



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: 2011.08.07 @ 18:51:10

End Date: 2011.08.08 @ 03:33:10

Job Ticket #: 45229 DST #: 4

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

Printed: 2011.11.23 @ 11:20:39

Samuel Gary Jr. & Assoc., Inc. Dale Stramel #1-1 1-16S.-17W.-Rush DST # 4 LKC "F & Upper G" 2011.08.07



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DRILL STEM TEST REPORT

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Job Ticket: 45229

DST#: 4

Test Start: 2011.08.07 @ 18:51:10

GENERAL INFORMATION:

Formation: **LKC "F & Upper G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:04:10

Time Test Ended: 03:33:10

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

Interval: 3267.00 ft (KB) To 3296.00 ft (KB) (TVD)

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3296.00 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: 209.53 psig @ 3270.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.07 End Date: 2011.08.08

Last Calib.: 2011.08.08

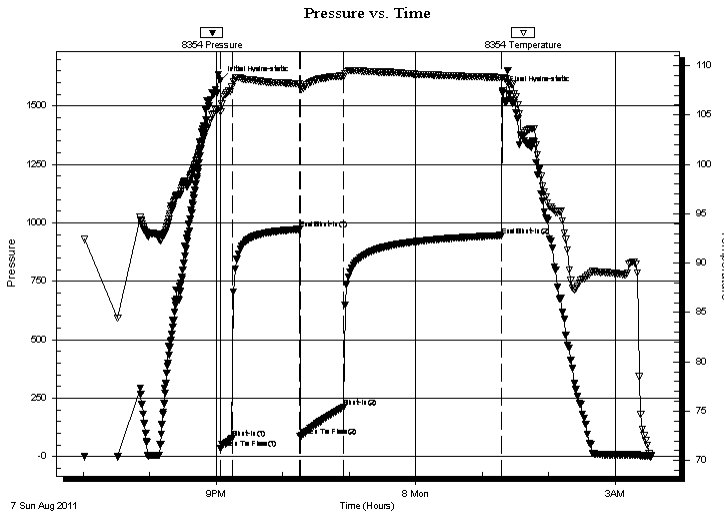
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Time On Btm: 2011.08.07 @ 21:03:40

Time Off Btm: 2011.08.08 @ 01:18:10

TEST COMMENT: IF-Strong building blow . BOB in 7 minutes 30 seconds.
ISI-No Return.
FF-Fair building blow . BOB in 12 minutes.
FSI-No Return. Times=10-60-40-140

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1608.16	105.67	Initial Hydro-static
1	34.08	105.33	Open To Flow (1)
11	78.68	107.84	Shut-In(1)
72	972.61	108.15	End Shut-In(1)
72	86.71	107.83	Open To Flow (2)
111	209.53	108.83	Shut-In(2)
254	943.24	108.79	End Shut-In(2)
255	1565.02	108.82	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	90%Water/10%Mud	4.21
85.00	70%Water/30%Mud	1.19

Gas Rates

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



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Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 1901.00 ft (KB)

1891.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8520 Outside

Press @RunDepth: psig @ 3270.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.07 End Date: 2011.08.08

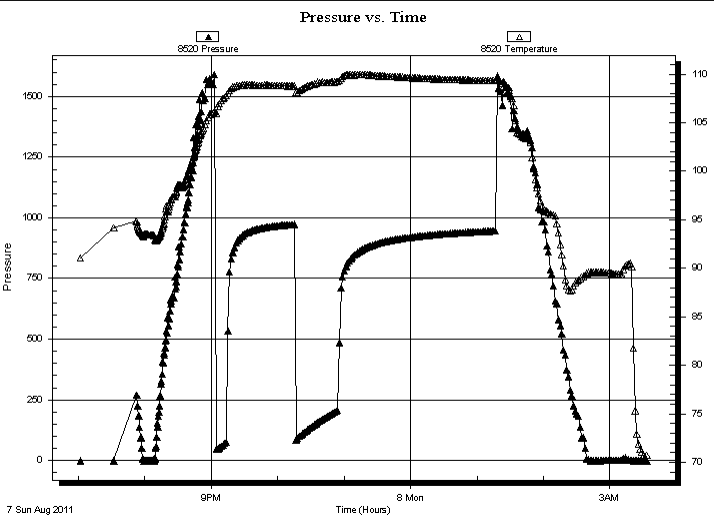
Last Calib.: 2011.08.08

Start Time: 19:02:10 End Time: 03:33:10

Time On Btm:

Time Off Btm:

