



DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. & Assoc., Inc.**

1515 Wynkoop Ste.#700
Denver, CO 80202

ATTN: Neil Sharp

1-16S.-17W.-Rush

Dale Stramel #1-1

Start Date: 2011.08.08 @ 19:27:20

End Date: 2011.08.09 @ 02:23:50

Job Ticket #: 45230 DST #: 5

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



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TESTING, INC.**

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Denver, CO 80202

1-16S.-17W.-Rush

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Job Ticket: 45230

DST#: 5

Test Start: 2011.08.08 @ 19:27:20

GENERAL INFORMATION:

Formation: **LKC "H,I,& J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:51:10

Time Test Ended: 02:23:50

Test Type: Conventional Bottom Hole

Tester: Dustin Rash

Unit No: 38

Interval: 3330.00 ft (KB) To 3397.00 ft (KB) (TVD)

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3397.00 ft (KB) (TVD)

1891.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8354 Inside

Press @ Run Depth: 95.23 psig @ 3336.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.08

End Date: 2011.08.09

Last Calib.: 2011.08.09

Start Time: 19:37:20

End Time: 02:23:50

Time On Btm: 2011.08.08 @ 20:50:50

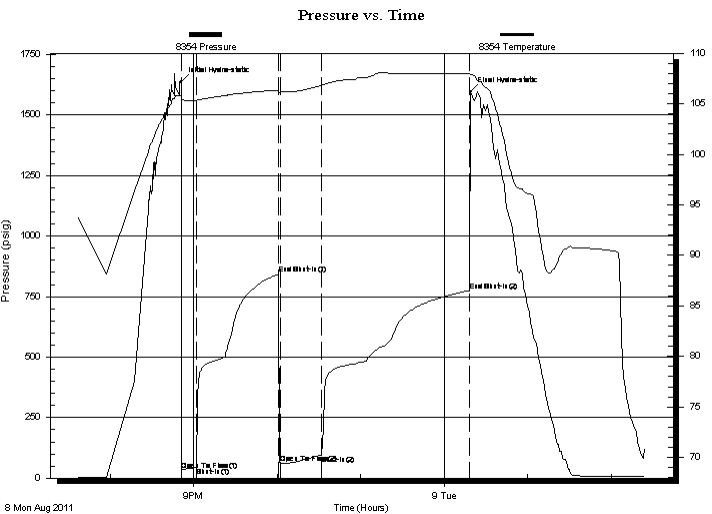
Time Off Btm: 2011.08.09 @ 00:18:50

TEST COMMENT: IF-Weak blow . Built to 1/4 inch. Died @ 8 minutes 40 seconds.

ISI-No Return.

FF-Weak blow . Built to 1/4 inch. Died to surface blow .

FSI-No Return. Times= 10-60-30-105



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1637.20	105.82	Initial Hydro-static
1	33.68	105.32	Open To Flow (1)
11	45.02	105.30	Shut-In(1)
70	842.33	106.35	End Shut-In(1)
72	61.65	106.20	Open To Flow (2)
101	95.23	106.81	Shut-In(2)
207	774.79	107.98	End Shut-In(2)
208	1595.01	107.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
100.00	90%Water/10%Mud	1.40
60.00	50%Water/50%Mud	0.84

Gas Rates

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



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Reference Elevations: 1901.00 ft (KB)

Total Depth: 3397.00 ft (KB) (TVD)

1891.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8520 Outside

Press @RunDepth: psig @ 3336.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.08

End Date: 2011.08.09

Last Calib.: 2011.08.09

Start Time: 19:37:30

End Time: 02:23:00

Time On Btm:

