

DRILL STEM TEST REPORT

Prepared For: **Sam Gary**

1515 Wynkoop Ste 700
Denver Co 80202

ATTN: Tom Fertal

10-17-16-Rush-Ks

Brack et al # 1-10

Start Date: 2010.08.03 @ 21:54:27

End Date: 2010.08.04 @ 05:42:42

Job Ticket #: 039913 DST #: 2

Trilobite Testing, Inc

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

Sam Gary

Brack et al # 1-10

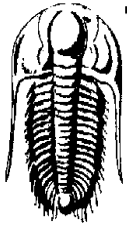
10-17-16-Rush-Ks

DST # 2

D-G

LKC

2010.08.03



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Sam Gary
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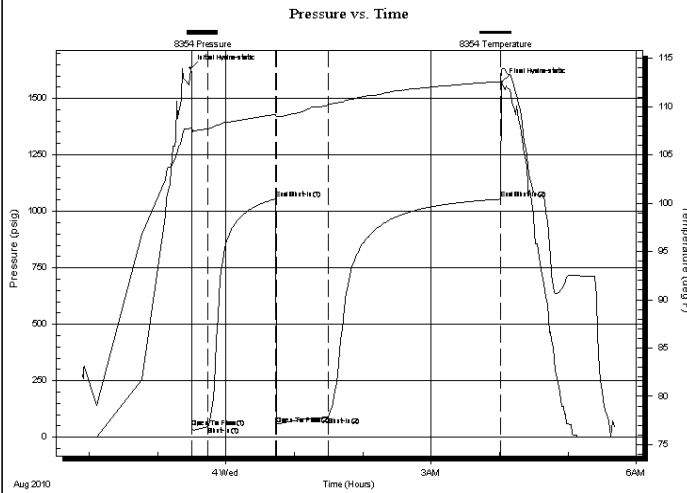
Bracket # 1-10
10-17-16-Rush-Ks
 Job Ticket: 039913 **DST#: 2**
 Test Start: 2010.08.03 @ 21:54:27

GENERAL INFORMATION:

Formation: **D-G LKC**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:30:12
 Time Test Ended: 05:42:42
 Test Type: Conventional Bottom Hole
 Tester: Dan Bangle
 Unit No: 38
 Interval: **3320.00 ft (KB) To 3372.00 ft (KB) (TVD)**
 Total Depth: 3372.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Reference Elevations: 2007.00 ft (KB)
 1919.00 ft (CF)
 KB to GR/CF: 88.00 ft

Serial #: 8354 Inside
 Press@RunDepth: 91.83 psig @ 3323.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2010.08.03 End Date: 2010.08.04 Last Calib.: 2010.08.04
 Start Time: 21:54:28 End Time: 05:42:42 Time On Btm: 2010.08.03 @ 23:28:57
 Time Off Btm: 2010.08.04 @ 04:02:12

TEST COMMENT: IF-Strong B-B in 13 min
 FF-Weak building to 5"



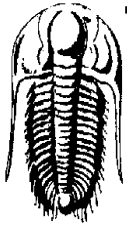
PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1632.48	107.74	Initial Hydro-static
2	41.68	107.13	Open To Flow (1)
16	45.89	107.72	Shut-In(1)
75	1054.91	109.20	End Shut-In(1)
76	57.08	108.96	Open To Flow (2)
122	91.83	110.21	Shut-In(2)
272	1053.99	112.60	End Shut-In(2)
274	1571.65	113.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
145.00	Wtr Rw .08 @ 80 = 80000ppm	1.76
10.00	CO	0.14
0.00	120 GIP	0.00

Gas Rates

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



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TOOL DIAGRAM

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Tool Information

Drill Pipe:	Length: 3271.00 ft	Diameter: 3.80 inches	Volume: 45.88 bbl	Tool Weight: 2800.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 46.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3320.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	80.00 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			3293.00	
Shut In Tool	5.00			3298.00	
Hydraulic tool	5.00			3303.00	
Jars	5.00			3308.00	
Safety Joint	3.00			3311.00	
Packer	5.00			3316.00	28.00 Bottom Of Top Packer
Packer	4.00			3320.00	
Stubb	1.00			3321.00	
Perforations	1.00			3322.00	
Change Over Sub	1.00			3323.00	
Recorder	0.00	8354	Inside	3323.00	
Recorder	0.00	8520	Outside	3323.00	
Drill Pipe	31.00			3354.00	
Change Over Sub	1.00			3355.00	
Perforations	14.00			3369.00	
Bullnose	3.00			3372.00	52.00 Bottom Packers & Anchor
Total Tool Length:	80.00				



