



DRILL STEM TEST REPORT

Prepared For: **Captiva**

2717 Canal Blvd. Suite C
Hays Kansas 67601

ATTN: Charlie Sturdavant

7/22S/16W Pawnee

Eakin Unit # 1-7

Start Date: 2011.01.19 @ 11:11:00

End Date: 2011.01.19 @ 20:57:00

Job Ticket #: 16018 DST #: 1

Superior Testers Enterprises LLC
PO Box 138 Great Bend KS 67530
1-800-792-6902

Printed: 2011.01.20 @ 12:23:23



DRILL STEM TEST REPORT

Captiva
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 Hays Kansas 67601
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Eakin Unit # 1-7
7/22S/16W Pawnee
 Job Ticket: 16018 **DST#: 1**
 Test Start: 2011.01.19 @ 11:11:00

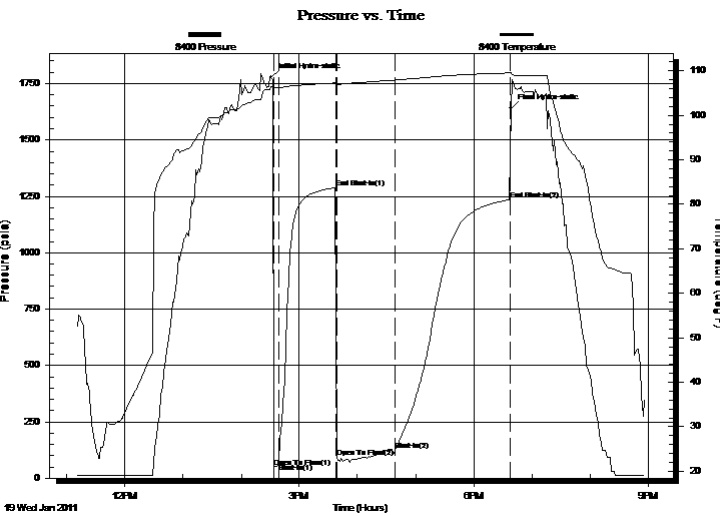
GENERAL INFORMATION:

Formation: **Lansing " B " Zone**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:33:30
 Time Test Ended: 20:57:00
 Interval: **3565.00 ft (KB) To 3587.00 ft (KB) (TVD)**
 Total Depth: 3587.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Dylan E Ellis
 Unit No: 3345/Great Bend/50
 Reference Elevations: 2018.00 ft (KB)
 2007.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8400 Outside

Press @ RunDepth: 123.95 psia @ 3584.00 ft (KB) Capacity: 5000.00 psia
 Start Date: 2011.01.19 End Date: 2011.01.19 Last Calib.: 2011.01.20
 Start Time: 11:11:10 End Time: 20:56:59 Time On Btm: 2011.01.19 @ 14:31:00
 Time Off Btm: 2011.01.19 @ 18:38:30

TEST COMMENT: 1ST Opening 5 Minutes weak blow /blow built to 1.50 inches into a 5 gallon bucket of water
 1ST Shut-In 60 Minutes no blow back
 2ND Opening 60 Minutes weak blow at first/blow blew to bottom of a bucket of water in 12 minutes
 2ND Shut-In 120 Minutes no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1777.46	106.47	Initial Hydro-static
3	48.50	106.17	Open To Flow (1)
8	63.58	106.18	Shut-In(1)
67	1288.72	107.30	End Shut-In(1)
68	91.90	107.02	Open To Flow (2)
128	123.95	107.93	Shut-In(2)
247	1236.52	109.54	End Shut-In(2)
248	1640.25	109.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Oil cut Mud	0.10
0.00	10% Oil 90% Mud	0.00
63.00	Mud cut Gassy Oil	0.31
0.00	40% Gas 40% Oil 20% Mud	0.00
63.00	Oil cut Gassy Mud	0.31
0.00	20% Oil 40% Mud 40% Gassy	0.00

