



## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. & Ass.**

1515 Wynkoop St. Suite 700  
Denver CO, 80202

ATTN: Chris Mitchell

### **Pfannenstiel 1-20**

#### **20-14s-17w Ellis KS**

Start Date: 2012.10.03 @ 02:25:00

End Date: 2012.10.03 @ 10:35:00

Job Ticket #: 51004                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
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**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Ass.

**20-14s-17w Ellis KS**

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**DST#: 1**

Test Start: 2012.10.03 @ 02:25:00

## GENERAL INFORMATION:

Formation: **KC "C-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:40:30

Time Test Ended: 10:35:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 38

**Interval: 3275.00 ft (KB) To 3320.00 ft (KB) (TVD)**

Reference Elevations: 1976.00 ft (KB)

Total Depth: 3320.00 ft (KB) (TVD)

1966.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8354**

**Inside**

Press@RunDepth: 51.29 psig @ 3279.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.10.03

End Date:

2012.10.03

Last Calib.:

2012.10.03

Start Time: 02:35:00

End Time:

10:35:00

Time On Btm:

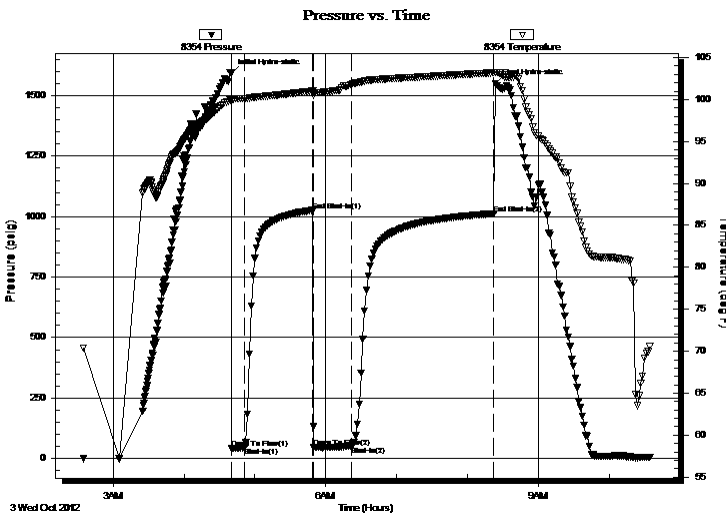
2012.10.03 @ 04:40:00

Time Off Btm:

2012.10.03 @ 08:24:00

**TEST COMMENT:** 010 - IF- 1 1/4" blow .  
060 - IS- No blow back  
030 - FF- 3/4" blow .  
120 - FS- No blow back.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1592.51	100.05	Initial Hydro-static
1	40.20	99.84	Open To Flow (1)
12	45.60	100.07	Shut-In(1)
69	1025.79	101.01	End Shut-In(1)
70	45.42	100.85	Open To Flow (2)
102	51.29	101.82	Shut-In(2)
223	1012.14	103.19	End Shut-In(2)
224	1549.79	103.23	Final Hydro-static

## Recovery

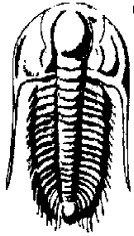
Length (ft)	Description	Volume (bbl)
15.00	Mud - w ith oil spots, 100%M	0.21

## Gas Rates

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







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**TOOL DIAGRAM**

Samuel Gary Jr. & Ass.

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Job Ticket: 51004

**DST#: 1**

ATTN: Chris Mitchell

Test Start: 2012.10.03 @ 02:25:00

## Tool Information

Drill Pipe:	Length: 3250.00 ft	Diameter: 3.80 inches	Volume: 45.59 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: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 53000.00 lb
			<u>Total Volume: 45.59 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3275.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	79.00 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	3241.00	
Change Over Sub	5.00			3246.00	
Shut In Tool	5.00			3251.00	
Sampler	2.00			3253.00	
Hydraulic tool	5.00			3258.00	
Jars	5.00			3263.00	
Safety Joint	3.00			3266.00	
Packer	5.00			3271.00	34.00 Bottom Of Top Packer
Packer	4.00			3275.00	
Stubb	1.00			3276.00	
Perforations	3.00			3279.00	
Recorder	0.00	8354	Inside	3279.00	
Recorder	0.00	8520	Outside	3279.00	
Change Over Sub	1.00			3280.00	
Drill Pipe	31.00			3311.00	
Change Over Sub	1.00			3312.00	
Perforations	5.00			3317.00	
Bullnose	3.00			3320.00	45.00 Bottom Packers & Anchor