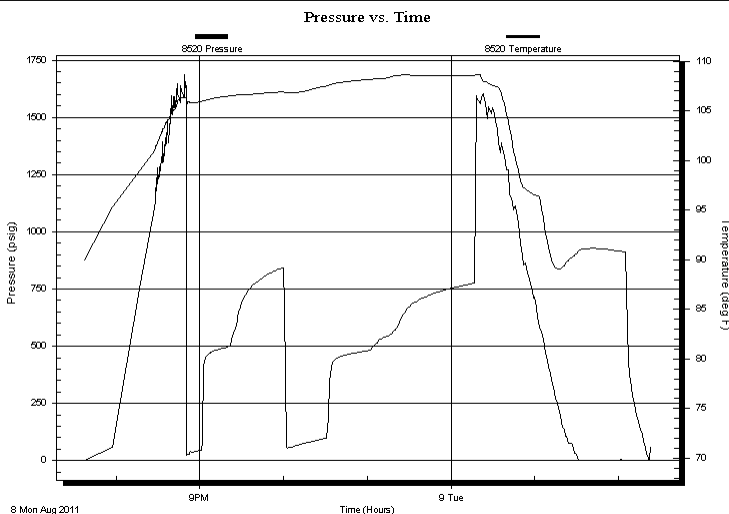
Time Off Btm:

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FF-Weak blow . Built to 1/4 inch. Died to surface blow .

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PRESSURE SUMMARY

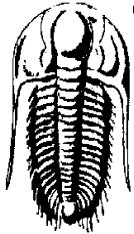
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
100.00	90%Water/10%Mud	1.40
60.00	50%Water/50%Mud	0.84

Gas Rates

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



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DST#: 5

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GENERAL INFORMATION:

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Deviated: No Whipstock: ft (KB)

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Time Test Ended: 02:23:50

Interval: 3330.00 ft (KB) To 3397.00 ft (KB) (TVD)

Total Depth: 3397.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole

Tester: Dustin Rash

Unit No: 38

Reference Elevations: 1901.00 ft (KB)

1891.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8653

Fluid

Press @ Run Depth: psig @ 3300.00 ft (KB)

Start Date: 2011.08.08

End Date: 2011.08.09

Start Time: 19:37:40

End Time: 02:21:40

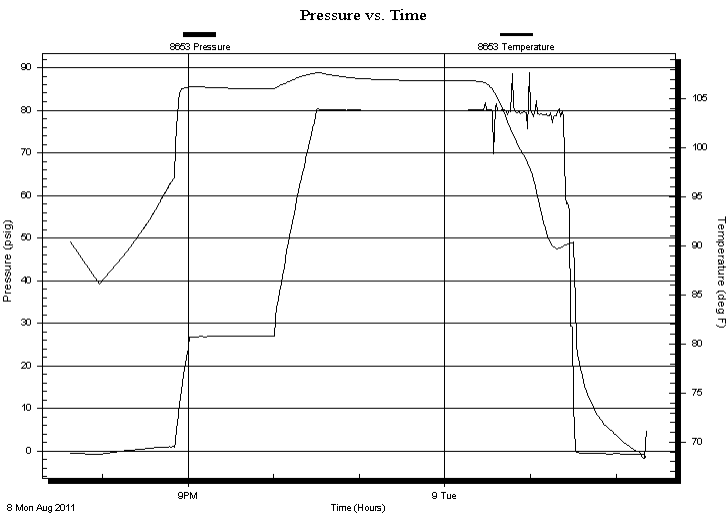
Capacity: 8000.00 psig

Last Calib.: 2011.08.09

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-Weak blow . Built to 1/4 inch. Died @ 8 minutes 40 seconds.
IS-No Return.
FF-Weak blow . Built to 1/4 inch. Died to surface blow .
FS-No Return. Times= 10-60-30-105



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
100.00	90%Water/10%Mud	1.40
60.00	50%Water/50%Mud	0.84

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Samuel Gary Jr. & Assoc., Inc.

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Denver, CO 80202

1-16S.-17W.-Rush

Job Ticket: 45230

DST#: 5

ATTN: Neil Sharp

Test Start: 2011.08.08 @ 19:27:20

Tool Information

Drill Pipe:	Length: 3324.00 ft	Diameter: 3.80 inches	Volume: 46.63 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	5000.00 lb
			<u>Total Volume: 46.63 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	3330.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	67.00 ft				
Tool Length:	97.00 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	8653	Fluid	3300.00	
Change Over Sub	1.00			3301.00	
Shut In Tool	5.00			3306.00	
Sampler	2.00			3308.00	
Hydraulic tool	5.00			3313.00	
Jars	5.00			3318.00	
Safety Joint	3.00			3321.00	
Packer	5.00			3326.00	30.00 Bottom Of Top Packer
Packer	4.00			3330.00	
Stubb	1.00			3331.00	
Perforations	5.00			3336.00	
Recorder	0.00	8354	Inside	3336.00	
Recorder	0.00	8520	Outside	3336.00	
Change Over Sub	1.00			3337.00	
Drill Pipe	31.00			3368.00	
Change Over Sub	1.00			3369.00	
Perforations	25.00			3394.00	
Bullnose	3.00			3397.00	67.00 Bottom Packers & Anchor

