

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Samuel Gary JR & Associates, Inc**

1515 Wynkoop
Suite 700
Denver, CO 80202

ATTN: Clayton Camozzi

3-17s-16w-RUSH-KS

R.A.M. #1-3

Start Date: 2010.10.02 @ 20:59:00
End Date: 2010.10.03 @ 04:30:39
Job Ticket #: 39457 DST #: 1

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

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3-17s-16w-RUSH-KS

Job Ticket: 39457 **DST#: 1**

Test Start: 2010.10.02 @ 20:59:00

GENERAL INFORMATION:

Formation: **LANSING "A-C"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:33:10
Time Test Ended: 04:30:39

Test Type: Conventional Bottom Hole
Tester: Jake Fahrenbruch
Unit No: 43

Interval: 3244.00 ft (KB) To 3310.00 ft (KB) (TVD)
Total Depth: 3310.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

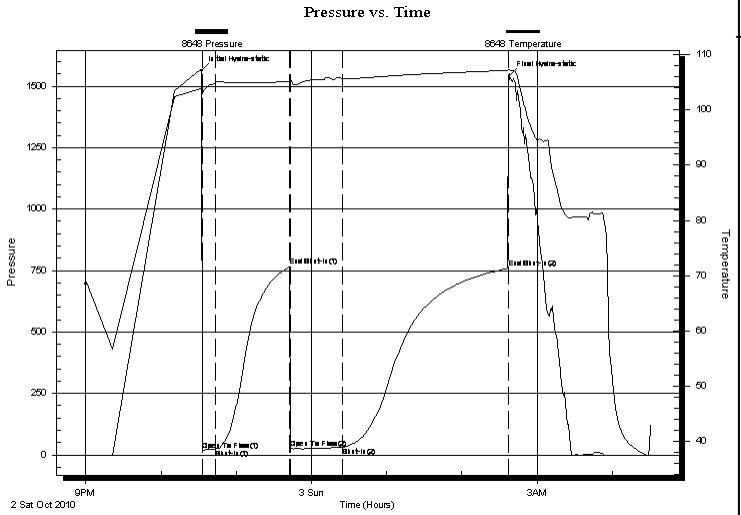
Reference Elevations: 1989.00 ft (KB)
1979.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8648 **Inside**

Press@RunDepth: 29.14 psig @ 3245.00 ft (KB)
Start Date: 2010.10.02 End Date: 2010.10.03
Start Time: 20:59:05 End Time: 04:30:40

Capacity: 8000.00 psig
Last Calib.: 2010.10.03
Time On Btm: 2010.10.02 @ 22:32:40
Time Off Btm: 2010.10.03 @ 02:38:09

TEST COMMENT: IF: Weak blow , built to 1.5" in bucket.
ISI: Bled off, no blow back.
FF: Weak surface blow , increased to 1" in bucket.
FSI: Bled off, no blow back.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1561.83	103.90	Initial Hydro-static
1	19.03	103.01	Open To Flow (1)
11	22.11	105.14	Shut-In(1)
70	766.96	105.18	End Shut-In(1)
71	24.91	105.34	Open To Flow (2)
113	29.14	105.69	Shut-In(2)
245	759.09	107.20	End Shut-In(2)
246	1543.57	107.28	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
31.00	SOCM 5%0 95%m	0.43