**Total Tool Length: 79.00**



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**FLUID SUMMARY**

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**Pfannenstiel 1-20**

Job Ticket: 51004

**DST#: 1**

ATTN: Chris Mitchell

Test Start: 2012.10.03 @ 02:25:00

## 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:

bbbl

Water Loss: 6.40 cm<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5700.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	Mud - with oil spots, 100%M	0.210

Total Length: 15.00 ft      Total Volume: 0.210 bbl

Num Fluid Samples: 0

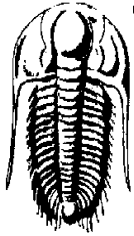
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



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**GAS RATES**

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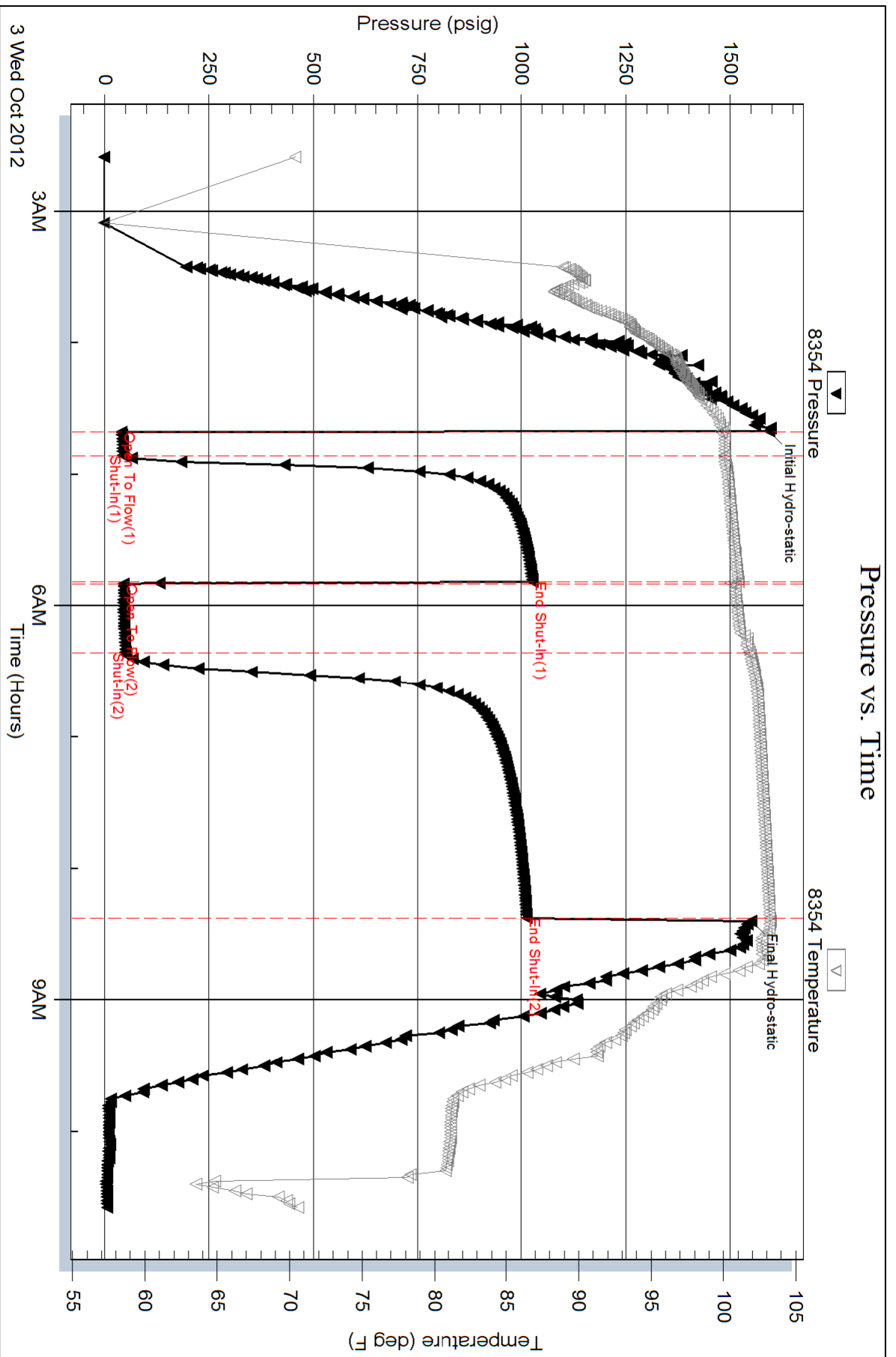
Test Start: 2012.10.03 @ 02:25:00

### Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
		0.00	0.00	0.00



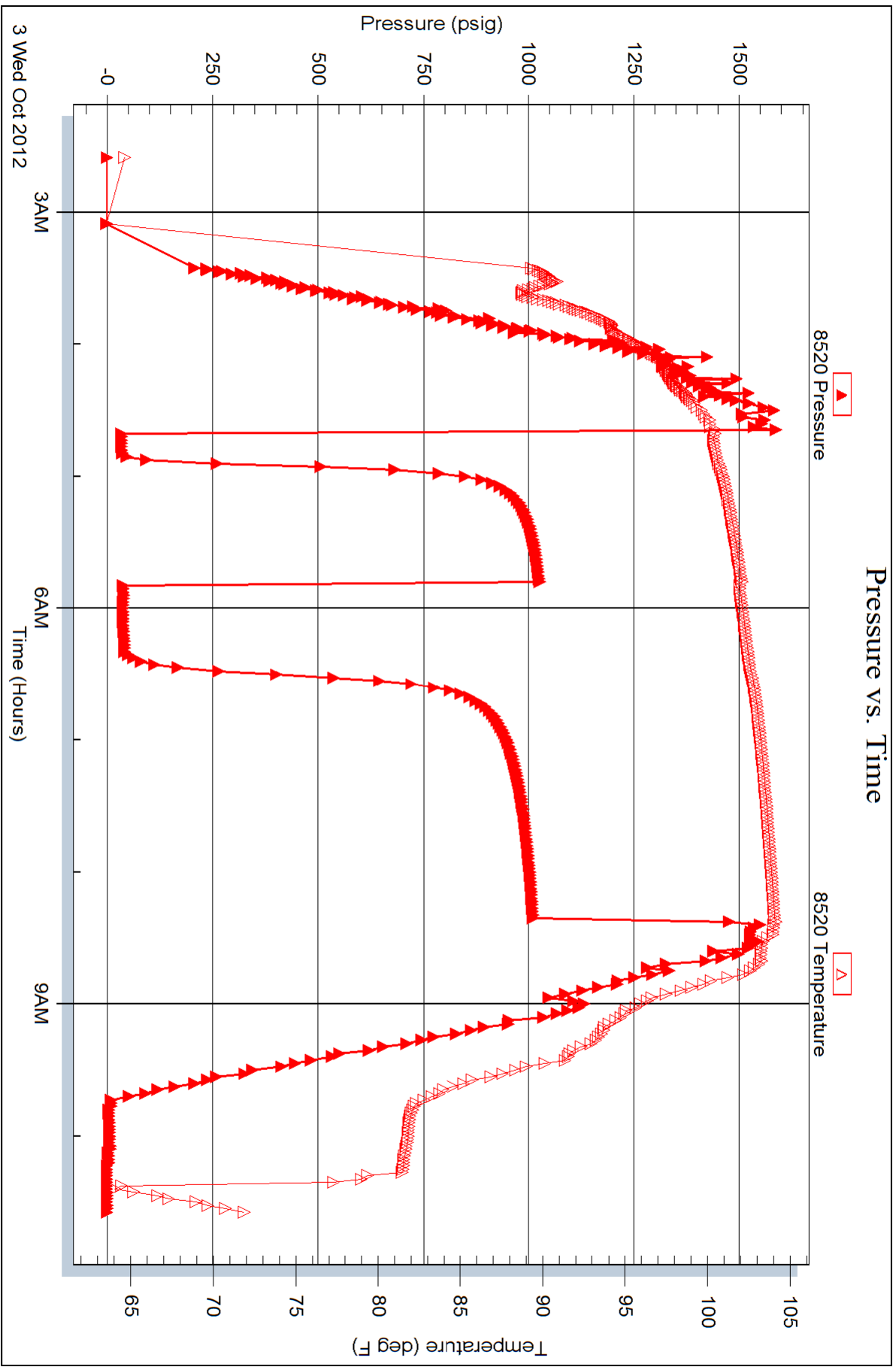


Serial #: 8520

Outside Samuel Gary Jr. & Ass.

