



DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. and Associates, Inc.**

1515 Wynkoop St. Ste 700
Denver, CO
80202

ATTN: Clayton Camozzi

1-16-16 Rush, Ks

Wagner Trust 5-1

Start Date: 2011.05.06 @ 18:49:03

End Date: 2011.05.07 @ 00:31:03

Job Ticket #: 42563 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
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Test Start: 2011.05.06 @ 18:49:03

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:29:33

Time Test Ended: 00:31:03

Test Type: Conventional Bottom Hole

Tester: Brian Fairbank

Unit No: 41

Interval: 3240.00 ft (KB) To 3270.00 ft (KB) (TVD)

Reference Elevations: 1909.00 ft (KB)

Total Depth: 3270.00 ft (KB) (TVD)

1901.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8734 Outside

Press @ Run Depth: 45.22 psig @ 3242.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.05.06

End Date: 2011.05.07

Last Calib.: 2011.05.07

Start Time: 18:49:04

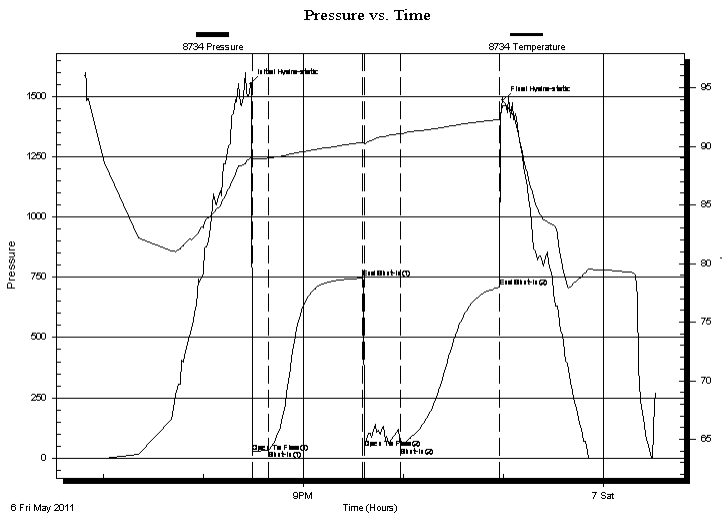
End Time: 00:31:03

Time On Btm: 2011.05.06 @ 20:28:33

Time Off Btm: 2011.05.06 @ 22:59:33

TEST COMMENT: 10 - IFP - weak blow throughout sur - 1/2"
60 - ISI - no blow back
20 - FFP - no blow 16 min - sur blow 2 min - dead
60 - FSI - no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1551.05	89.14	Initial Hydro-static
1	26.10	88.83	Open To Flow (1)
11	33.97	88.98	Shut-In(1)
67	746.19	90.33	End Shut-In(1)
68	42.26	90.18	Open To Flow (2)
90	45.22	91.01	Shut-In(2)
149	708.12	92.30	End Shut-In(2)
151	1482.38	93.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	VSOCM 3%O, 97%M	0.02
5.00	MUD 100%	0.02

Gas Rates

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



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TOOL DIAGRAM

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Tool Information

Drill Pipe:	Length: 3192.00 ft	Diameter: 3.80 inches	Volume: 44.78 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 50000.00 lb
			Total Volume: 44.93 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3240.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Recorder	0.00	8365	Fluid	3206.00	
Blank Spacing	5.00			3211.00	
Shut In Tool	5.00			3216.00	
Sampler	2.00			3218.00	
Hydraulic tool	5.00			3223.00	
Jars	5.00			3228.00	
Safety Joint	2.00			3230.00	
Packer	5.00			3235.00	34.00 Bottom Of Top Packer
Packer	5.00			3240.00	
Stubb	1.00			3241.00	
Perforations	1.00			3242.00	
Recorder	0.00	8372	Inside	3242.00	
Recorder	0.00	8734	Outside	3242.00	
Perforations	25.00			3267.00	
Bullnose	3.00			3270.00	30.00 Bottom Packers & Anchor

