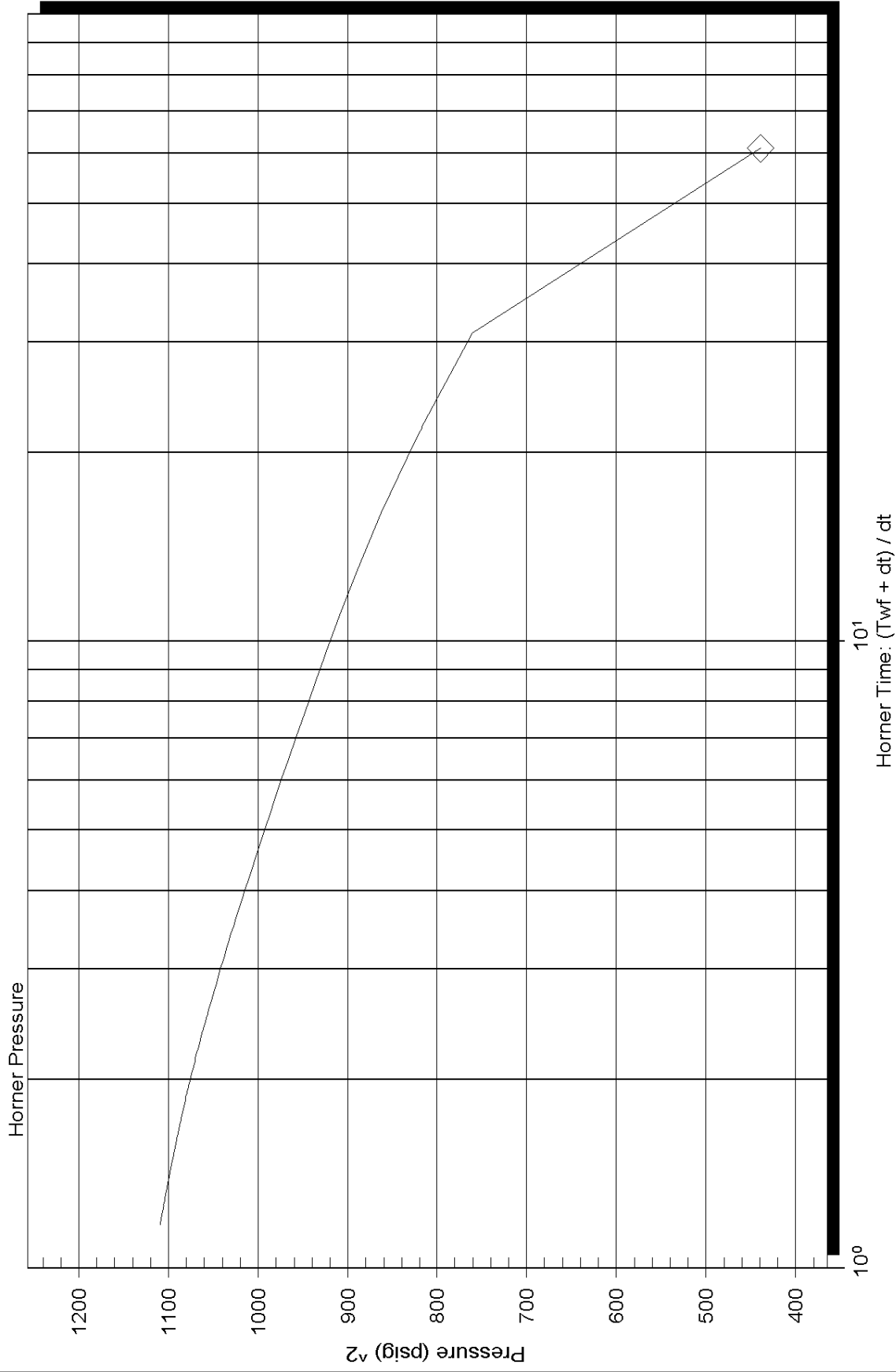
Outside Samuel Gary & Associates Inc

3-16s-11w

