



DRILL STEM TEST REPORT

Prepared For: **Sam Gary Jr and Associates**

1515 Wynkoop Street
Suite 700
Denver, CO. 80202

ATTN: Neil Sharp

10-16s-16w-Rush

Legleiter et al 1-10

Start Date: 2011.07.04 @ 05:16:11

End Date: 2011.07.04 @ 13:30:11

Job Ticket #: 43534 DST #: 2

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Sam Gary Jr and Associates

Legleiter et al 1-10

1515 Wynkoop Street
Suite 700
Denver, CO. 80202
ATTN: Neil Sharp

10-16s-16w-Rush

Job Ticket: 43534

DST#: 2

Test Start: 2011.07.04 @ 05:16:11

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:02:56

Time Test Ended: 13:30:11

Test Type: Conventional Bottom Hole

Tester: Jason McLemore

Unit No: 54

Interval: 3445.00 ft (KB) To 3496.00 ft (KB) (TVD)

Reference Elevations: 1953.00 ft (KB)

Total Depth: 3496.00 ft (KB) (TVD)

1943.00 ft (CF)

Hole Diameter: 7.80 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8673 Inside

Press @ Run Depth: 183.68 psig @ 3482.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.07.04

End Date: 2011.07.04

Last Calib.: 2011.07.04

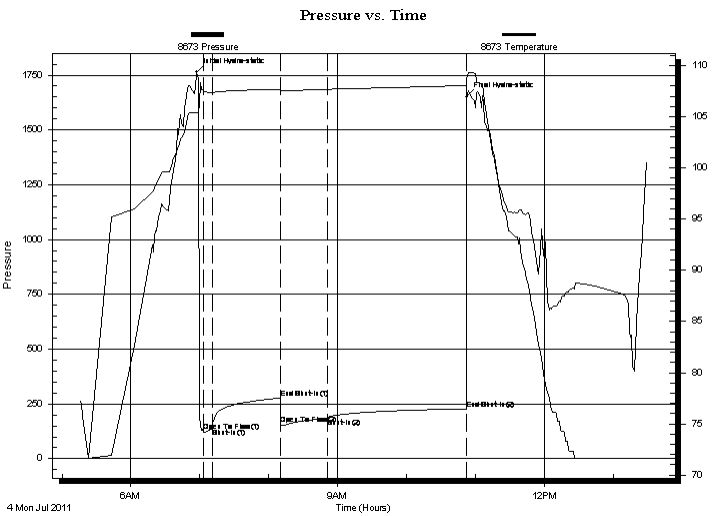
Start Time: 05:16:13

End Time: 13:30:11

Time On Btm: 2011.07.04 @ 06:57:26

Time Off Btm: 2011.07.04 @ 10:52:41

TEST COMMENT: IFP-Strong, BOB in 1 Min.
ISI-Blow back Built to 4"
FFP-Good Blow, BOB in 8 Min.
FSI-Blow back Built to 3/4", Died Off to Nothing By 45 Min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1762.27	105.39	Initial Hydro-static
6	126.66	107.56	Open To Flow (1)
14	138.68	107.34	Shut-In(1)
73	277.84	107.69	End Shut-In(1)
74	156.82	107.62	Open To Flow (2)
114	183.68	107.67	Shut-In(2)
235	227.49	108.05	End Shut-In(2)
236	1649.63	108.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM-75%O-25%M	0.84
315.00	Gassy Oil-10%G-90%O	4.42

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Sam Gary Jr and Associates

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DST#: 2

Test Start: 2011.07.04 @ 05:16:11

Tool Information

Drill Pipe:	Length: 3439.00 ft	Diameter: 3.80 inches	Volume: 48.24 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 48.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 47000.00 lb
Depth to Top Packer:	3445.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	51.00 ft			
Tool Length:	85.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Recorder	0.00	6755	Fluid	3411.00	
Change Over Sub	5.00			3416.00	
Shut In Tool	5.00			3421.00	
Sampler	2.00			3423.00	
Hydraulic tool	5.00			3428.00	
Jars	5.00			3433.00	
Safety Joint	2.00			3435.00	
Packer	5.00			3440.00	34.00 Bottom Of Top Packer
Packer	5.00			3445.00	
Stubb	1.00			3446.00	
Perforations	3.00			3449.00	
Change Over Sub	1.00			3450.00	
Blank Spacing	31.00			3481.00	
Change Over Sub	1.00			3482.00	
Recorder	0.00	8673	Inside	3482.00	
Recorder	0.00	6668	Outside	3482.00	
Perforations	11.00			3493.00	
Bullnose	3.00			3496.00	51.00 Bottom Packers & Anchor

Total Tool Length: 85.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

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Legleiter et al 1-10

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10-16s-16w-Rush

Job Ticket: 43534

DST#: 2

Test Start: 2011.07.04 @ 05:16:11

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 54.00 sec/qt
Water Loss: 9.97 in³
Resistivity: ohm.m
Salinity: 4000.00 ppm
Filter Cake: inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 32 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	OCM-75%O-25%M	0.842
315.00	Gassy Oil-10%G-90%O	4.419