Total Tool Length: 64.00



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FLUID SUMMARY

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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: 63.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.18 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4500.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

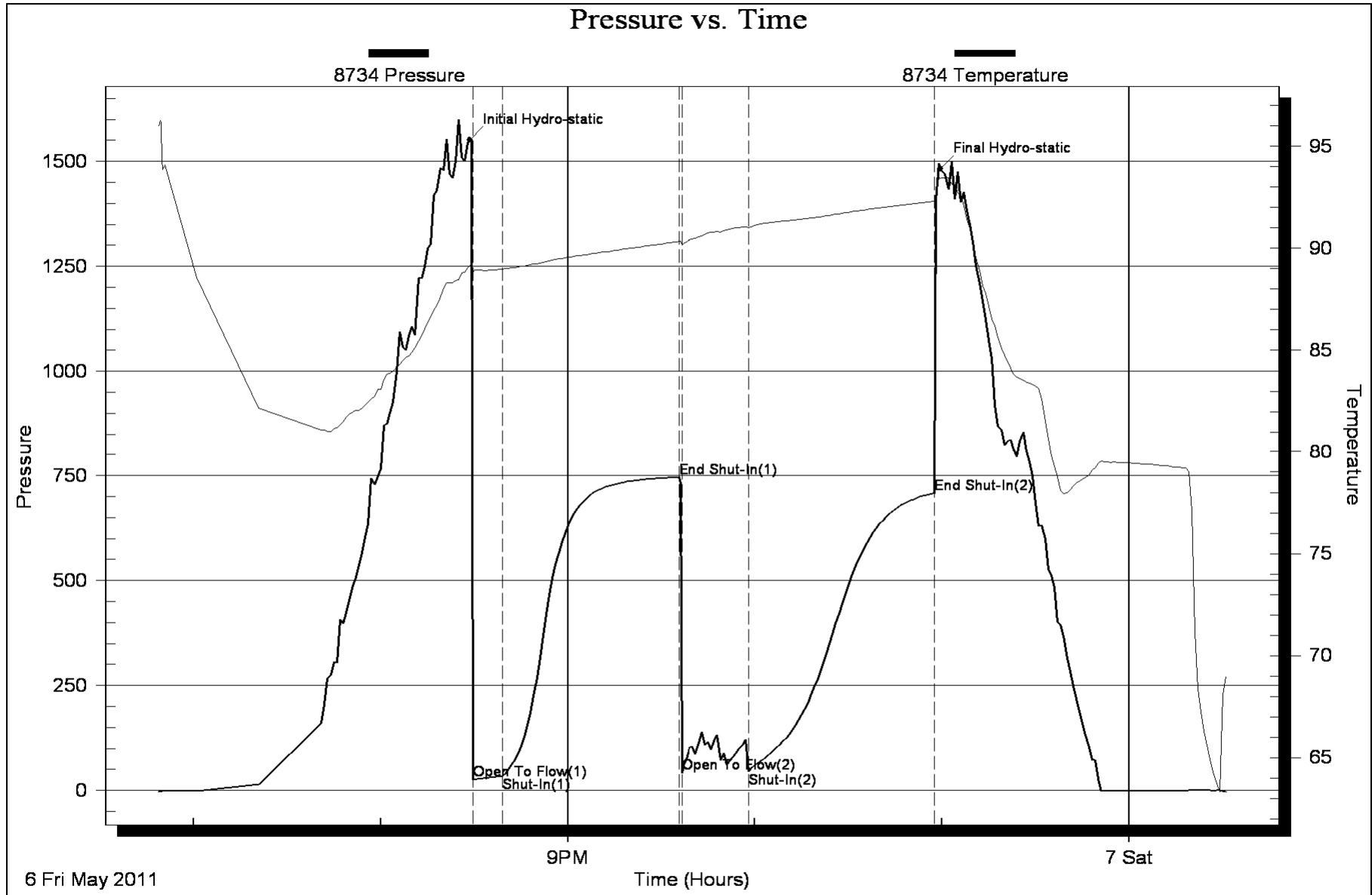
Length ft	Description	Volume bbl
5.00	VSOCM 3%O, 97%M	0.025
5.00	MUD 100%	0.025