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FLUID SUMMARY

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Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 34 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 80000 ppm
Viscosity: 64.00 sec/qt	Cushion Volume: bbl	
Water Loss: 9.98 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 6100.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
145.00	Wtr Rw .08 @ 80 = 80000ppm	1.761
10.00	CO	0.140
0.00	120 GIP	0.000

Total Length: 155.00 ft Total Volume: 1.901 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

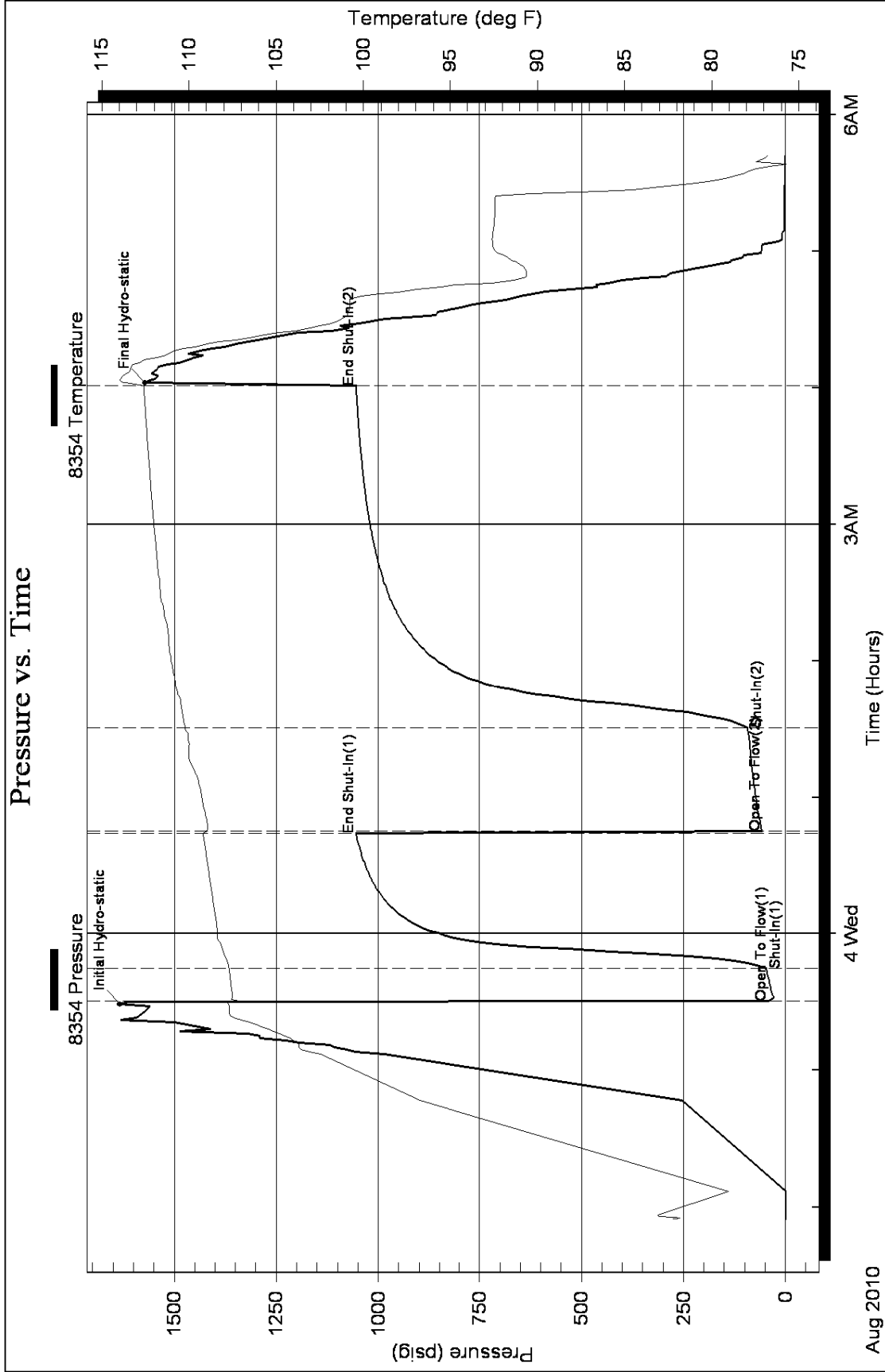
Serial #: 8354

Inside

Sam Gary

10-17-16-Rush-Ks

DST Test Number: 2

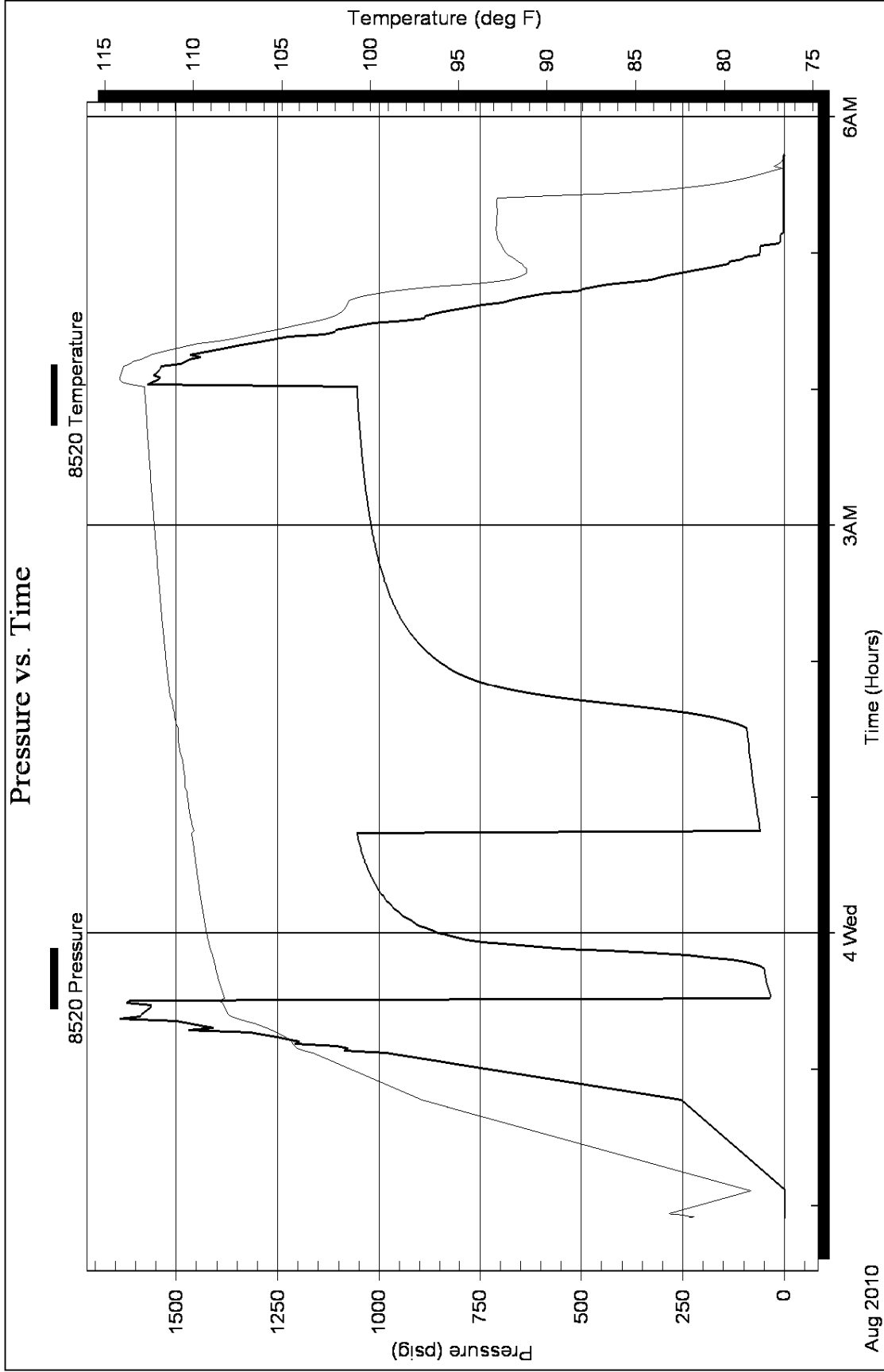


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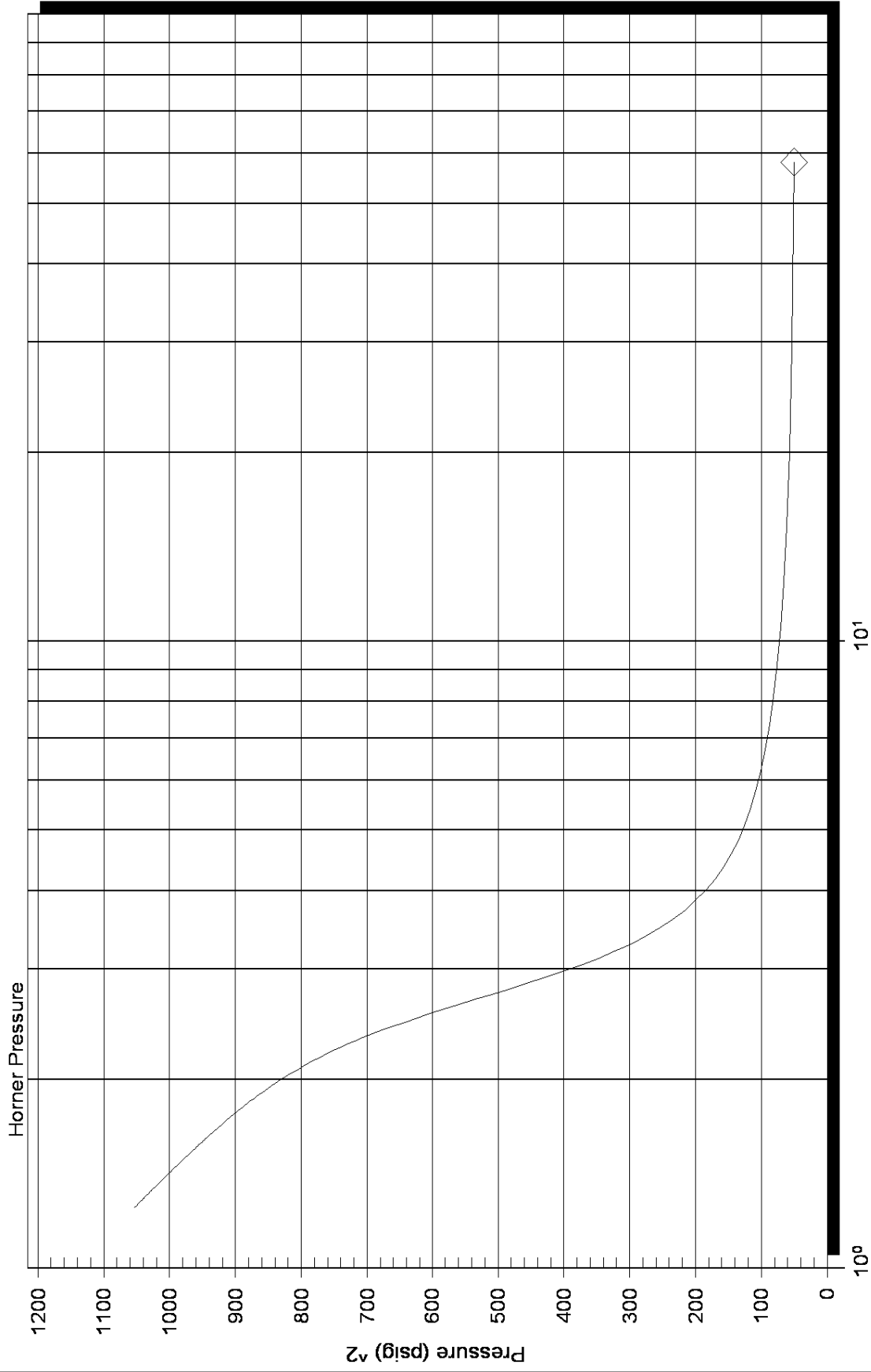
Outside Sam Gary

