

DRILL STEMTEST REPORT

Prepared For: **Samuel Gary, Jr & Associates**

1515 Wynkoop st
suite 700
Denver Co 80202

ATTN Tom Feral

Elsie 1-13

13-16s-17wRush

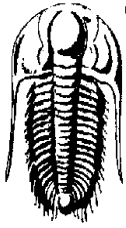
Start Date 2011.11.06 @ 13:54:09

End Date 2011.11.06 @ 21:57:09

Job Ticket # 44870 DST # 4

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

Printed 2011.11.06 @ 21:35:56



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Samuel Gary, Jr & Associates

13-16s-17w-Rush

1515 Wyrkoop st
suite 700
Denver Co 80202
ATTN: Tom Feral

Elsie 1-13

Job Ticket: 44870

DST# 4

Test Start: 2011.11.06 @ 13:54:09

GENERAL INFORMATION

Formation: **Lansing-H**

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

Time Tool Opened: **15:33:09**

Time Test Ended: **21:57:09**

Test Type: **Conventional Bottom Hole (Reset)**

Tester: **Jeff Brown**

Unit No: **44**

Interval: **3397.00 ft (KB) To 3422.00 ft (KB) (TVD)**

Total Depth: **3422.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **1983.00 ft (KB)**

1973.00 ft (CF)

KB to GRCP: **10.00 ft**

Serial #: **8321**

Inside

Press@Run Depth: **9662 psig @ 3399.00 ft (KB)**

Start Date: **2011.11.06**

End Date:

2011.11.06

Capacity: **8000.00 psig**

Last Calib.: **1899.12.30**

Start Time: **13:54:10**

End Time:

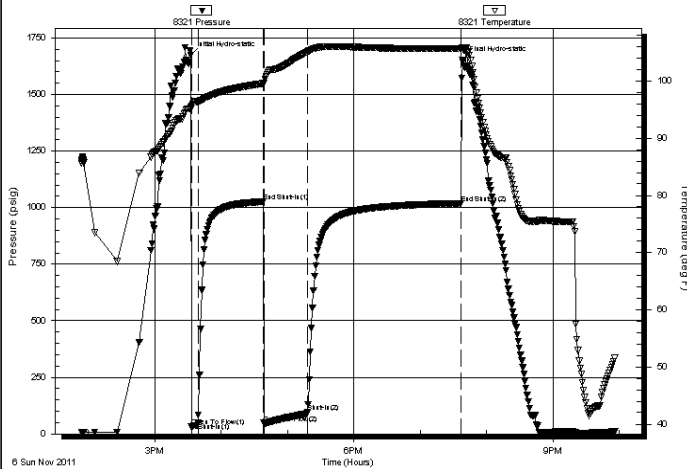
21:56:09

Time On Btm: **2011.11.06 @ 15:32:39**

Time Off Btm: **2011.11.06 @ 19:38:09**

TEST COMMENT: FF-5-min-Strong blow built to 7 1/2 in
IS-60-min-Weak surface blow back ded out in 5 min
FFP-40-min-Good blow BOB in 13 1/2 min
FS-135-min-Dead no blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Mh)	Pressure (psig)	Temp (deg F)	Annotation
0	1673.67	95.40	Initial Hydro-static
1	31.43	95.29	Open To Flow(1)
7	48.62	96.40	Shut-in(1)
66	1026.84	99.59	End Shut-in(1)
66	47.45	99.62	Open To Flow(2)
106	96.62	105.11	Shut-in(2)
244	1019.16	105.73	End Shut-in(2)
246	1650.79	105.73	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	Mw with a sound of oil 20% A80% A/V	0.88
73.00	CO3/M10%/G10%/C80%/A80%/M	1.02
3.00	HCO3/M10%/C20%/A80%/G40%/M	0.04
0.00	157-GP	0.00

* Recovery from multiple tests

Gas Rates

	Orde (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TESTING, INC.