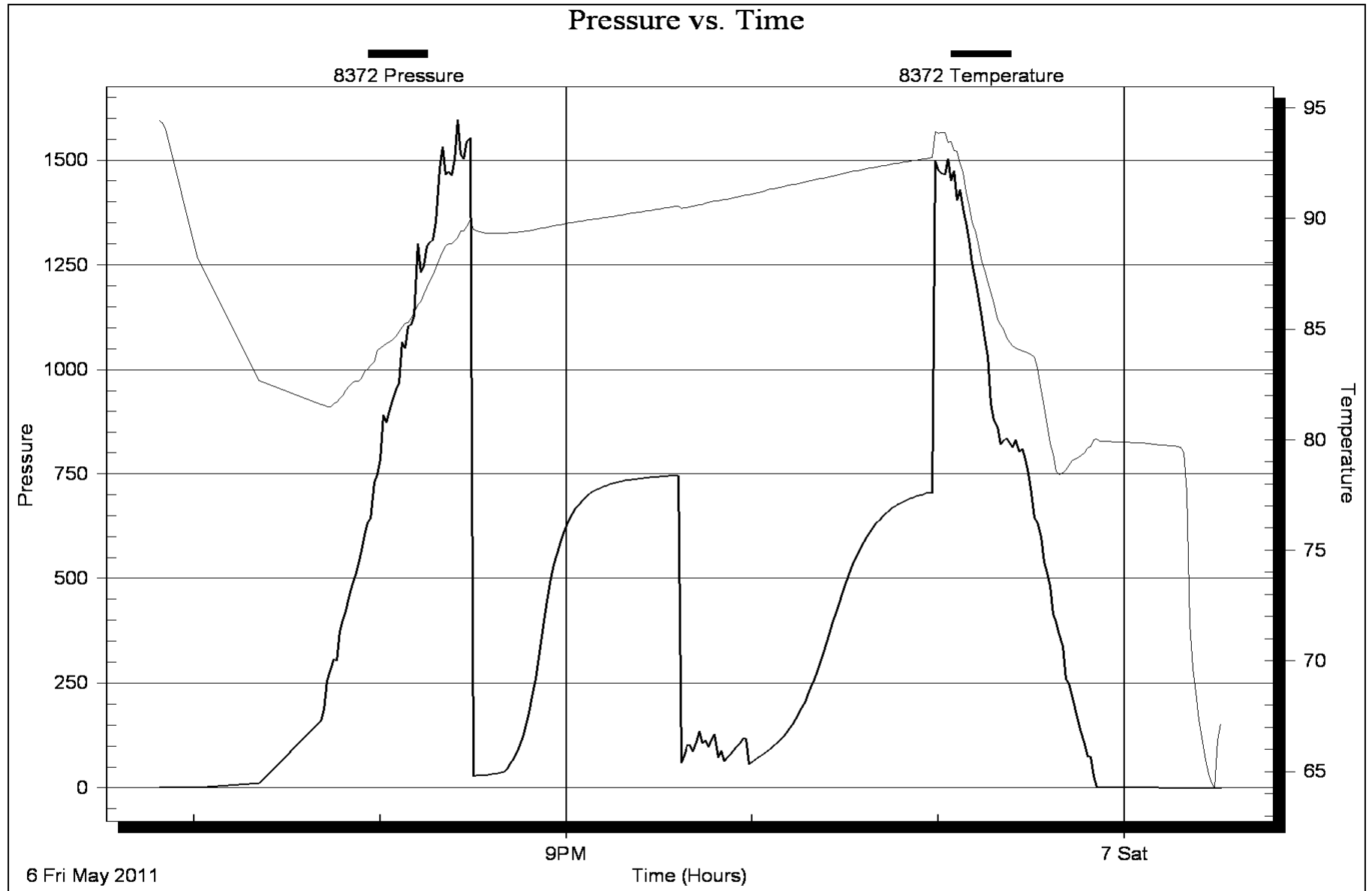
Total Length: 10.00 ft Total Volume: 0.050 bbl