Gas Rates

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

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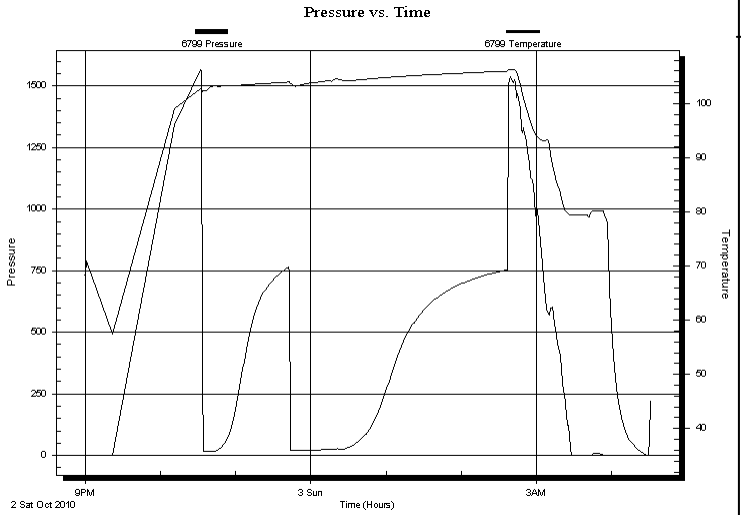
Reference Elevations: 1989.00 ft (KB)
1979.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6799 **Outside**

Press@RunDepth: psig @ 3245.00 ft (KB)
Start Date: 2010.10.02 End Date: 2010.10.03
Start Time: 20:59:05 End Time: 04:31:29

Capacity: 8000.00 psig
Last Calib.: 2010.10.03
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Weak blow , built to 1.5" in bucket.
ISI: Bled off, no blow back.
FF: Weak surface blow , increased to 1" in bucket.
FSI: Bled off, no blow back.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
31.00	SOCM 5%0 95%m	0.43

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Samuel Gary JR & Associates, Inc

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R.A.M. #1-3

3-17s-16w-RUSH-KS

Job Ticket: 39457 **DST#: 1**

Test Start: 2010.10.02 @ 20:59:00

Tool Information

Drill Pipe:	Length:	3220.00 ft	Diameter:	3.80 inches	Volume:	45.17 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:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:		55000.00 lb
					Total Volume:	45.17 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		4.00 ft					String Weight:	Initial	47000.00 lb
Depth to Top Packer:		3244.00 ft						Final	47000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		66.00 ft							
Tool Length:		94.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			3221.00		
Hydraulic tool	5.00			3226.00		
Jars	5.00			3231.00		
Safety Joint	3.00			3234.00		
Packer	5.00			3239.00	28.00	Bottom Of Top Packer
Packer	5.00			3244.00		
Stubb	1.00			3245.00		
Recorder	0.00	8648	Inside	3245.00		
Recorder	0.00	6799	Outside	3245.00		
Perforations	27.00			3272.00		
Blank Spacing	33.00			3305.00		
Bullnose	5.00			3310.00	66.00	Bottom Packers & Anchor
Total Tool Length:	**94.00**					

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FLUID SUMMARY

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Job Ticket: 39457 **DST#: 1**

Test Start: 2010.10.02 @ 20:59:00

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:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2700.00 ppm				
Filter Cake:	inches				