Total Tool Length: 97.00



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FLUID SUMMARY

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DST#: 5

ATTN: Neil Sharp

Test Start: 2011.08.08 @ 19:27:20

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:

44000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.60 in³

Gas Cushion Type:

Resistivity: 0.17 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
100.00	90%Water/10%Mud	1.403
60.00	50%Water/50%Mud	0.842

Total Length: 160.00 ft Total Volume: 2.245 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler= 2000ML-Water. 300# Pressure.

Resistivity=.161 @ 71 = 46000



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GAS RATES

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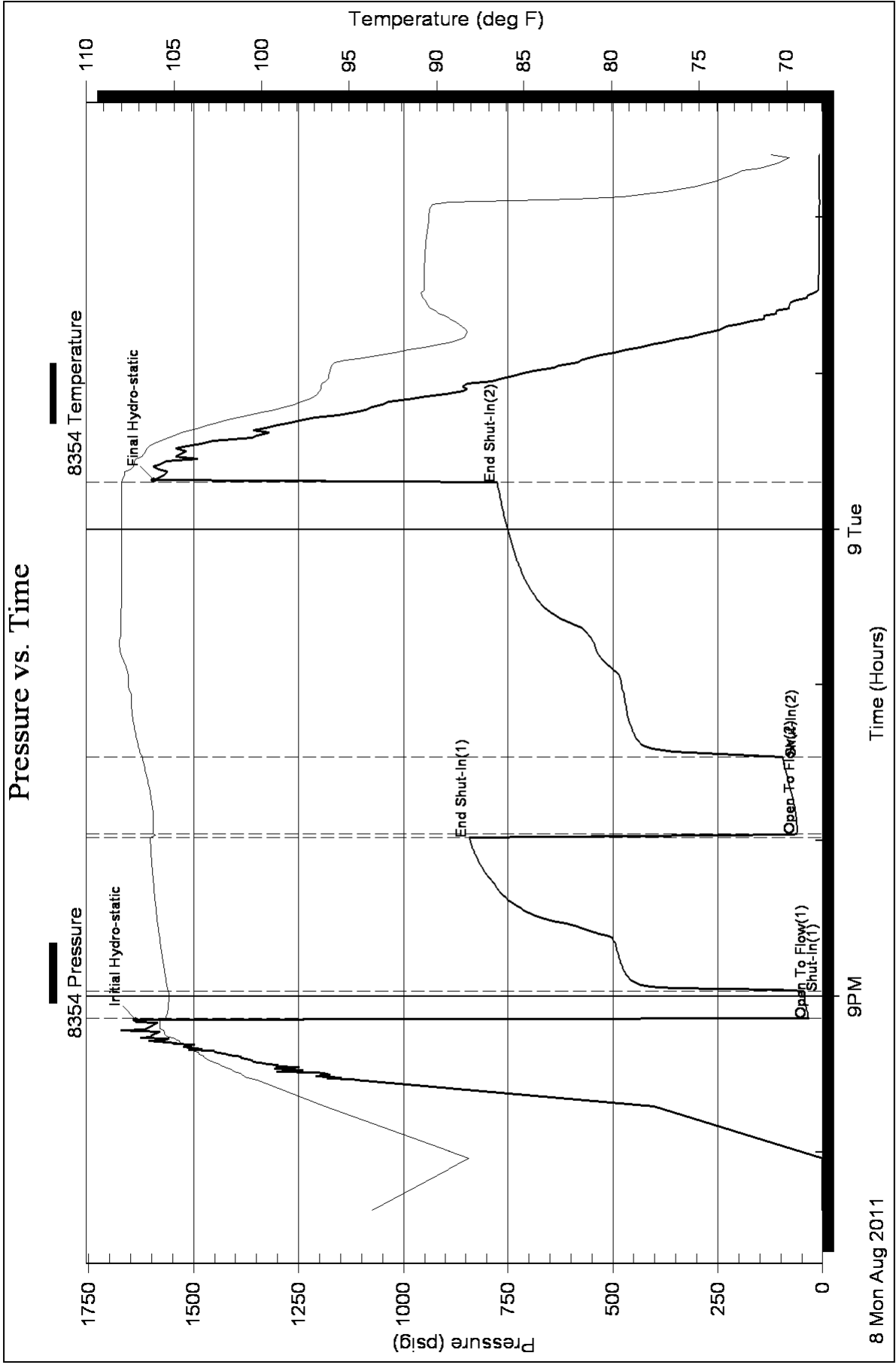
Test Start: 2011.08.08 @ 19:27:20