Gas Rates

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



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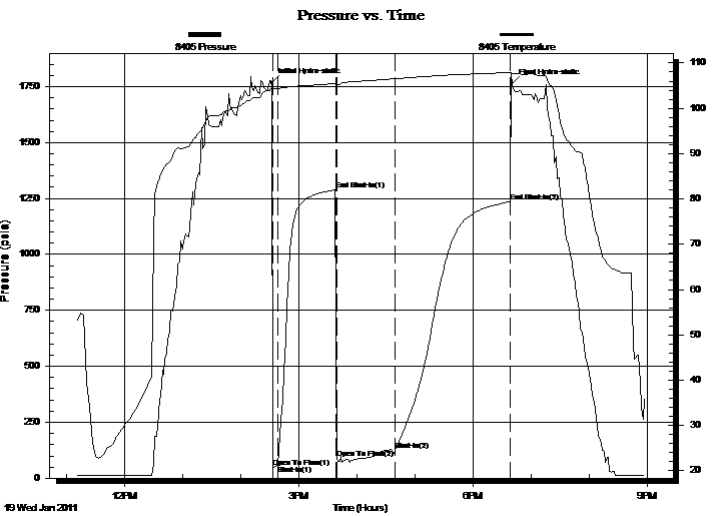
Eakin Unit # 1-7
7/22S/16W Pawnee
 Job Ticket: 16018 **DST#: 1**
 Test Start: 2011.01.19 @ 11:11:00

GENERAL INFORMATION:

Formation: **Lansing " B " Zone**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 14:33:30 Tester: Dylan E Ellis
 Time Test Ended: 20:57:00 Unit No: 3345/Great Bend/50
 Interval: **3565.00 ft (KB) To 3587.00 ft (KB) (TVD)** Reference Elevations: 2018.00 ft (KB)
 Total Depth: 3587.00 ft (KB) (TVD) 2007.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

Serial #: 8405 Inside
 Press @ Run Depth: 1236.09 psia @ 3583.00 ft (KB) Capacity: 5000.00 psia
 Start Date: 2011.01.19 End Date: 2011.01.19 Last Calib.: 2011.01.20
 Start Time: 11:12:01 End Time: 20:57:09 Time On Btm: 2011.01.19 @ 14:32:09
 Time Off Btm: 2011.01.19 @ 18:40:09

TEST COMMENT: 1ST Opening 5 Minutes weak blow /blow built to 1.50 inches into a 5 gallon bucket of water
 1ST Shut-In 60 Minutes no blow back
 2ND Opening 60 Minutes weak blow at first/blow blew to bottom of a bucket of water in 12 minutes
 2ND Shut-In 120 Minutes no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1767.71	104.34	Initial Hydro-static
2	46.83	104.16	Open To Flow (1)
7	57.00	104.42	Shut-In(1)
66	1288.03	105.50	End Shut-In(1)
67	87.05	105.29	Open To Flow (2)
128	126.04	106.53	Shut-In(2)
246	1236.09	107.92	End Shut-In(2)
248	1763.33	107.65	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Oil cut Mud	0.10
0.00	10% Oil 90% Mud	0.00
63.00	Mud cut Gassy Oil	0.31
0.00	40% Gas 40% Oil 20% Mud	0.00
63.00	Oil cut Gassy Mud	0.31
0.00	20% Oil 40% Mud 40% Gassy	0.00

Gas Rates

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



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TOOL DIAGRAM

Captiva
 2717 Canal Blvd. Suite C
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Eakin Unit # 1-7
7/22S/16W Pawnee
 Job Ticket: 16018 **DST#: 1**
 Test Start: 2011.01.19 @ 11:11:00

Tool Information

Drill Pipe:	Length: 3308.00 ft	Diameter: 3.80 inches	Volume: 46.40 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 259.05 ft	Diameter: 2.25 inches	Volume: 1.27 bbl	Weight to Pull Loose: 35000.00 lb
			<u>Total Volume: 47.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.05 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3565.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3537.00	
Shut-In Tool	5.00			3542.00	
Hydraulic Tool	5.00			3547.00	
Jars	6.00			3553.00	
Safety Joint	2.00			3555.00	
Packer	5.00			3560.00	29.00 Bottom Of Top Packer
Packer	5.00			3565.00	
Perforations	17.00			3582.00	
Recorder	1.00	8405	Inside	3583.00	
Recorder	1.00	8400	Outside	3584.00	
Bullnose	3.00			3587.00	22.00 Bottom Packers & Anchor