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PRESSURE SUMMARY

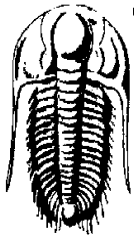
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
300.00	90%Water/10%Mud	4.21
85.00	70%Water/30%Mud	1.19

Gas Rates

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



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Tester: Dustin Rash

Unit No: 38

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Reference Elevations: 1901.00 ft (KB)

Total Depth: 3296.00 ft (KB) (TVD)

1891.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8653 Fluid

Press @ Run Depth: psig @ 3237.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.07 End Date: 2011.08.08

Last Calib.: 2011.08.08

Start Time: 19:01:30 End Time: 03:30:30

Time On Btm:

Time Off Btm:

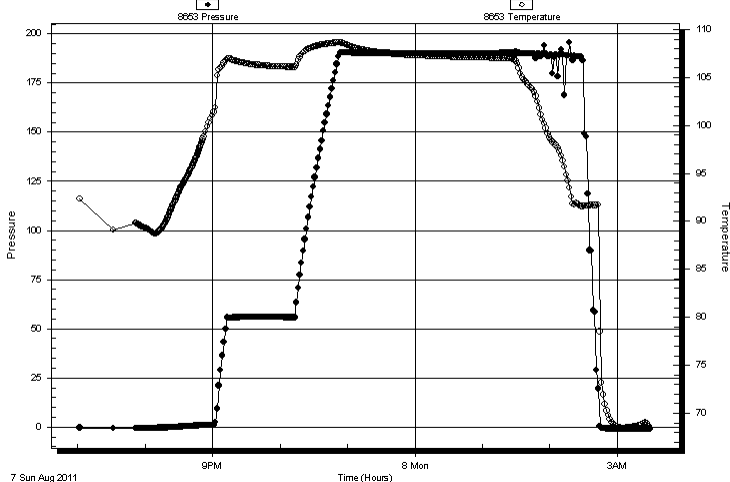
TEST COMMENT: IF-Strong building blow . BOB in 7 minutes 30 seconds.

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Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
300.00	90%Water/10%Mud	4.21
85.00	70%Water/30%Mud	1.19

Gas Rates

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



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TOOL DIAGRAM

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Denver, CO 80202

1-16S.-17W.-Rush

Job Ticket: 45229

DST#: 4

ATTN: Neil Sharp

Test Start: 2011.08.07 @ 18:51:10

Tool Information

Drill Pipe:	Length: 3263.00 ft	Diameter: 3.80 inches	Volume: 45.77 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:	24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	10000.00 lb
			<u>Total Volume: 45.77 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3267.00 ft			Final	53000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	29.00 ft				
Tool Length:	59.00 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	3237.00	
Change Over Sub	1.00			3238.00	
Shut In Tool	5.00			3243.00	
Sampler	2.00			3245.00	
Hydraulic tool	5.00			3250.00	
Jars	5.00			3255.00	
Safety Joint	3.00			3258.00	
Packer	5.00			3263.00	30.00 Bottom Of Top Packer
Packer	4.00			3267.00	
Stubb	1.00			3268.00	
Perforations	2.00			3270.00	
Recorder	0.00	8354	Inside	3270.00	
Recorder	0.00	8520	Outside	3270.00	
Perforations	23.00			3293.00	
Bullnose	3.00			3296.00	29.00 Bottom Packers & Anchor

Total Tool Length: 59.00



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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:

32000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.80 cm³

Gas Cushion Type:

Resistivity: 0.21 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5100.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
300.00	90%Water/10%Mud	4.208
85.00	70%Water/30%Mud	1.192

Total Length: 385.00 ft Total Volume: 5.400 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

