



DRILL STEM TEST REPORT

Prepared For: **Sam Gary**

1515 Wynkoop St. Ste 700
Denver, CO
80202

ATTN: Neal Sharp

31-15-15/Russell

Miller et al 1-31

Start Date: 2011.03.25 @ 11:06:33

End Date: 2011.03.25 @ 20:50:32

Job Ticket #: 41854 DST #: 1

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Sam Gary
1515 Wynkoop St. Ste 700
Denver, CO
80202
ATTN: Neal Sharp

Miller et al 1-31
31-15-15/Russell
Job Ticket: 41854 **DST#: 1**
Test Start: 2011.03.25 @ 11:06:33

Tool Information

Drill Pipe:	Length: 3190.00 ft	Diameter: 3.80 inches	Volume: 44.75 bbl	Tool Weight: 2500.00 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 48000.00 lb
			<u>Total Volume: 44.75 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3200.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Recorder	0.00	8647	Fluid	3166.00	
Shut In Tool	5.00			3171.00	
Shut In Tool	5.00			3176.00	
Sampler	2.00			3178.00	
Hydraulic tool	5.00			3183.00	
Jars	5.00			3188.00	
Safety Joint	2.00			3190.00	
Packer	5.00			3195.00	34.00 Bottom Of Top Packer
Packer	5.00			3200.00	
Stubb	1.00			3201.00	
Recorder	0.00	8372	Inside	3201.00	
Recorder	0.00	8365	Outside	3201.00	
Perforations	15.00			3216.00	
Bullnose	3.00			3219.00	19.00 Bottom Packers & Anchor

Total Tool Length: 53.00



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FLUID SUMMARY

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Job Ticket: 41854 **DST#: 1**
Test Start: 2011.03.25 @ 11:06:33

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:	36000 ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.97 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1800.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	MW 95%W, 5%M	0.070
30.00	GW & MCO 30%G, 45%O, 10%W, 15%M	0.421
70.00	MO 50%O, 50%M	0.982
0.00	1100' GIP	0.000

Total Length: 105.00 ft Total Volume: 1.473 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



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DRILL STEM TEST REPORT

GAS RATES

Sam Gary
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31-15-15/Russell
Job Ticket: 41854 **DST#: 1**
Test Start: 2011.03.25 @ 11:06:33