Total Tool Length: 51.00



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FLUID SUMMARY

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 Test Start: 2011.01.19 @ 11:11:00

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: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 7800.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Oil cut Mud	0.098
0.00	10% Oil 90% Mud	0.000
63.00	Mud cut Gassy Oil	0.310
0.00	40% Gas 40% Oil 20% Mud	0.000
63.00	Oil cut Gassy Mud	0.310
0.00	20% Oil 40% Mud 40% Gassy	0.000
0.00	126 feet Gas in the pipe	0.000

Total Length: 146.00 ft Total Volume: 0.718 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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Gas Rates Information

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

Gas Rates Table

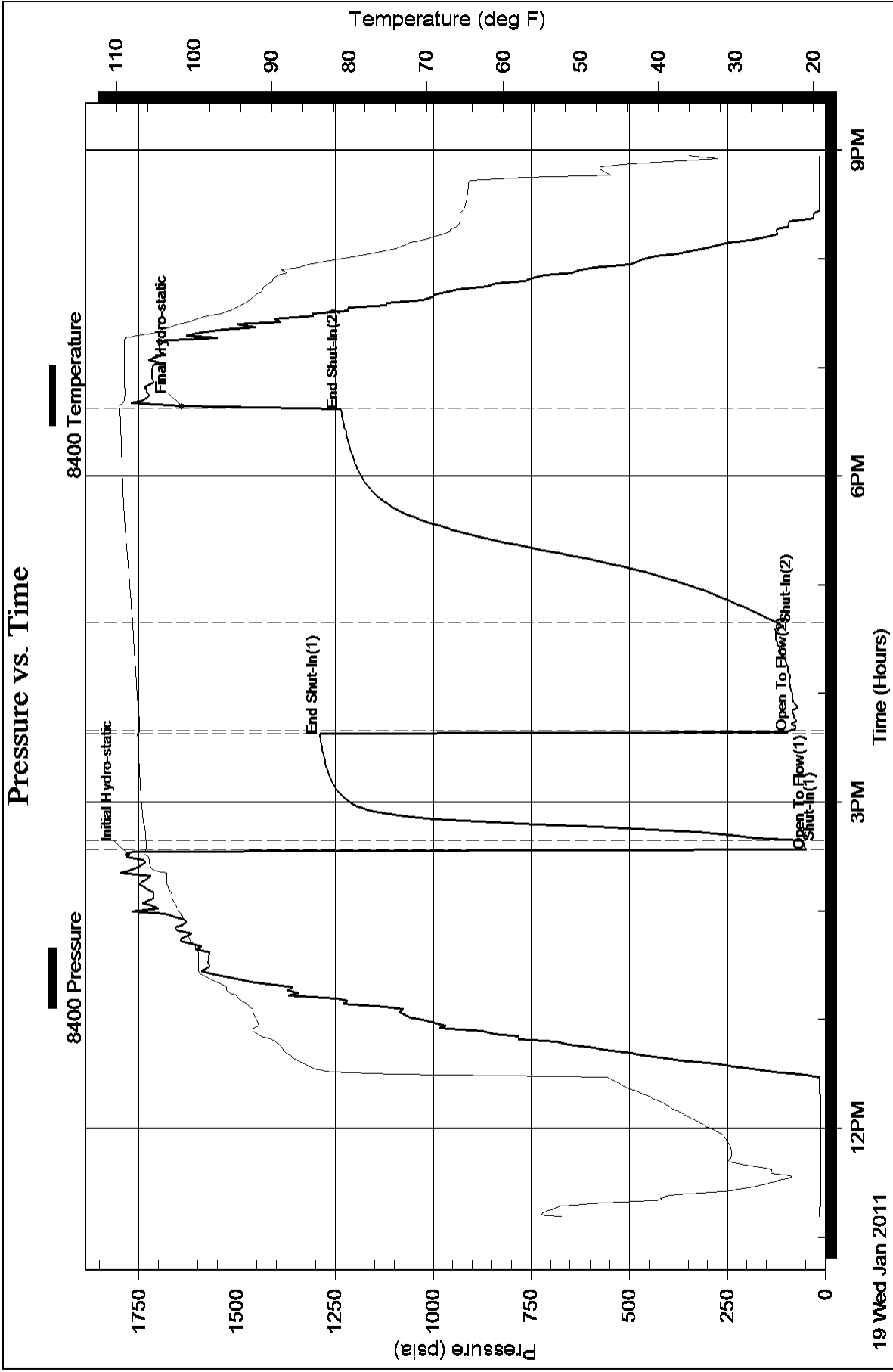
Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
		0.00	0.00	0.00

