



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: 2011.05.07 @ 14:12:42

End Date: 2011.05.07 @ 23:09:12

Job Ticket #: 42564 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

Samuel Gary Jr. and Associates, Inc.

Wagner Trust 5-1

1515 Wynkoop St. Ste 700
Denver, CO
80202
ATTN: Clayton Camozzi

1-16-16 Rush, Ks

Job Ticket: 42564

DST#: 3

Test Start: 2011.05.07 @ 14:12:42

GENERAL INFORMATION:

Formation: **LKC "H-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:55:42

Time Test Ended: 23:09:12

Test Type: Conventional Bottom Hole

Tester: Brian Fairbank

Unit No: 41

Interval: 3329.00 ft (KB) To 3381.00 ft (KB) (TVD)

Reference Elevations: 1909.00 ft (KB)

Total Depth: 3381.00 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: 79.76 psig @ 3336.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.05.07

End Date:

2011.05.07

Last Calib.:

2011.05.07

Start Time:

14:12:43

End Time:

23:09:12

Time On Btm:

2011.05.07 @ 15:54:42

Time Off Btm:

2011.05.07 @ 21:08:12

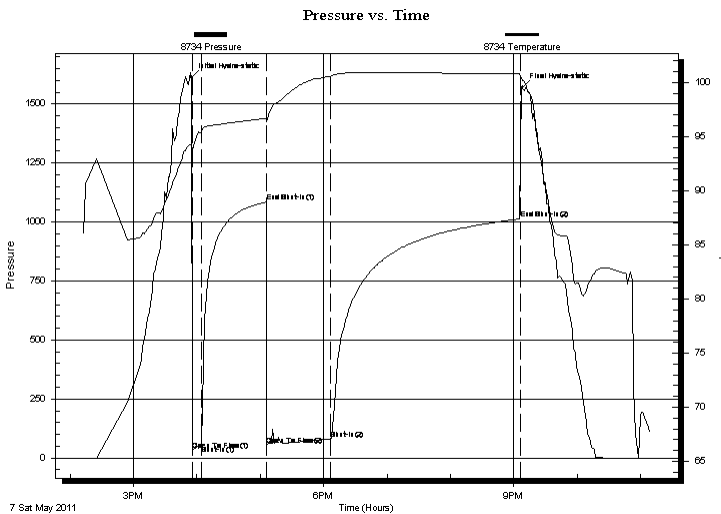
TEST COMMENT: 10 - IFP - weak blow throughout sur - 1"

60 - ISI - no blow back

60 - FFP - no blow 5 min - built to 5"

180 - FSI - no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1613.59	94.33	Initial Hydro-static
1	34.39	93.72	Open To Flow (1)
10	53.70	95.46	Shut-In(1)
71	1084.69	96.69	End Shut-In(1)
72	55.43	96.41	Open To Flow (2)
132	79.76	100.57	Shut-In(2)
312	1013.22	100.83	End Shut-In(2)
314	1571.25	100.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	mud 100%	0.15
65.00	MW 95%W, 5%M	0.91

Gas Rates

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



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ATTN: Clayton Camozzi

1-16-16 Rush, Ks

Job Ticket: 42564

DST#: 3

Test Start: 2011.05.07 @ 14:12:42

GENERAL INFORMATION:

Formation: **LKC "H-K"**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 15:55:42

Time Test Ended: 23:09:12

Test Type: **Conventional Bottom Hole**

Tester: **Brian Fairbank**

Unit No: **41**

Interval: 3329.00 ft (KB) To 3381.00 ft (KB) (TVD)

Total Depth: **3381.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **1909.00 ft (KB)**

1901.00 ft (CF)

KB to GR/CF: **8.00 ft**

Serial #: 8372 **Inside**

Press @ Run Depth: **psig @ 3336.00 ft (KB)**

Start Date: **2011.05.07** End Date: **2011.05.07**

Start Time: **14:12:15** End Time: **23:08:44**

Capacity: **8000.00 psig**

Last Calib.: **2011.05.07**

Time On Btm:

Time Off Btm:

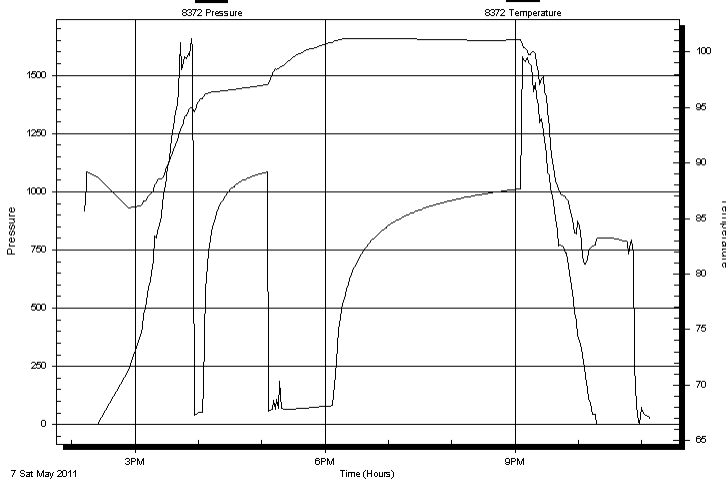
TEST COMMENT: 10 - IFP - weak blow throughout sur - 1"

60 - ISI - no blow back

60 - FFP - no blow 5 min - built to 5"

180 - FSI - no blow back

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	mud 100%	0.15
65.00	MW 95%W, 5%M	0.91

Gas Rates

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



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1-16-16 Rush, Ks

Job Ticket: 42564

DST#: 3

Test Start: 2011.05.07 @ 14:12:42

GENERAL INFORMATION:

Formation: **LKC "H-K"**

Deviated: **No Whipstock:** ft (KB)

Time Tool Opened: 15:55:42

Time Test Ended: 23:09:12

Test Type: **Conventional Bottom Hole**

Tester: **Brian Fairbank**

Unit No: **41**

Interval: 3329.00 ft (KB) To 3381.00 ft (KB) (TVD)

Reference Elevations: **1909.00 ft (KB)**

Total Depth: **3381.00 ft (KB) (TVD)**

1901.00 ft (CF)

Hole Diameter: **7.88 inches** Hole Condition: **Good**

KB to GR/CF: **8.00 ft**

Serial #: 8365 Fluid

Press @ Run Depth: **psig @ 3295.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2011.05.07** End Date: **2011.05.07**

Last Calib.: **2011.05.07**

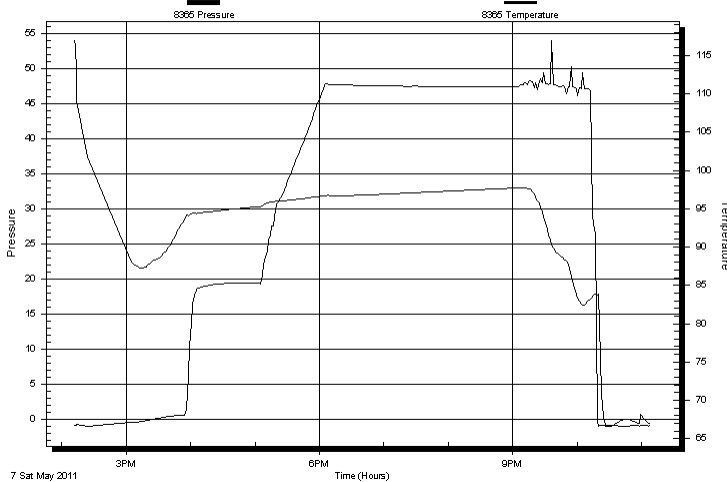
Start Time: **14:12:13** End Time: **23:09:12**

Time On Btm:

Time Off Btm:

TEST COMMENT: 10 - IFP - weak blow throughout sur - 1"
60 - ISI - no blow back
60 - FFP - no blow 5 min - built to 5"
180 - FSI - no blow back

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	mud 100%	0.15
65.00	MW 95%W, 5%M	0.91

Gas Rates

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



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TOOL DIAGRAM

Samuel Gary Jr. and Associates, Inc.