Pfannenstiel 1-20

DST Test Number: 1



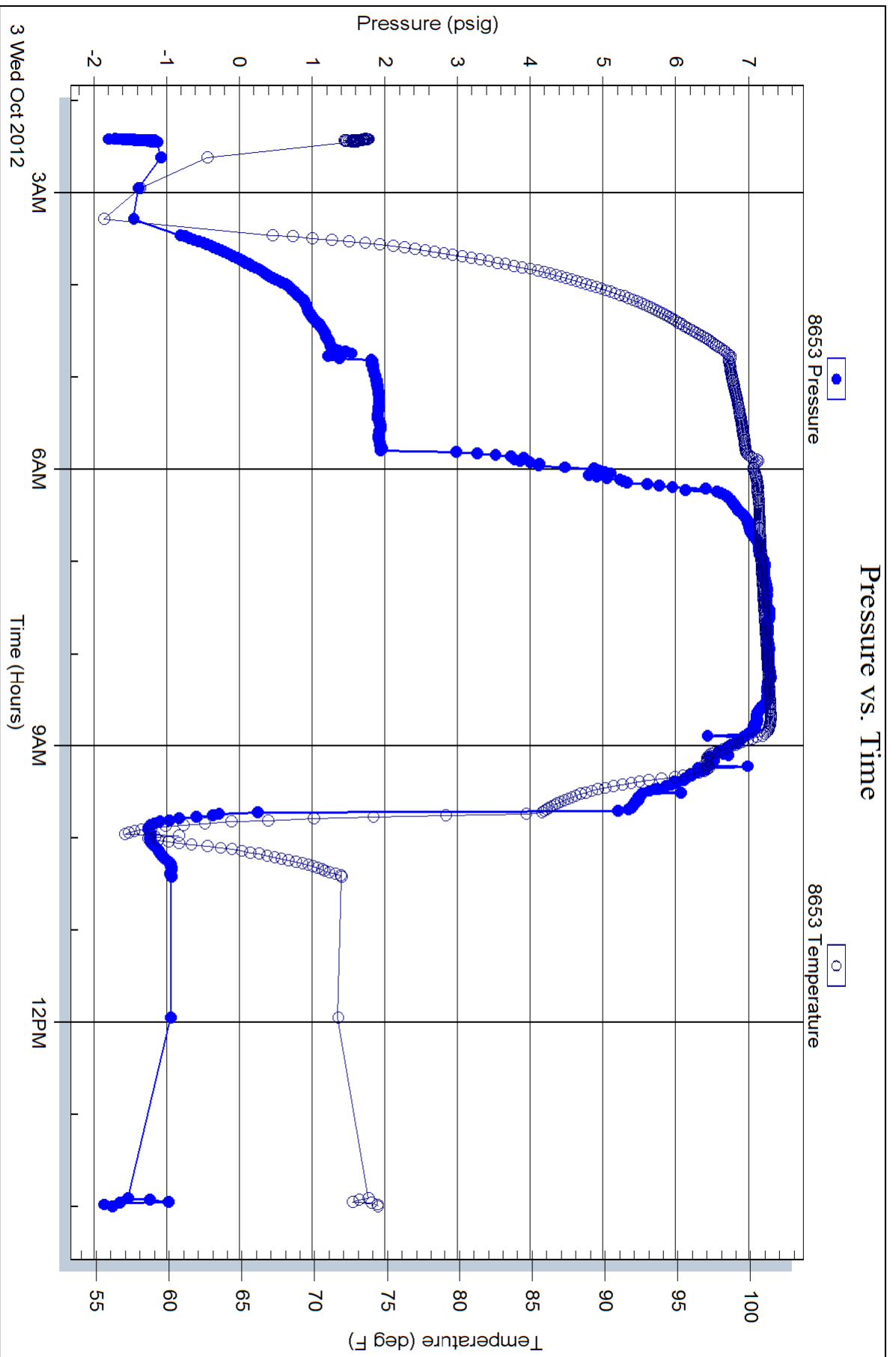
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Fluid