Serial #: 8400

Outside Captiva

7/22S/16W Pawnee

DST Test Number: 1



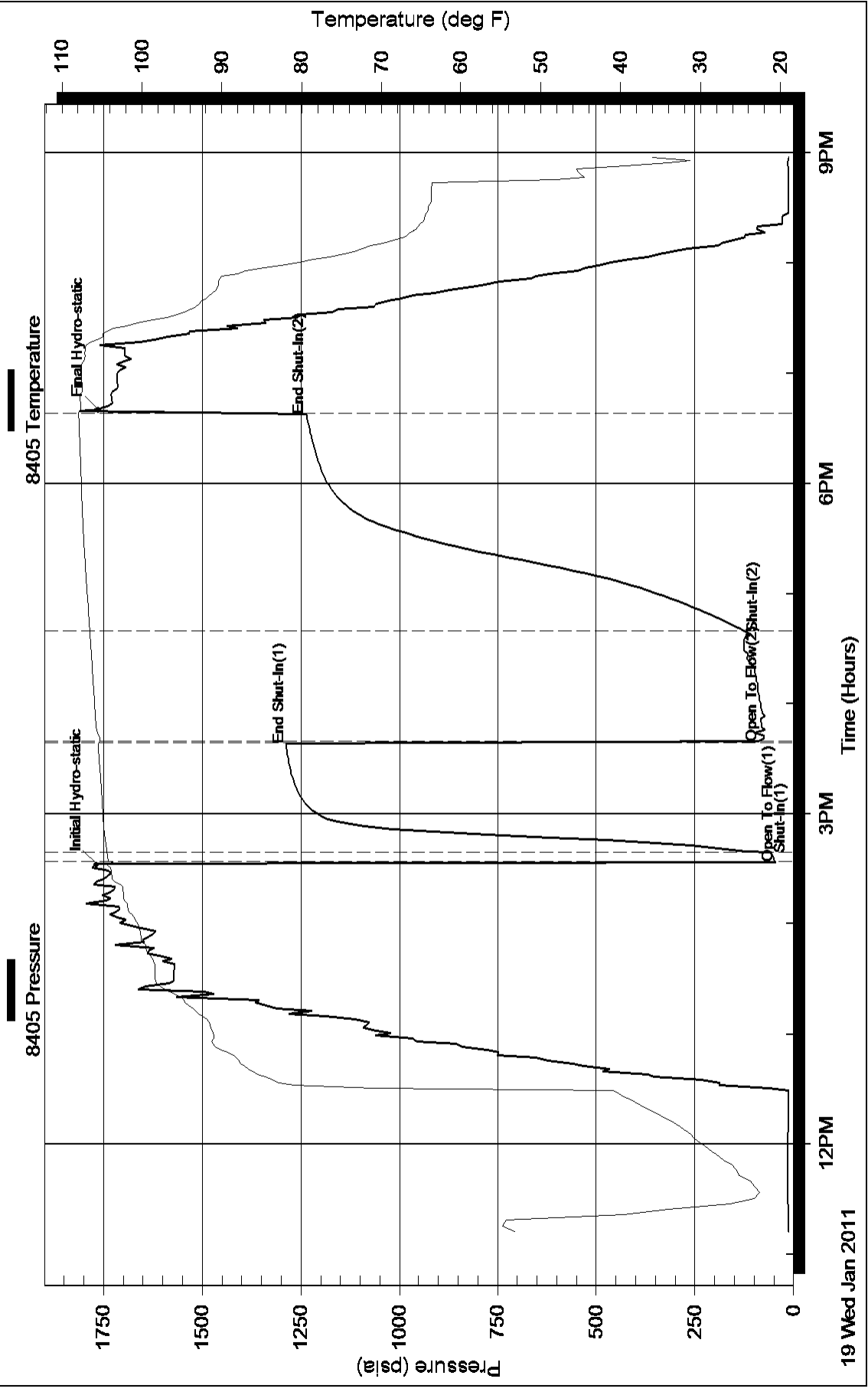