Wagner Trust 5-1

1515 Wynkoop St. Ste 700
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ATTN: Clayton Camozzi

1-16-16 Rush, Ks

Job Ticket: 42564

DST#: 3

Test Start: 2011.05.07 @ 14:12:42

Tool Information

Drill Pipe:	Length: 3286.00 ft	Diameter: 3.80 inches	Volume: 46.09 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
			<u>Total Volume: 46.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3329.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	86.00 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	3295.00	
Blank Spacing	5.00			3300.00	
Shut In Tool	5.00			3305.00	
Sampler	2.00			3307.00	
Hydraulic tool	5.00			3312.00	
Jars	5.00			3317.00	
Safety Joint	2.00			3319.00	
Packer	5.00			3324.00	34.00 Bottom Of Top Packer
Packer	5.00			3329.00	
Stubb	1.00			3330.00	
Perforations	5.00			3335.00	
Change Over Sub	1.00			3336.00	
Recorder	0.00	8372	Inside	3336.00	
Recorder	0.00	8734	Outside	3336.00	
Blank Spacing	31.00			3367.00	
Change Over Sub	1.00			3368.00	
Perforations	10.00			3378.00	
Bullnose	3.00			3381.00	52.00 Bottom Packers & Anchor

Total Tool Length: 86.00



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FLUID SUMMARY

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Job Ticket: 42564

DST#: 3

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Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 55.00 sec/qt
Water Loss: 8.78 in³
Resistivity: ohm.m
Salinity: 6700.00 ppm
Filter Cake: inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: 48000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	mud 100%	0.148
65.00	MW 95%W, 5%M	0.912

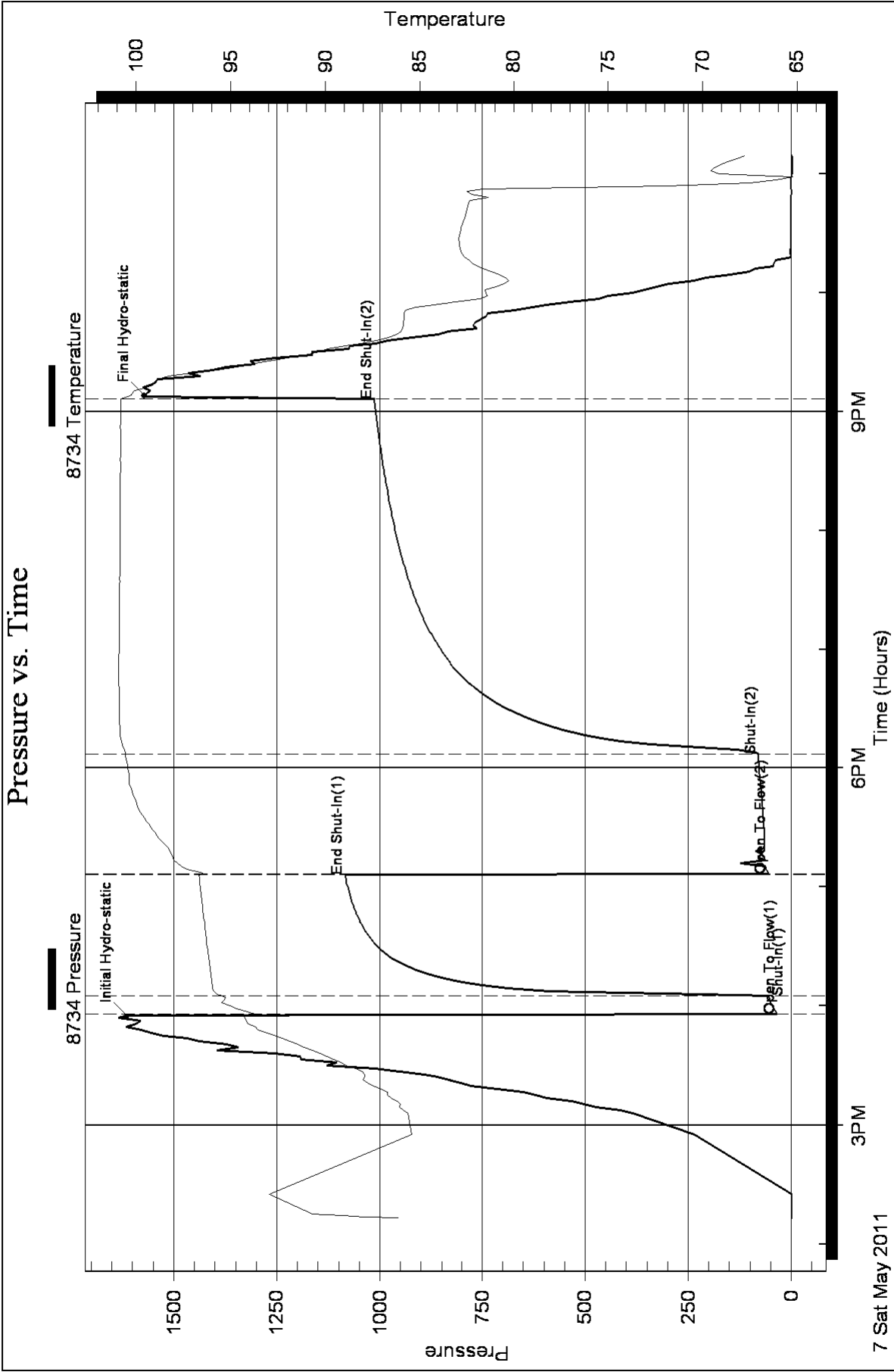
Total Length: 95.00 ft Total Volume: 1.060 bbl