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TOOL DIAGRAM

Samuel Gary, Jr & Associates

13-16s-17w-Rush

1515 Wyrkoop st
suite 700
Denver Co 80202
ATTN: Tom Fernal

Elsie 1-13

Job Ticket: 44870

DST# 4

Test Start: 2011.11.06 @ 13:54:09

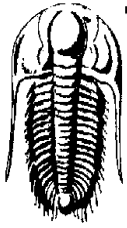
Tool Information

Drill Pipe:	Length: 3383.00 ft	Diameter: 3.80 inches	Volume: 47.45 bbl	Tool Weight: 2200.00 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: 60000.00 lb
			<u>Total Volume: 47.45 bbl</u>	Tool Chased: 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3397.00 ft			Final 53000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	59.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No	Position	Depth (ft)	Accum Lengths
Recorder	0.00	8679	Fluid	3363.00	
Stub	5.00			3368.00	
Shut In Tool	5.00			3373.00	
Sampler	2.00			3375.00	
Hydraulic tool	5.00			3380.00	
Jars	5.00			3385.00	
Safety Joint	3.00			3388.00	
Packer	4.00			3392.00	34.00 Bottom of Top Packer
Packer	5.00			3397.00	
Stub	1.00			3398.00	
Perforations	1.00			3399.00	
Recorder	0.00	8321	Inside	3399.00	
Recorder	0.00	8737	Outside	3399.00	
Perforations	20.00			3419.00	
Bullnose	3.00			3422.00	25.00 Bottom Packers & Anchor

Total Tool Length: 59.00



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FLUID SUMMARY

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Denver Co 80202
ATTN: Tom Fernal

Elsie 1-13

Job Ticket: 44870

DST# 4

Test Start: 2011.11.06 @ 13:54:09

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Cl AP	deg AP
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	57.00 sec/qt	Cushion Volume:	bbd		
Water Loss:	7.20 in ³	Gas Cushion Type:			
Resistivity:	ohm-m	Gas Cushion Pressure:	psig		
Salinity:	3100.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	Mw with a sound of oil 20%N80%A/V	0.884
73.00	COG/M10%/G10%/C80%/A80%/M	1.024
3.00	HCOG/M10%/G20%/A80%/C40%/M	0.042
0.00	157-GP	0.000

Total Length: 139.00 ft Total Volume: 1.950 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: 2500 ML of total fluid
380 PSI
200 ML of oil 2400 ML of water

