



DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. & Assoc. inc**

1515 Wynkoop St.
Suite 700
Denver Co. 80202

ATTN: Clayton Camozzi

4-16s-16w Rush

Bogleigh Wallah West TR 1-4

Start Date: 2011.07.21 @ 11:23:05

End Date: 2011.07.21 @ 17:53:29

Job Ticket #: 43516 DST #: 3

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



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TESTING, INC.**

DRILL STEM TEST REPORT

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ATTN: Clayton Camozzi

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Job Ticket: 43516

DST#: 3

Test Start: 2011.07.21 @ 11:23:05

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:07:00

Time Test Ended: 17:53:29

Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 39

Interval: 3345.00 ft (KB) To 3388.00 ft (KB) (TVD)

Reference Elevations: 1915.00 ft (KB)

Total Depth: 3388.00 ft (KB) (TVD)

1907.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8352 Outside

Press @ Run Depth: 48.31 psig @ 3349.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.07.21

End Date:

2011.07.21

Last Calib.:

2011.07.21

Start Time: 11:23:05

End Time:

17:53:29

Time On Btm:

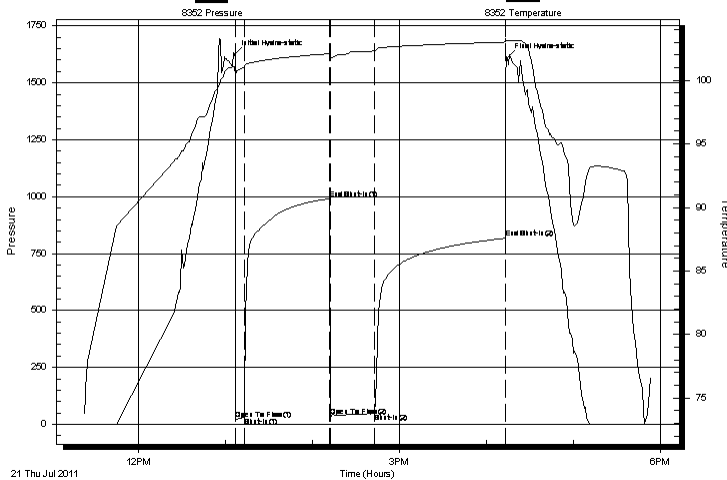
2011.07.21 @ 13:06:30

Time Off Btm:

2011.07.21 @ 16:14:39

TEST COMMENT: IF:(5min) 1 inch blow
IS:(60min) No Return
FF:(30min) 1 inch blow
FS:(90min) No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1622.77	101.11	Initial Hydro-static
1	19.78	100.35	Open To Flow (1)
7	31.98	101.04	Shut-In(1)
66	991.79	102.10	End Shut-In(1)
66	35.39	101.59	Open To Flow (2)
97	48.31	102.33	Shut-In(2)
187	817.00	103.02	End Shut-In(2)
189	1610.89	103.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	Mud	0.43

Gas Rates

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



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ATTN: Clayton Camozzi

4-16s-16w Rush

Job Ticket: 43516 **DST#: 3**
Test Start: 2011.07.21 @ 11:23:05

GENERAL INFORMATION:

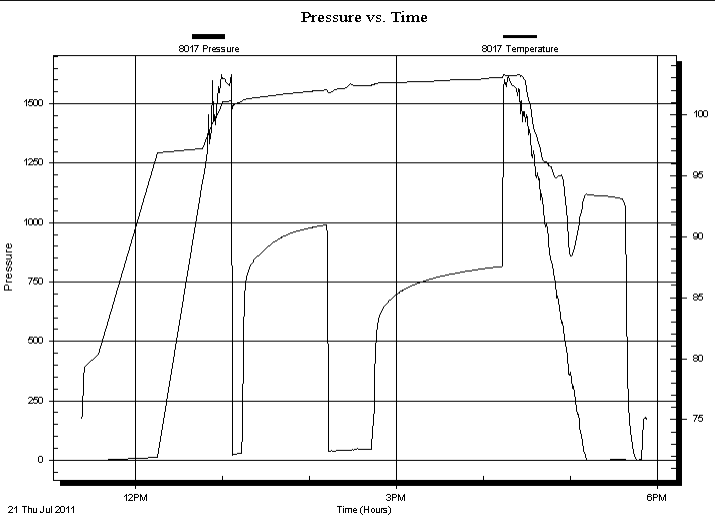
Formation: **LKC"H,I,J"**
 Deviated: **No Whipstock:** ft (KB)
 Time Tool Opened: **13:07:00**
 Time Test Ended: **17:53:29**
 Test Type: **Conventional Bottom Hole**
 Tester: **Andy Carreira**
 Unit No: **39**
 Interval: **3345.00 ft (KB) To 3388.00 ft (KB) (TVD)**
 Reference Elevations: **1915.00 ft (KB)**
 Total Depth: **3388.00 ft (KB) (TVD)**
1907.00 ft (CF)
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**
 KB to GR/CF: **8.00 ft**