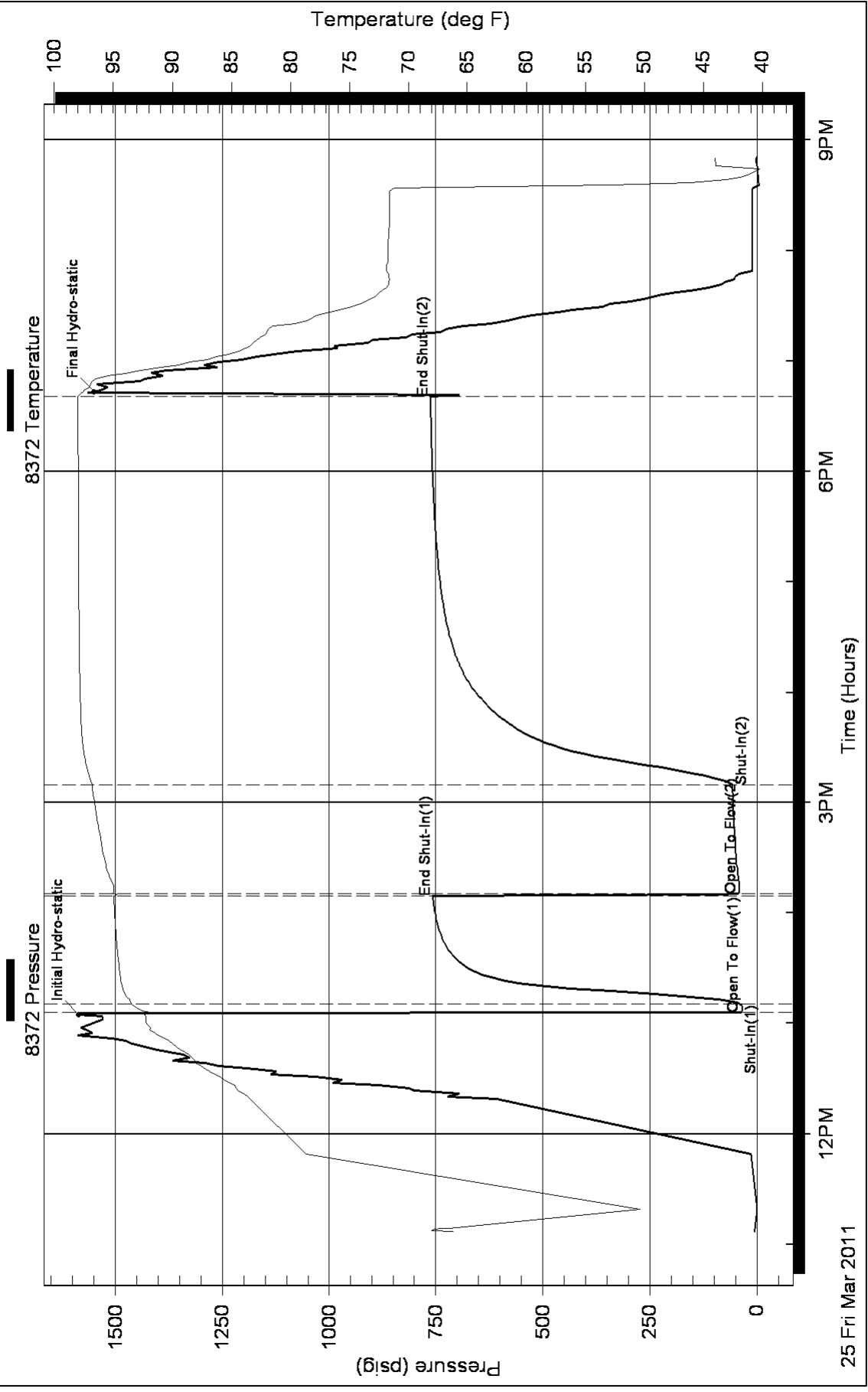
Gas Rates Information

Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

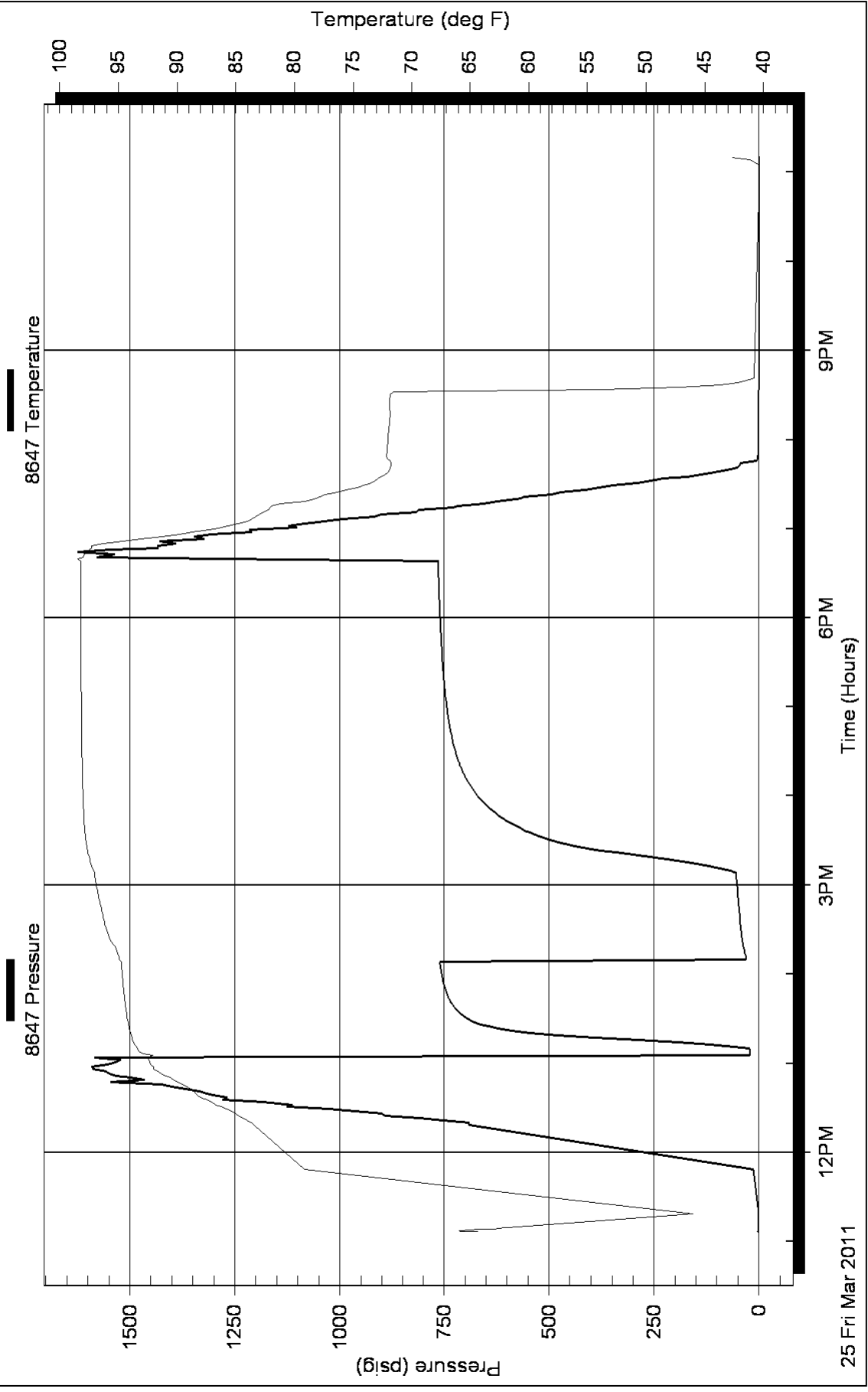
Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m ³ /d)
		0.00	0.00	0.00

Pressure vs. Time



Pressure vs. Time

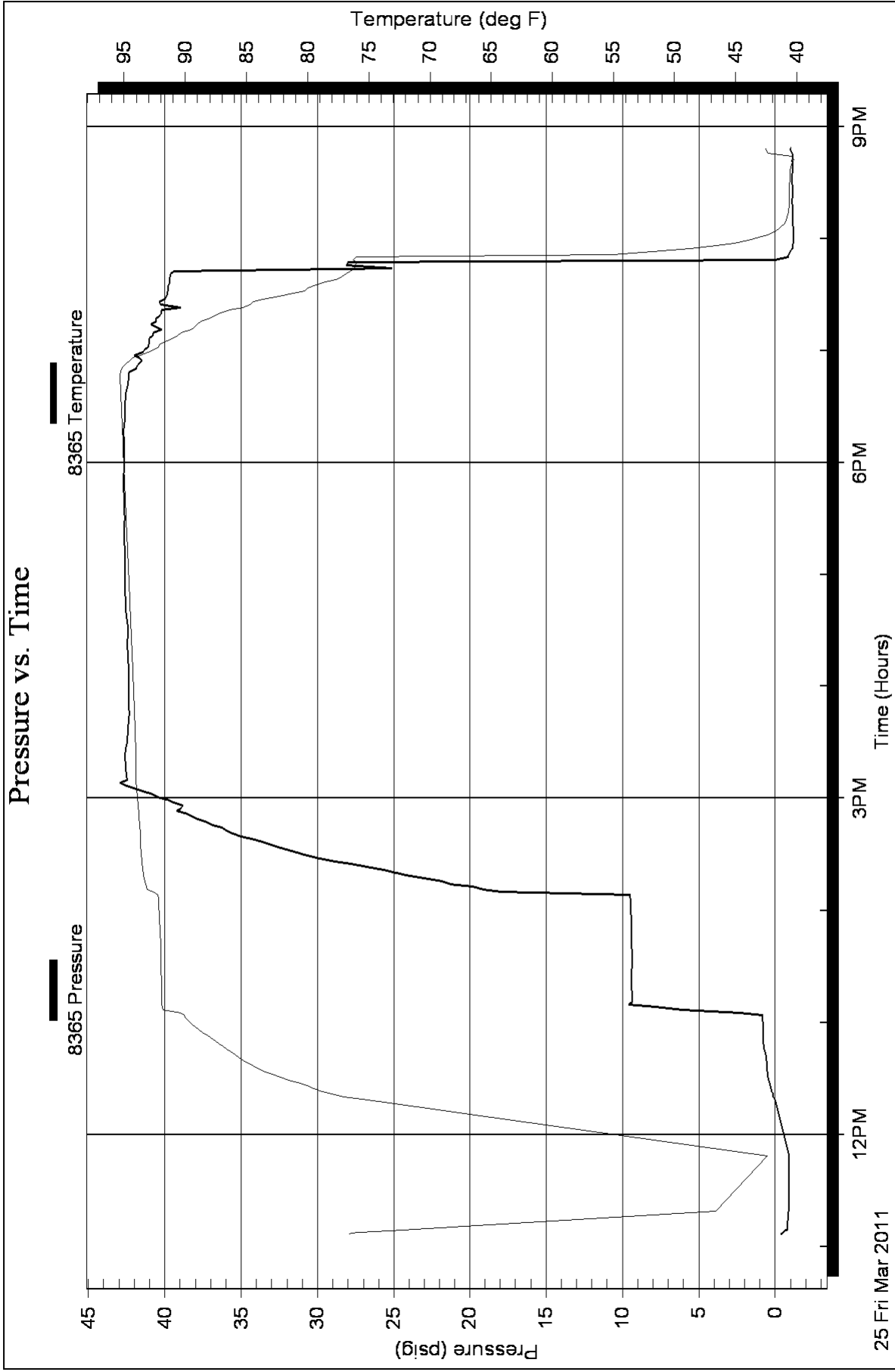


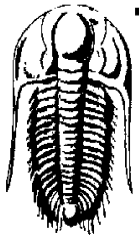
Serial #: 8365

Outside Sam Gary

31-15-15/Russell

DST Test Number: 1





**TRILOBITE
TESTING, INC.**

DRILL STEM TESTING - DATA LISTING

Sam Gary
1515 Wynkoop St. Ste 700
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80202
ATTN: Neal Sharp

Miller et al 1-31
31-15-15/Russell
Job Ticket: 41854 **DST#: 1**
Test Start: 2011.03.25 @ 11:06:33