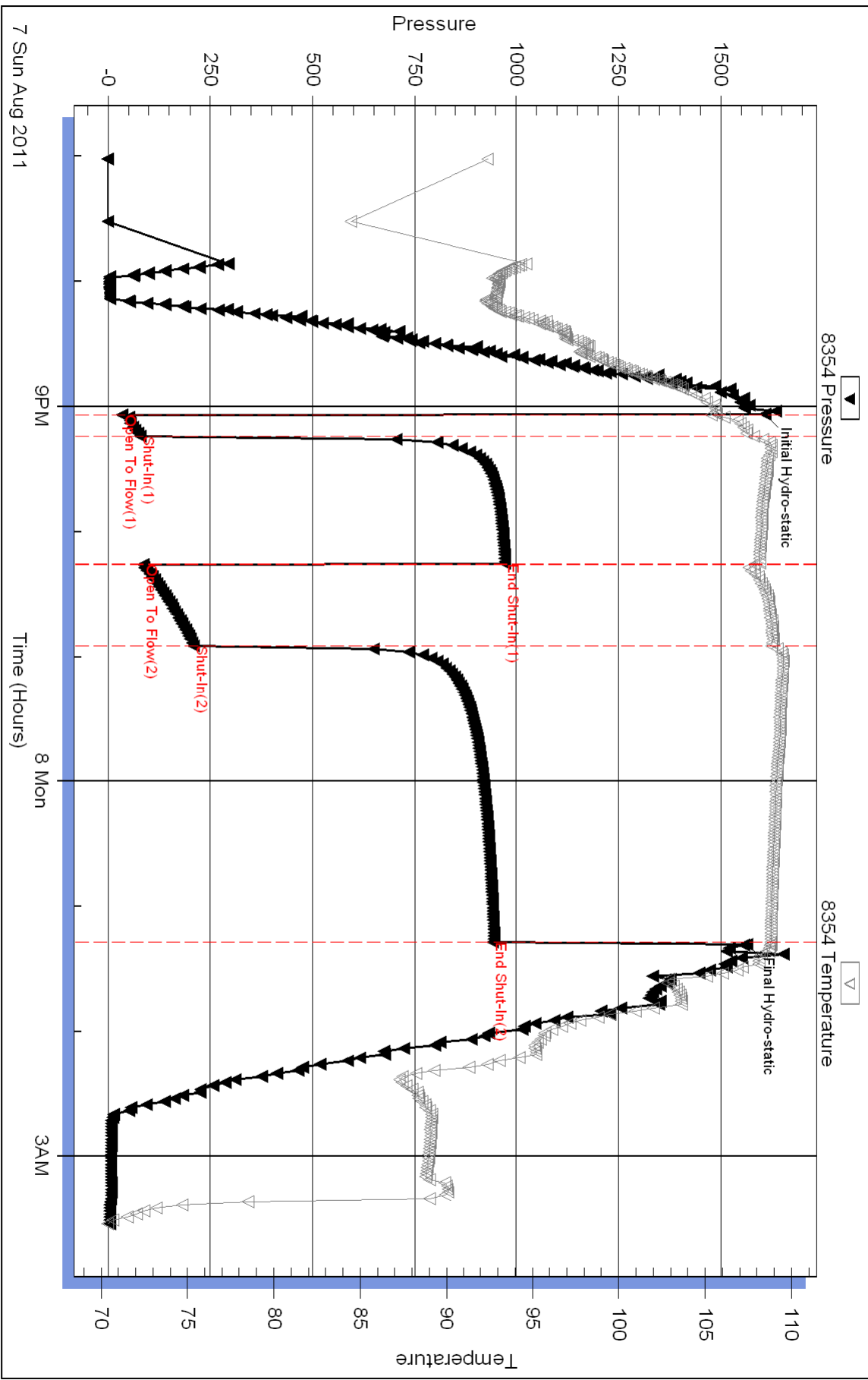
Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler= 2000ML-Water. 540#Pressure.

Res-.219 @ 73 = 32000 Chlorides.