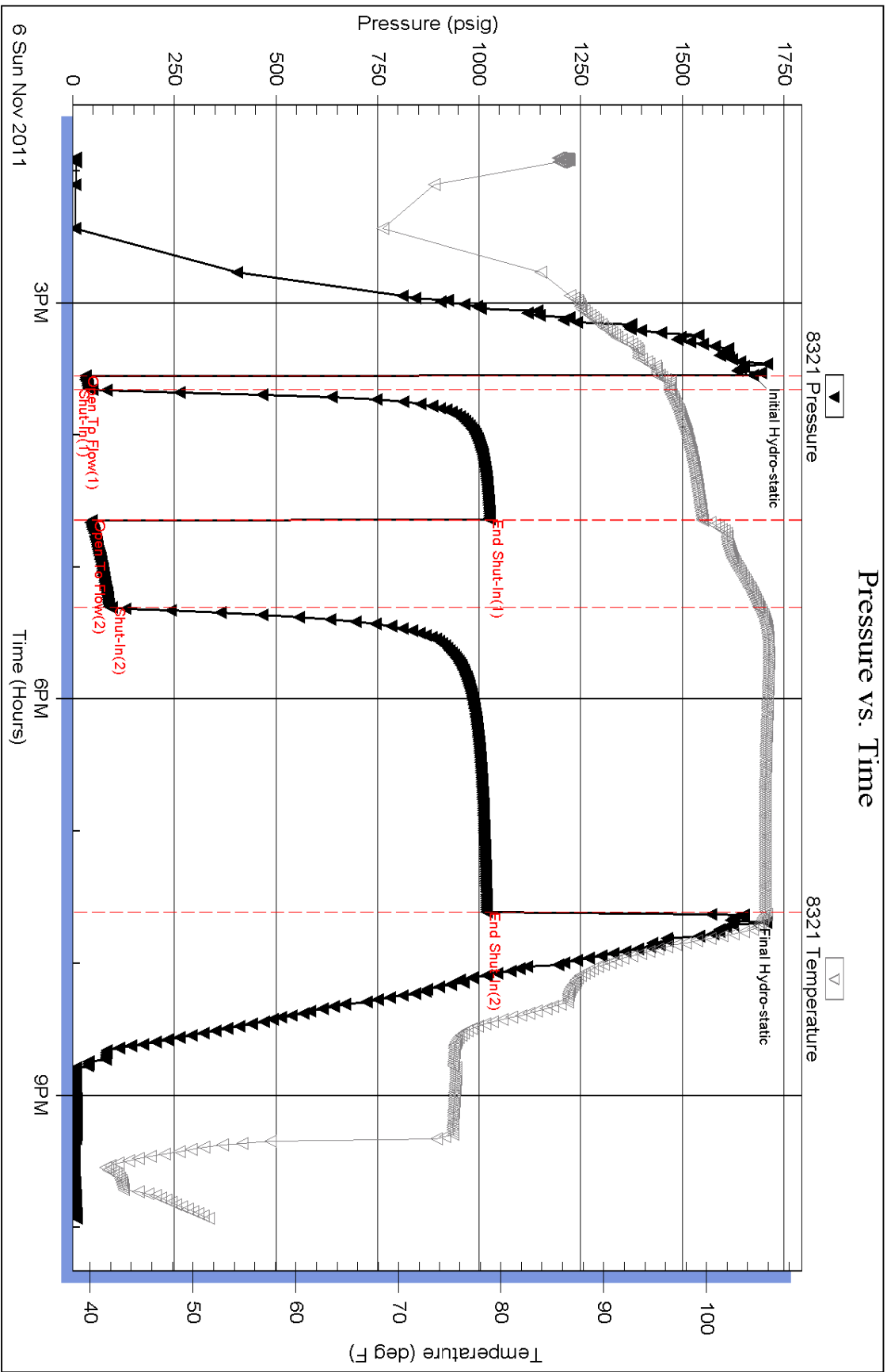
Serial #: 8321

Inside Samuel Gary, Jr. & Associates

Esle 1-13

DST Test Number: 4

Pressure vs. Time



Trioxide Testing, Inc

Ref. No: 44870

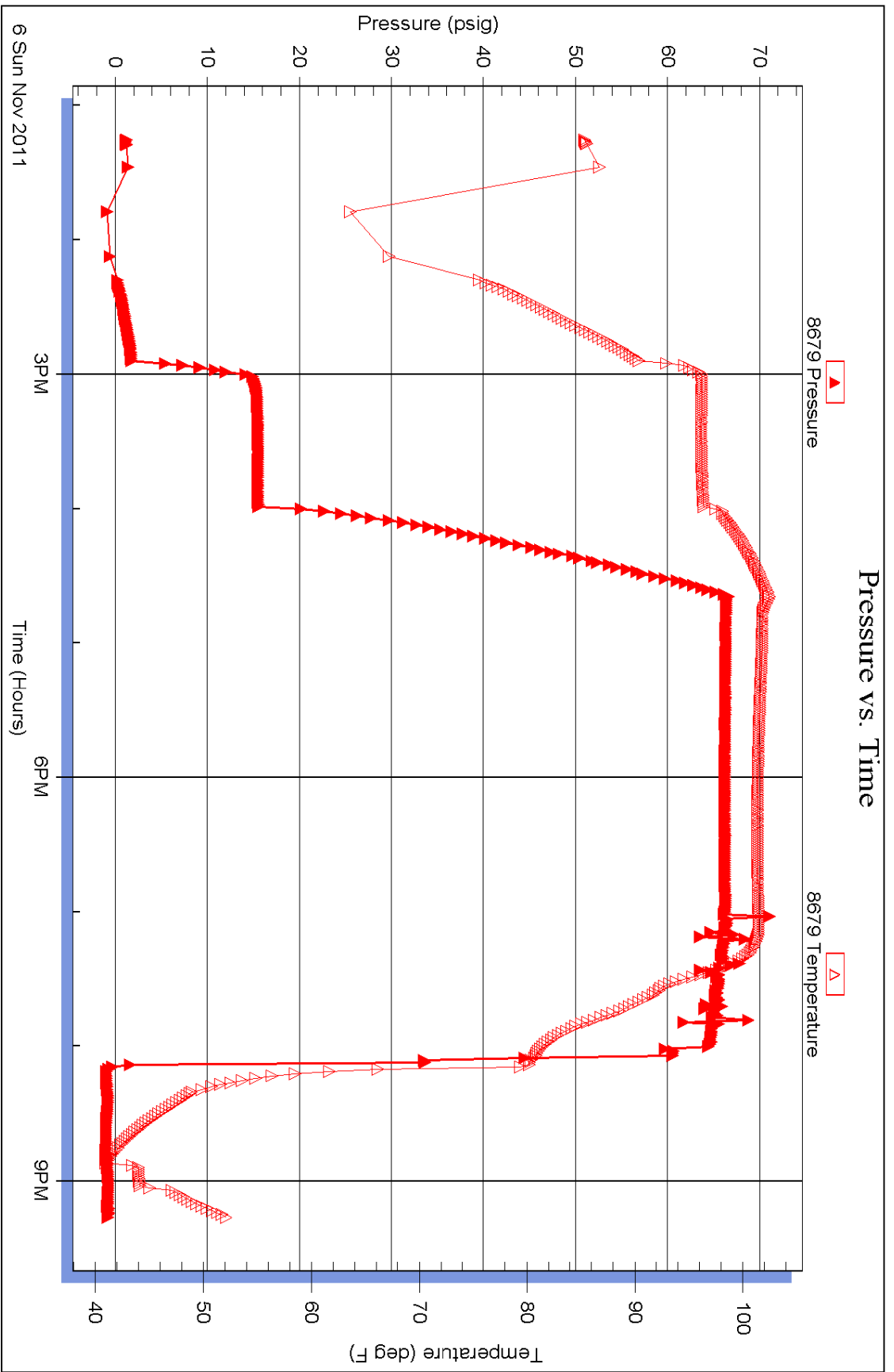
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Serial #: 8679