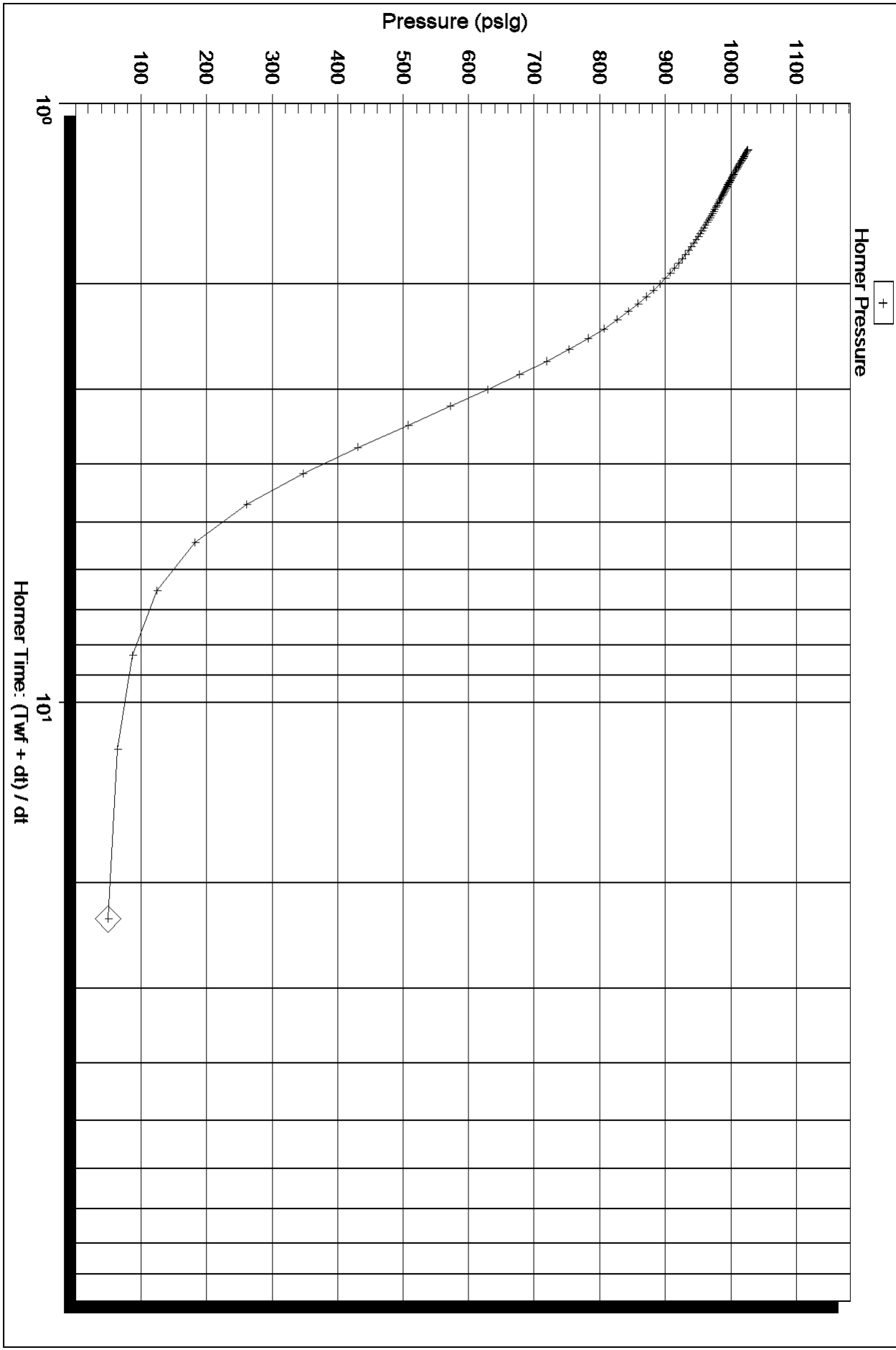
Samuel Gary Jr. & Ass.