Serial #: 8405

Inside Captiva

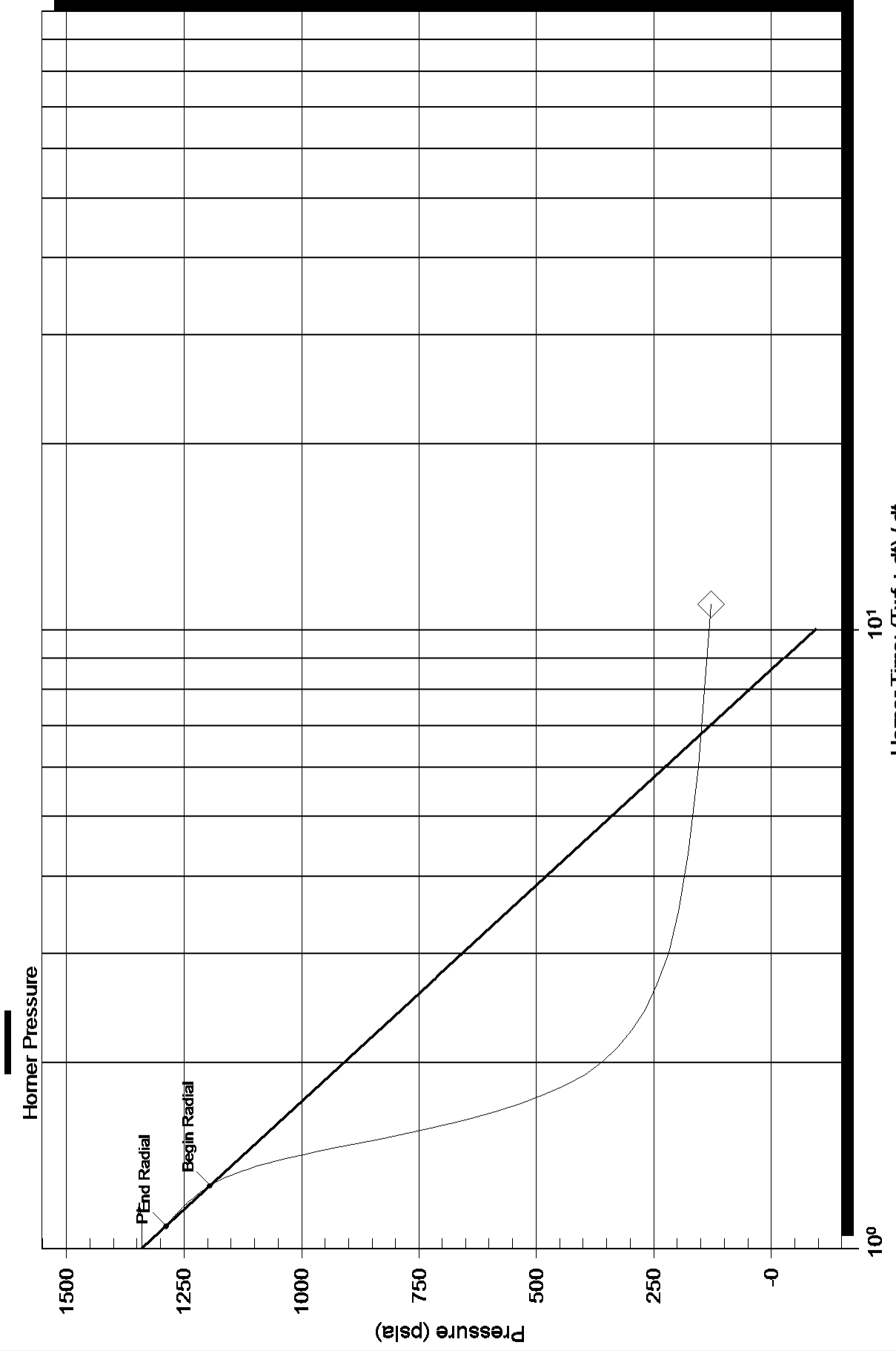