Serial #: 8017

Inside

Press @ Run Depth: psig @ **3349.00 ft (KB)** Capacity: **8000.00 psig**
 Start Date: **2011.07.21** End Date: **2011.07.21** Last Calib.: **2011.07.21**
 Start Time: **11:23:05** End Time: **17:53:29** Time On Btm:
 Time Off Btm:

TEST COMMENT: IF:(5min) 1 inch blow
 IS:(60min) No Return
 FF:(30min) 1 inch blow
 FS:(90min) No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
50.00	Mud	0.43

Gas Rates

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



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ATTN: Clayton Camozzi

4-16s-16w Rush

Job Ticket: 43516 **DST#: 3**
Test Start: 2011.07.21 @ 11:23:05

GENERAL INFORMATION:

Formation: LKC"H,I,J"		
Deviated: No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole
Time Tool Opened: 13:07:00		Tester: Andy Carreira
Time Test Ended: 17:53:29		Unit No: 39
Interval: 3345.00 ft (KB) To 3388.00 ft (KB) (TVD)		Reference Elevations: 1915.00 ft (KB)
Total Depth: 3388.00 ft (KB) (TVD)		1907.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Fair	KB to GR/CF: 8.00 ft

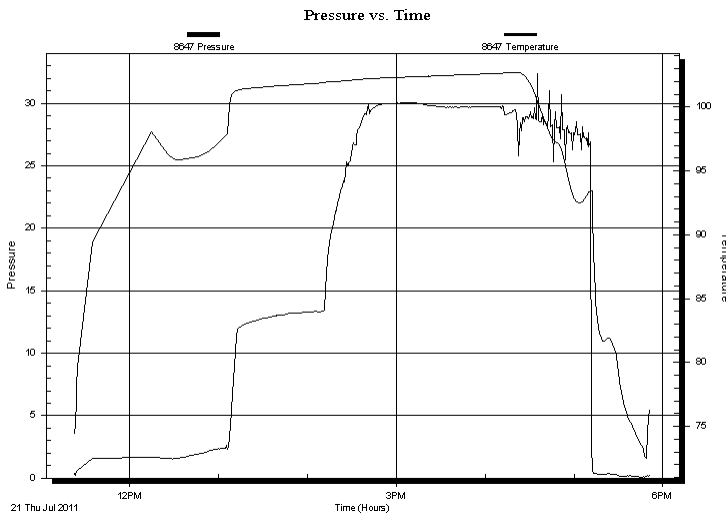
Serial #: 8647

Fluid

Press @ RunDepth: psig @	3311.00 ft (KB)	Capacity:	8000.00 psig
Start Date: 2011.07.21	End Date: 2011.07.21	Last Calib.:	2011.07.21
Start Time: 11:23:05	End Time: 17:51:59	Time On Btm:	
		Time Off Btm:	

TEST COMMENT: IF:(5min) 1 inch blow
IS:(60min) No Return
FF:(30min) 1 inch blow
FS:(90min) No Return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
50.00	Mud	0.43