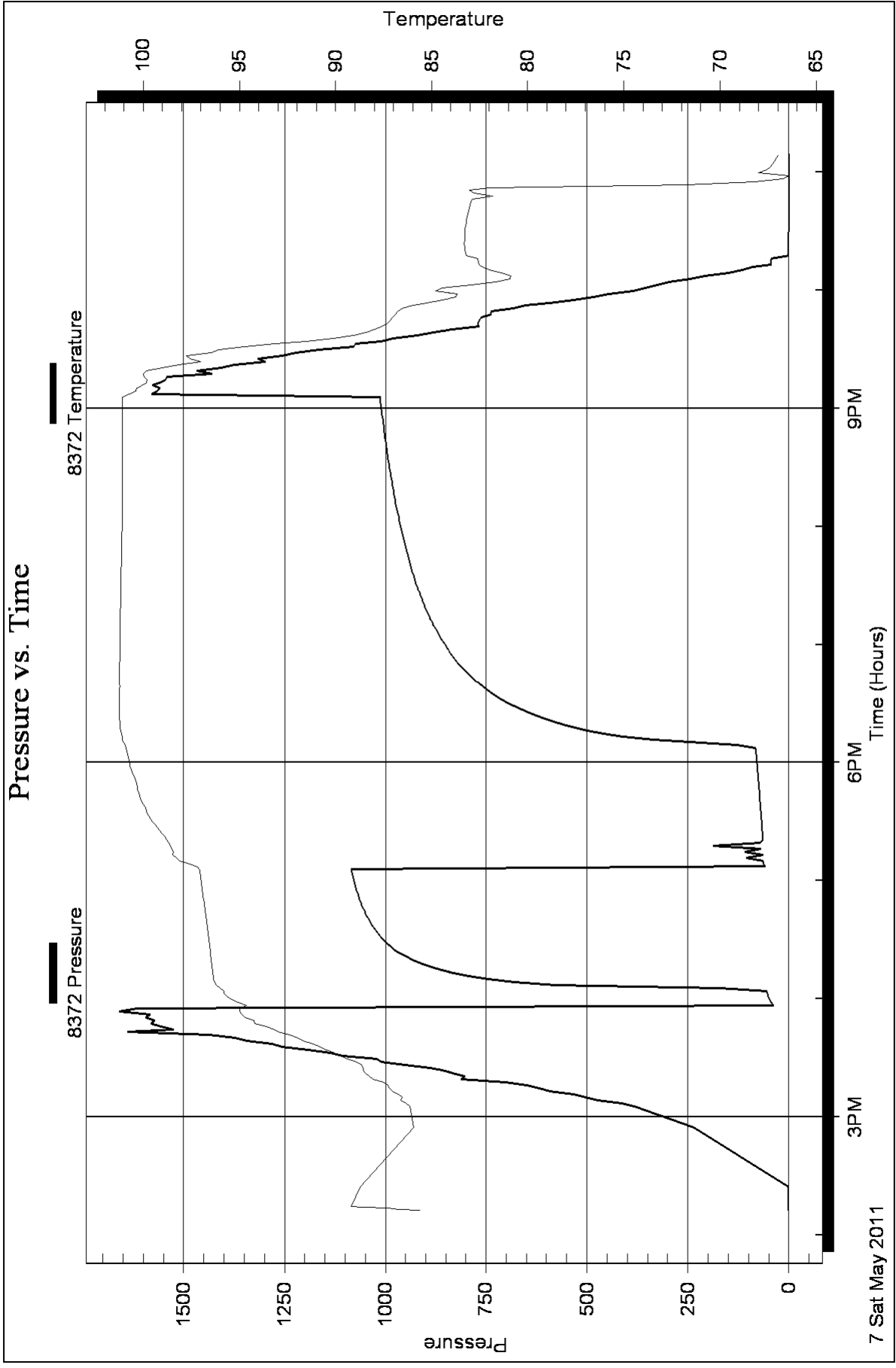
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: M 200 ml, W 3800 ml, 150 LBS RW .168 68 degrees 48,000