Fluid: Samuel Gary, Jr. & Associates

Esle 1-13

DST Test Number: 4



Trilokite Testing, Inc

Ref. No: 44870

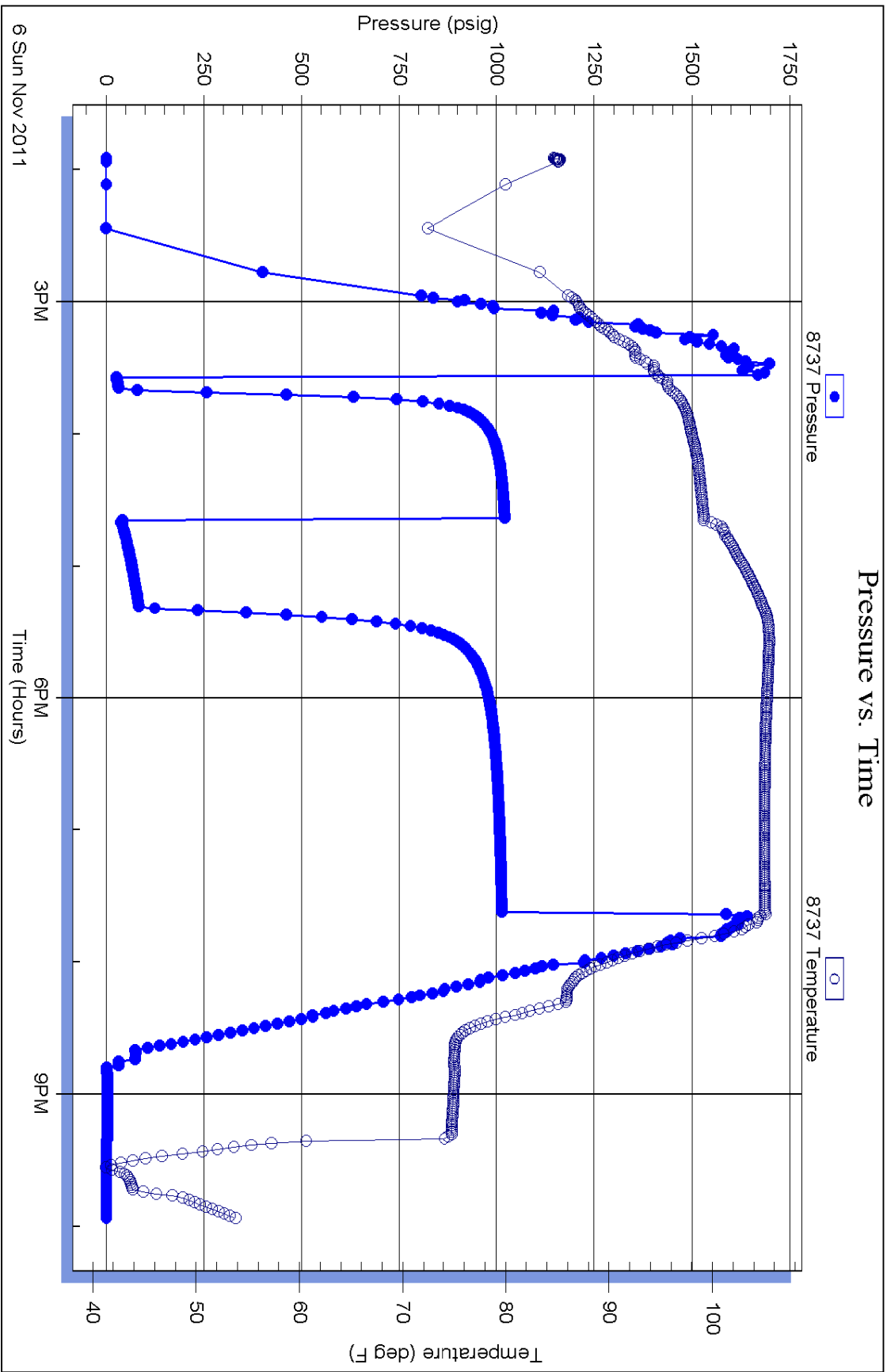
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Serial #: 8737