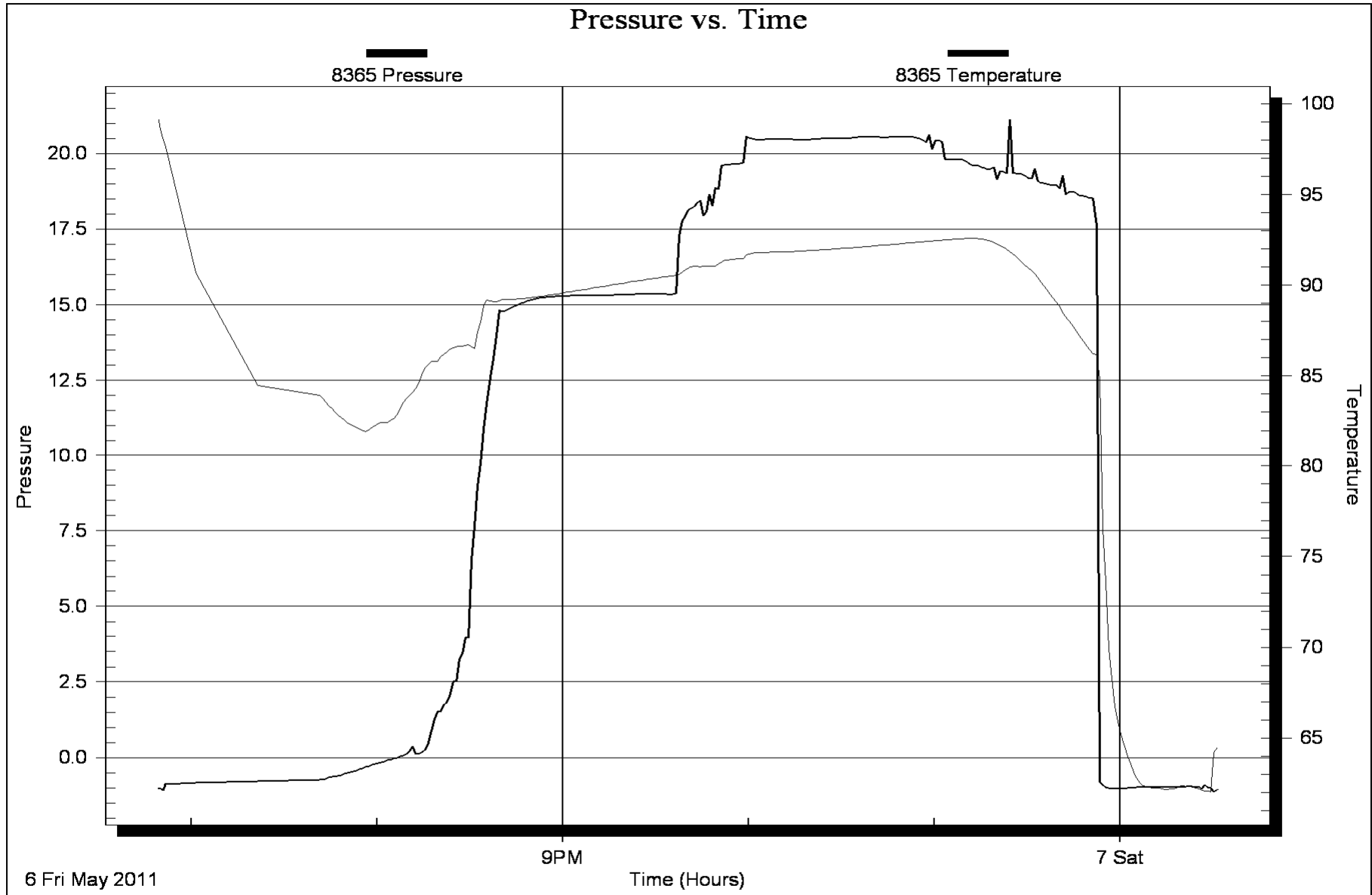
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