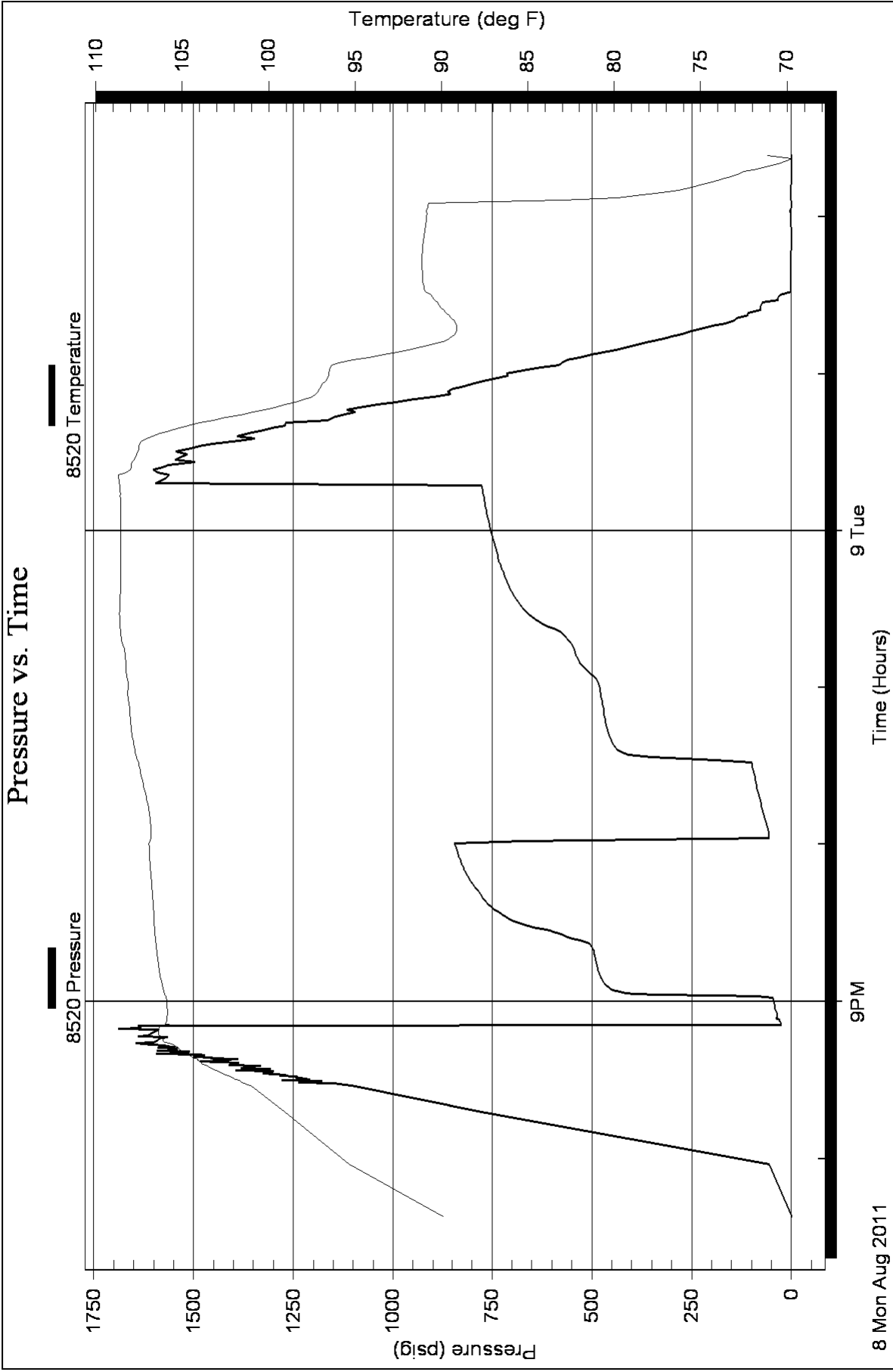
Gas Rates Information

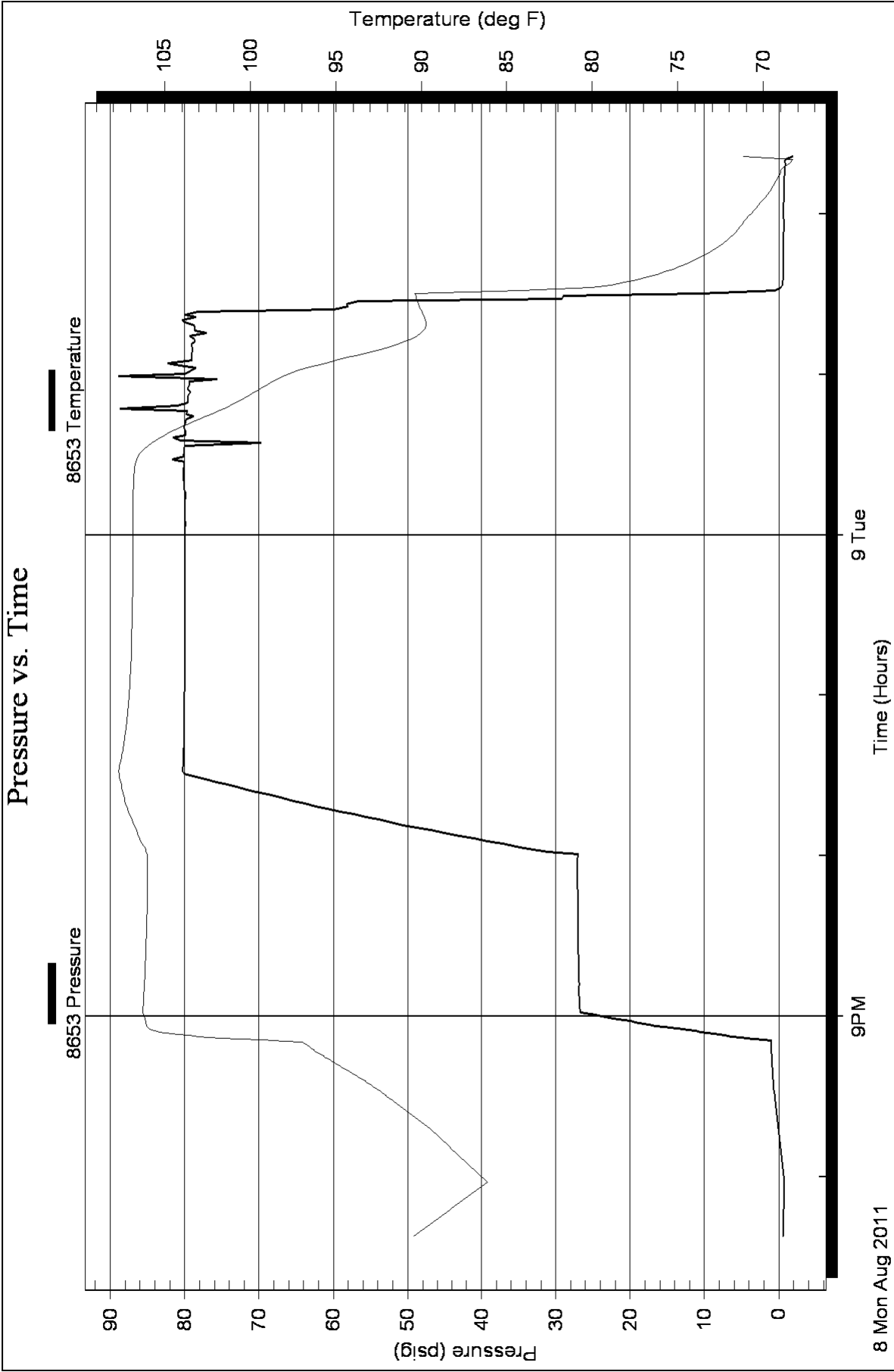
Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m ³ /d)
		0.00	0.00	0.00