10-17-16-Rush-Ks

DST Test Number: 2



Homer Plot



Serial Number: 8354 (Inside)

P* :

Slope (m) : kpa/log cycle

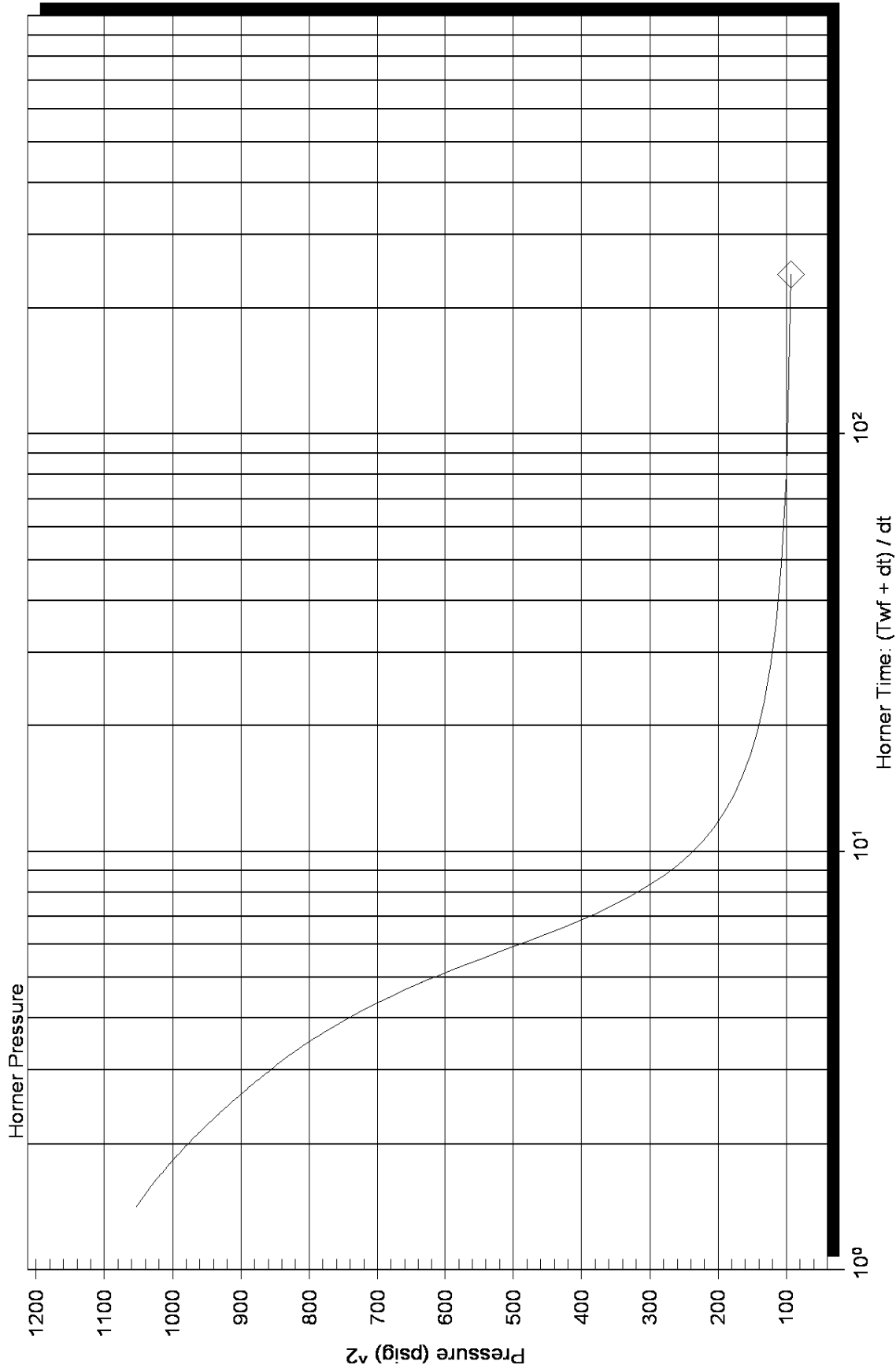
Horner Time: (Twf + dt) / dt