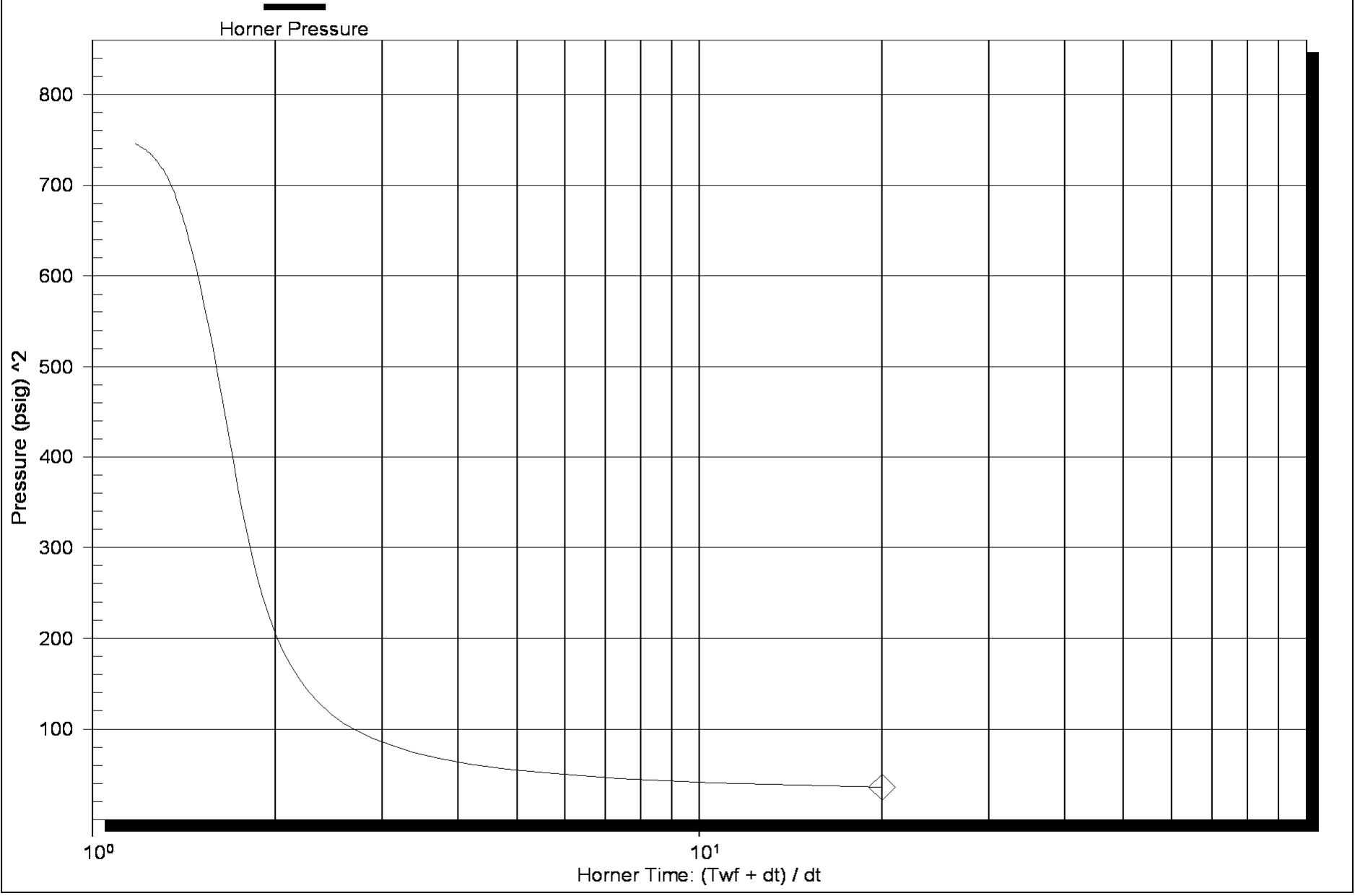
Recovery Comments: O 80 ml, M 3920 ml, 200 LBS