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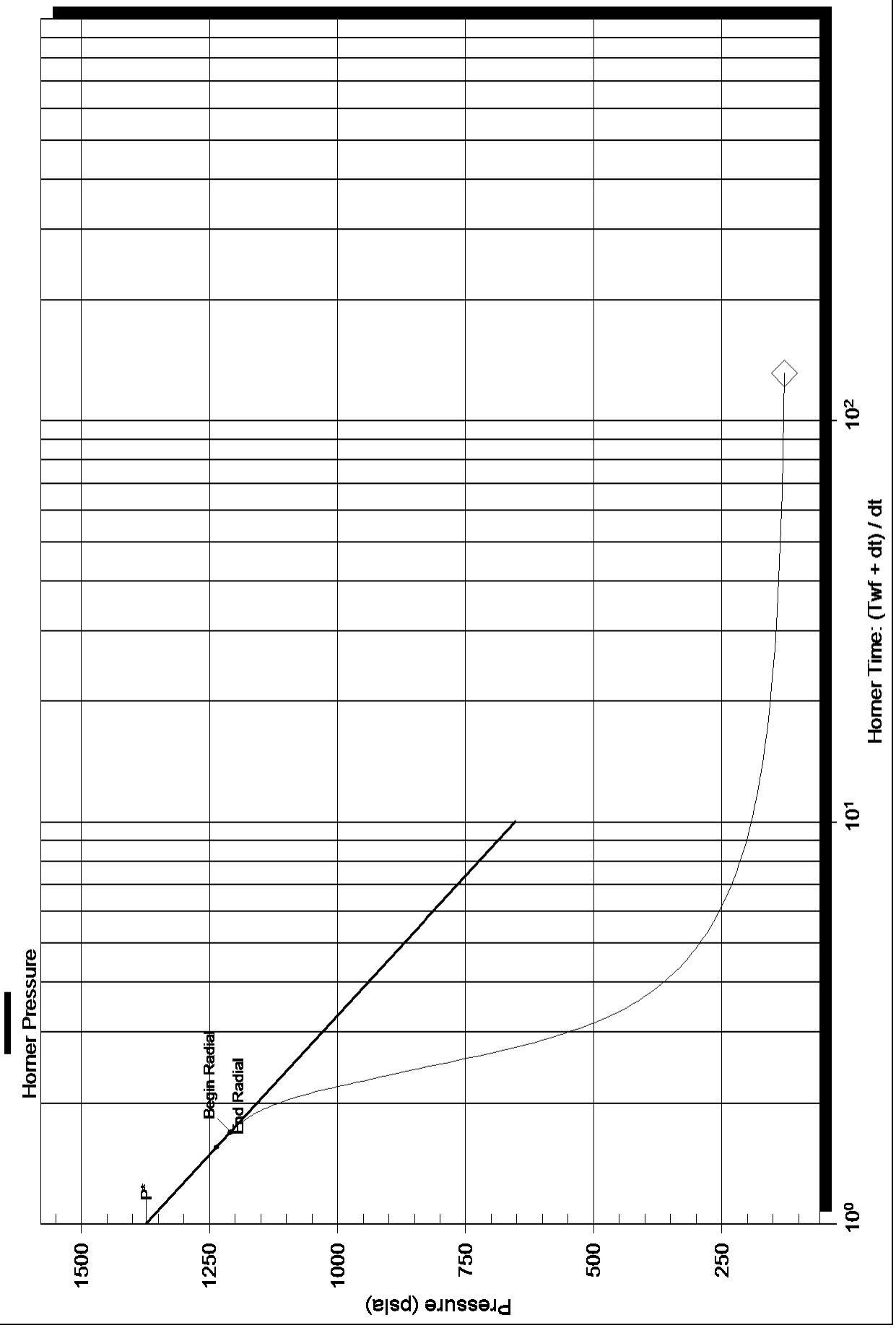
Pressure vs. Time