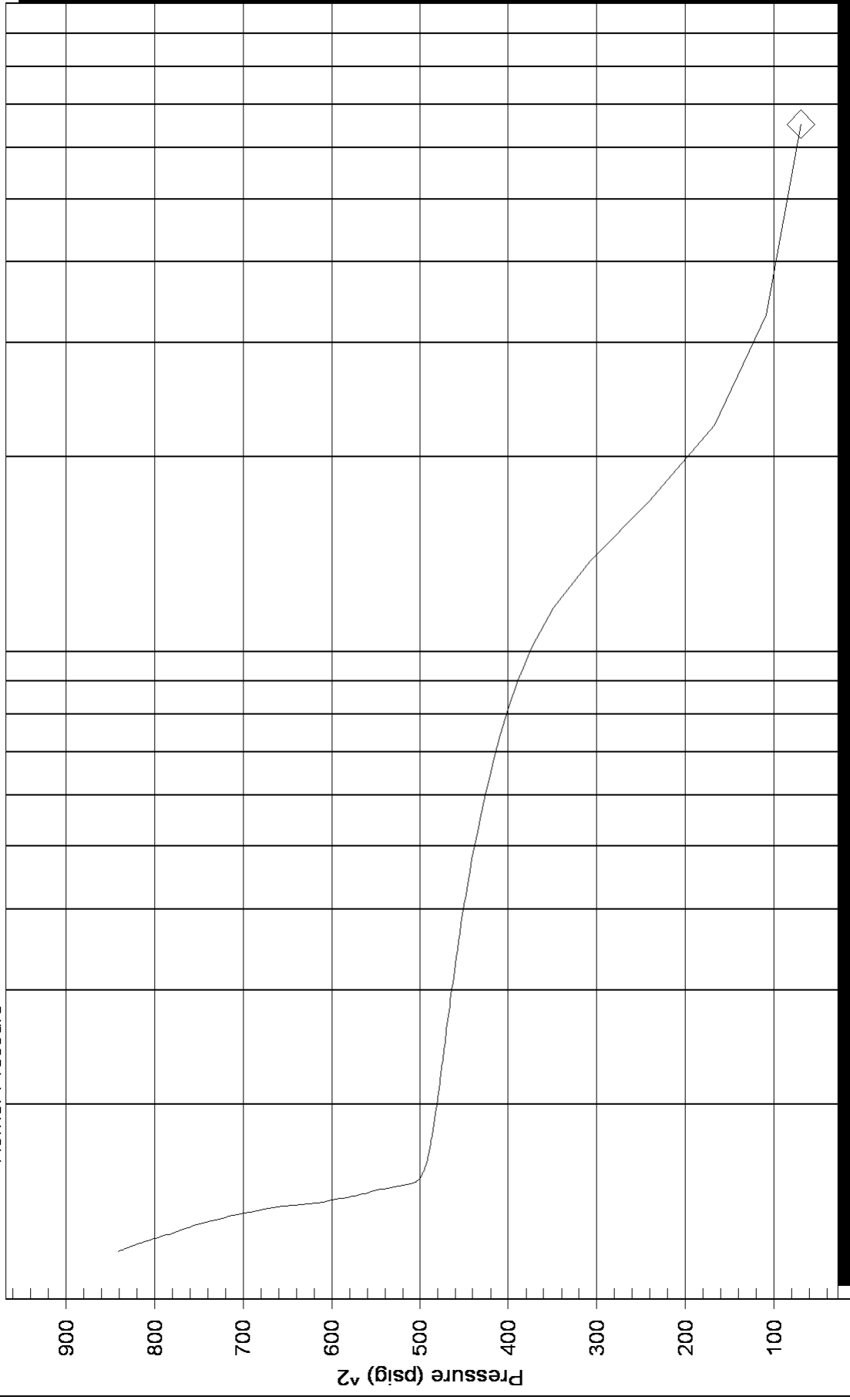






Homer Plot

Horner Pressure



10⁰

10¹