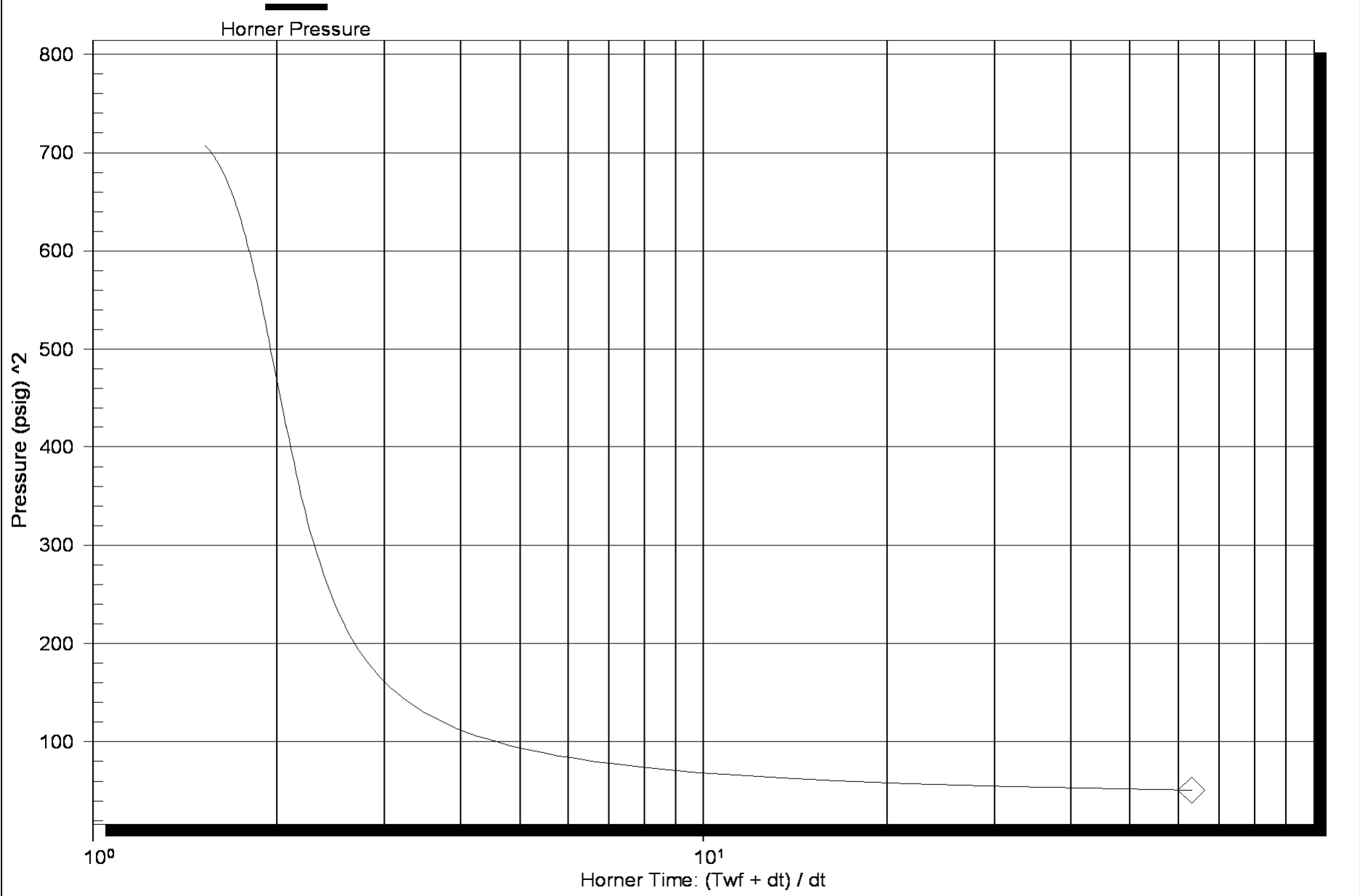




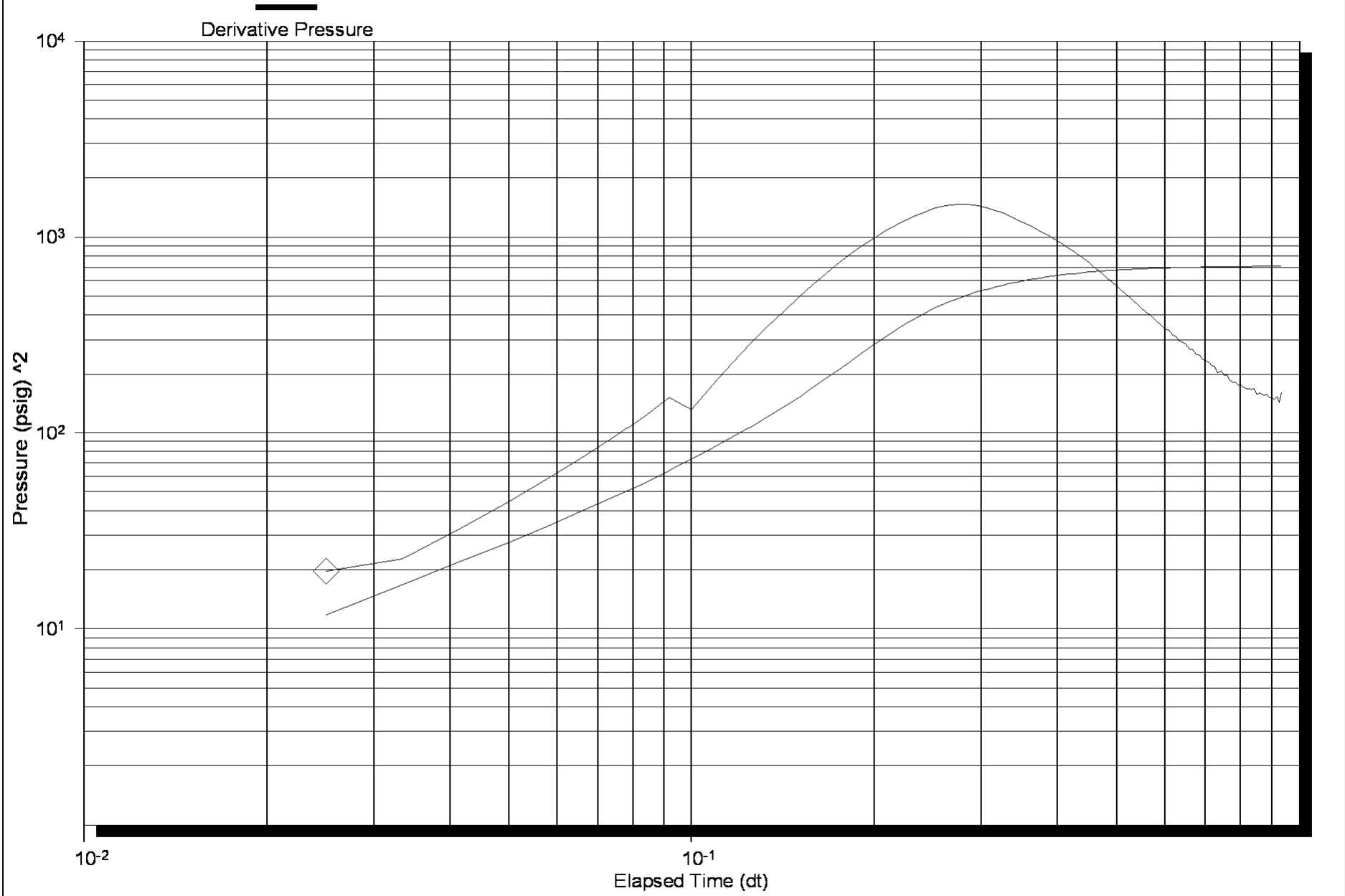
Horner Plot



Horner Plot



Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Derivative