Total Length: 375.00 ft Total Volume: 5.261 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler: 100#, 3000 ml Gassy Oil-



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DRILL STEM TEST REPORT

GAS RATES

Sam Gary Jr and Associates

Legleiter et al 1-10

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DST#: 2

Test Start: 2011.07.04 @ 05:16:11

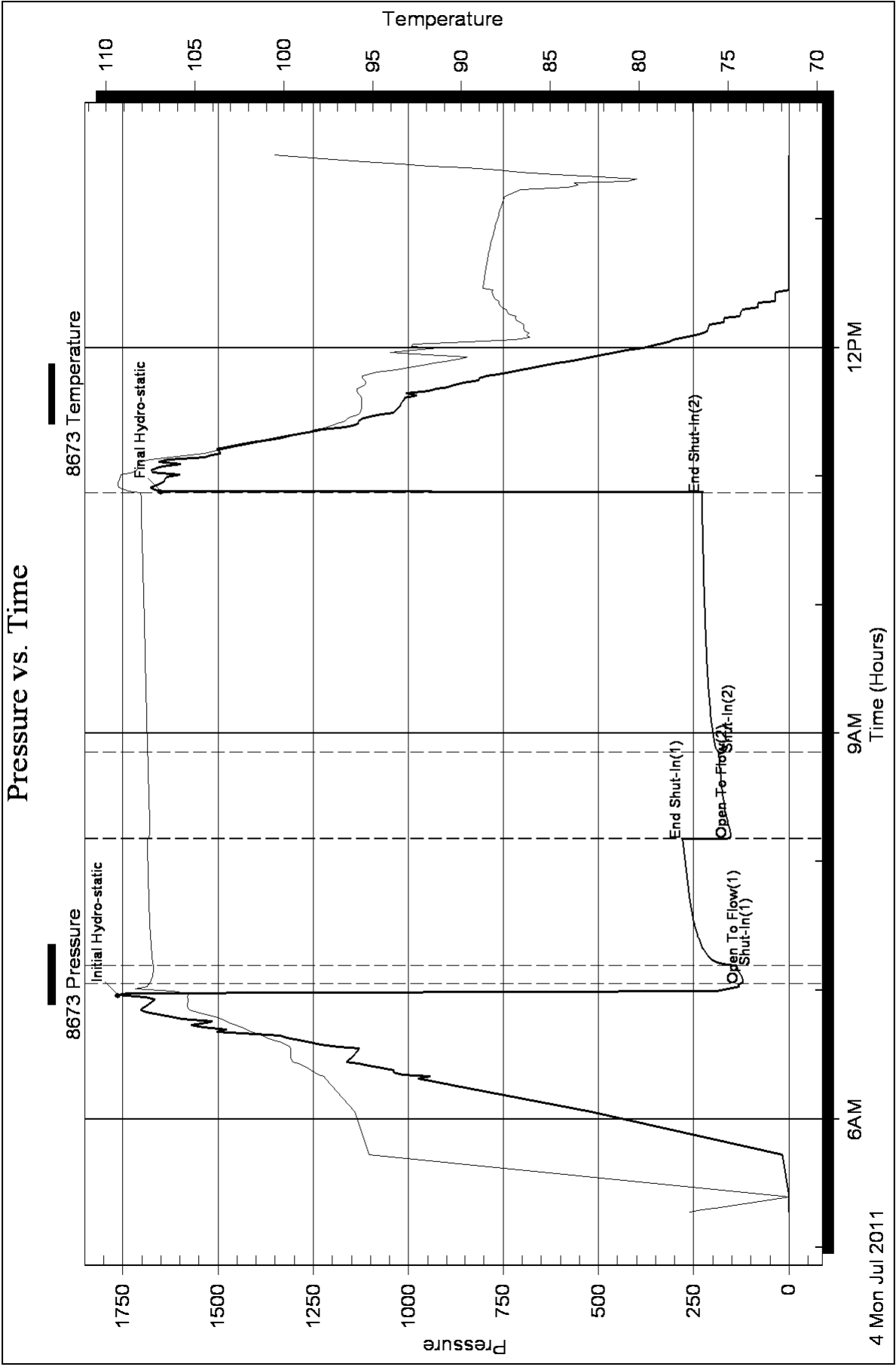
Gas Rates Information

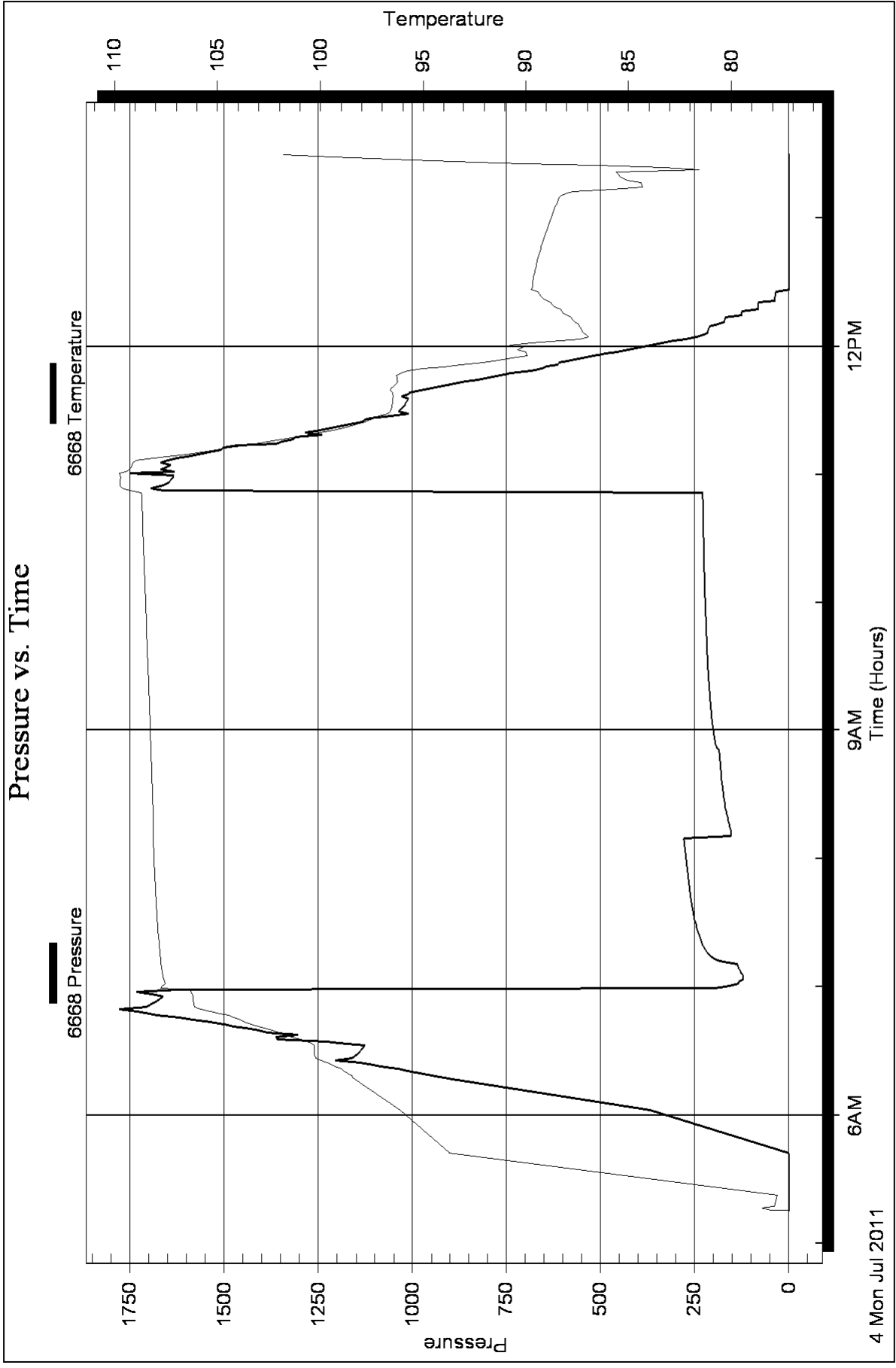
Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