Serial # 8372 Inside				Serial # 8372 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	0.0	4.13	66.2		75.0	695.99	83.9
	0.1	4.17	66.2		77.0	790.22	84.5
	0.1	4.05	66.3		79.0	844.64	84.7
	0.2	3.94	66.3		81.0	992.14	85.1
	0.3	4.23	66.6		83.0	1006.45	85.7
	0.3	4.78	67.2		85.0	1062.15	86.3
	0.4	4.81	67.6		87.0	1123.88	86.8
	0.5	4.79	67.9		89.0	1264.85	87.3
	0.5	4.74	68.0		91.0	1292.14	87.9
	0.6	4.67	68.0		93.0	1366.91	88.1
	0.7	4.61	68.0		95.0	1326.01	88.4
	0.7	4.56	68.0		97.0	1365.82	88.8
	0.8	4.52	68.0		99.0	1410.72	89.4
	0.9	4.48	67.9		101.0	1486.80	89.8
	0.9	4.44	67.9		103.0	1478.54	90.2
	1.0	4.40	67.8		105.0	1508.43	90.6
	1.1	4.36	67.8		107.0	1544.38	91.2
	1.1	4.35	67.8		109.0	1571.03	91.8
	1.2	4.41	67.7		111.0	1579.88	91.9
	1.3	4.53	67.7		113.0	1554.67	92.2
	1.3	4.37	67.6		115.0	1533.11	92.2
	1.4	4.74	67.6		117.0	1529.95	92.2
	1.5	4.70	67.6		117.5	1580.67	92.3
	1.5	4.54	67.5	Initial Hydro-static	118.0	1585.11	92.3
	1.6	4.37	67.4		118.5	1587.02	92.4
	1.7	4.58	67.3	Open To Flow (1)	119.0	37.10	91.9
	1.7	3.98	67.1		119.5	38.48	92.2
	1.8	3.83	66.9		121.5	34.14	93.0
	1.9	3.73	66.7		122.5	34.90	93.2
	1.9	3.64	66.5		123.0	35.09	93.3
	12.0	-0.95	50.4	Shut-In(1)	123.5	35.72	93.4
	52.0	34.59	80.0		124.0	36.25	93.5
	73.0	632.16	83.5		124.5	45.78	93.5

Printing every 4 samples

Serial # 8372 Inside				Serial # 8372 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	125.0	57.70	93.5		198.0	45.43	95.6
	127.0	131.21	93.8		200.0	47.83	95.7
	129.0	238.97	94.0		202.0	48.37	95.7
	131.0	373.89	94.1		204.0	48.48	95.8
	133.0	488.13	94.2		206.0	49.50	95.9
	135.0	558.02	94.3		208.0	49.18	95.9
	137.0	603.89	94.4		210.0	49.58	96.0
	139.0	634.98	94.4		212.0	49.98	96.0
	141.0	657.18	94.5		214.0	50.46	96.1
	143.0	673.84	94.5		216.0	51.21	96.1
	145.0	686.78	94.5		218.0	51.86	96.2
	147.0	697.23	94.6		220.0	52.38	96.3
	149.0	705.93	94.6		222.0	52.62	96.3
	151.0	713.33	94.6		224.0	53.37	96.4
	153.0	719.55	94.7		226.0	53.78	96.4
	155.0	724.88	94.7		228.0	54.36	96.5
	157.0	729.61	94.7		230.0	53.93	96.5
	159.0	733.56	94.7		232.0	54.46	96.6
	161.0	737.00	94.8		234.0	54.73	96.6
	163.0	740.11	94.8		236.0	55.28	96.7
	165.0	742.87	94.8		238.0	56.00	96.7
	167.0	745.10	94.8		240.0	56.42	96.8
	169.0	747.25	94.9		241.5	56.92	96.8
	171.0	749.28	94.9		242.0	56.96	96.8
	173.0	750.89	94.9	Shut-In(2)	242.5	57.04	96.8
	175.0	752.49	94.9		243.0	57.26	96.8
	177.0	753.82	94.9		243.5	61.06	96.8
	179.0	755.10	95.0		244.0	66.06	96.9
	181.0	756.27	95.0		246.0	94.95	97.0
	181.5	756.70	95.0		248.0	131.26	97.1
	182.0	756.84	95.0		250.0	174.42	97.2
End Shut-In(1)	182.5	756.97	95.0		252.0	223.58	97.2
	183.0	89.59	94.7		254.0	277.25	97.3
Open To Flow (2)	183.5	43.31	95.0		256.0	329.78	97.4
	184.0	40.88	95.0		258.0	377.32	97.4
	186.0	39.97	95.0		260.0	416.95	97.5
	188.0	40.66	95.0		262.0	449.71	97.5
	190.0	42.11	95.1		264.0	476.85	97.6
	192.0	43.09	95.3		266.0	499.92	97.6
	194.0	43.86	95.4		268.0	519.68	97.6
	196.0	44.66	95.5		270.0	537.08	97.7

Printing every 4 samples

Serial # 8372 Inside				Serial # 8372 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	272.0	552.79	97.7		354.0	739.73	97.9
	274.0	566.96	97.7		356.0	740.79	97.9
	276.0	579.79	97.7		358.0	741.74	97.9
	278.0	591.67	97.7		360.0	742.60	97.9
	280.0	602.54	97.8		362.0	743.30	97.9
	282.0	612.45	97.8		364.0	744.24	97.9
	284.0	621.81	97.8		366.0	744.92	97.9
	286.0	630.59	97.8		368.0	745.65	97.9
	288.0	638.71	97.8		370.0	746.35	98.0
	290.0	646.17	97.8		372.0	747.09	97.9
	292.0	653.07	97.8		374.0	747.65	98.0
	294.0	659.54	97.8		376.0	748.34	98.0
	296.0	665.70	97.8		378.0	748.93	98.0
	298.0	671.21	97.8		380.0	749.46	98.0
	300.0	676.45	97.8		382.0	750.08	98.0
	302.0	681.40	97.9		384.0	750.63	98.0
	304.0	685.96	97.9		386.0	751.27	98.0
	306.0	690.13	97.9		388.0	751.64	98.0
	308.0	694.05	97.9		390.0	752.11	98.0
	310.0	697.63	97.9		392.0	752.63	98.0
	312.0	701.04	97.9		394.0	753.08	98.0
	314.0	704.24	97.9		396.0	753.52	98.0
	316.0	707.17	97.9		398.0	753.99	98.0
	318.0	710.00	97.9		400.0	754.31	98.0
	320.0	712.63	97.9		402.0	754.74	98.0
	322.0	715.07	97.9		404.0	755.12	98.0
	324.0	717.41	97.9		406.0	755.42	98.0
	326.0	719.44	97.9		408.0	755.80	98.0
	328.0	721.78	97.9		410.0	756.14	98.0
	330.0	723.76	97.9		412.0	756.54	98.0
	332.0	725.26	97.9		414.0	756.83	98.0
	334.0	726.97	97.9		416.0	757.13	98.0
	336.0	728.56	97.9		418.0	757.43	98.0
	338.0	730.16	97.9		420.0	757.71	98.0
	340.0	731.65	97.9		422.0	758.02	98.0
	342.0	733.22	97.9		424.0	758.36	98.0
	344.0	734.46	97.9		426.0	758.59	98.0
	346.0	735.45	97.9		428.0	758.84	98.0
	348.0	736.65	97.9		430.0	759.10	98.0
	350.0	737.68	97.9		432.0	759.39	98.0
	352.0	738.79	97.9		434.0	759.72	98.0