Pressure vs. Time





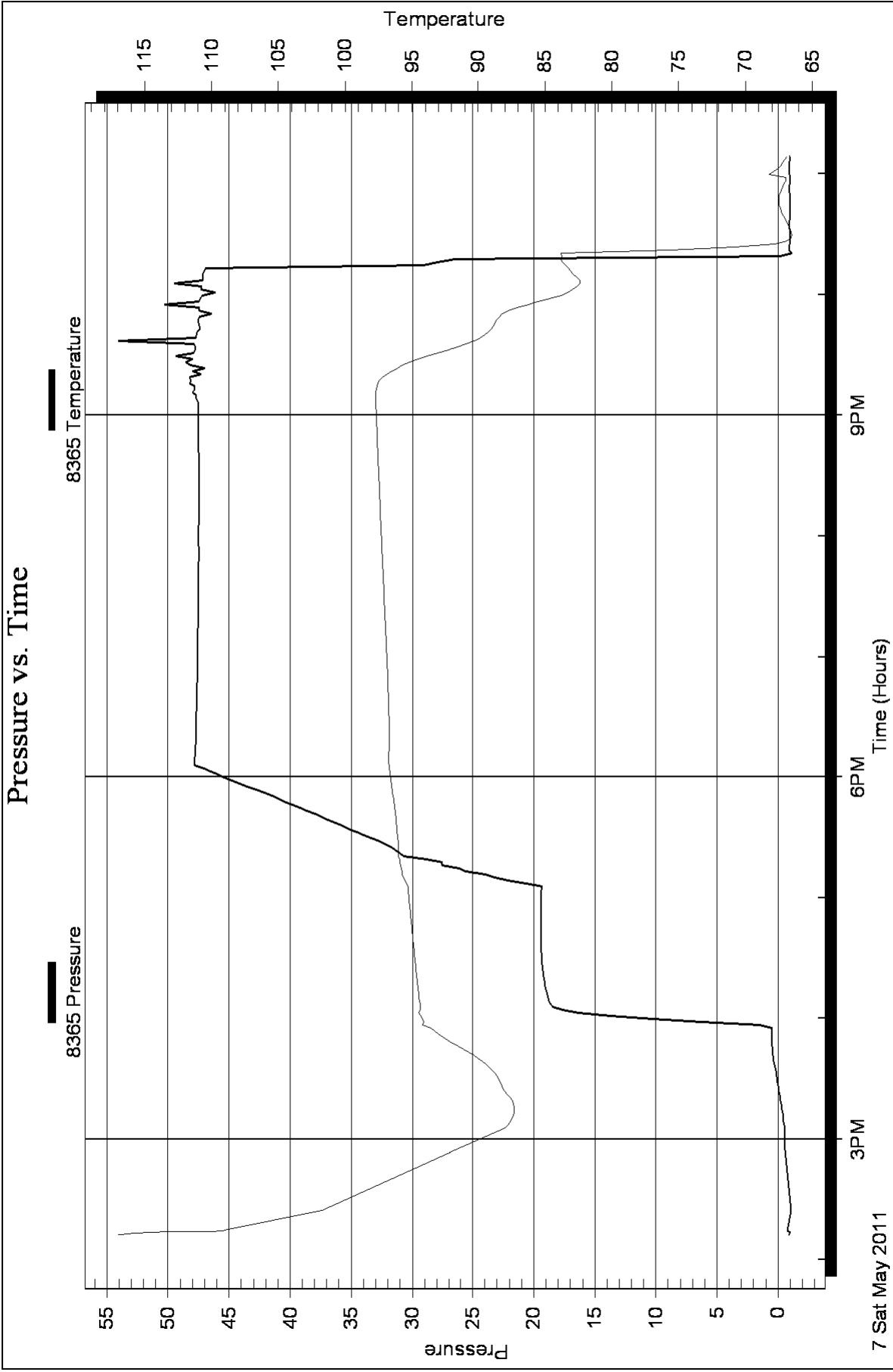
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Fluid