Pressure vs. Time

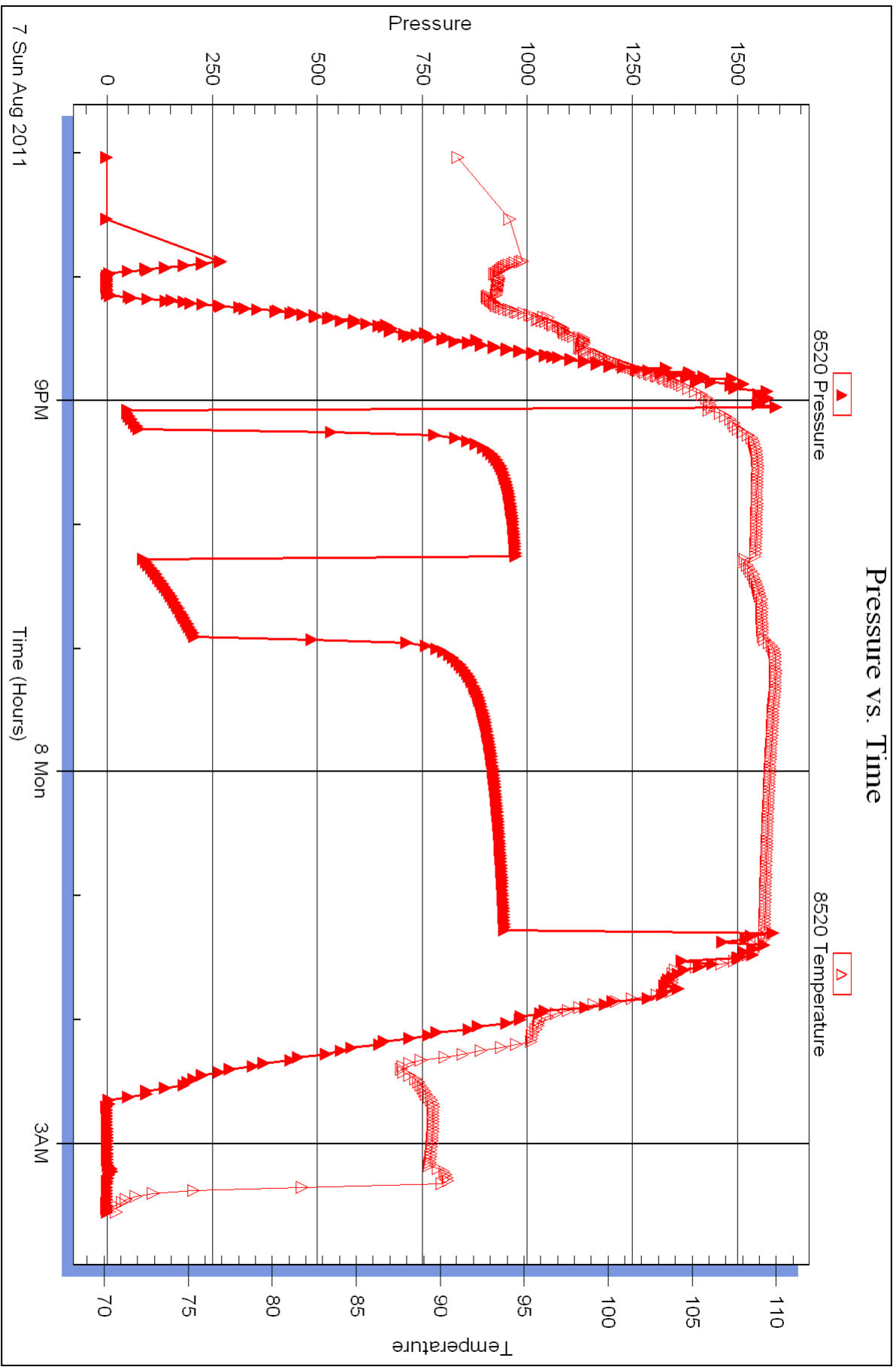


Serial #: 8520

Outside Samuel Gary Jr. & Assoc., Inc.