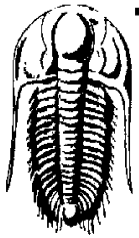
Printing every 4 samples

Serial # 8372 Inside				Serial # 8372 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	436.0	759.88	98.0		502.0	400.72	75.2
	438.0	760.11	98.0		504.0	342.30	74.1
	440.0	760.32	98.0		506.0	285.56	73.4
	442.0	760.55	98.0		508.0	229.34	72.8
	444.0	761.07	98.0		510.0	200.43	72.5
	446.0	760.95	98.0		512.0	142.23	72.1
	448.0	761.43	98.0		514.0	100.39	71.9
	450.0	761.52	98.0		516.0	75.80	71.7
	452.0	761.60	98.0		518.0	51.91	71.7
	453.0	761.62	98.0		520.0	50.91	71.7
	453.5	761.64	98.0		522.0	9.58	71.9
End Shut-In(2)	454.0	761.68	98.0		524.0	9.73	71.9
	454.5	695.24	98.0		526.0	9.83	71.9
	455.0	1420.71	98.5		528.0	9.96	71.8
	455.5	1539.41	98.1		530.0	9.99	71.8
	456.0	1563.44	97.7		532.0	9.98	71.8
Final Hydro-static	456.5	1549.15	97.5		534.0	9.96	71.8
	457.0	1538.21	97.5		536.0	9.94	71.8
	457.5	1529.87	97.4		538.0	9.99	71.7
	458.0	1523.02	97.4		540.0	10.09	71.7
	460.0	1546.07	96.9		542.0	10.16	71.7
	462.0	1440.92	96.8		544.0	10.25	71.7
	464.0	1486.07	96.0		546.0	10.34	71.7
	466.0	1376.46	94.9		548.0	10.39	71.6
	468.0	1379.68	92.7		550.0	10.42	71.6
	470.0	1323.77	90.3		552.0	10.39	71.6
	472.0	1261.66	88.6		554.0	10.38	71.6
	474.0	1205.07	87.1		556.0	10.38	71.7
	476.0	1146.16	85.8		558.0	10.42	71.7
	478.0	1110.48	84.7		560.0	10.50	71.6
	480.0	981.37	83.8		562.0	10.54	71.6
	482.0	930.70	83.4		564.0	10.61	71.6
	484.0	883.28	82.9		566.0	10.63	71.6
	486.0	821.61	82.6		568.0	-6.45	63.2
	488.0	768.62	82.0		570.0	-4.08	46.1
	490.0	747.28	81.9		572.0	-4.74	42.6
	492.0	686.21	81.5		574.0	-3.29	41.3
	494.0	613.31	79.2		576.0	-2.80	40.6
	496.0	552.72	78.1		578.0	-2.59	40.2
	498.0	525.53	77.8		580.0	0.56	44.0
	500.0	470.57	77.0		582.0	1.07	44.0

Printing every 4 samples

Serial # 8372 Inside				Serial # 8647 Fluid			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	584.0	2.01	44.3				

Printing every 3 samples



**TRILOBITE
TESTING, INC.**

DRILL STEM TESTING - DATA LISTING

Sam Gary
1515 Wynkoop St. Ste 700
Denver, CO
80202
ATTN: Neal Sharp

Miller et al 1-31
31-15-15/Russell
Job Ticket: 41854 **DST#: 1**
Test Start: 2011.03.25 @ 11:06:33

Serial # 8647 Fluid				Serial # 8647 Fluid			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	0.0	1.74	64.3		1.6	1.02	63.6
	0.1	1.65	64.5		1.7	0.98	63.4
	0.1	1.63	64.7		1.8	0.97	63.3
	0.2	1.62	64.9		1.8	0.95	63.1
	0.2	1.52	65.1		1.9	0.94	63.0
	0.3	1.49	65.3		1.9	0.93	62.8
	0.3	1.48	65.6		2.0	0.91	62.7
	0.3	1.46	65.8		12.0	-0.37	46.0
	0.4	1.47	65.9		42.0	14.21	79.1
	0.4	1.47	65.9		72.0	689.76	83.4
	0.5	1.46	65.9		73.5	689.26	83.7
	0.6	1.44	65.9		75.0	752.27	84.1
	0.6	1.44	65.9		76.5	809.42	84.4
	0.6	1.43	65.9		78.0	891.77	84.7
	0.7	1.39	65.8		79.5	900.60	85.0
	0.8	1.36	65.7		81.0	963.93	85.4
	0.8	1.34	65.7		82.5	1026.42	85.8
	0.9	1.32	65.6		84.0	1126.07	86.2
	0.9	1.30	65.5		85.5	1112.77	86.7
	0.9	1.27	65.4		87.0	1183.32	87.0
	1.0	1.26	65.4		88.5	1278.47	87.4
	1.0	1.25	65.3		90.0	1268.97	87.9
	1.1	1.23	65.2		91.5	1292.72	88.2
	1.1	1.21	65.1		93.0	1317.51	88.4
	1.2	1.20	65.0		94.5	1333.43	88.6
	1.3	1.18	64.8		96.0	1367.00	88.8
	1.3	1.13	64.7		97.5	1399.06	89.1
	1.4	1.11	64.6		99.0	1425.50	89.5
	1.4	1.10	64.4		100.5	1544.90	89.9
	1.5	1.09	64.2		102.0	1465.40	90.3
	1.5	1.08	64.1		103.5	1498.70	90.5
	1.5	1.07	63.9		105.0	1532.93	90.9
	1.6	1.05	63.8		106.5	1549.84	91.4

Printing every 3 samples

Serial # 8647				Serial # 8647			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	108.0	1556.23	91.6		169.5	752.39	94.6
	109.5	1587.44	92.0		171.0	753.43	94.7
	111.0	1592.04	92.0		172.5	754.54	94.7
	112.5	1553.45	92.3		174.0	755.51	94.7
	114.0	1535.07	92.3		175.5	756.33	94.7
	115.5	1521.42	92.4		177.0	757.28	94.7
	117.0	1584.45	92.5		178.5	757.96	94.7
	118.5	22.90	92.0		180.0	758.63	94.7
	120.0	20.25	92.9		181.5	759.48	94.8
	121.5	20.26	93.3		183.0	31.24	94.9
	123.0	21.73	93.4		184.5	30.12	94.9
	124.5	58.55	93.5		186.0	31.70	95.0
	126.0	117.40	93.6		187.5	33.02	95.0
	127.5	192.65	93.7		189.0	34.12	95.1
	129.0	286.46	93.8		190.5	35.28	95.2
	130.5	390.43	93.9		192.0	36.36	95.3
	132.0	481.04	93.9		193.5	37.17	95.5
	133.5	543.43	94.0		195.0	38.14	95.6
	135.0	588.26	94.0		196.5	39.03	95.7
	136.5	620.31	94.1		198.0	39.83	95.8
	138.0	643.97	94.1		199.5	40.66	95.9
	139.5	662.22	94.1		201.0	41.28	95.9
	141.0	676.32	94.2		202.5	41.78	96.0
	142.5	687.95	94.2		204.0	42.68	96.0
	144.0	697.26	94.2		205.5	43.11	96.1
	145.5	705.14	94.3		207.0	43.51	96.2
	147.0	711.66	94.3		208.5	43.79	96.2
	148.5	717.34	94.3		210.0	44.38	96.2
	150.0	722.25	94.4		211.5	44.95	96.3
	151.5	726.29	94.4		213.0	45.44	96.3
	153.0	730.16	94.4		214.5	46.13	96.4
	154.5	733.32	94.4		216.0	46.61	96.4
	156.0	736.34	94.5		217.5	46.90	96.5
	157.5	738.88	94.5		219.0	47.45	96.5
	159.0	741.20	94.5		220.5	48.11	96.5
	160.5	743.27	94.5		222.0	48.17	96.6
	162.0	745.43	94.5		223.5	48.75	96.6
	163.5	746.91	94.6		225.0	49.22	96.7
	165.0	748.39	94.6		226.5	49.66	96.7
	166.5	750.11	94.6		228.0	49.65	96.7
	168.0	751.25	94.6		229.5	49.46	96.8