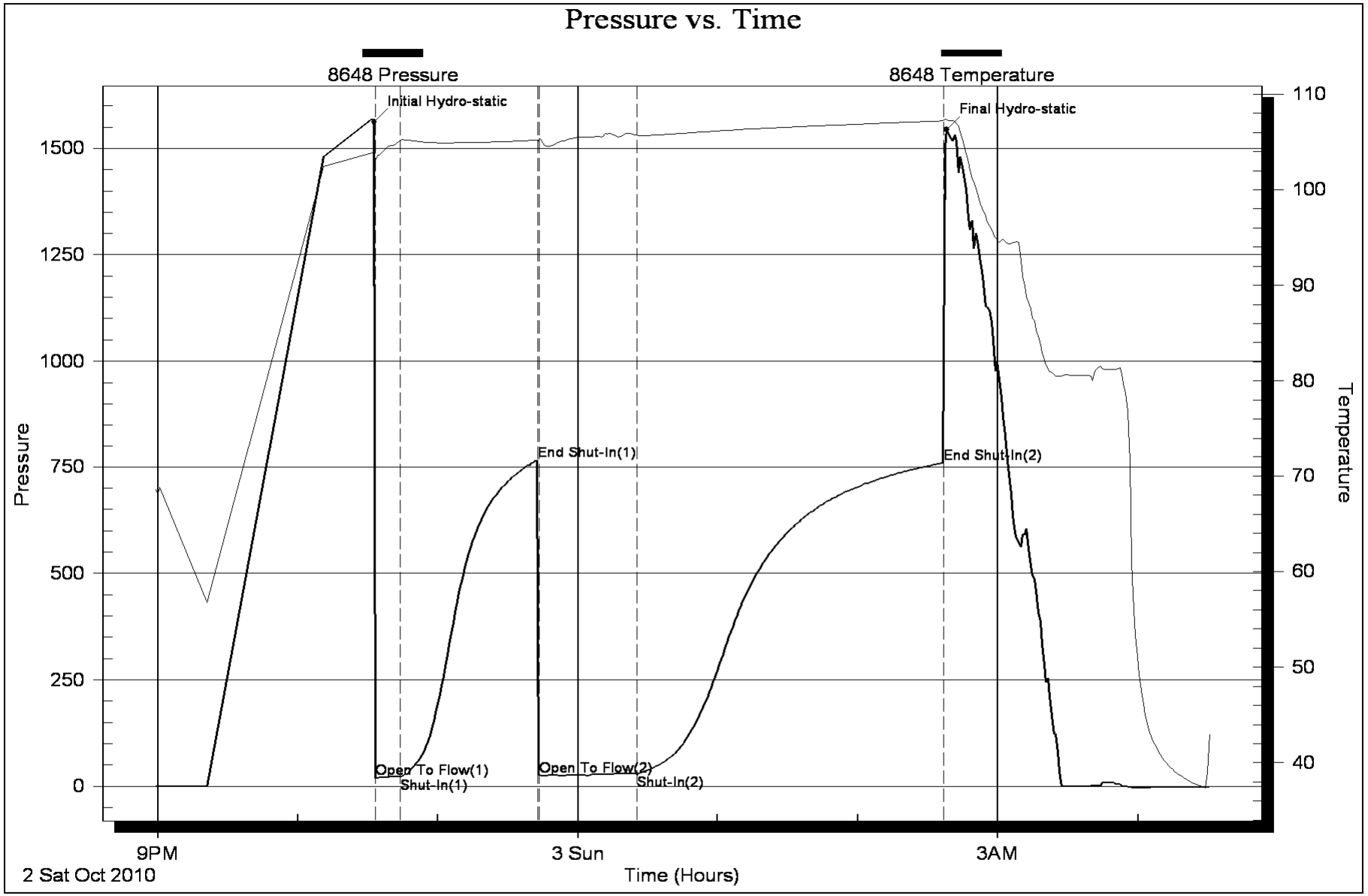
Recovery Information

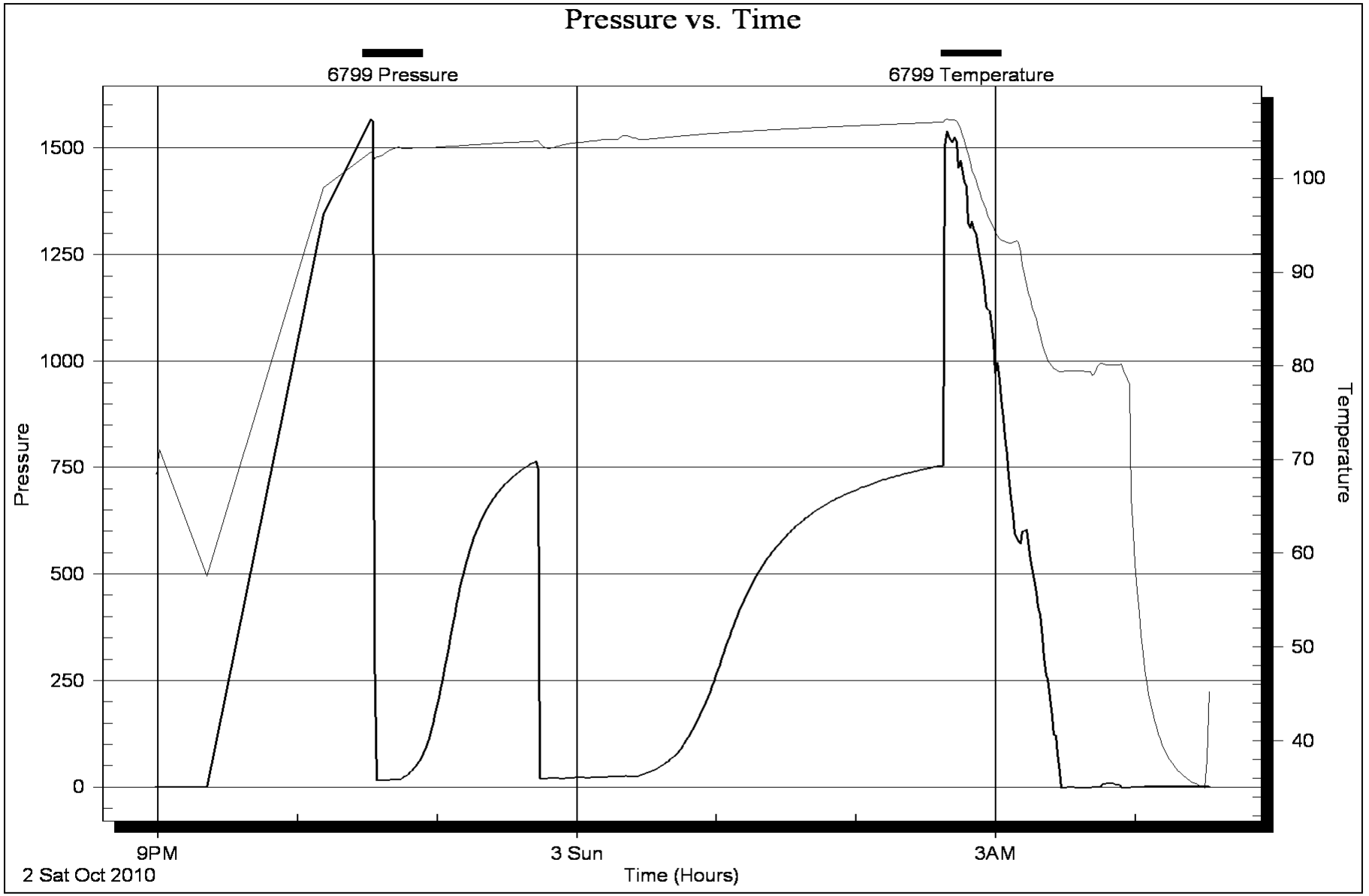
Recovery Table

Length ft	Description	Volume bbl
31.00	SOCM 5%0 95%m	0.435