1-16S-17W-Rush

DST Test Number: 4



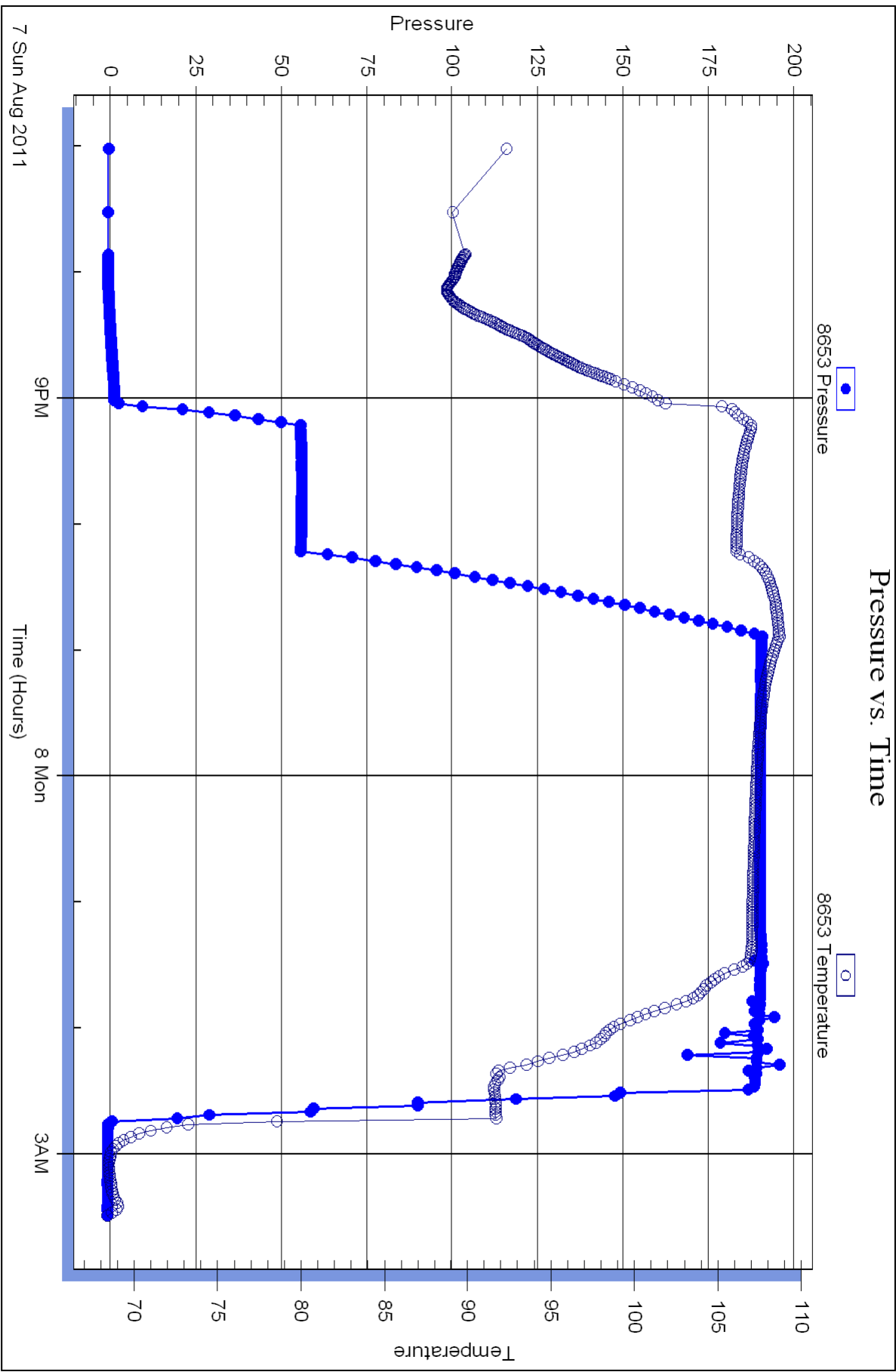
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Fluid

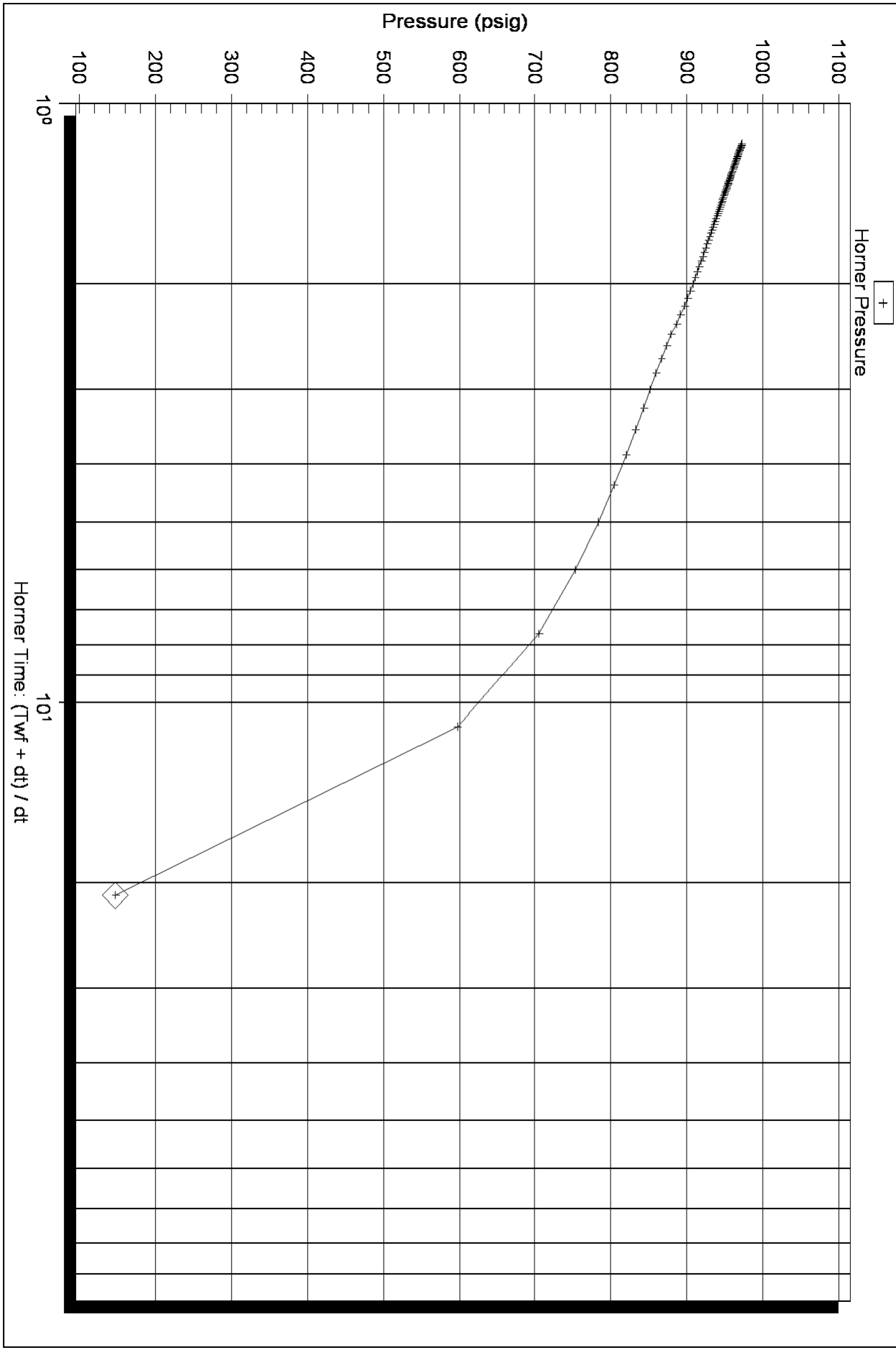
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Horner Plot