Printing every 3 samples

Serial # 8647				Serial # 8647			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	231.0	49.96	96.8		292.5	667.56	98.0
	232.5	50.89	96.9		294.0	671.94	98.0
	234.0	51.28	96.9		295.5	676.12	98.0
	235.5	51.97	96.9		297.0	679.86	98.0
	237.0	52.77	97.0		298.5	683.57	98.0
	238.5	53.05	97.0		300.0	687.13	98.0
	240.0	53.74	97.0		301.5	690.44	98.1
	241.5	53.83	97.1		303.0	693.48	98.1
	243.0	68.81	97.1		304.5	696.41	98.1
	244.5	92.62	97.2		306.0	699.12	98.1
	246.0	119.12	97.3		307.5	701.76	98.1
	247.5	148.97	97.3		309.0	704.24	98.1
	249.0	182.57	97.4		310.5	706.65	98.1
	250.5	219.83	97.4		312.0	708.90	98.1
	252.0	259.54	97.5		313.5	711.06	98.1
	253.5	300.56	97.5		315.0	713.03	98.1
	255.0	340.43	97.6		316.5	715.07	98.1
	256.5	377.42	97.6		318.0	716.66	98.1
	258.0	409.92	97.7		319.5	718.41	98.1
	259.5	438.07	97.7		321.0	720.12	98.1
	261.0	462.31	97.7		322.5	722.06	98.1
	262.5	483.17	97.8		324.0	723.26	98.1
	264.0	501.77	97.8		325.5	724.92	98.1
	265.5	517.90	97.8		327.0	726.06	98.1
	267.0	532.36	97.8		328.5	727.35	98.1
	268.5	545.60	97.8		330.0	728.66	98.1
	270.0	557.75	97.9		331.5	729.88	98.1
	271.5	568.92	97.9		333.0	731.02	98.1
	273.0	579.37	97.9		334.5	732.11	98.1
	274.5	589.06	97.9		336.0	733.24	98.1
	276.0	598.09	97.9		337.5	734.23	98.1
	277.5	606.59	97.9		339.0	735.15	98.1
	279.0	614.56	97.9		340.5	736.12	98.1
	280.5	622.06	97.9		342.0	737.01	98.1
	282.0	628.96	98.0		343.5	737.95	98.1
	283.5	635.55	98.0		345.0	738.69	98.1
	285.0	641.74	98.0		346.5	739.56	98.1
	286.5	647.55	98.0		348.0	740.33	98.1
	288.0	652.98	98.0		349.5	741.04	98.1
	289.5	658.06	98.0		351.0	741.78	98.1
	291.0	663.01	98.0		352.5	742.52	98.1

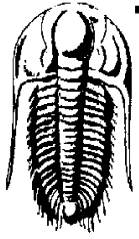
Printing every 3 samples

Serial # 8647				Serial # 8647			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	354.0	743.17	98.1		415.5	758.88	98.2
	355.5	743.74	98.1		417.0	759.05	98.2
	357.0	744.37	98.1		418.5	759.36	98.2
	358.5	744.99	98.2		420.0	759.38	98.2
	360.0	745.64	98.2		421.5	759.70	98.2
	361.5	746.16	98.2		423.0	759.87	98.2
	363.0	746.64	98.2		424.5	760.06	98.2
	364.5	747.28	98.2		426.0	760.55	98.2
	366.0	747.71	98.2		427.5	760.35	98.2
	367.5	748.28	98.2		429.0	760.54	98.2
	369.0	748.70	98.2		430.5	760.68	98.2
	370.5	749.30	98.2		432.0	760.85	98.2
	372.0	749.74	98.2		433.5	761.14	98.2
	373.5	750.12	98.2		435.0	761.24	98.2
	375.0	750.52	98.2		436.5	761.39	98.2
	376.5	750.93	98.2		438.0	761.59	98.2
	378.0	751.47	98.2		439.5	761.73	98.2
	379.5	751.90	98.2		441.0	762.20	98.2
	381.0	752.15	98.2		442.5	762.00	98.2
	382.5	752.63	98.2		444.0	762.15	98.2
	384.0	752.95	98.2		445.5	762.31	98.2
	385.5	753.37	98.2		447.0	762.72	98.2
	387.0	753.61	98.2		448.5	762.78	98.2
	388.5	754.09	98.2		450.0	762.87	98.2
	390.0	754.37	98.2		451.5	762.99	98.2
	391.5	754.73	98.2		453.0	1284.83	98.4
	393.0	754.90	98.2		454.5	1577.68	98.0
	394.5	755.22	98.2		456.0	1535.91	97.9
	396.0	755.54	98.2		457.5	1623.49	97.7
	397.5	755.91	98.2		459.0	1545.29	97.5
	399.0	756.02	98.2		460.5	1431.83	97.3
	400.5	756.28	98.2		462.0	1434.33	97.3
	402.0	756.58	98.2		463.5	1390.59	96.3
	403.5	756.84	98.2		465.0	1428.56	94.6
	405.0	757.17	98.2		466.5	1322.80	93.1
	406.5	757.44	98.2		468.0	1345.84	91.3
	408.0	757.68	98.2		469.5	1307.08	89.8
	409.5	758.04	98.2		471.0	1209.98	88.7
	411.0	758.18	98.2		472.5	1214.94	87.3
	412.5	758.37	98.2		474.0	1102.90	86.5
	414.0	758.54	98.2		475.5	1122.53	85.6

Printing every 3 samples

Serial # 8647 Fluid				Serial # 8647 Fluid			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	477.0	1084.94	84.8		538.5	0.80	72.0
	478.5	1036.05	84.0		540.0	0.79	72.0
	480.0	994.42	83.7		541.5	0.79	72.0
	481.5	917.29	83.3		543.0	0.79	71.9
	483.0	901.91	83.0		544.5	0.82	71.9
	484.5	815.42	82.7		546.0	0.81	71.9
	486.0	810.56	82.2		547.5	0.82	71.9
	487.5	727.41	82.1		549.0	0.83	71.9
	489.0	717.88	81.9		550.5	0.85	71.9
	490.5	656.22	81.2		552.0	0.82	71.9
	492.0	624.78	79.1		553.5	0.83	71.9
	493.5	565.45	78.4		555.0	0.81	71.9
	495.0	561.27	77.8		556.5	0.79	71.9
	496.5	494.92	77.4		558.0	0.79	71.9
	498.0	472.28	76.3		559.5	0.78	71.9
	499.5	414.27	75.6		561.0	0.82	71.9
	501.0	380.76	74.7		562.5	0.83	71.9
	502.5	349.55	74.1		564.0	0.85	71.8
	504.0	289.50	73.5		565.5	0.64	71.6
	505.5	258.18	73.1		567.0	0.61	53.8
	507.0	227.66	72.9		568.5	-0.74	47.2
	508.5	172.83	72.7		570.0	-0.96	43.7
	510.0	137.49	72.3		571.5	-0.92	42.2
	511.5	106.41	72.0		573.0	-0.77	41.4
	513.0	76.41	71.9		574.5	-0.64	40.8
	514.5	52.26	71.8		717.0	-0.75	40.3
	516.0	45.84	71.8		718.5	-0.67	40.4
	517.5	45.44	71.8		720.0	-0.48	40.8
	519.0	6.85	71.8		721.5	-0.40	41.2
	520.5	2.08	72.1		723.0	-0.70	42.7
	522.0	1.95	72.1				
	523.5	1.73	72.1				
	525.0	1.03	72.1				
	526.5	1.04	72.1				
	528.0	1.02	72.1				
	529.5	1.06	72.1				
	531.0	1.05	72.1				
	532.5	1.02	72.1				
	534.0	0.96	72.0				
	535.5	0.90	72.0				
	537.0	0.83	72.0				

Printing every 3 samples



**TRILOBITE
TESTING, INC.**

DRILL STEM TESTING - DATA LISTING

Sam Gary
1515 Wynkoop St. Ste 700
Denver, CO
80202
ATTN: Neal Sharp

Miller et al 1-31
31-15-15/Russell
Job Ticket: 41854 **DST#: 1**
Test Start: 2011.03.25 @ 11:06:33