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





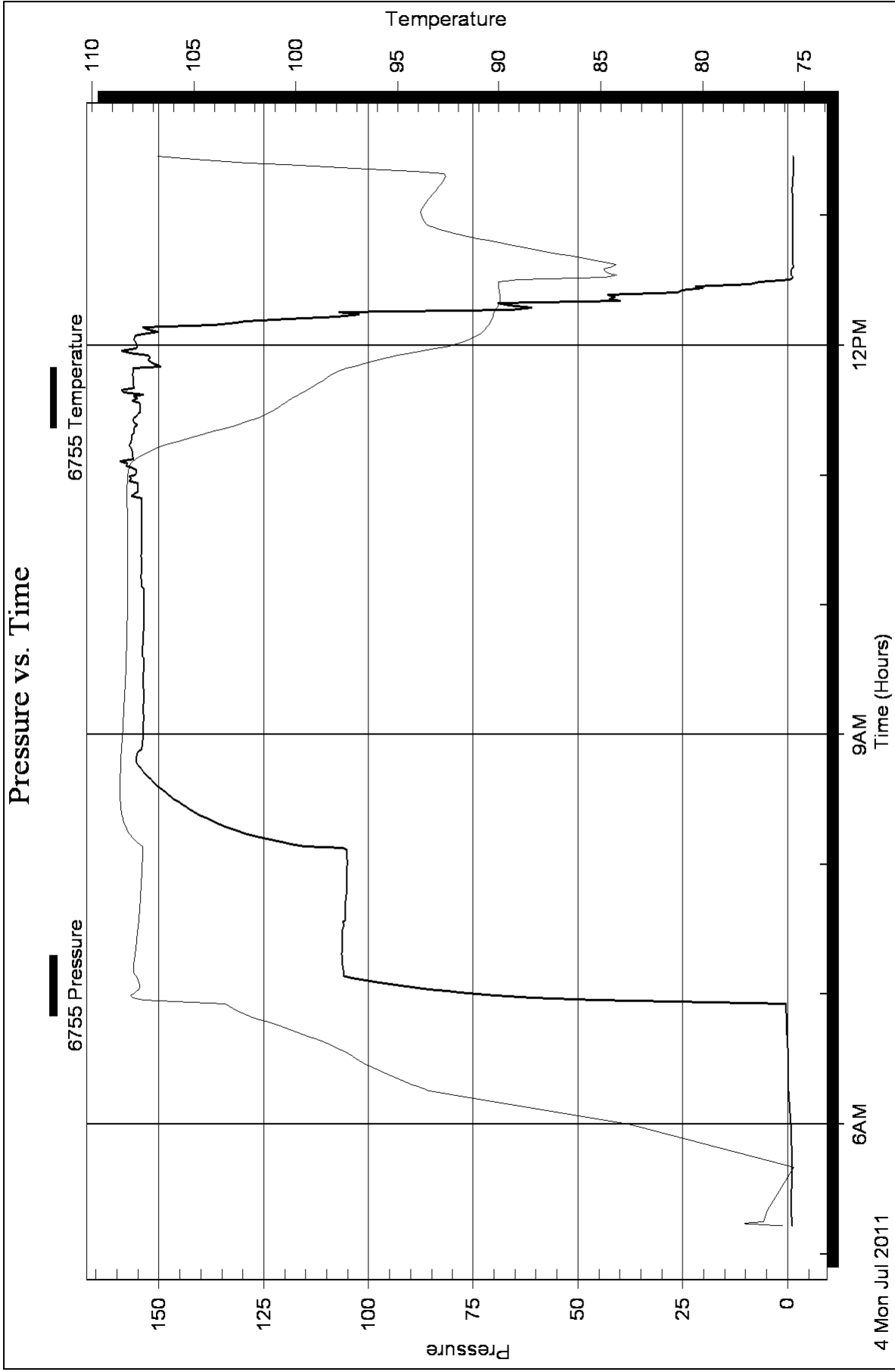
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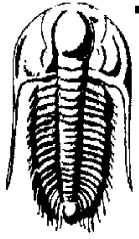
Fluid

Sam Gary Jr and Associates

10-16s-16w - Rush

DST Test Number: 2





**TRILOBITE
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DRILL STEM TESTING - DATA LISTING

Sam Gary Jr and Associates

Legleiter et al 1-10

1515 Wynkoop Street
Suite 700
Denver, CO. 80202
ATTN: Neil Sharp

10-16s-16w-Rush

Job Ticket: 43534

DST#: 2

Test Start: 2011.07.04 @ 05:16:11

Serial # 8673 Inside				Serial # 8673 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	0.0	-0.01	77.2		93.7	1734.71	105.0
	0.2	0.04	77.2		95.2	1699.90	105.4
	0.4	0.06	77.0		96.7	1685.80	105.4
	0.6	0.04	76.8		98.2	1673.21	105.4
	0.8	0.05	76.7		99.7	1662.53	105.4
	1.0	0.03	76.5		100.7	1692.16	105.4
	1.2	0.00	76.4		101.0	1727.17	105.4
	1.4	-0.02	76.2	Initial Hydro-static	101.2	1762.27	105.4
	1.6	-0.04	76.0		101.5	1731.80	105.4
	1.8	-0.05	75.8		101.7	1732.98	105.4
	7.0	-0.14	71.6		102.0	1733.13	105.4
	37.0	245.63	93.6		103.5	206.30	107.0
	62.2	974.39	97.7		105.0	131.95	107.7
	63.7	981.11	98.0		106.2	134.80	107.6
	65.2	1037.62	98.3		106.5	135.89	107.6
	66.7	1071.39	98.6	Open To Flow (1)	106.7	126.66	107.6
	68.2	1102.61	98.9		107.0	122.45	107.5
	69.7	1132.91	99.3		107.2	120.88	107.5
	71.2	1156.59	99.6		107.5	120.10	107.5
	72.7	1146.91	99.6		109.0	121.67	107.4
	74.2	1138.52	99.6		110.5	125.65	107.4
	75.7	1130.93	99.6		112.0	130.09	107.4
	77.2	1182.92	99.7		113.5	134.20	107.4
	78.7	1212.63	99.9		114.5	136.68	107.3
	80.2	1288.43	100.6		114.7	137.21	107.3
	81.7	1353.78	101.1	Shut-In(1)	115.0	138.68	107.3
	83.2	1402.16	101.5		115.2	162.56	107.4
	84.7	1442.19	102.0		115.5	168.28	107.4
	86.2	1538.23	102.4		115.7	172.89	107.4
	87.7	1535.58	102.9		117.2	196.75	107.4
	89.2	1514.73	103.2		118.7	208.09	107.4
	90.7	1646.75	103.6		120.2	215.46	107.4
	92.2	1655.94	104.4		121.7	221.33	107.5