Outside Samuel Gary, Jr. & Associates

Est: 1-13

DST Test Number: 4

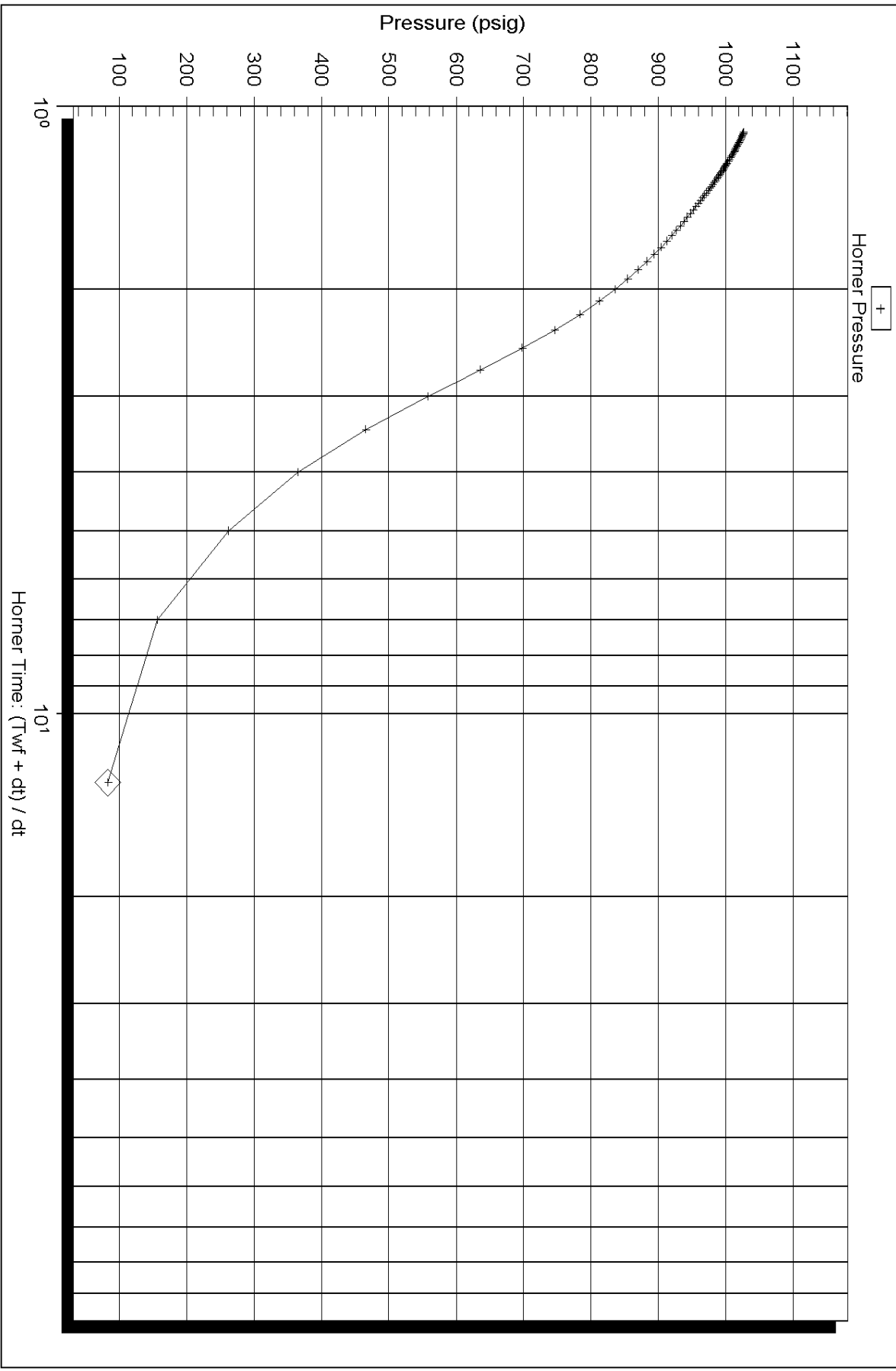


Trioxide Testing, Inc.