Serial # 8365 Outside				Serial # 8365 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	0.0	-0.36	76.6		1.6	-0.55	73.6
	0.1	-0.43	76.6		1.7	-0.54	73.4
	0.1	-0.43	76.6		1.8	-0.54	73.2
	0.2	-0.45	76.6		1.8	-0.58	72.9
	0.2	-0.45	76.5		1.9	-0.67	72.7
	0.3	-0.46	76.5		1.9	-0.71	72.5
	0.3	-0.47	76.4		2.0	-0.76	72.3
	0.3	-0.49	76.3		12.0	-0.89	46.6
	0.4	-0.50	76.3		42.0	-0.93	42.4
	0.4	-0.49	76.2		72.0	0.05	75.6
	0.5	-0.50	76.2		73.5	0.12	77.1
	0.6	-0.50	76.1		75.0	0.14	78.0
	0.6	-0.50	76.1		76.5	0.22	78.9
	0.6	-0.51	76.2		78.0	0.28	79.5
	0.7	-0.52	76.2		79.5	0.33	80.1
	0.8	-0.53	76.2		81.0	0.39	80.8
	0.8	-0.53	76.1		82.5	0.42	81.6
	0.9	-0.54	76.0		84.0	0.46	82.2
	0.9	-0.53	75.8		85.5	0.49	82.9
	0.9	-0.53	75.7		87.0	0.51	83.5
	1.0	-0.52	75.5		88.5	0.53	84.0
	1.0	-0.51	75.4		90.0	0.54	84.4
	1.1	-0.50	75.2		91.5	0.55	84.9
	1.1	-0.51	75.1		93.0	0.57	85.3
	1.2	-0.53	75.0		94.5	0.59	85.6
	1.3	-0.53	74.9		96.0	0.62	86.0
	1.3	-0.54	74.8		97.5	0.66	86.3
	1.4	-0.55	74.7		99.0	0.71	86.6
	1.4	-0.55	74.6		100.5	0.73	86.9
	1.5	-0.55	74.4		102.0	0.77	87.2
	1.5	-0.57	74.3		103.5	0.78	87.5
	1.5	-0.57	74.1		105.0	0.79	87.9
	1.6	-0.55	73.9		106.5	0.79	88.2

Printing every 3 samples

Serial # 8365 Outside				Serial # 8365 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	108.0	0.79	88.6		169.5	9.41	92.1
	109.5	0.79	88.9		171.0	9.41	92.1
	111.0	0.79	89.2		172.5	9.42	92.1
	112.5	0.80	89.5		174.0	9.43	92.1
	114.0	0.80	89.7		175.5	9.44	92.2
	115.5	0.81	89.9		177.0	9.44	92.2
	117.0	0.82	90.1		178.5	9.45	92.2
	118.5	2.30	90.4		180.0	9.48	92.2
	120.0	6.08	91.8		181.5	9.47	92.2
	121.5	7.83	91.8		183.0	17.98	92.6
	123.0	9.59	91.9		184.5	19.13	93.1
	124.5	9.33	92.0		186.0	19.82	93.2
	126.0	9.33	92.0		187.5	21.29	93.2
	127.5	9.34	91.9		189.0	21.86	93.3
	129.0	9.36	91.9		190.5	23.02	93.3
	130.5	9.38	92.0		192.0	24.22	93.4
	132.0	9.39	92.0		193.5	24.82	93.4
	133.5	9.40	91.9		195.0	25.71	93.5
	135.0	9.40	92.0		196.5	26.79	93.5
	136.5	9.40	92.0		198.0	27.84	93.5
	138.0	9.40	92.0		199.5	28.84	93.5
	139.5	9.39	92.0		201.0	29.83	93.6
	141.0	9.39	92.0		202.5	30.71	93.6
	142.5	9.37	92.0		204.0	31.16	93.6
	144.0	9.36	92.0		205.5	31.90	93.6
	145.5	9.34	92.0		207.0	32.55	93.6
	147.0	9.34	92.0		208.5	33.02	93.6
	148.5	9.34	92.0		210.0	33.63	93.7
	150.0	9.35	92.0		211.5	34.32	93.7
	151.5	9.36	92.0		213.0	34.98	93.7
	153.0	9.37	92.0		214.5	35.53	93.7
	154.5	9.38	92.0		216.0	36.01	93.7
	156.0	9.38	92.0		217.5	36.25	93.7
	157.5	9.37	92.0		219.0	36.90	93.7
	159.0	9.38	92.0		220.5	37.24	93.7
	160.5	9.39	92.0		222.0	37.84	93.8
	162.0	9.38	92.1		223.5	38.23	93.8
	163.5	9.39	92.1		225.0	38.50	93.8
	165.0	9.39	92.1		226.5	39.23	93.8
	166.5	9.39	92.1		228.0	38.97	93.8
	168.0	9.40	92.1		229.5	38.80	93.8

Printing every 3 samples

Serial # 8365 Outside				Serial # 8365 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	231.0	39.41	93.9		292.5	42.33	94.2
	232.5	39.85	93.9		294.0	42.31	94.2
	234.0	40.45	93.9		295.5	42.33	94.2
	235.5	40.78	93.9		297.0	42.34	94.2
	237.0	41.42	93.9		298.5	42.33	94.3
	238.5	41.87	94.0		300.0	42.34	94.3
	240.0	42.49	94.0		301.5	42.34	94.3
	241.5	42.92	94.0		303.0	42.34	94.3
	243.0	42.43	94.0		304.5	42.35	94.3
	244.5	42.45	94.0		306.0	42.36	94.3
	246.0	42.49	94.0		307.5	42.37	94.3
	247.5	42.52	94.0		309.0	42.38	94.3
	249.0	42.53	94.0		310.5	42.38	94.3
	250.5	42.55	94.0		312.0	42.40	94.3
	252.0	42.56	94.0		313.5	42.42	94.4
	253.5	42.57	94.0		315.0	42.43	94.4
	255.0	42.58	94.0		316.5	42.45	94.4
	256.5	42.59	94.0		318.0	42.44	94.4
	258.0	42.57	94.0		319.5	42.42	94.4
	259.5	42.55	94.1		321.0	42.41	94.4
	261.0	42.53	94.1		322.5	42.39	94.4
	262.5	42.49	94.1		324.0	42.38	94.4
	264.0	42.45	94.1		325.5	42.40	94.4
	265.5	42.43	94.1		327.0	42.43	94.4
	267.0	42.41	94.1		328.5	42.44	94.5
	268.5	42.40	94.1		330.0	42.48	94.5
	270.0	42.40	94.1		331.5	42.51	94.5
	271.5	42.40	94.1		333.0	42.52	94.5
	273.0	42.38	94.1		334.5	42.52	94.5
	274.5	42.34	94.1		336.0	42.53	94.5
	276.0	42.33	94.1		337.5	42.54	94.5
	277.5	42.32	94.1		339.0	42.54	94.5
	279.0	42.31	94.1		340.5	42.55	94.5
	280.5	42.32	94.2		342.0	42.56	94.5
	282.0	42.34	94.2		343.5	42.57	94.6
	283.5	42.33	94.2		345.0	42.56	94.6
	285.0	42.33	94.2		346.5	42.57	94.6
	286.5	42.35	94.2		348.0	42.57	94.6
	288.0	42.34	94.2		349.5	42.58	94.6
	289.5	42.34	94.2		351.0	42.58	94.6
	291.0	42.34	94.2		352.5	42.59	94.6