Printing every 6 samples

Serial # 8673 Inside				Serial # 8673 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	123.2	226.16	107.5		177.7	153.66	107.6
	124.7	230.17	107.5		179.2	156.10	107.5
	126.2	233.74	107.5		180.7	158.58	107.6
	127.7	237.16	107.5		182.2	160.53	107.6
	129.2	239.62	107.5		183.7	162.62	107.6
	130.7	242.24	107.5		185.2	164.40	107.6
	132.2	244.56	107.5		186.7	166.10	107.6
	133.7	246.58	107.5		188.2	167.52	107.6
	135.2	248.57	107.6		189.7	168.86	107.6
	136.7	250.35	107.6		191.2	170.13	107.6
	138.2	252.10	107.6		192.7	171.40	107.6
	139.7	253.58	107.6		194.2	172.56	107.6
	141.2	255.01	107.6		195.7	173.75	107.6
	142.7	256.51	107.6		197.2	174.73	107.6
	144.2	257.79	107.6		198.7	175.62	107.6
	145.7	258.97	107.6		200.2	176.65	107.6
	147.2	260.20	107.6		201.7	177.53	107.6
	148.7	261.37	107.6		203.2	178.39	107.6
	150.2	262.46	107.6		204.7	179.16	107.6
	151.7	263.52	107.6		206.2	179.90	107.6
	153.2	264.63	107.6		207.7	180.74	107.6
	154.7	265.73	107.6		209.2	181.32	107.6
	156.2	266.61	107.6		210.7	181.69	107.7
	157.7	267.60	107.6		212.2	182.43	107.7
	159.2	268.70	107.6		213.7	183.25	107.7
	160.7	269.58	107.7		214.2	183.39	107.7
	162.2	270.49	107.7		214.5	183.46	107.7
	163.7	271.35	107.7	Shut-In(2)	214.7	183.68	107.7
	165.2	272.35	107.7		215.0	185.79	107.7
	166.7	273.39	107.7		215.2	187.19	107.7
	168.2	274.30	107.7		215.5	188.53	107.7
	169.7	275.12	107.7		217.0	192.18	107.7
	171.2	276.01	107.7		218.5	194.06	107.7
	172.7	277.03	107.7		220.0	195.73	107.7
	173.5	277.69	107.7		221.5	197.23	107.7
	173.7	277.76	107.7		223.0	198.51	107.7
End Shut-In(1)	174.0	277.84	107.7		224.5	199.66	107.7
	174.2	163.54	107.6		226.0	200.78	107.7
Open To Flow (2)	174.5	156.82	107.6		227.5	201.75	107.7
	174.7	154.34	107.6		229.0	202.77	107.7
	176.2	151.91	107.6		230.5	203.65	107.7

Printing every 6 samples

Serial # 8673 Inside				Serial # 8673 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	232.0	204.54	107.7		293.5	222.21	107.9
	233.5	205.35	107.7		295.0	222.44	107.9
	235.0	206.06	107.7		296.5	222.69	107.9
	236.5	206.82	107.7		298.0	222.91	107.9
	238.0	207.64	107.7		299.5	223.12	107.9
	239.5	208.15	107.7		301.0	223.35	107.9
	241.0	208.80	107.8		302.5	223.56	107.9
	242.5	209.45	107.8		304.0	223.78	107.9
	244.0	210.00	107.8		305.5	224.00	108.0
	245.5	210.58	107.8		307.0	224.21	108.0
	247.0	211.18	107.8		308.5	224.42	108.0
	248.5	211.65	107.8		310.0	224.63	108.0
	250.0	212.21	107.8		311.5	224.54	108.0
	251.5	212.56	107.8		313.0	225.05	108.0
	253.0	213.15	107.8		314.5	225.24	108.0
	254.5	213.53	107.8		316.0	225.41	108.0
	256.0	213.94	107.8		317.5	225.59	108.0
	257.5	214.43	107.8		319.0	225.81	108.0
	259.0	214.82	107.8		320.5	225.99	108.0
	260.5	215.26	107.8		322.0	226.15	108.0
	262.0	215.58	107.8		323.5	226.31	108.0
	263.5	216.06	107.8		325.0	226.47	108.0
	265.0	216.41	107.8		326.5	226.64	108.0
	266.5	216.70	107.8		328.0	226.79	108.0
	268.0	217.14	107.8		329.5	226.96	108.0
	269.5	217.41	107.8		331.0	226.79	108.0
	271.0	217.74	107.8		332.5	227.28	108.0
	272.5	218.39	107.8		334.0	227.37	108.0
	274.0	218.35	107.9		335.5	227.45	108.0
	275.5	218.63	107.9		335.7	227.44	108.1
	277.0	218.96	107.9	End Shut-In(2)	336.0	227.49	108.1
	278.5	219.58	107.9		336.2	225.49	108.0
	280.0	219.51	107.9	Final Hydro-static	336.5	1649.63	108.7
	281.5	219.85	107.9		336.7	1663.88	108.7
	283.0	220.09	107.9		338.2	1678.39	109.3
	284.5	220.66	107.9		339.7	1654.47	109.3
	286.0	220.91	107.9		341.2	1641.72	109.3
	287.5	221.17	107.9		342.7	1636.30	109.2
	289.0	221.42	107.9		344.2	1600.18	109.2
	290.5	221.39	107.9		345.7	1673.62	108.4
	292.0	221.96	107.9		347.2	1659.83	108.2