Ref. No: 44870

Printed: 2011.11.06 @ 21:36:04

Horner Plot



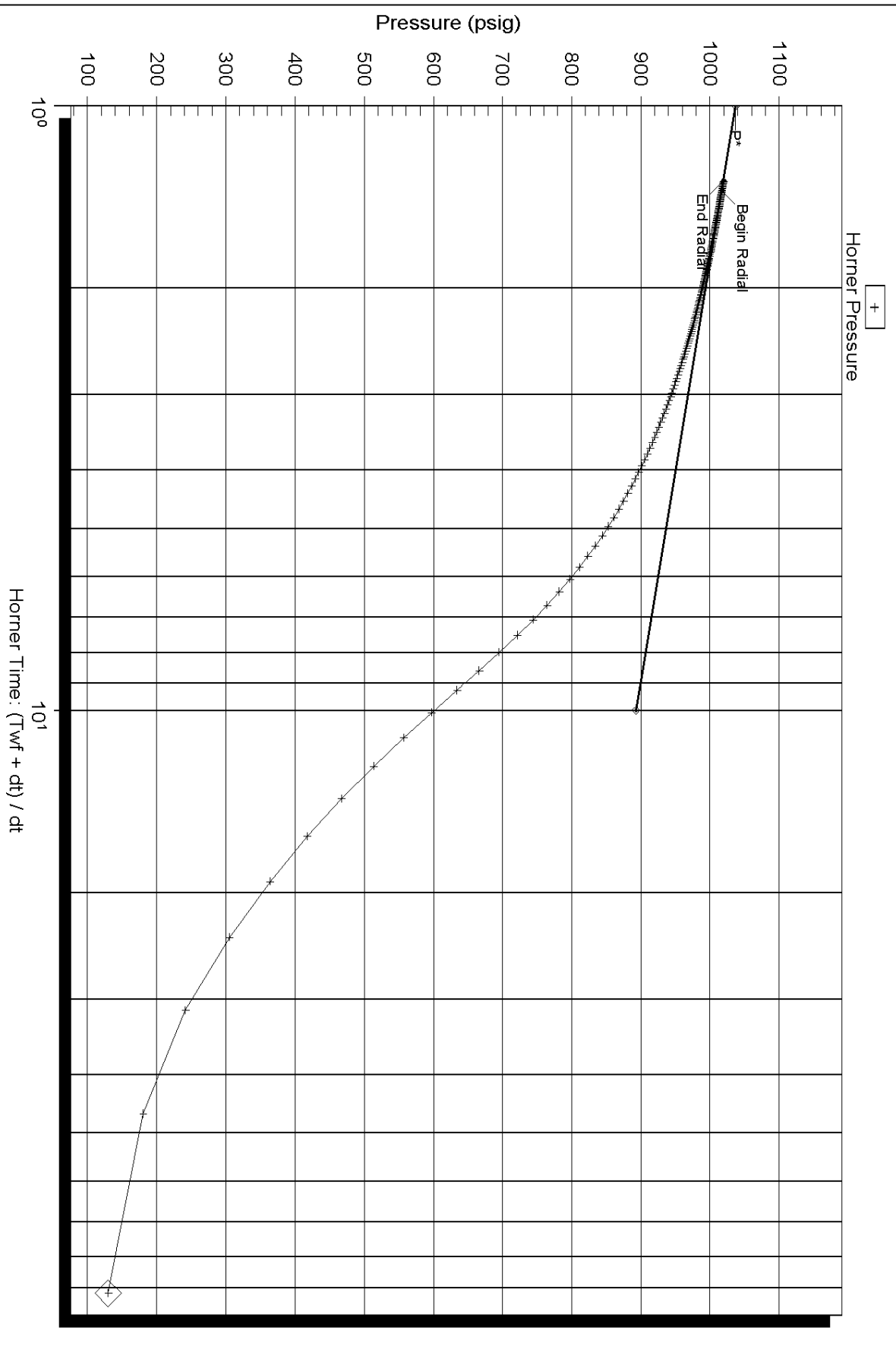
Serial Number: 8821 (Inside)