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

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4-16s-16w Rush

Job Ticket: 43516

DST#: 3

Test Start: 2011.07.21 @ 11:23:05

Tool Information

Drill Pipe:	Length: 3311.00 ft	Diameter: 3.80 inches	Volume: 46.44 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: 30.15 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 46.59 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.15 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3345.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	43.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3311.00	
Recorder	0.00	8647	Fluid	3311.00	
Blank Spacing	5.00			3316.00	
Shut In Tool	5.00			3321.00	
Sampler	2.00			3323.00	
Hydraulic tool	5.00			3328.00	
Jars	5.00			3333.00	
Safety Joint	3.00			3336.00	
Packer	5.00			3341.00	35.00 Bottom Of Top Packer
Packer	4.00			3345.00	
Stubb	1.00			3346.00	
Perforations	2.00			3348.00	
Change Over Sub	1.00			3349.00	
Recorder	0.00	8017	Inside	3349.00	
Recorder	0.00	8352	Outside	3349.00	
Drill Pipe	31.00			3380.00	
Change Over Sub	1.00			3381.00	
Perforations	4.00			3385.00	
Bullnose	3.00			3388.00	43.00 Bottom Packers & Anchor

Total Tool Length: 78.00



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FLUID SUMMARY

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Job Ticket: 43516

DST#: 3

Test Start: 2011.07.21 @ 11:23:05

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: 60.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
50.00	Mud	0.427

Total Length: 50.00 ft Total Volume: 0.427 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

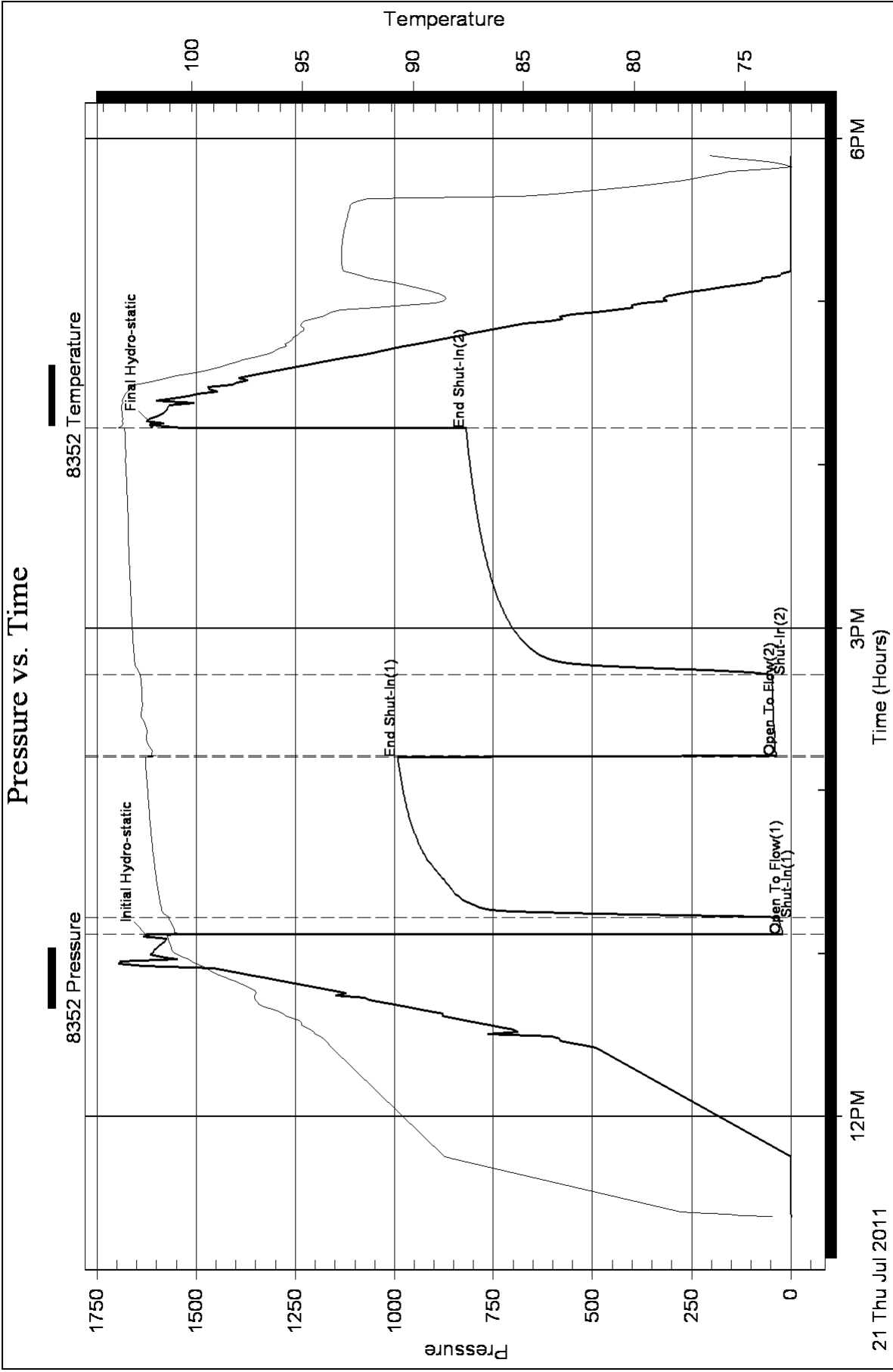
Serial #:

Laboratory Name:

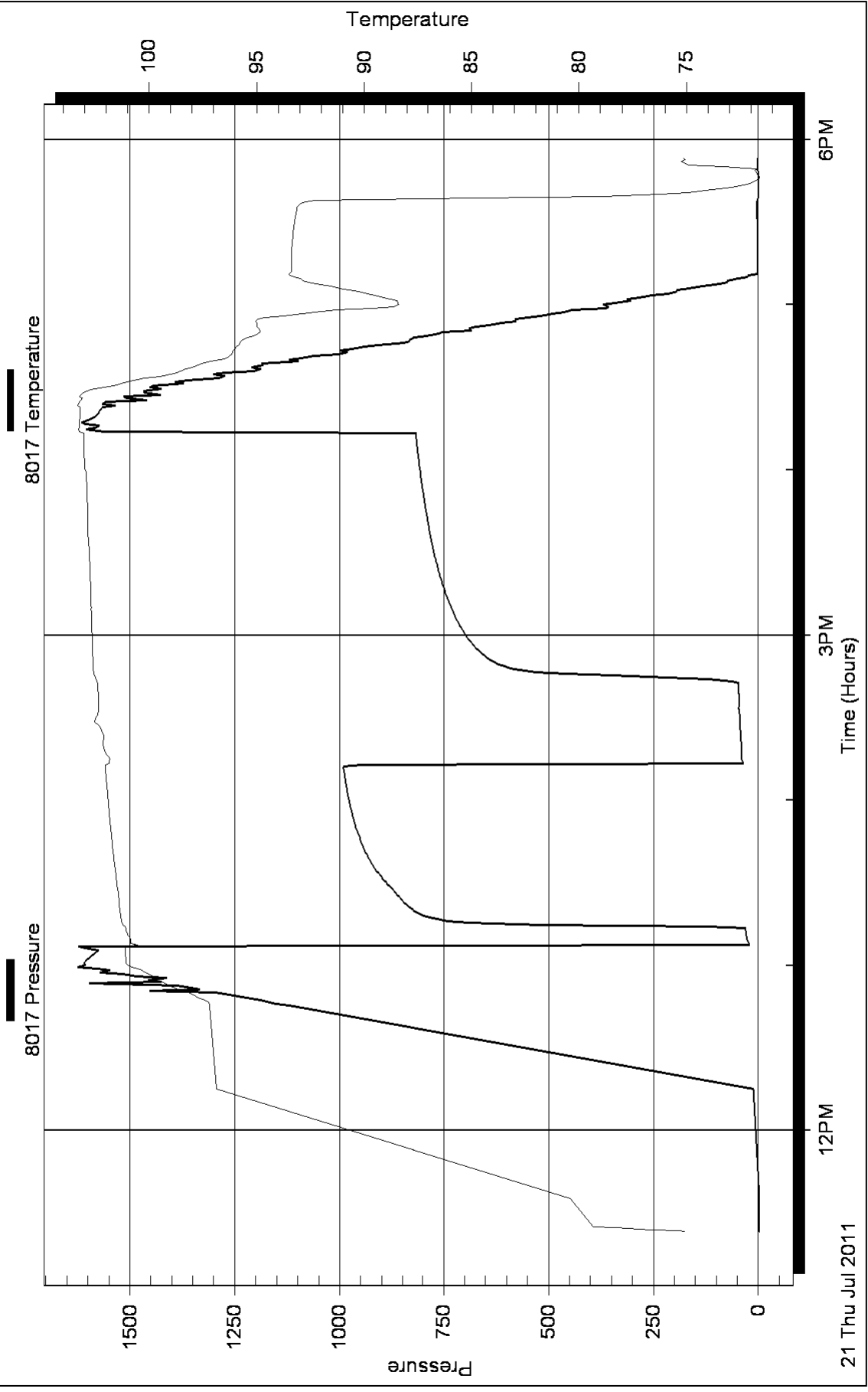
Laboratory Location:

Recovery Comments: Sampler Data- Mud=200ml Pressure=145lbs

Pressure vs. Time



Pressure vs. Time



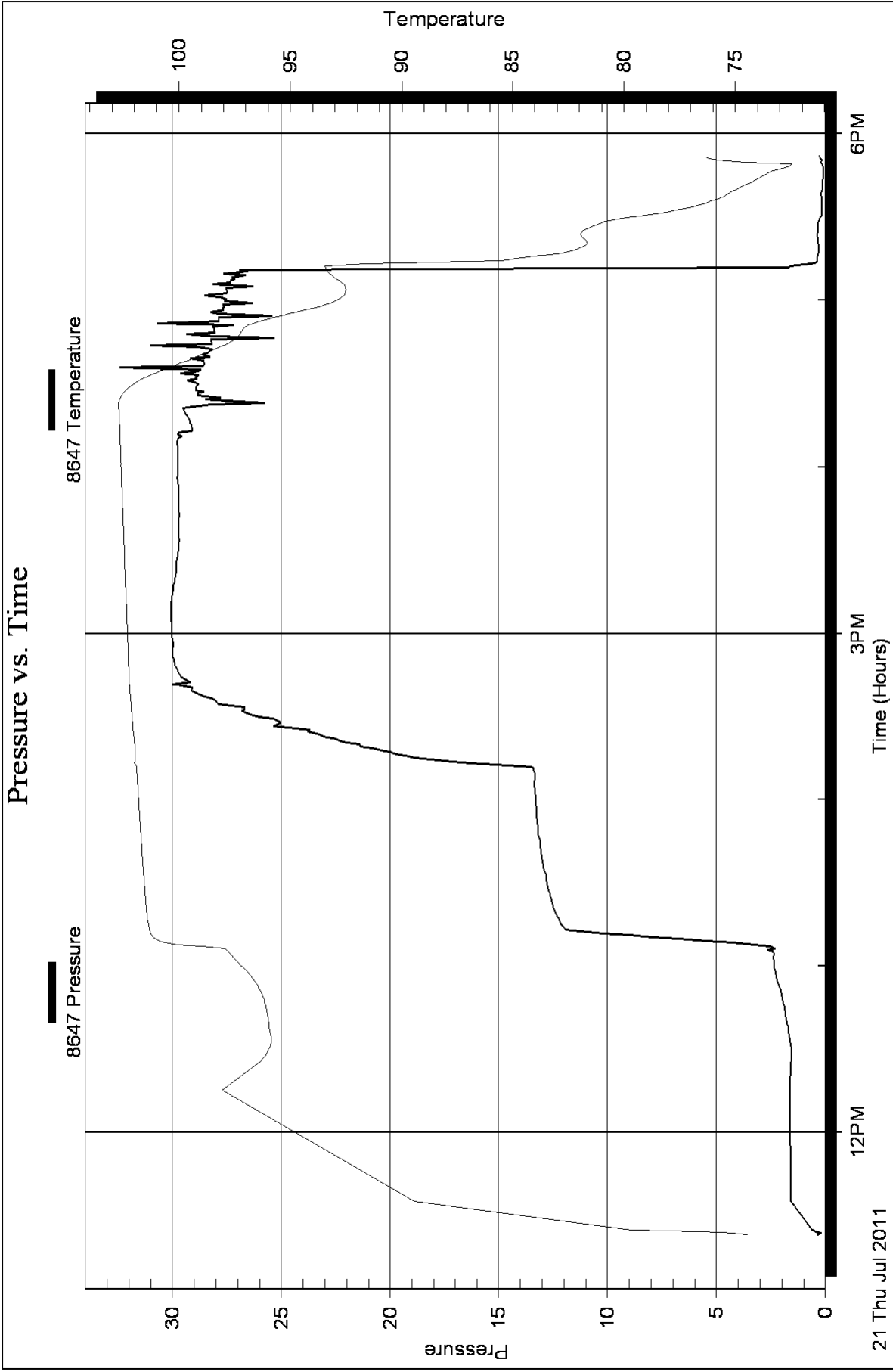
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Fluid