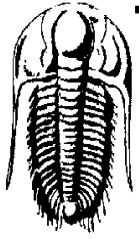
Printing every 6 samples

Serial # 8673 Inside				Serial # 8673 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	348.7	1641.23	108.2		410.2	225.63	86.2
	350.2	1656.50	108.1		411.7	213.79	86.5
	351.7	1626.97	106.8		413.2	211.39	86.5
	353.2	1517.63	105.3		414.7	183.59	86.5
	354.7	1539.16	104.3		416.2	169.09	86.9
	356.2	1502.54	103.3		417.7	167.88	87.0
	357.7	1464.25	102.5		419.2	125.32	87.4
	359.2	1411.37	101.4		420.7	124.83	87.5
	360.7	1317.14	100.6		422.2	80.54	87.7
	362.2	1320.76	99.6		423.7	80.42	87.9
	363.7	1285.01	98.9		425.2	37.54	87.9
	365.2	1226.80	98.2		426.7	35.80	88.2
	366.7	1196.46	97.4		428.2	35.52	88.2
	368.2	1132.08	97.0		429.7	35.19	88.3
	369.7	1127.54	96.5		431.2	-0.13	88.8
	371.2	1101.99	96.2		432.7	-0.16	88.8
	372.7	1041.01	95.8		434.2	-0.17	88.7
	374.2	1034.19	95.7		435.7	-0.17	88.7
	375.7	1025.56	95.7		437.2	-0.15	88.7
	377.2	1020.56	95.7		438.7	-0.15	88.7
	378.7	1015.40	95.7		440.2	-0.13	88.6
	380.2	1010.33	95.7		441.7	-0.12	88.6
	381.7	1011.21	95.9		443.2	-0.09	88.6
	383.2	948.04	95.9		444.7	-0.05	88.5
	384.7	948.70	95.8		446.2	-0.04	88.5
	386.2	877.23	95.5		447.7	-0.04	88.5
	387.7	856.55	95.5		449.2	-0.02	88.4
	389.2	811.97	95.6		450.7	0.00	88.4
	390.7	764.72	95.5		452.2	0.01	88.3
	392.2	732.18	94.8		453.7	0.00	88.3
	393.7	650.52	93.2		455.2	-0.04	88.3
	395.2	639.98	92.2		456.7	-0.09	88.2
	396.7	573.66	90.8		458.2	-0.21	88.2
	398.2	548.37	90.2		459.7	-0.25	88.1
	399.7	517.16	89.1		461.2	-0.23	88.1
	401.2	456.97	94.0		462.7	-0.19	88.0
	402.7	425.88	91.2		464.2	-0.18	87.9
	404.2	367.09	92.9		465.7	-0.17	87.9
	405.7	335.47	90.6		467.2	-0.18	87.8
	407.2	304.70	87.0		468.7	-0.19	87.8
	408.7	244.57	86.1		470.2	-0.18	87.7

Printing every 6 samples

Serial # 8673 Inside				Serial # 6668 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	471.7	-0.20	87.7				
	473.2	-0.21	87.6				
	474.7	-0.23	87.4				
	476.2	-0.29	86.9				
	477.7	-0.31	85.0				
	479.2	-0.31	83.5				
	480.7	-0.33	82.3				
	482.2	-0.35	80.1				
	483.7	-0.31	83.5				
	485.2	-0.30	86.7				
	486.7	-0.27	88.6				
	488.2	-0.22	91.8				
	489.7	-0.19	94.5				
	491.2	-0.26	97.2				
	492.7	-0.11	99.7				
	494.0	-0.19	101.7				