Pfannenstiel 1-20

DST Test Number: 1



# Horner Plot



Serial Number: 8354 (Inside)

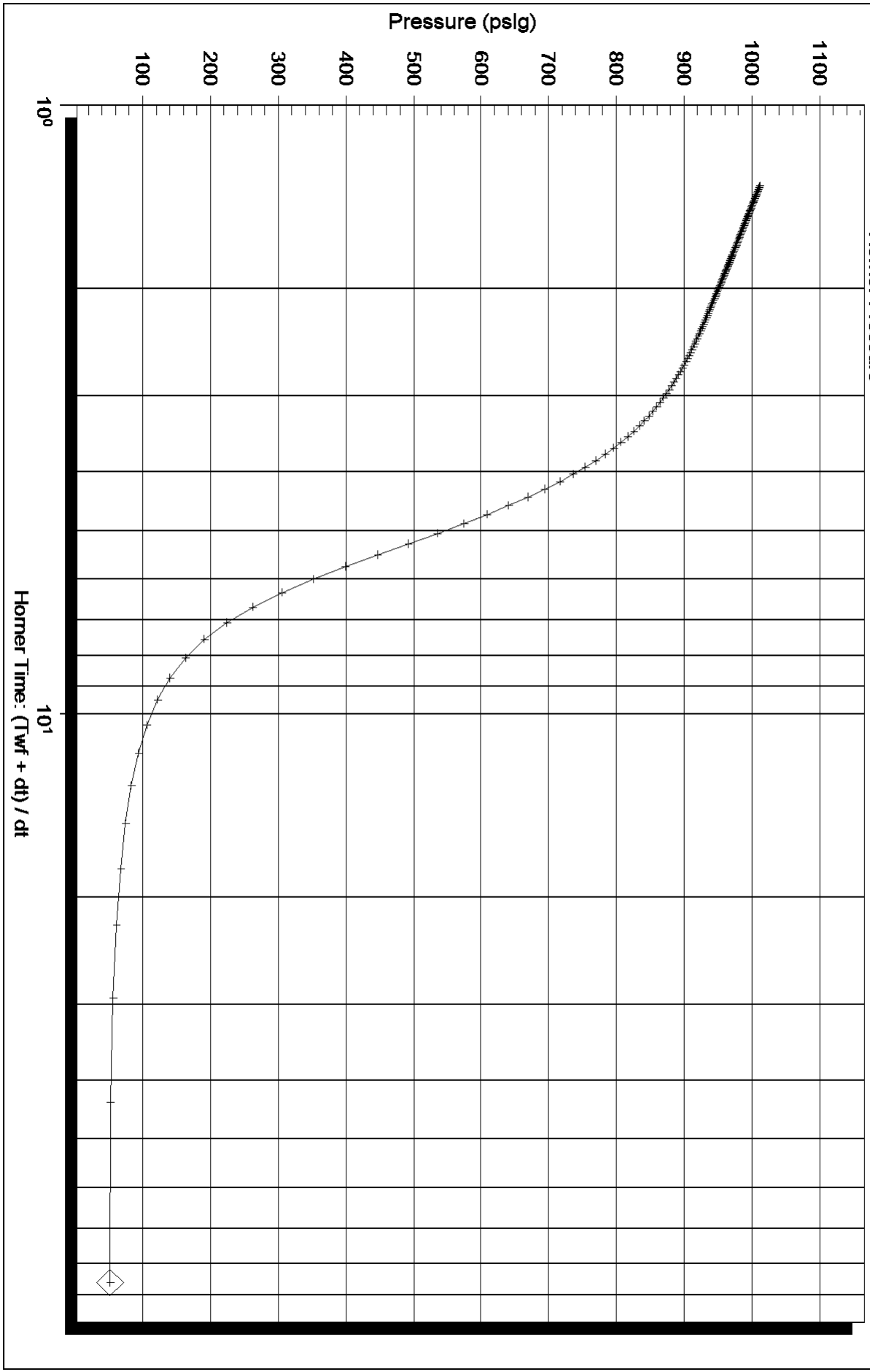
P\* :