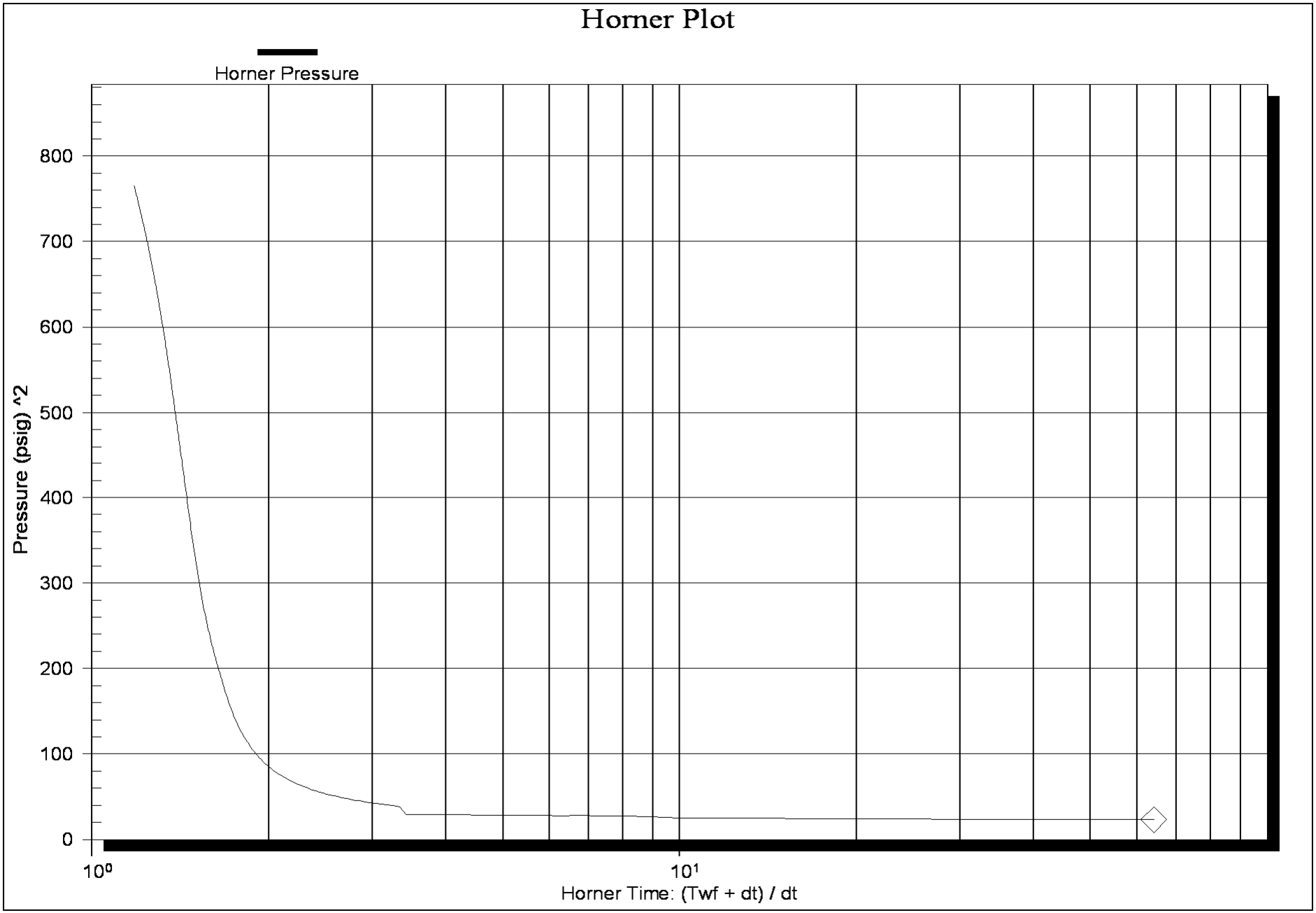
Total Length: 31.00 ft Total Volume: 0.435 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
8648 Pressure
8648 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure
Temperature
1500
1250
1000
750
500
250
0
110
100
90
80
70
60
50
40
9PM
3 Sun
3AM
2 Sat Oct 2010
Time (Hours)