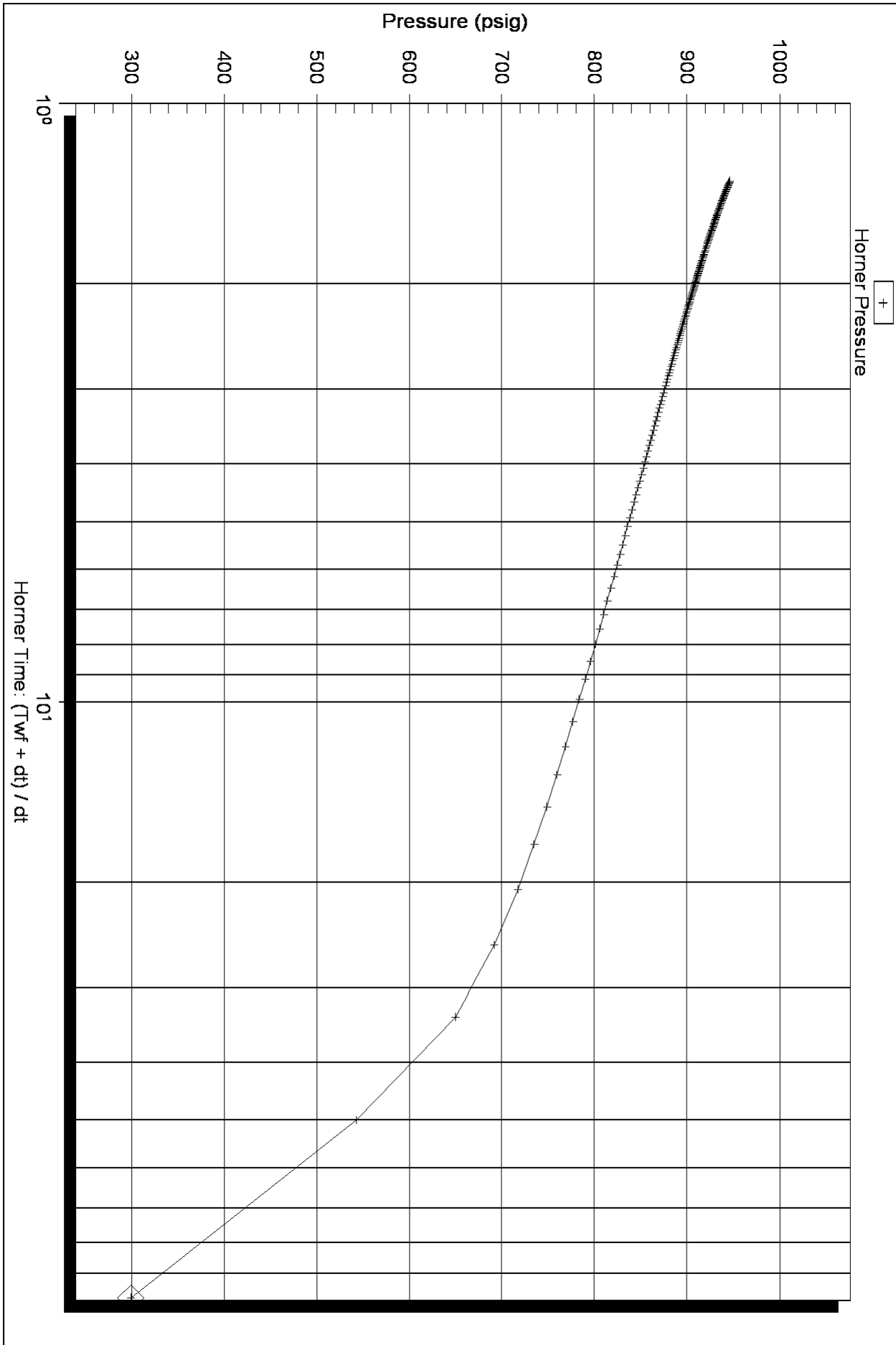
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P* :