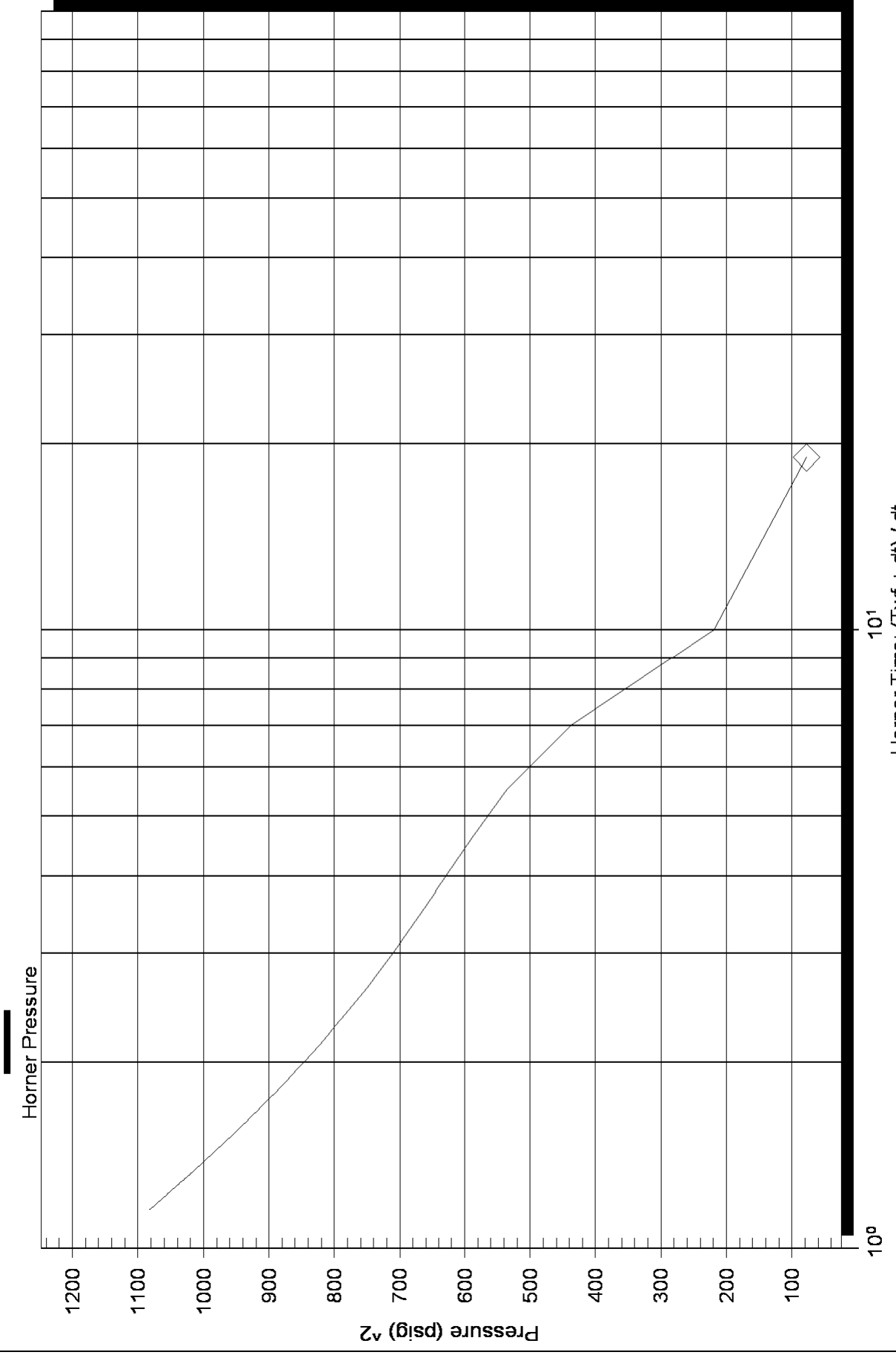
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