Printing every 5 samples



**TRILOBITE
TESTING, INC.**

DRILL STEM TESTING - DATA LISTING

Sam Gary Jr and Associates

Legleiter et al 1-10

1515 Wynkoop Street
Suite 700
Denver, CO. 80202
ATTN: Neil Sharp

10-16s-16w-Rush

Job Ticket: 43534

DST#: 2

Test Start: 2011.07.04 @ 05:16:11

Serial # 6668 Outside				Serial # 6668 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	0.0	-1.30	77.2		85.5	1441.08	102.8
	0.2	-1.26	77.9		86.7	1511.91	103.1
	0.3	-1.26	78.2		88.0	1524.10	103.6
	0.5	-1.23	78.2		89.2	1581.68	103.9
	0.7	-1.21	78.3		90.5	1594.81	104.3
	0.8	-1.19	78.5		91.7	1624.98	104.7
	1.0	-1.18	78.5		93.0	1651.48	105.2
	1.2	-1.17	78.5		94.2	1777.55	105.8
	1.3	-1.15	78.4		95.5	1703.34	106.1
	1.5	-1.15	78.3		96.7	1690.74	106.2
	1.7	-1.16	78.1		98.0	1680.11	106.2
	1.8	-1.17	78.0		99.2	1669.86	106.2
	7.0	-1.19	77.8		100.5	1661.94	106.2
	32.0	17.29	96.1		101.7	1769.01	106.3
	57.0	639.92	97.3		103.0	1735.94	106.3
	63.0	950.59	98.4		104.2	197.07	107.7
	64.2	981.18	98.7		105.5	141.88	107.6
	65.5	1010.58	98.9		106.7	134.10	107.6
	66.7	1007.51	99.0		108.0	119.90	107.6
	68.0	1150.53	99.4		109.2	120.81	107.6
	69.2	1138.76	99.7		110.5	123.83	107.7
	70.5	1166.28	100.1		111.7	127.31	107.7
	71.7	1157.24	100.3		113.0	130.95	107.7
	73.0	1148.99	100.3		114.2	134.29	107.7
	74.2	1141.69	100.3		115.5	137.37	107.7
	75.5	1135.05	100.3		116.7	180.98	107.8
	76.7	1129.07	100.3		118.0	198.35	107.8
	78.0	1195.87	100.4		119.2	207.52	107.8
	79.2	1228.31	100.7		120.5	213.99	107.8
	80.5	1290.50	101.1		121.7	219.13	107.8
	81.7	1320.43	101.6		123.0	223.42	107.8
	83.0	1426.66	101.9		124.2	227.08	107.8
	84.2	1408.72	102.4		125.5	230.39	107.8

Printing every 5 samples

Serial # 6668 Outside				Serial # 6668 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	126.7	233.32	107.9		178.0	153.28	108.1
	128.0	236.21	107.9		179.2	155.14	108.1
	129.2	238.36	107.9		180.5	157.44	108.1
	130.5	240.83	107.9		181.7	158.97	108.1
	131.7	242.65	107.9		183.0	160.59	108.1
	133.0	244.68	107.9		184.2	162.46	108.1
	134.2	246.23	107.9		185.5	163.89	108.1
	135.5	247.96	107.9		186.7	165.27	108.1
	136.7	249.55	107.9		188.0	166.61	108.1
	138.0	250.87	107.9		189.2	167.86	108.1
	139.2	252.34	108.0		190.5	168.92	108.2
	140.5	253.60	108.0		191.7	169.96	108.2
	141.7	254.79	108.0		193.0	171.05	108.2
	143.0	255.95	108.0		194.2	171.94	108.2
	144.2	257.07	108.0		195.5	172.96	108.2
	145.5	258.16	108.0		196.7	173.94	108.2
	146.7	259.22	108.0		198.0	174.69	108.2
	148.0	260.17	108.0		199.2	175.61	108.2
	149.2	261.18	108.0		200.5	176.35	108.2
	150.5	262.07	108.0		201.7	177.04	108.2
	151.7	263.02	108.0		203.0	177.79	108.2
	153.0	263.80	108.0		204.2	178.57	108.2
	154.2	264.74	108.0		205.5	179.18	108.2
	155.5	265.55	108.0		206.7	179.84	108.2
	156.7	266.49	108.0		208.0	180.42	108.2
	158.0	267.22	108.1		209.2	180.93	108.2
	159.2	268.03	108.1		210.5	181.33	108.2
	160.5	268.79	108.1		211.7	181.85	108.2
	161.7	269.49	108.1		213.0	182.33	108.2
	163.0	270.40	108.1		214.2	183.08	108.2
	164.2	271.21	108.1		215.5	185.46	108.2
	165.5	271.94	108.1		216.7	190.82	108.2
	166.7	272.80	108.1		218.0	192.72	108.2
	168.0	273.57	108.1		219.2	194.23	108.2
	169.2	274.32	108.1		220.5	195.57	108.3
	170.5	275.16	108.1		221.7	196.80	108.3
	171.7	275.84	108.1		223.0	197.84	108.3
	173.0	276.63	108.1		224.2	198.91	108.3
	174.2	277.55	108.1		225.5	199.84	108.3
	175.5	153.16	108.1		226.7	200.66	108.3
	176.7	151.61	108.1		228.0	201.61	108.3