Slope (m) : kpa/log cycle

Flow Cycle: 1

Horner Plot



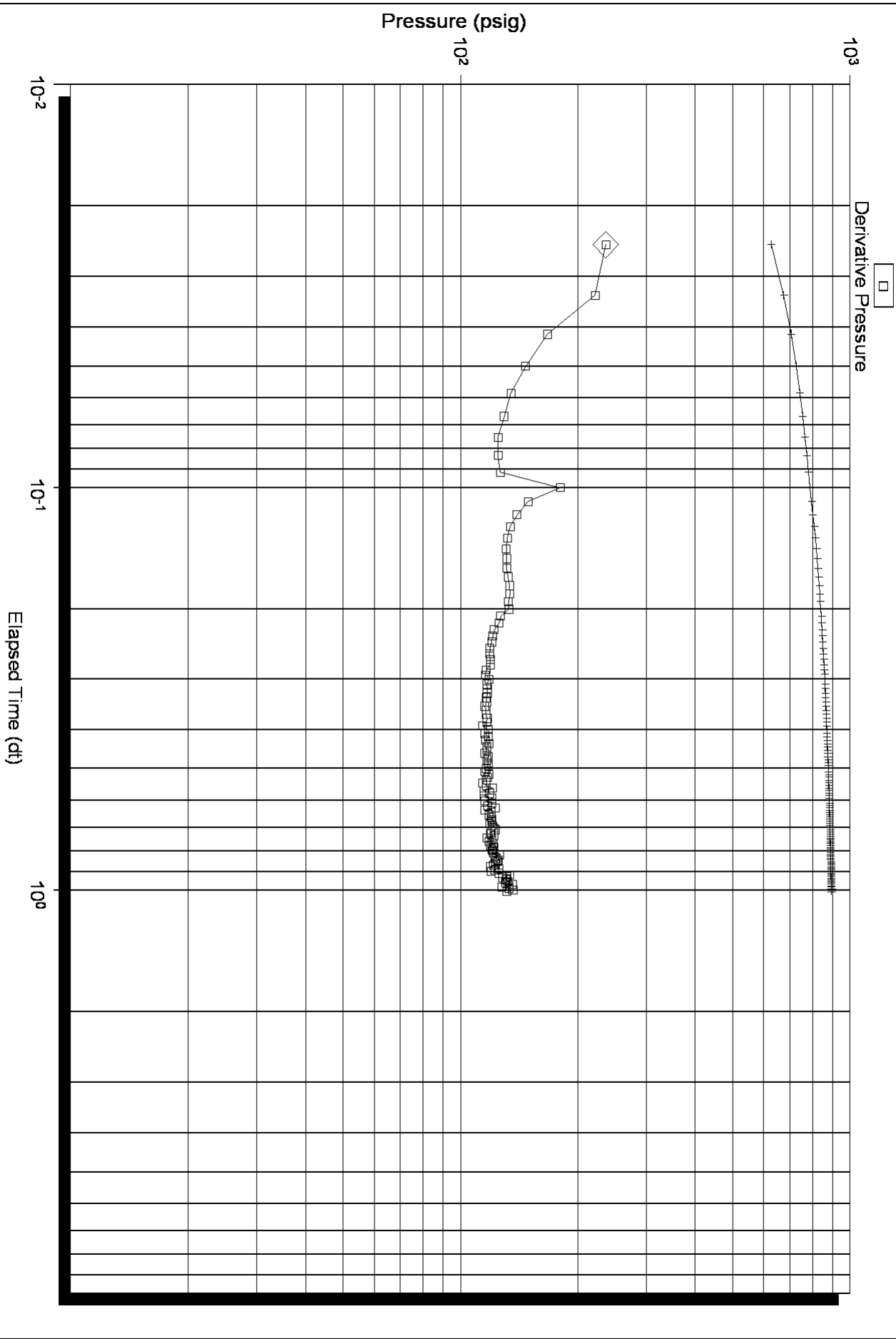
Serial Number: 8354 (Inside)