Printing every 3 samples

Serial # 8365 Outside				Serial # 8365 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	354.0	42.58	94.6		415.5	42.62	95.0
	355.5	42.59	94.6		417.0	42.63	95.1
	357.0	42.57	94.6		418.5	42.63	95.1
	358.5	42.57	94.7		420.0	42.62	95.1
	360.0	42.57	94.7		421.5	42.63	95.1
	361.5	42.57	94.7		423.0	42.64	95.1
	363.0	42.57	94.7		424.5	42.64	95.1
	364.5	42.59	94.7		426.0	42.64	95.1
	366.0	42.59	94.7		427.5	42.66	95.1
	367.5	42.60	94.7		429.0	42.66	95.1
	369.0	42.62	94.7		430.5	42.67	95.1
	370.5	42.62	94.7		432.0	42.67	95.1
	372.0	42.62	94.8		433.5	42.65	95.2
	373.5	42.63	94.8		435.0	42.63	95.2
	375.0	42.64	94.8		436.5	42.60	95.2
	376.5	42.64	94.8		438.0	42.60	95.2
	378.0	42.64	94.8		439.5	42.60	95.2
	379.5	42.63	94.8		441.0	42.58	95.2
	381.0	42.62	94.8		442.5	42.58	95.2
	382.5	42.61	94.8		444.0	42.58	95.2
	384.0	42.61	94.8		445.5	42.57	95.2
	385.5	42.61	94.8		447.0	42.58	95.2
	387.0	42.62	94.8		448.5	42.55	95.3
	388.5	42.62	94.9		450.0	42.53	95.3
	390.0	42.63	94.9		451.5	42.51	95.3
	391.5	42.64	94.9		453.0	42.49	95.3
	393.0	42.64	94.9		454.5	42.44	95.3
	394.5	42.65	94.9		456.0	42.40	95.3
	396.0	42.65	94.9		457.5	42.39	95.3
	397.5	42.66	94.9		459.0	42.36	95.3
	399.0	42.66	94.9		460.5	42.33	95.3
	400.5	42.66	94.9		462.0	42.33	95.3
	402.0	42.66	95.0		463.5	41.88	95.2
	403.5	42.66	95.0		465.0	41.85	95.1
	405.0	42.67	95.0		466.5	41.70	94.8
	406.5	42.67	95.0		468.0	41.51	94.6
	408.0	42.66	95.0		469.5	41.68	94.2
	409.5	42.65	95.0		471.0	42.00	93.7
	411.0	42.64	95.0		472.5	41.44	93.0
	412.5	42.63	95.0		474.0	41.27	92.5
	414.0	42.61	95.0		475.5	41.10	92.2

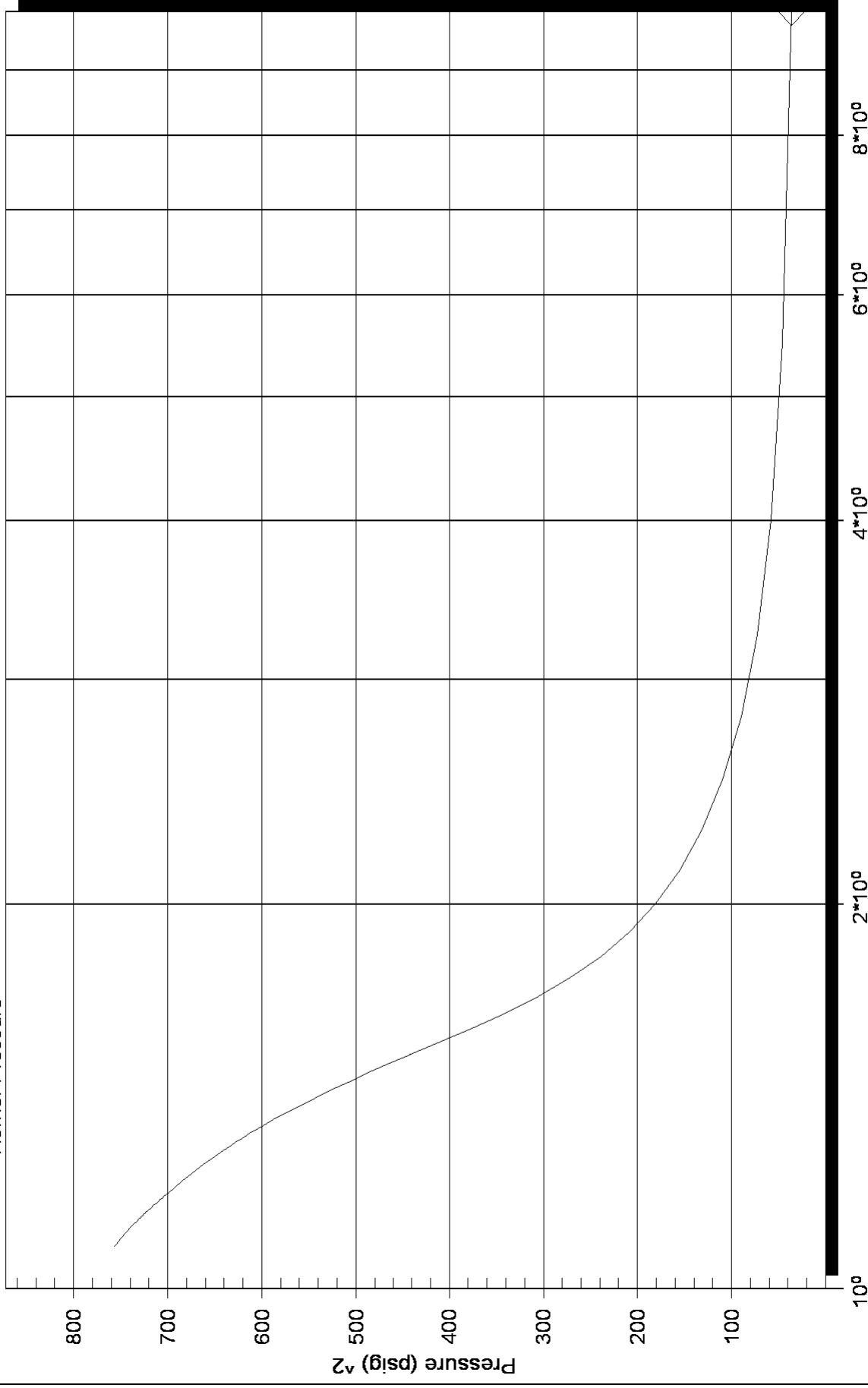
Printing every 3 samples

Serial # 8365 Outside				Serial # 8365 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	477.0	41.06	92.1		538.5	-1.20	41.5
	478.5	40.99	91.5		540.0	-1.19	41.2
	480.0	41.00	90.9		541.5	-1.18	41.0
	481.5	40.79	90.6		543.0	-1.18	40.9
	483.0	40.75	90.3		544.5	-1.17	40.8
	484.5	40.21	89.5		546.0	-1.16	40.7
	486.0	40.63	89.3		547.5	-1.17	40.7
	487.5	40.90	89.0		549.0	-1.16	40.7
	489.0	40.54	88.7		550.5	-1.14	40.6
	490.5	40.62	88.1		552.0	-1.14	40.6
	492.0	40.33	87.7		553.5	-1.14	40.6
	493.5	40.21	87.1		555.0	-1.14	40.6
	495.0	40.20	86.4		556.5	-1.15	40.6
	496.5	38.97	85.3		558.0	-1.15	40.6
	498.0	40.27	84.7		559.5	-1.15	40.6
	499.5	40.35	84.4		561.0	-1.15	40.6
	501.0	40.02	83.6		562.5	-1.14	40.6
	502.5	39.89	82.3		564.0	-1.14	40.6
	504.0	39.80	81.2		565.5	-1.14	40.6
	505.5	39.81	80.2		567.0	-1.13	40.6
	507.0	39.73	80.0		568.5	-1.14	40.6
	508.5	39.74	79.3		570.0	-1.15	40.5
	510.0	39.67	78.6		571.5	-1.14	40.5
	511.5	39.64	77.7		573.0	-1.14	40.4
	513.0	39.67	77.2		574.5	-1.13	40.3
	514.5	39.60	76.9		576.0	-1.11	40.3
	516.0	39.41	76.5		577.5	-1.17	40.4
	517.5	25.16	76.2		579.0	-1.12	42.4
	519.0	28.11	76.1		580.5	-1.03	42.5
	520.5	28.04	76.0		582.0	-1.03	42.6
	522.0	0.00	76.3		583.0	-1.08	42.7
	523.5	-0.85	76.0				
	525.0	-0.87	55.0				
	526.5	-0.99	51.8				
	528.0	-1.09	48.7				
	529.5	-1.15	46.6				
	531.0	-1.18	45.1				
	532.5	-1.19	44.0				
	534.0	-1.20	43.1				
	535.5	-1.20	42.4				
	537.0	-1.20	41.9				