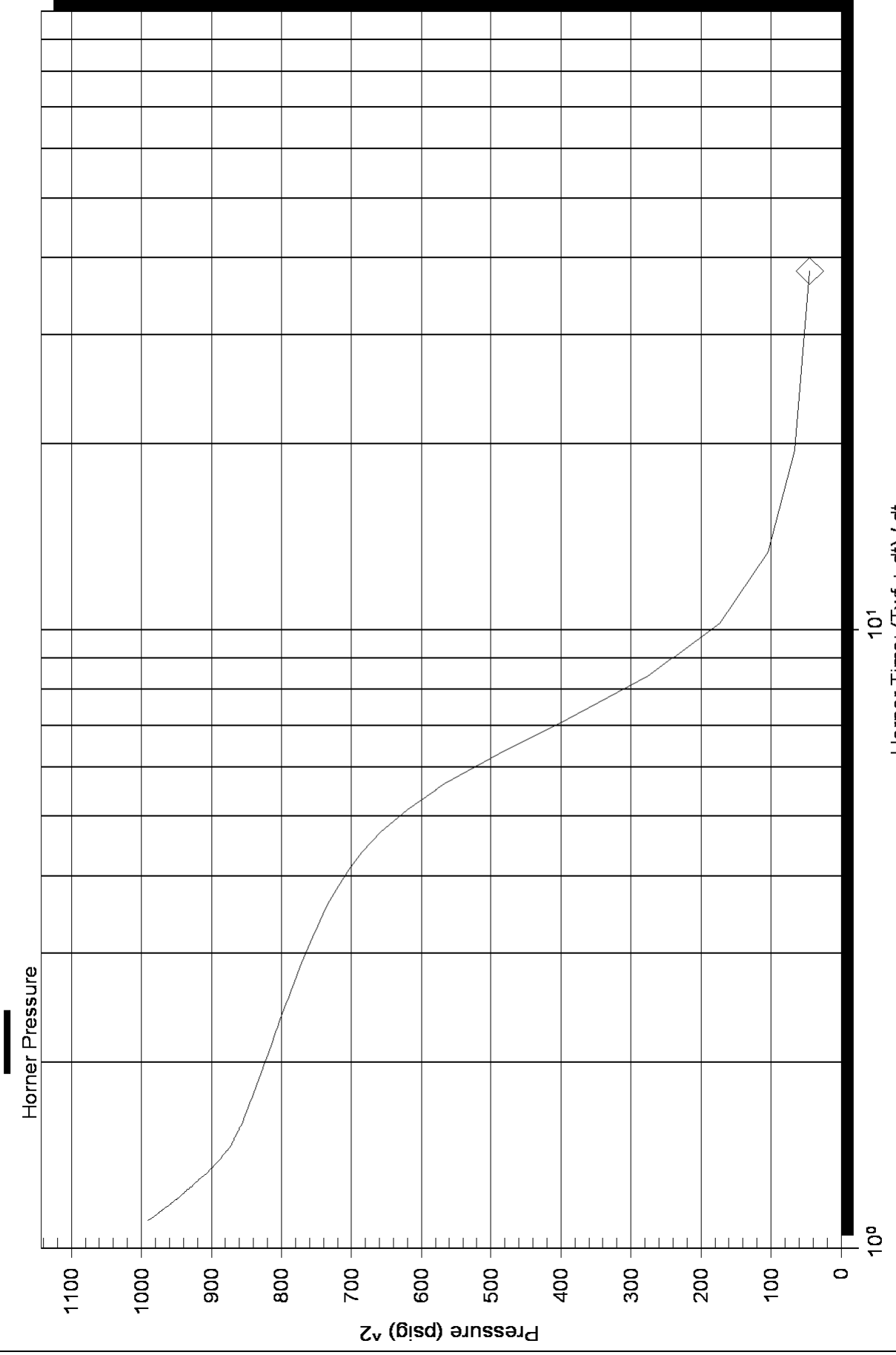
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