Horner Time: (T_{wf} + dt) / dt

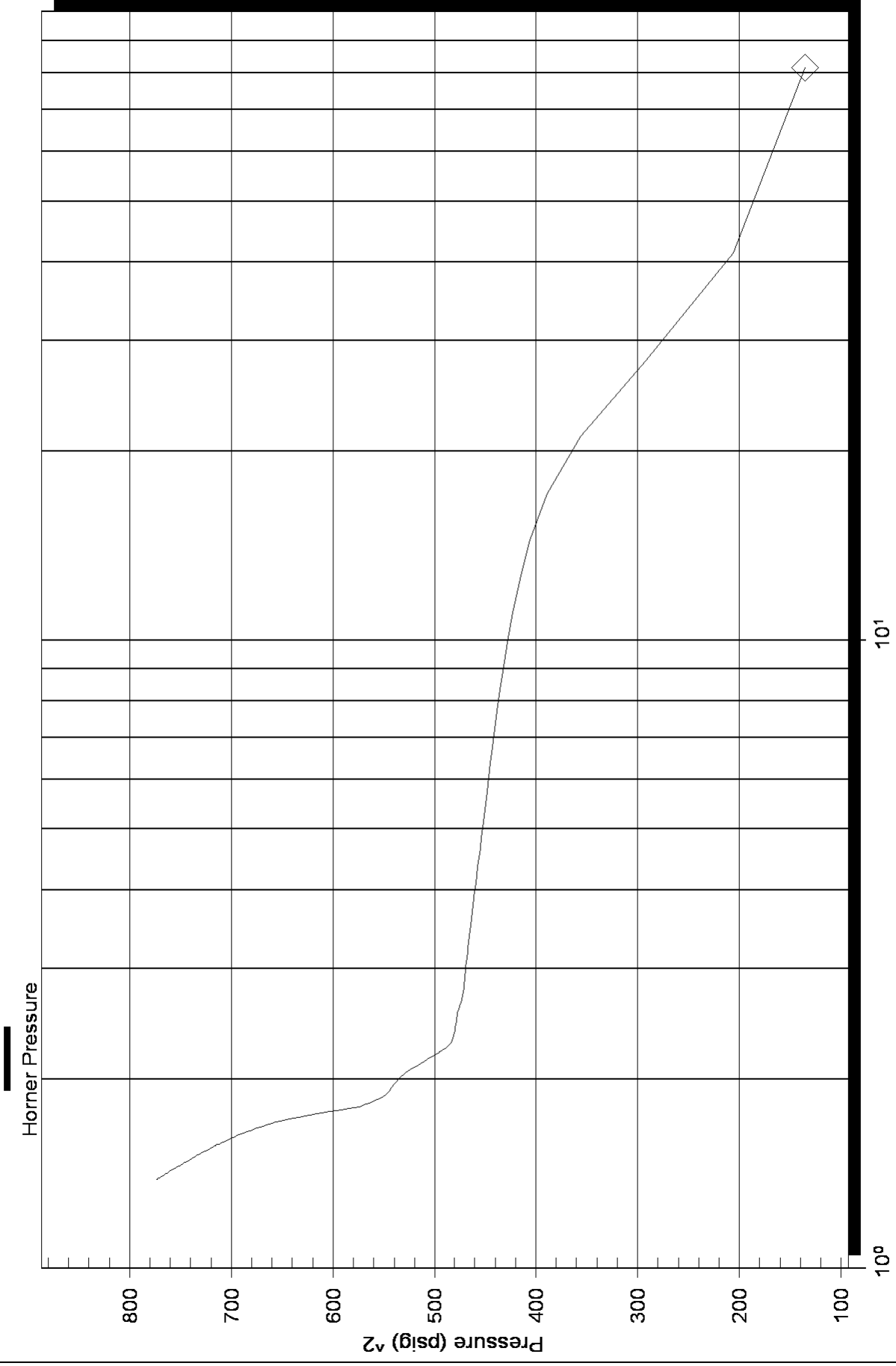
Slope (m) : kpa/log cycle

P* :