P*:

Slope (m) : kpa/log cycle

Flow Cycle: 1

Horner Plot



Serial Number: 8821 (Inside)

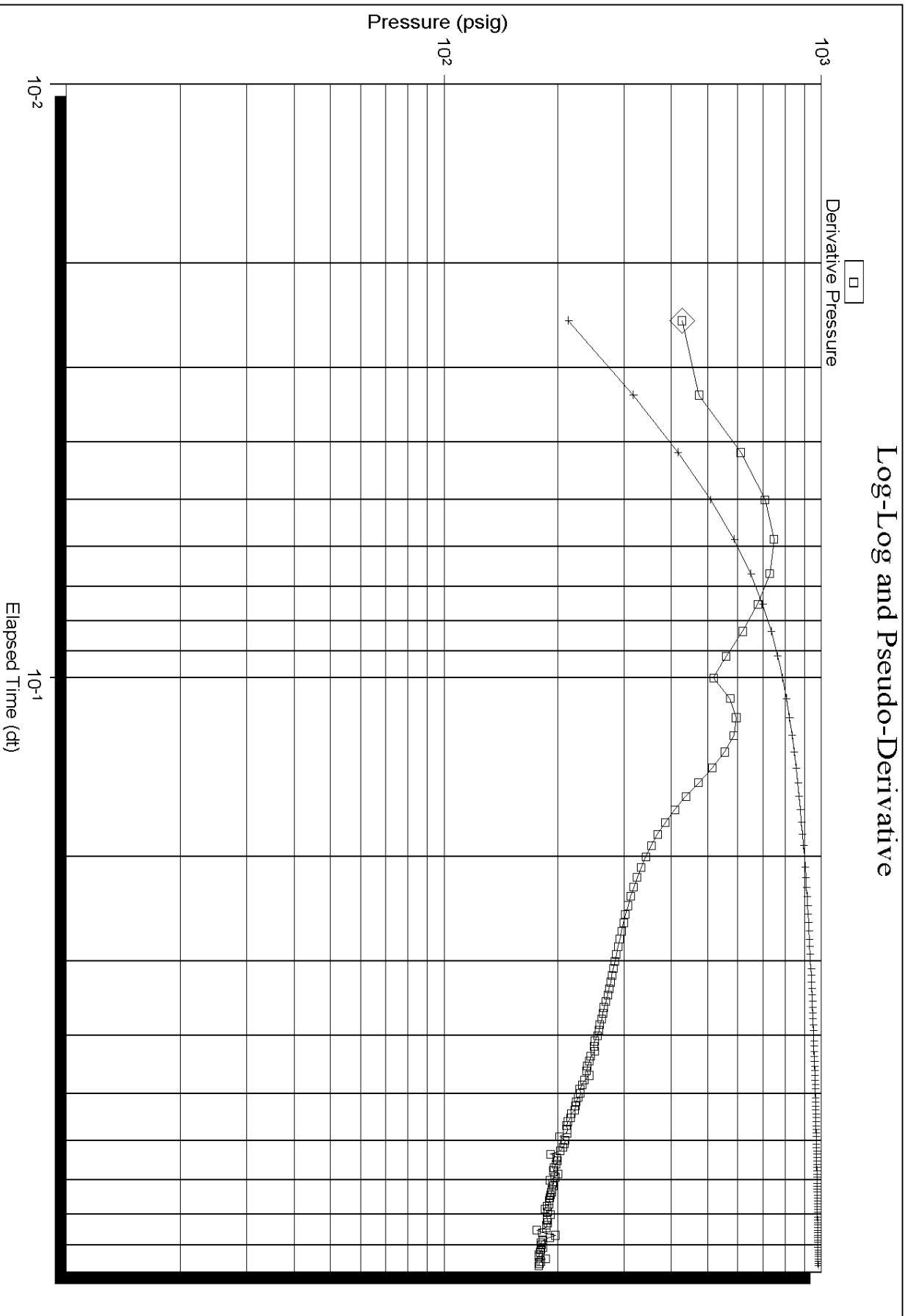
P* : 1036.95

Slope (m) : 144.01 kpa/log cycle

Flow Cycle: 2