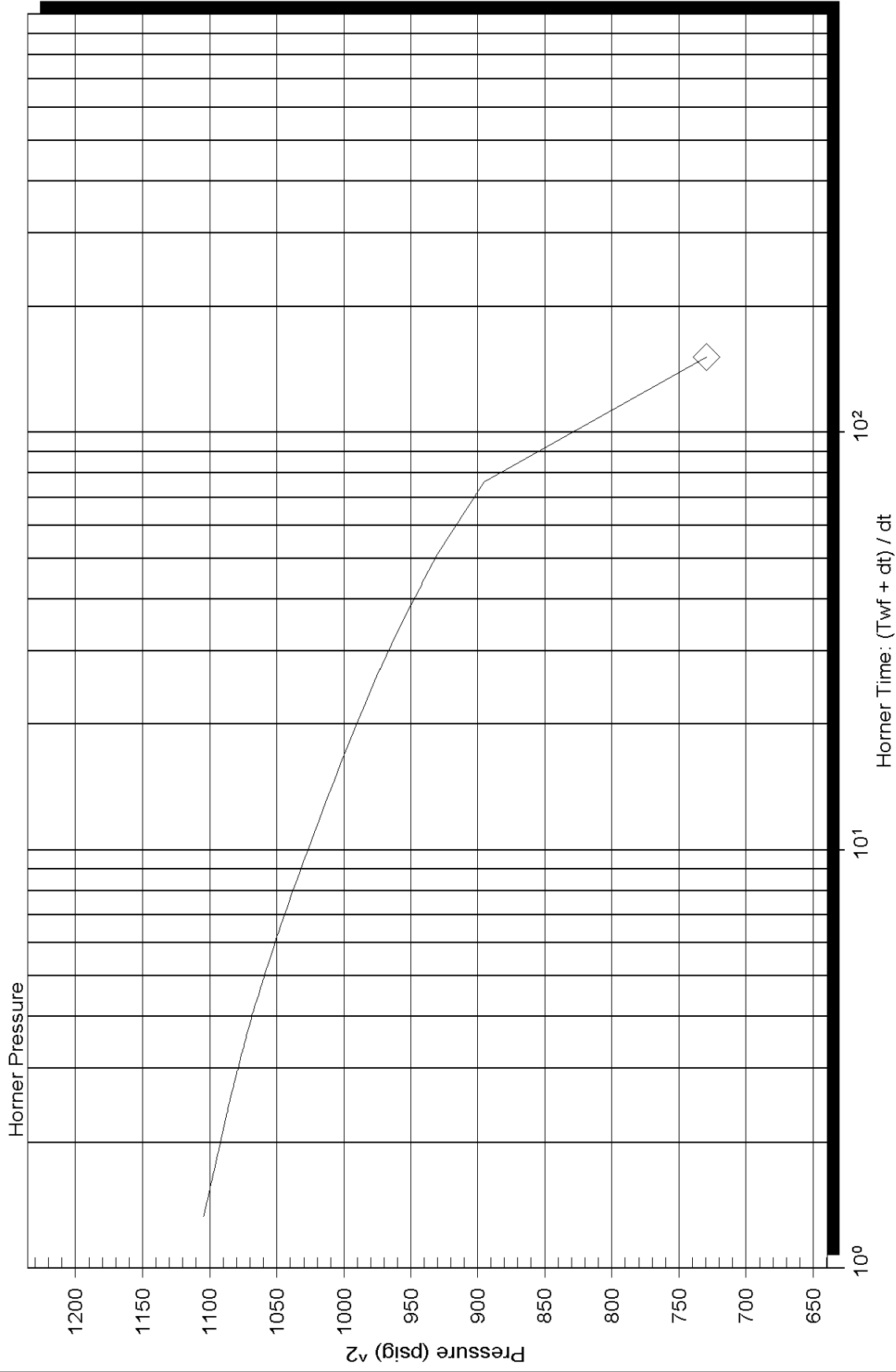
DST Test Number: 2



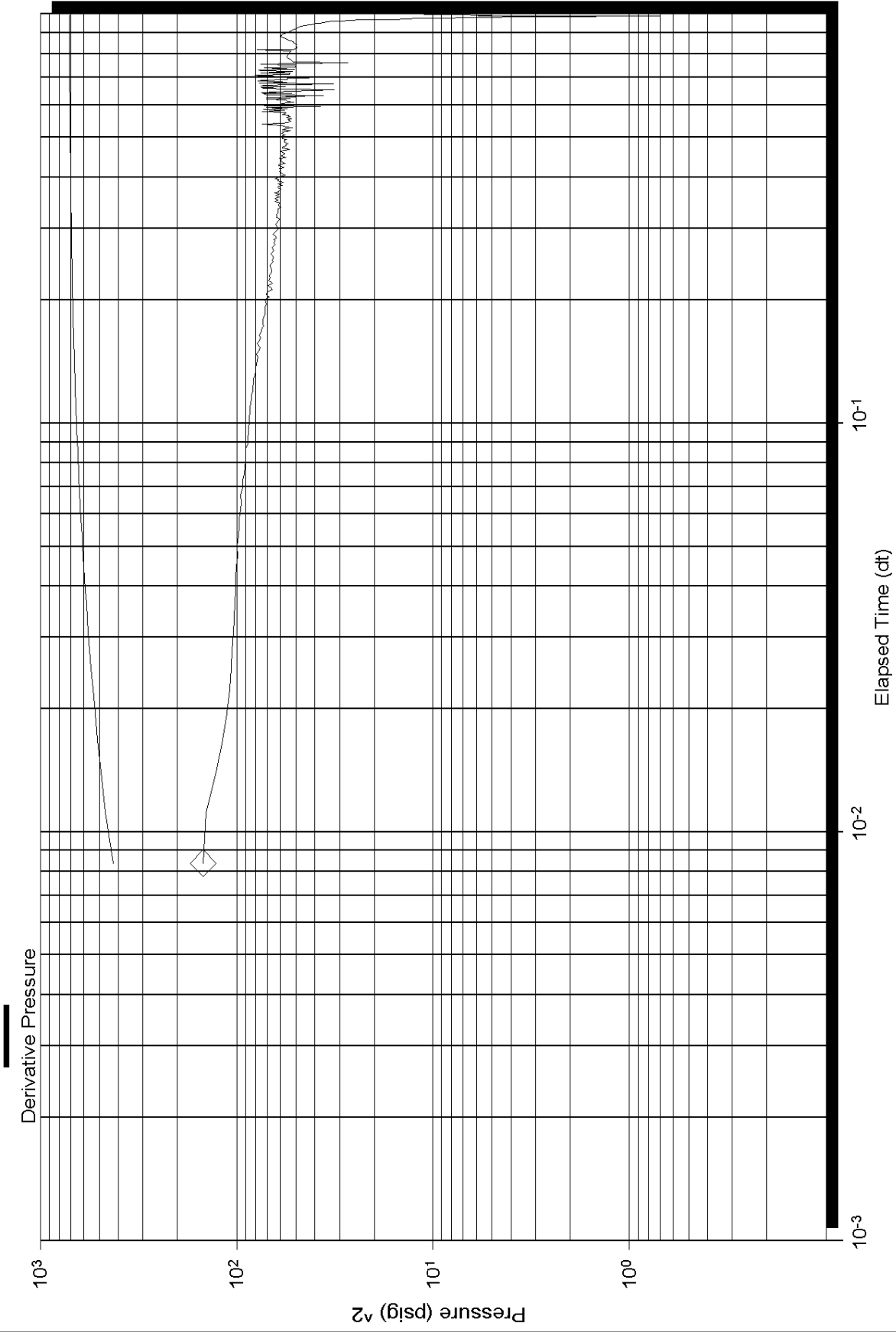
Horner Plot



Horner Plot



Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Derivative