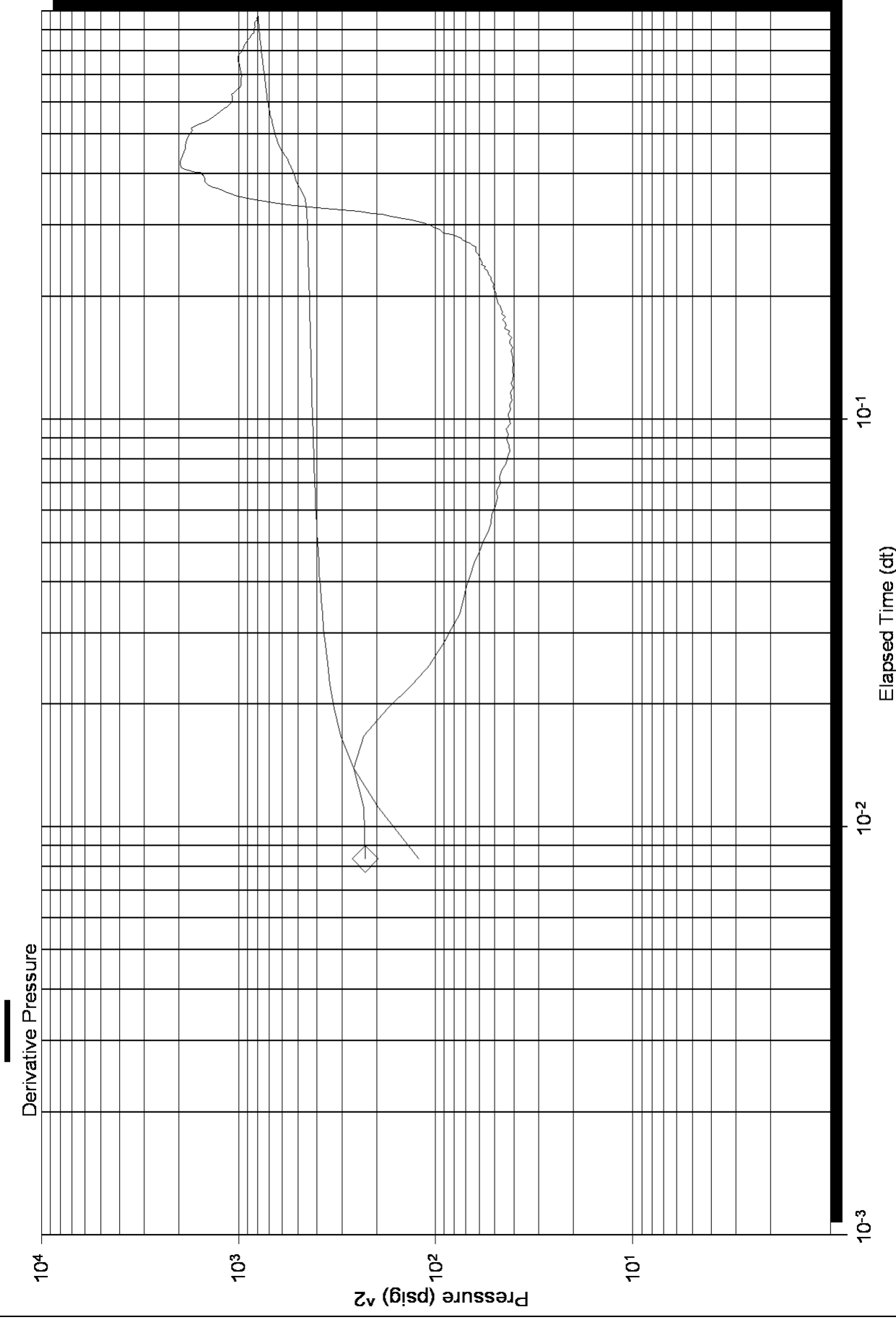
Serial Number: 8354 (Inside)

Flow Cycle: 1

Homer Plot



Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Derivative