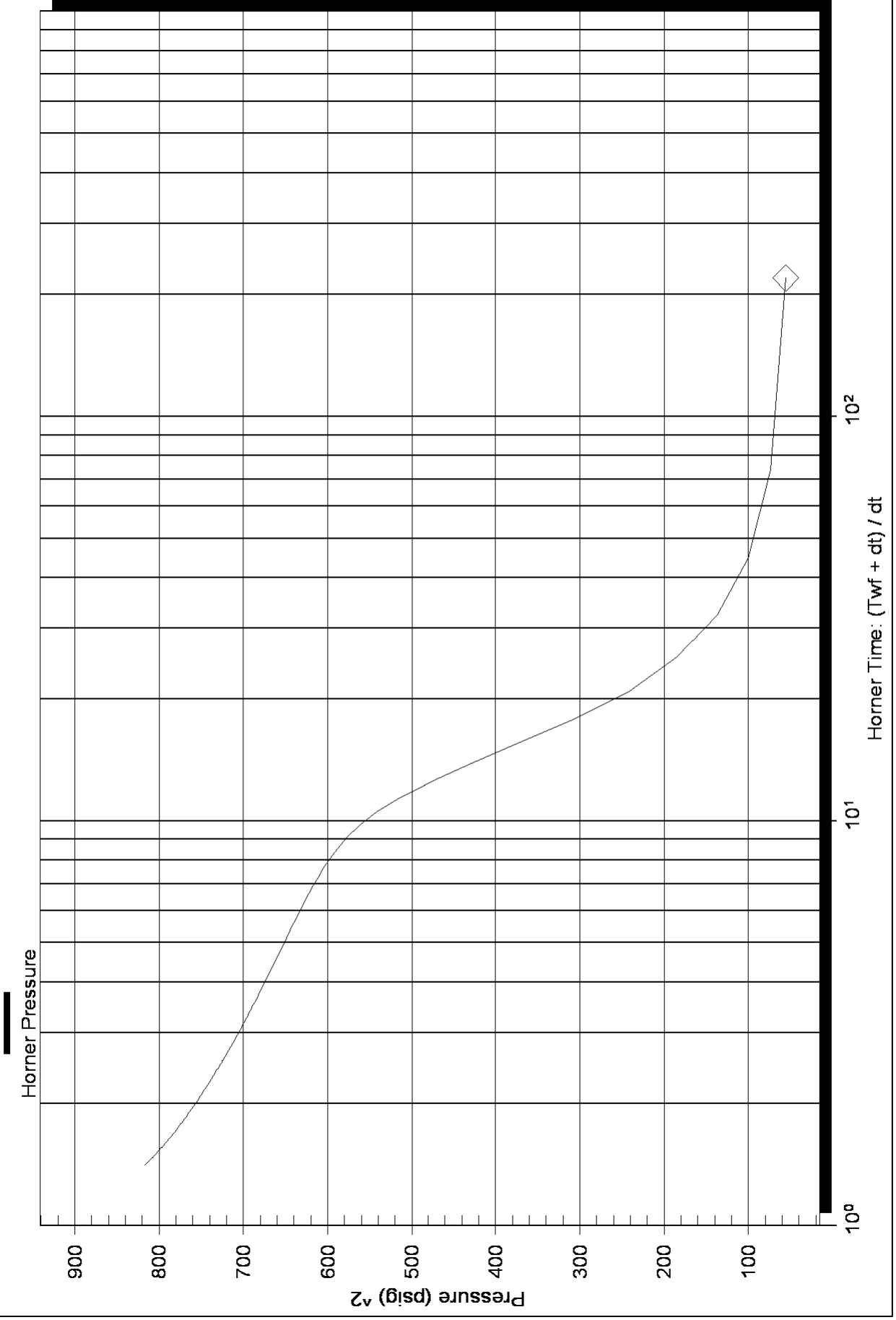
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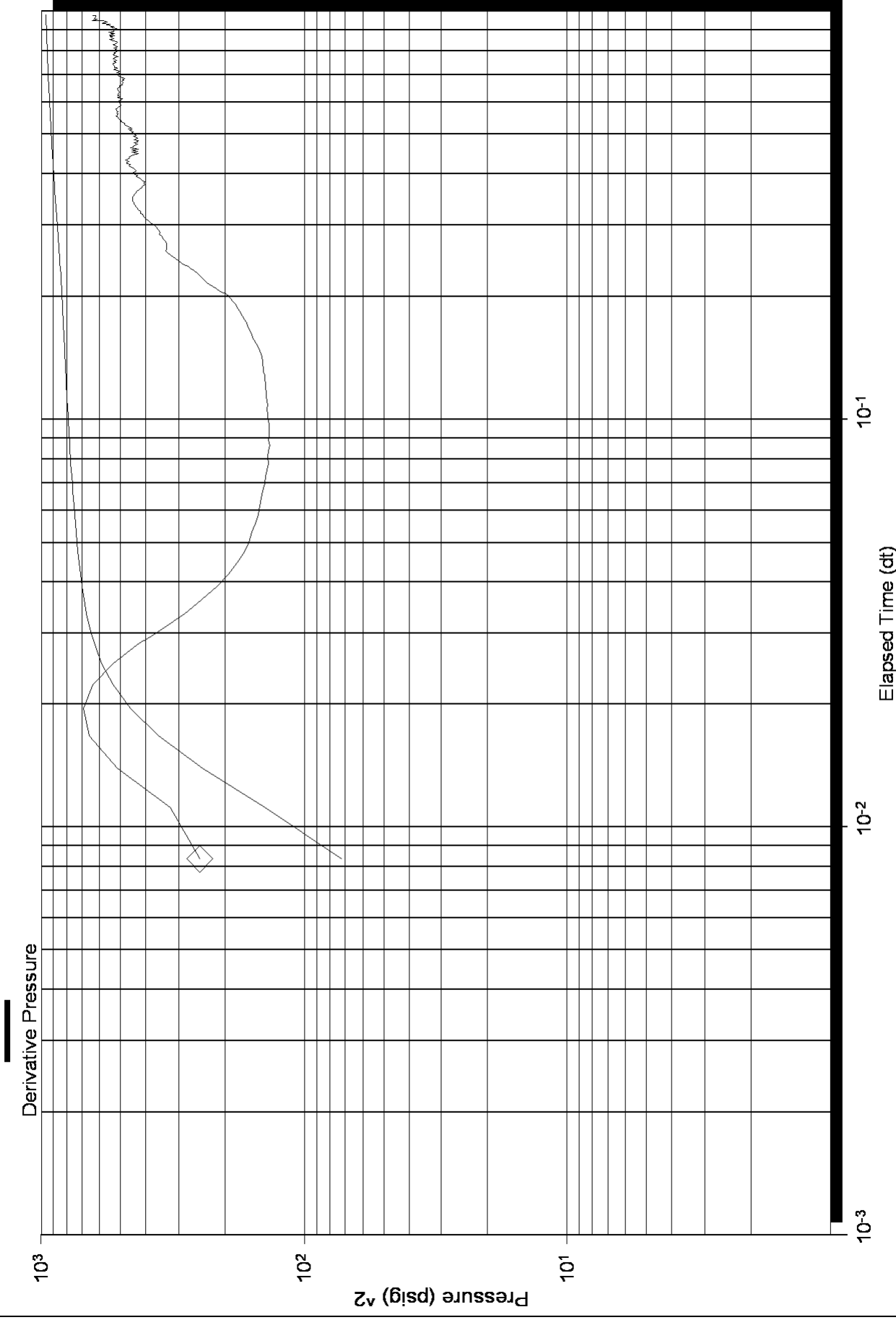
Homer Plot



Homer Plot



Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Derivative