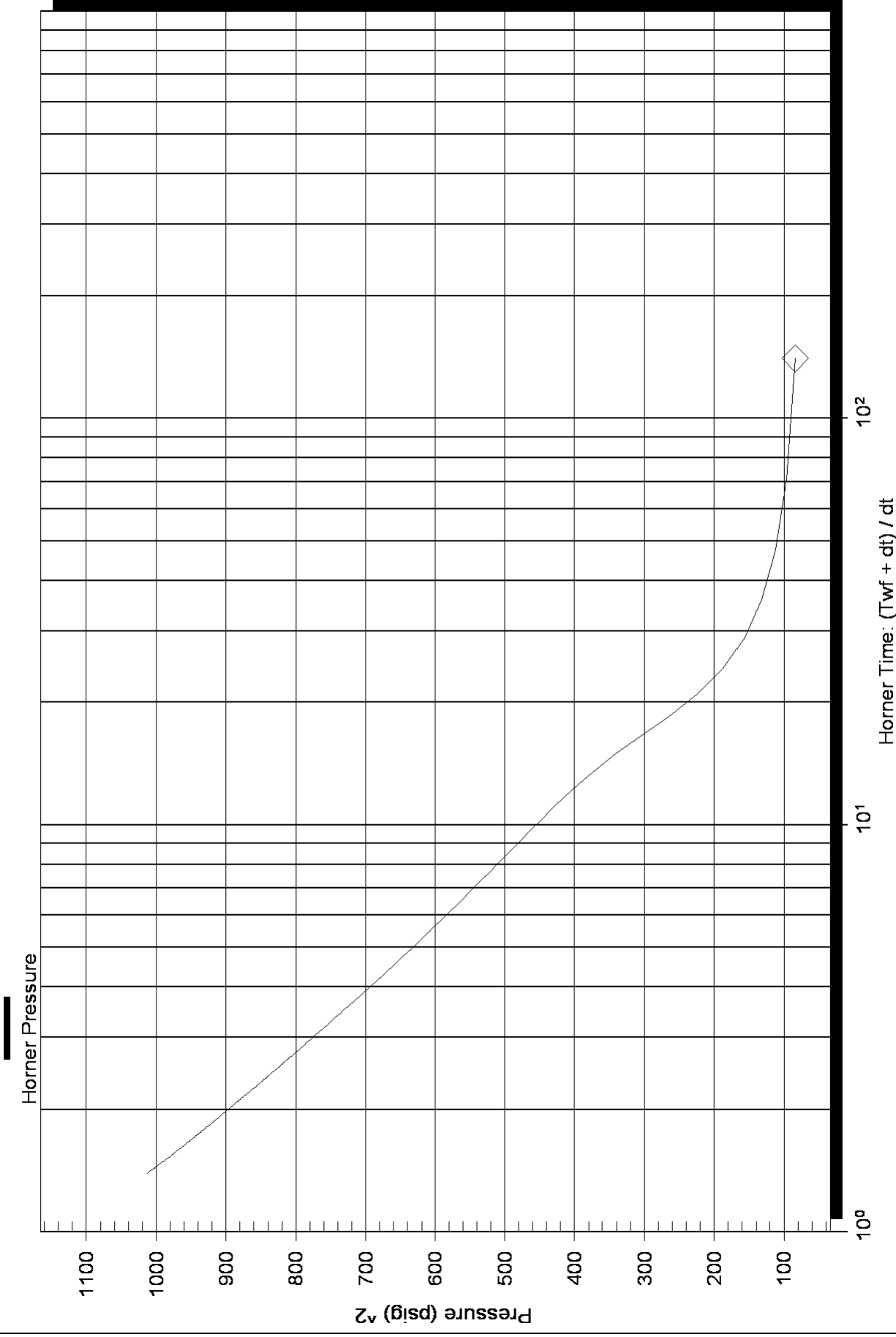
DST Test Number: 3