10¹

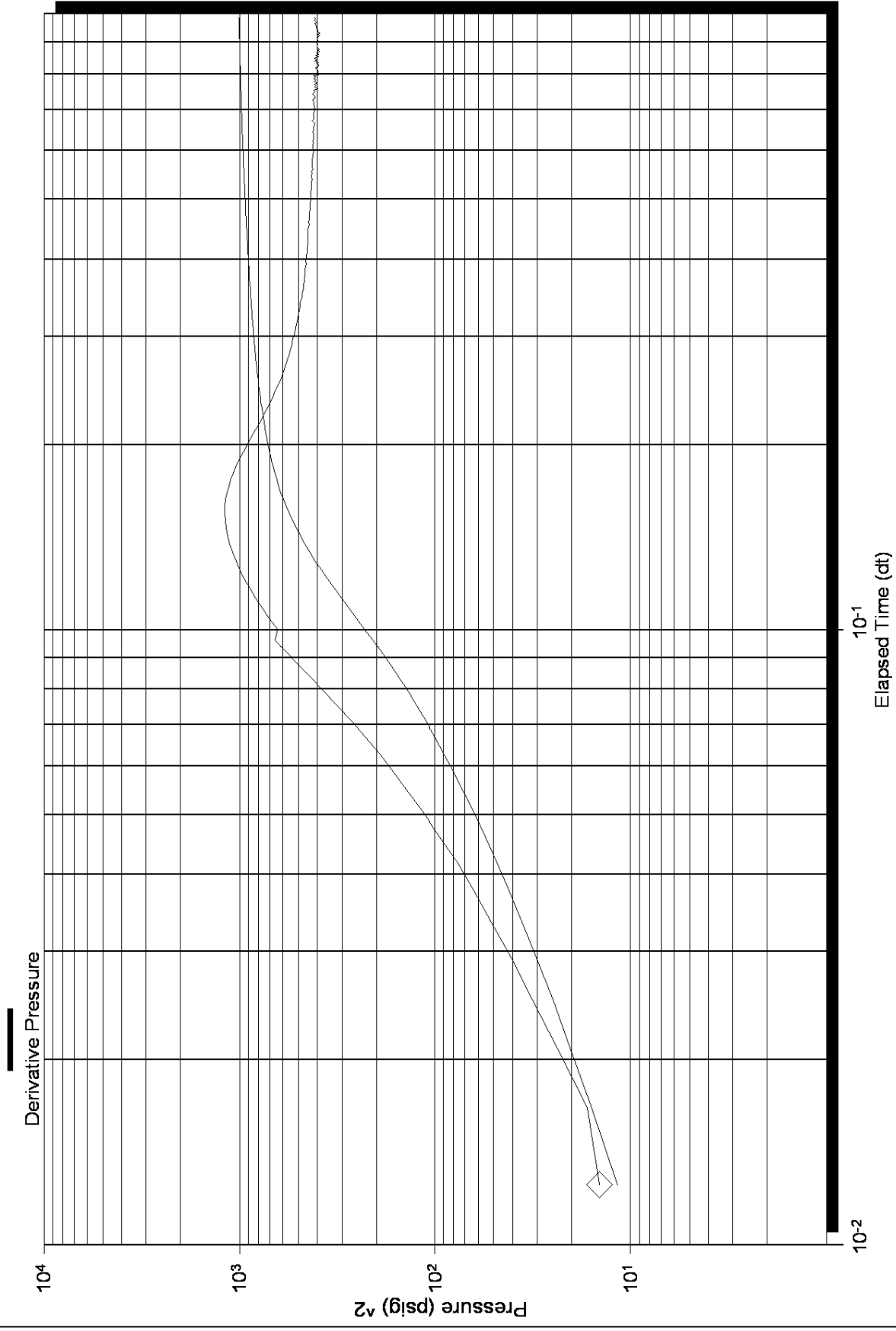
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Flow Cycle: 1

Homer Plot



Log-Log and Pseudo-Log-Log



Log-Log and Pseudo-Log-Log