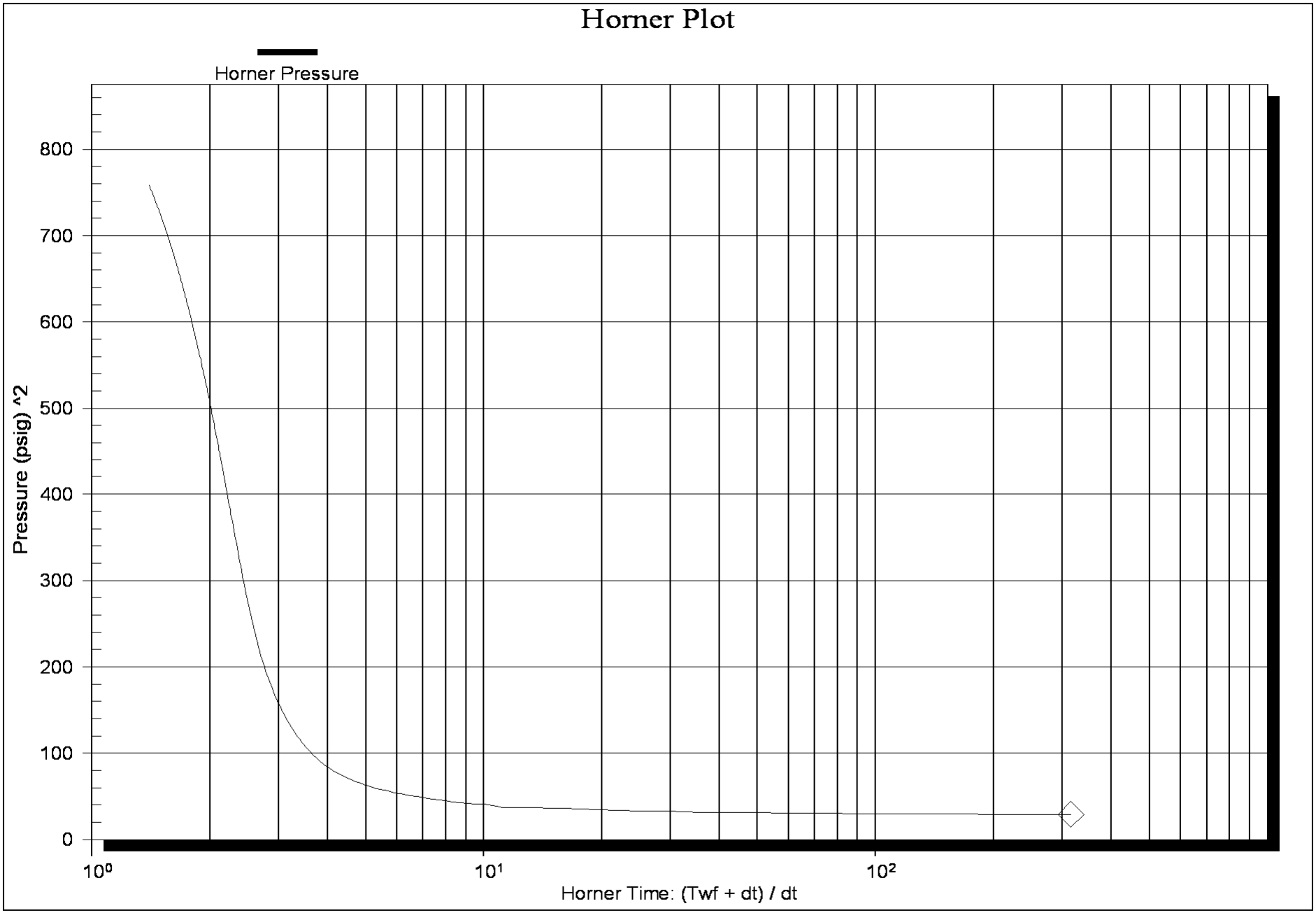

Pressure vs. Time
6799 Pressure
6799 Temperature
1500
1250
1000
750
500
250
0
Pressure
100
90
80
70
60
50
40
Temperature
9PM
3 Sun
3AM
2 Sat Oct 2010
Time (Hours)