P* :

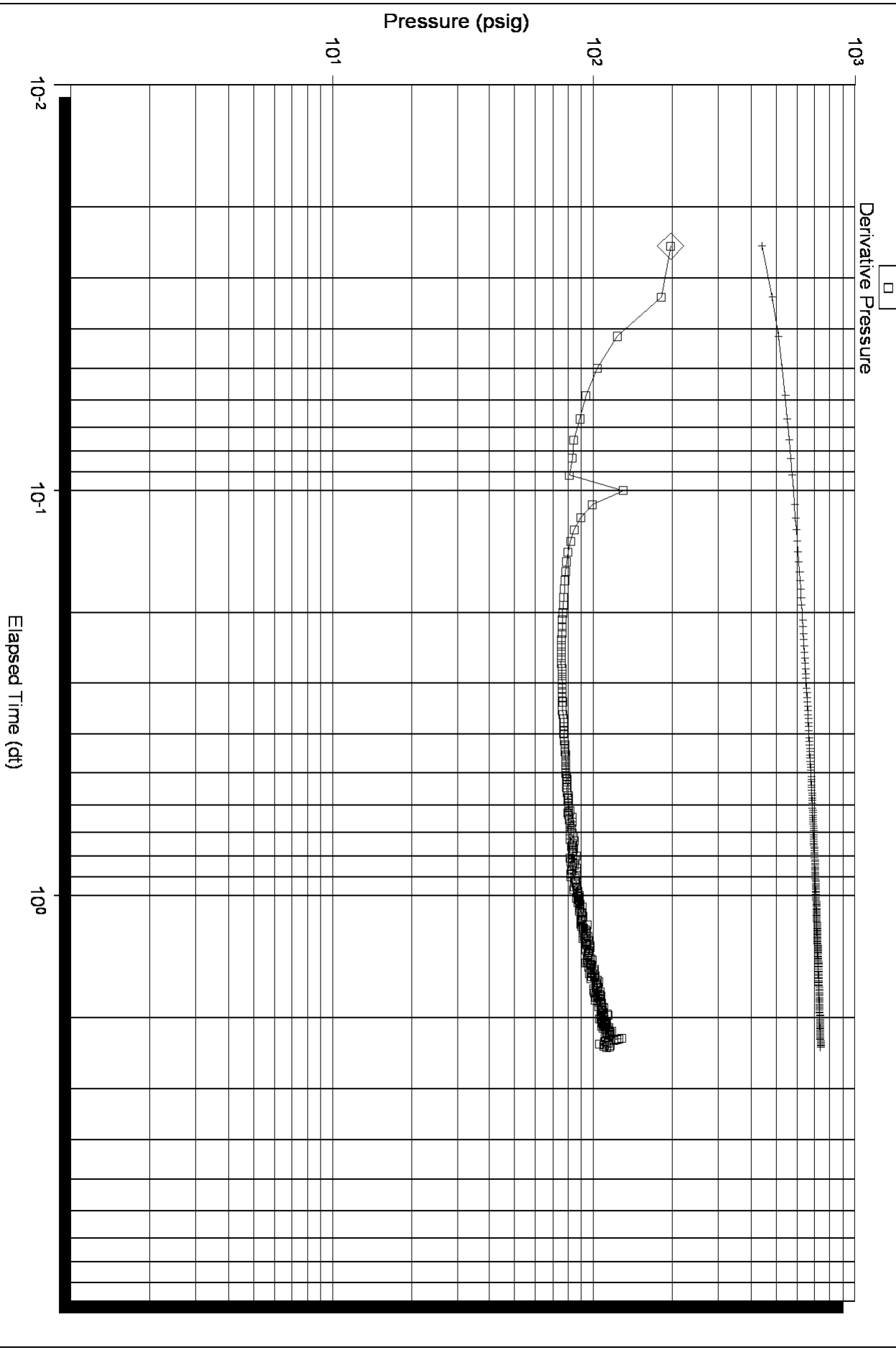
Slope (m) : kpa/log cycle

Flow Cycle: 2

Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Derivative



Serial Number: 8354 (Inside)

Flow Cycle: 2