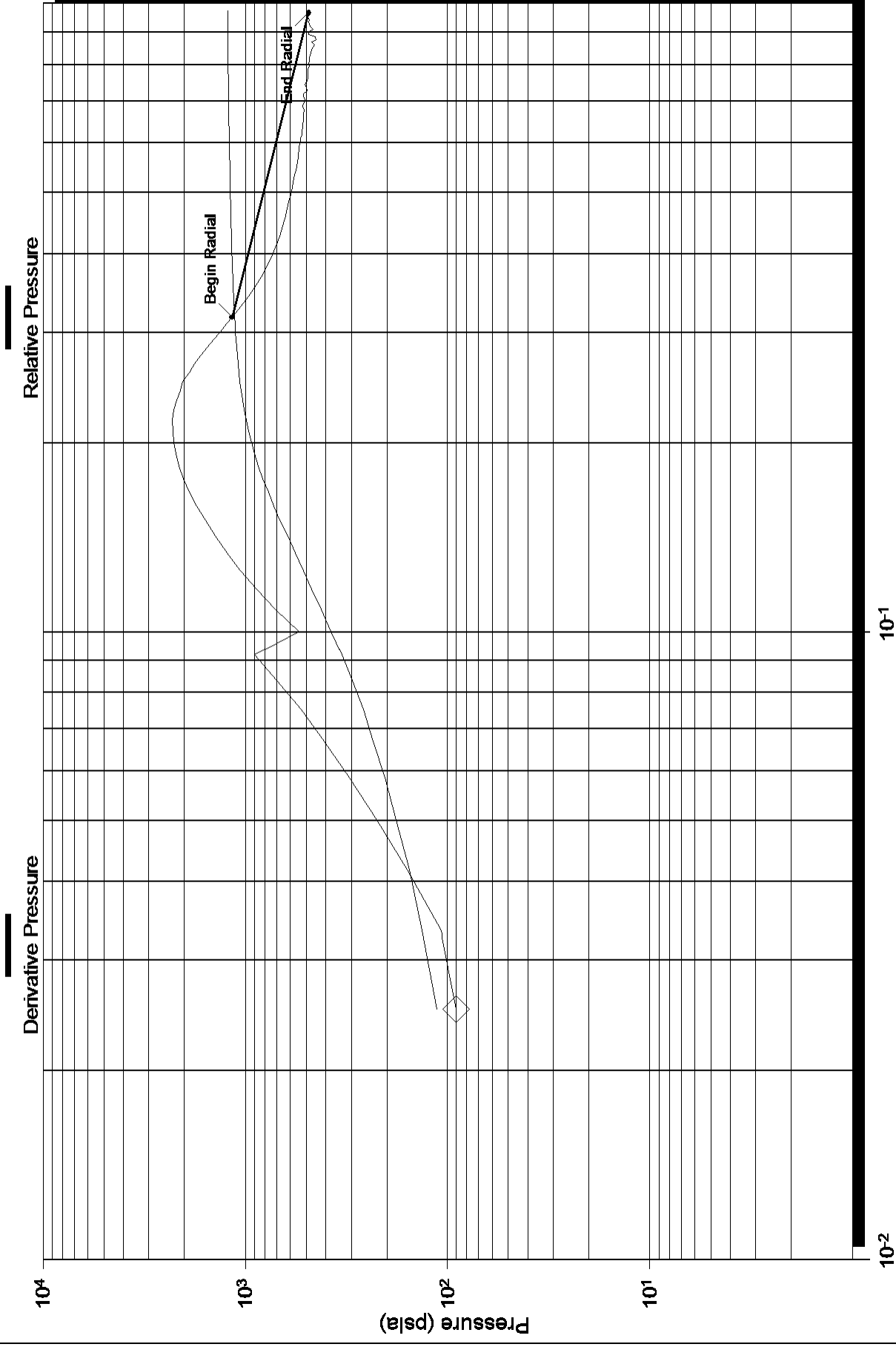
Horner Plot



Horner Plot



Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Derivative