Horner Plot

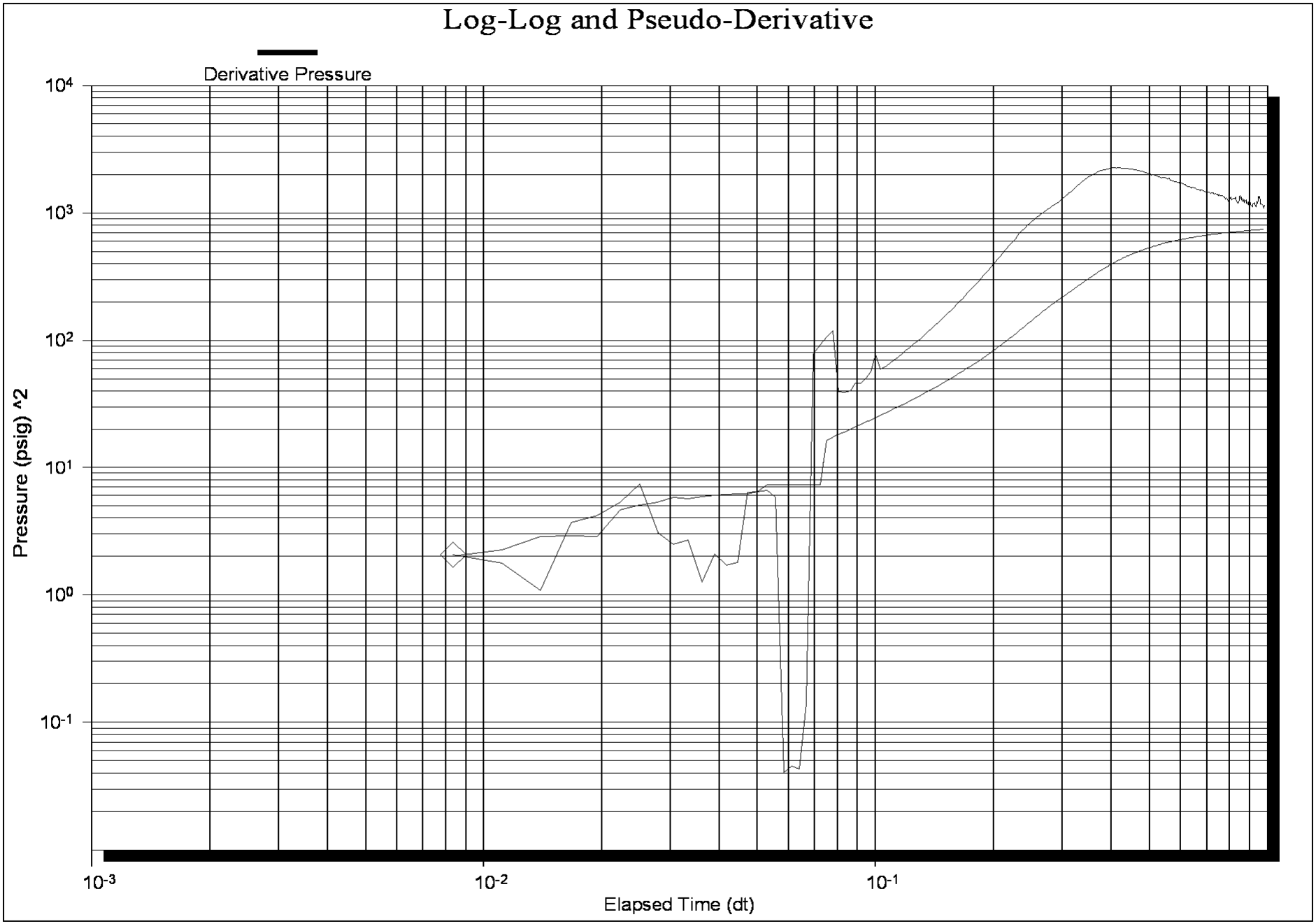


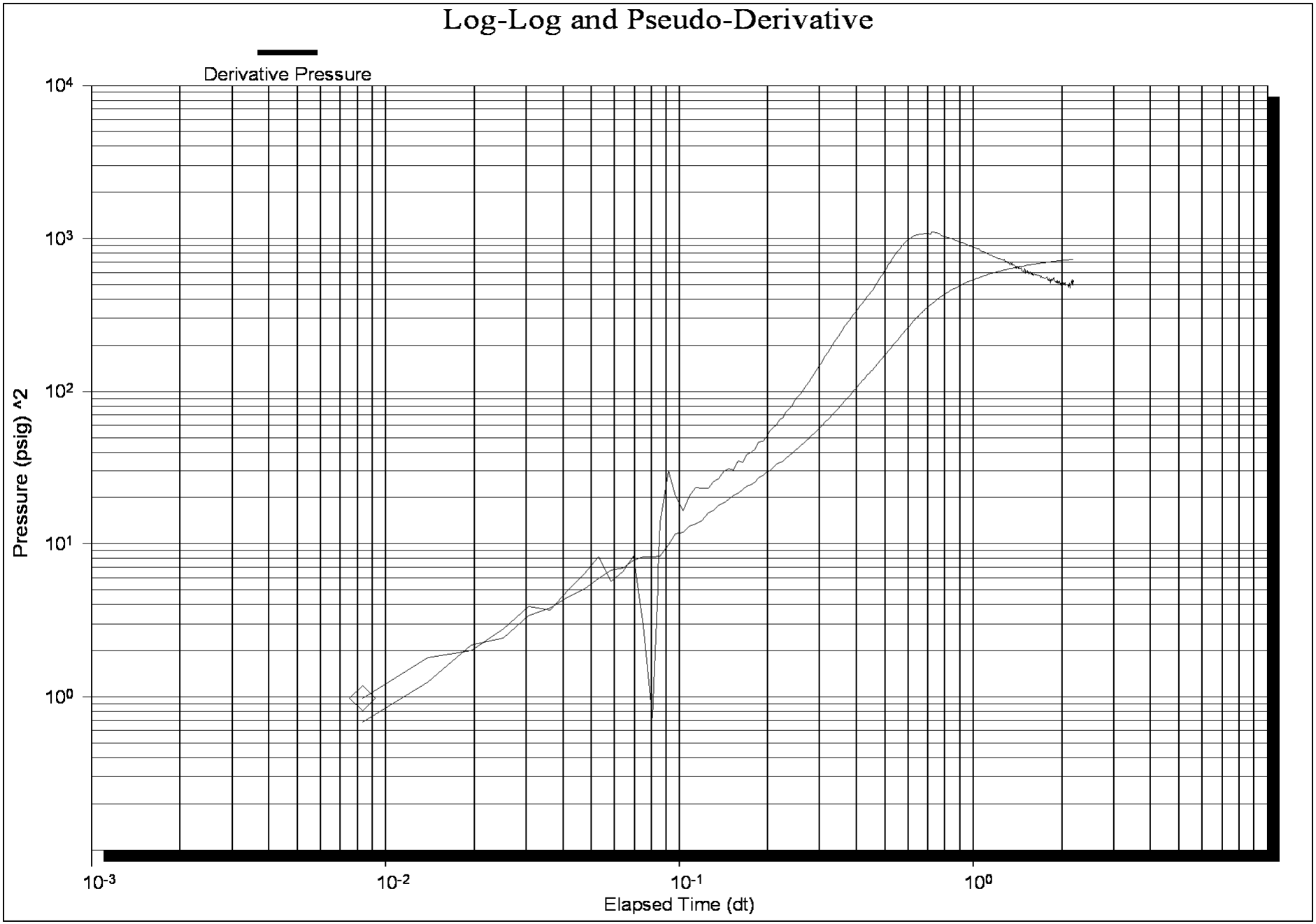
Serial Number: 8648 (Inside) P* : Slope (m) : kpa/log cycle Flow Cycle: 1

Horner Plot



Serial Number: 8648 (Inside) P* : Slope (m) : kpa/log cycle Flow Cycle: 2


Log-Log and Pseudo-Derivative
Derivative Pressure
Pressure (psig) ^2
10^4
10^3
10^2
10^1
10^0
10^{-1}
10^{-3}
10^{-2}
10^{-1}
Elapsed Time (dt)


Log-Log and Pseudo-Derivative
Derivative Pressure
Pressure (psig) ^2
10^4
10^3
10^2
10^1
10^0
10^-3
10^-2
10^-1
10^0
Elapsed Time (dt)