Slope (m) : kpa/log cycle

Flow Cycle: 1

# Horner Plot

Horner Pressure



Horner Time: (Twf + dt) / dt

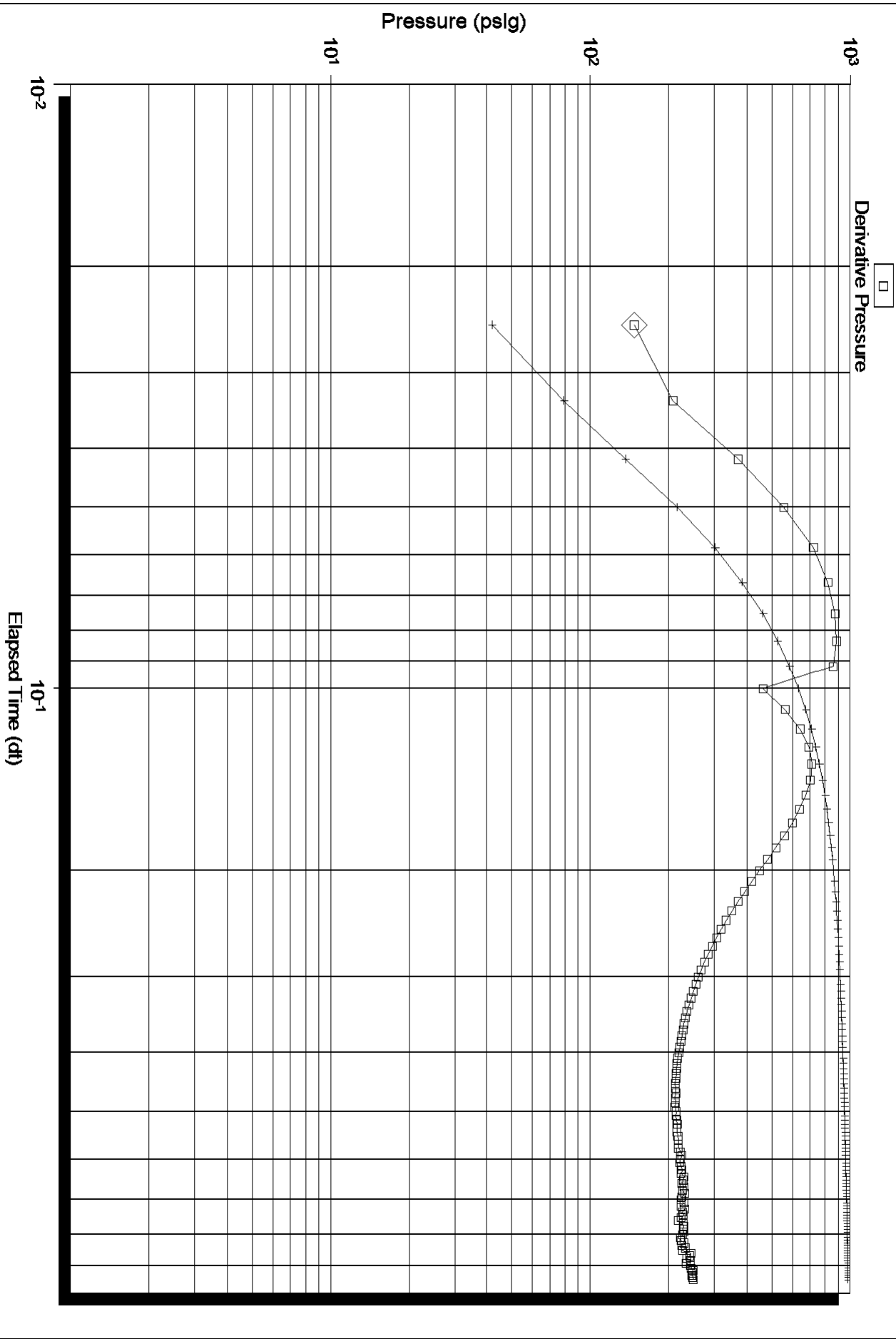
Serial Number: 8354 (Inside)

P\* :

Slope (m) : kpa/log cycle

Flow Cycle: 2

# Log-Log and Pseudo-Derivative



# Log-Log and Pseudo-Derivative