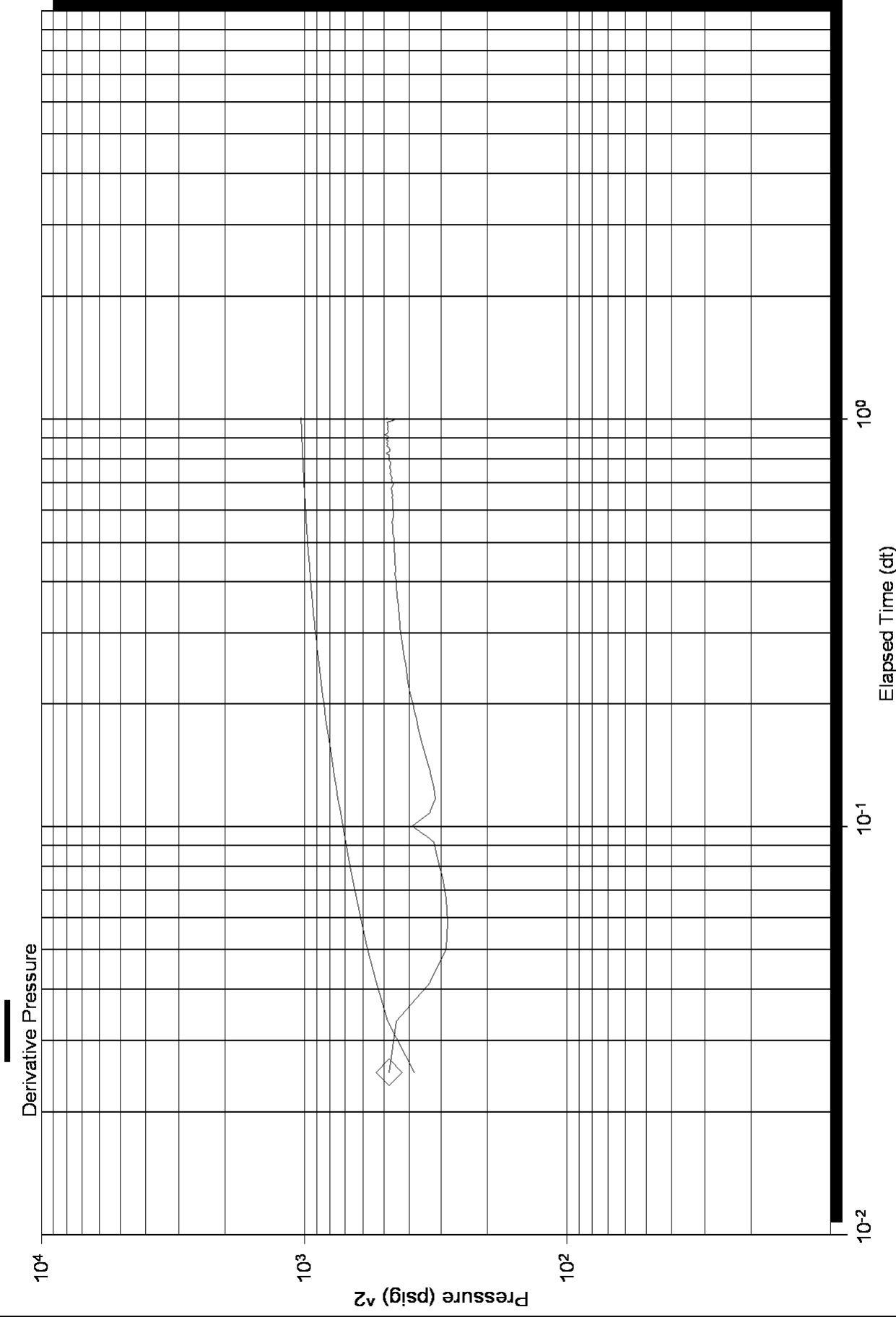
Homer Plot



Homer Plot



Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Derivative