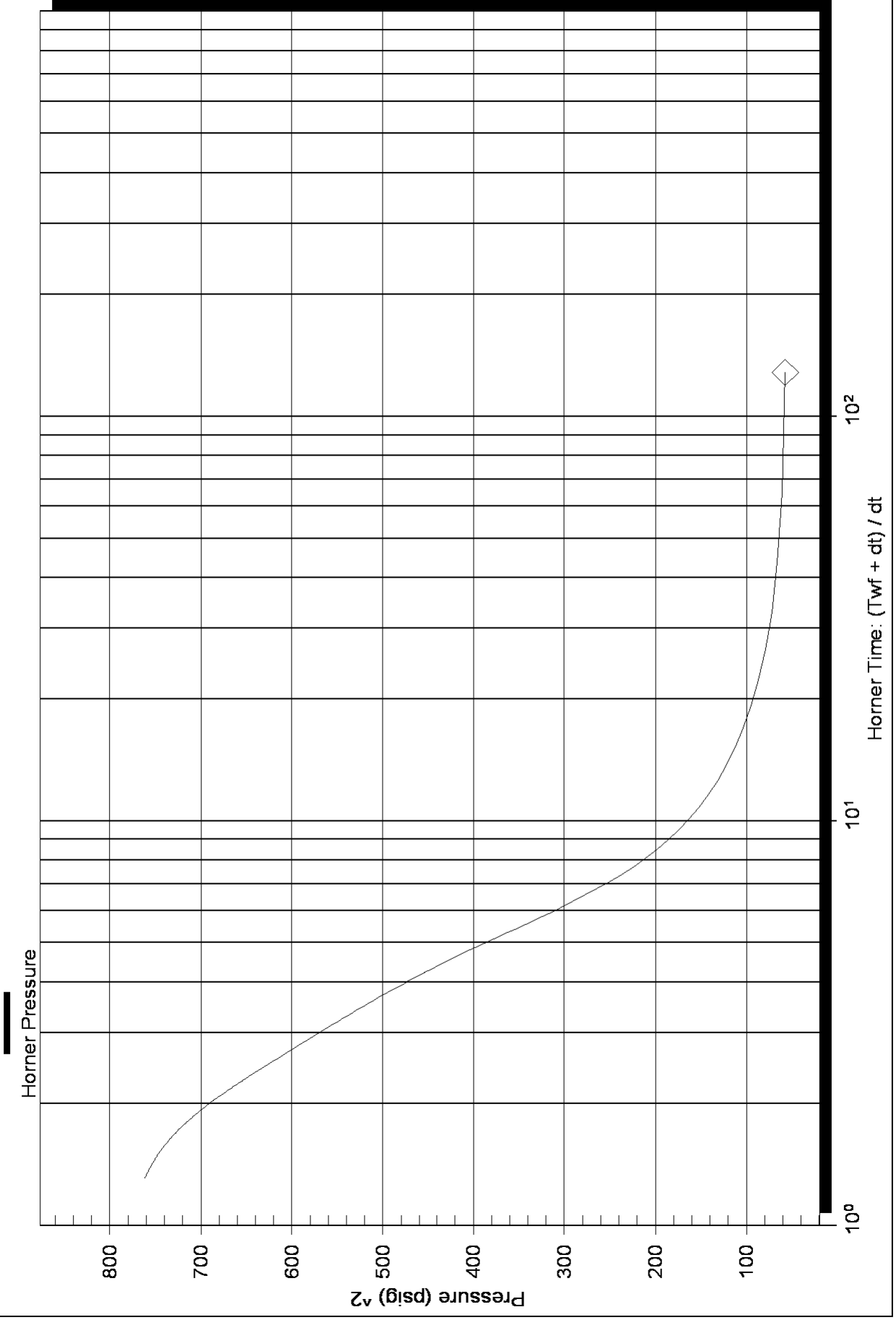
Printing every 3 samples

Homer Plot

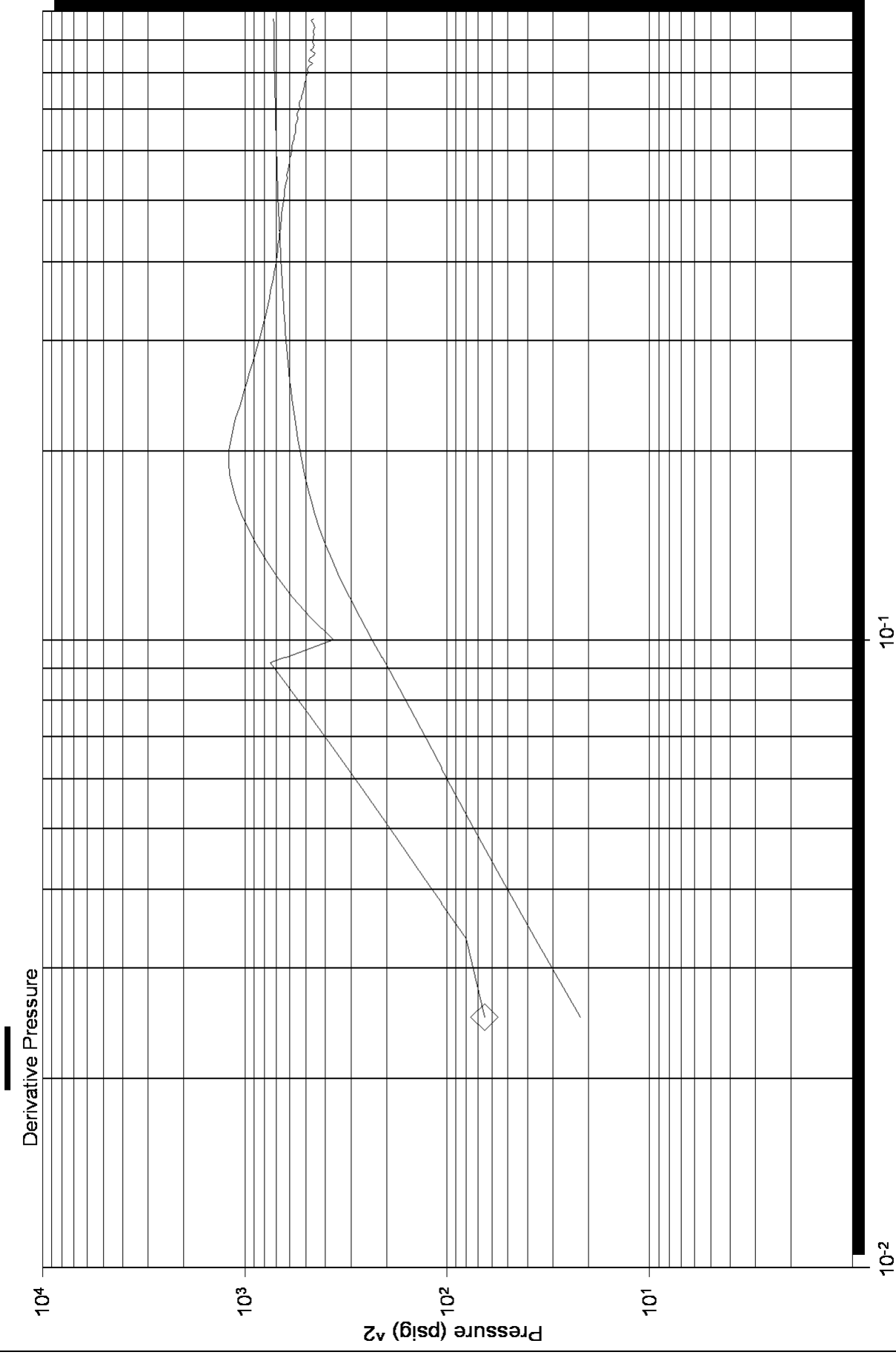
Horner Pressure



Homer Plot



Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Derivative