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

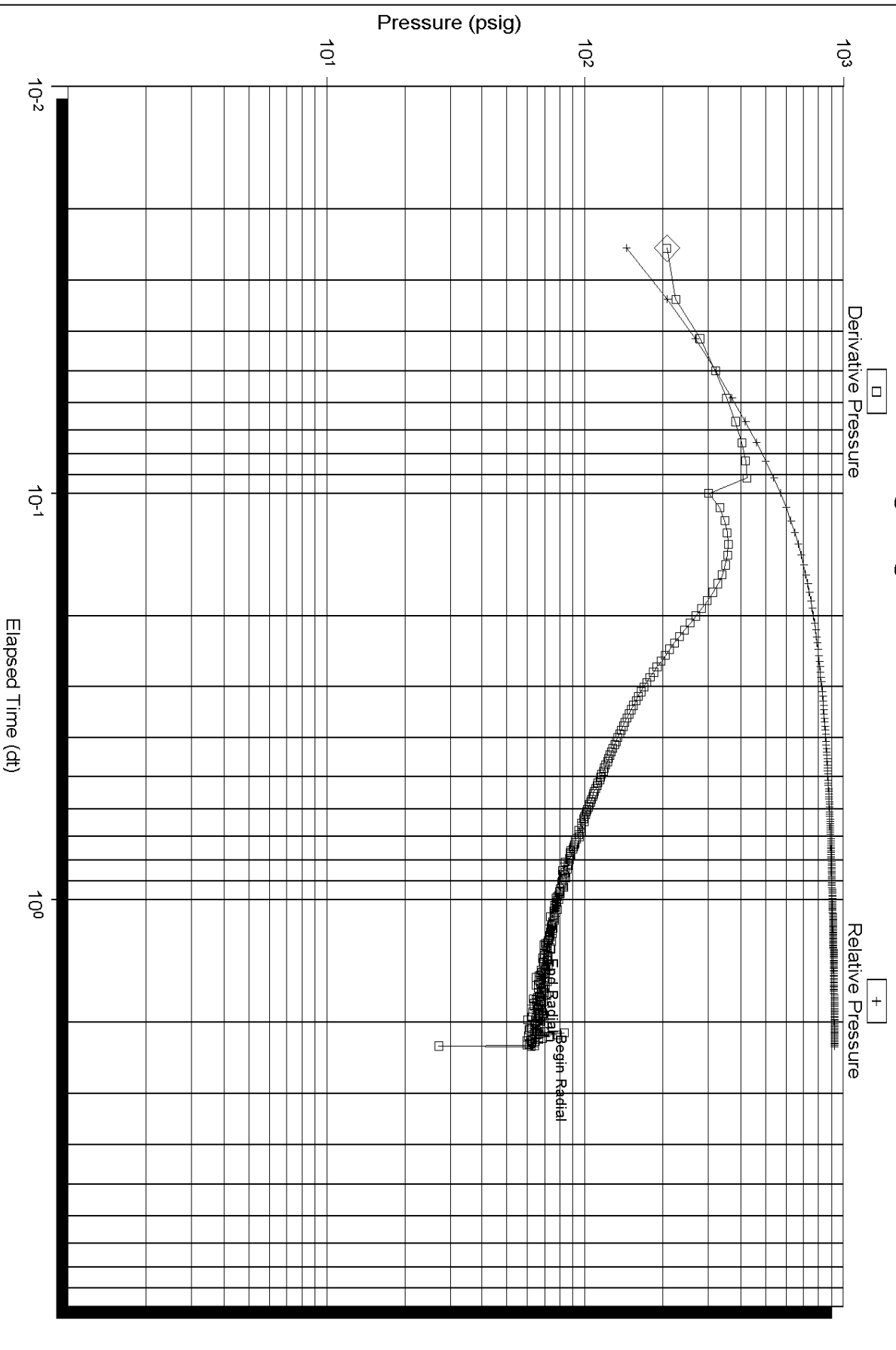
Log-Log and Pseudo-Derivative



Serial Number: 8821 (Inside)

Flow Cycle: 1

Log-Log and Pseudo-Derivative



Serial Number: 8821 (Inside)

Flow Cycle: 2