Printing every 5 samples

Serial # 6668 Outside				Serial # 6668 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	229.2	202.34	108.3		280.5	219.39	108.5
	230.5	203.14	108.3		281.7	219.92	108.5
	231.7	203.85	108.3		283.0	220.15	108.5
	233.0	204.56	108.3		284.2	220.38	108.5
	234.2	205.25	108.3		285.5	220.28	108.5
	235.5	205.81	108.3		286.7	220.47	108.5
	236.7	206.55	108.3		288.0	221.02	108.5
	238.0	207.13	108.3		289.2	221.23	108.5
	239.2	207.68	108.3		290.5	221.45	108.5
	240.5	208.19	108.3		291.7	221.64	108.5
	241.7	208.70	108.3		293.0	221.85	108.5
	243.0	209.21	108.3		294.2	222.04	108.5
	244.2	209.80	108.3		295.5	221.91	108.5
	245.5	210.20	108.3		296.7	222.14	108.5
	246.7	210.70	108.4		298.0	222.63	108.5
	248.0	211.09	108.4		299.2	222.83	108.6
	249.2	211.58	108.4		300.5	223.03	108.6
	250.5	211.94	108.4		301.7	223.25	108.6
	251.7	212.37	108.4		303.0	223.42	108.6
	253.0	212.76	108.4		304.2	223.59	108.6
	254.2	213.14	108.4		305.5	223.76	108.6
	255.5	213.50	108.4		306.7	223.93	108.6
	256.7	213.83	108.4		308.0	224.10	108.6
	258.0	214.13	108.4		309.2	224.27	108.6
	259.2	214.51	108.4		310.5	224.44	108.6
	260.5	214.93	108.4		311.7	224.64	108.6
	261.7	215.25	108.4		313.0	224.85	108.6
	263.0	215.60	108.4		314.2	224.72	108.6
	264.2	215.94	108.4		315.5	225.15	108.6
	265.5	216.23	108.4		316.7	225.29	108.6
	266.7	216.50	108.4		318.0	225.46	108.6
	268.0	216.80	108.4		319.2	225.61	108.6
	269.2	217.43	108.4		320.5	225.76	108.6
	270.5	217.35	108.4		321.7	225.91	108.6
	271.7	217.92	108.4		323.0	226.05	108.6
	273.0	217.81	108.4		324.2	226.18	108.6
	274.2	218.11	108.5		325.5	226.31	108.7
	275.5	218.33	108.5		326.7	226.45	108.7
	276.7	218.66	108.5		328.0	226.58	108.7
	278.0	218.89	108.5		329.2	226.70	108.7
	279.2	219.05	108.5		330.5	226.83	108.7

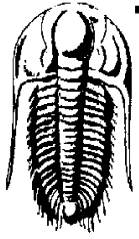
Printing every 5 samples

Serial # 6668 Outside				Serial # 6668 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	331.7	226.98	108.7		383.0	1010.97	96.5
	333.0	227.14	108.7		384.2	979.55	96.6
	334.2	227.24	108.7		385.5	947.17	96.5
	335.5	227.31	108.7		386.7	878.93	96.3
	336.7	224.62	108.7		388.0	858.37	96.3
	338.0	1701.58	109.6		389.2	825.47	96.3
	339.2	1668.28	109.7		390.5	794.54	96.3
	340.5	1652.58	109.7		391.7	763.13	96.2
	341.7	1642.08	109.7		393.0	699.89	95.8
	343.0	1637.95	109.7		394.2	655.98	95.0
	344.2	1634.12	109.7		395.5	650.54	93.8
	345.5	1676.62	109.6		396.7	608.80	92.4
	346.7	1675.42	109.4		398.0	577.94	91.4
	348.0	1655.98	109.2		399.2	547.75	90.7
	349.2	1641.48	109.2		400.5	482.68	89.7
	350.5	1660.64	109.1		401.7	457.47	90.0
	351.7	1636.20	108.8		403.0	426.00	90.4
	353.0	1599.71	107.8		404.2	395.89	90.1
	354.2	1568.76	106.5		405.5	365.54	90.6
	355.5	1536.75	105.5		406.7	319.11	89.2
	356.7	1502.75	104.7		408.0	281.60	87.6
	358.0	1421.89	104.0		409.2	244.28	87.0
	359.2	1361.87	103.1		410.5	214.44	87.1
	360.5	1384.20	102.4		411.7	213.81	87.2
	361.7	1351.28	101.5		413.0	212.38	87.3
	363.0	1318.89	100.7		414.2	209.77	87.4
	364.2	1285.11	100.1		415.5	169.97	87.4
	365.5	1196.39	99.4		416.7	168.79	87.7
	366.7	1170.84	98.8		418.0	168.07	87.8
	368.0	1165.81	98.4		419.2	124.89	88.0
	369.2	1135.17	97.9		420.5	125.03	88.2
	370.5	1125.68	97.5		421.7	122.08	88.3
	371.7	1102.05	97.3		423.0	79.79	88.6
	373.0	1016.56	96.8		424.2	80.04	88.7
	374.2	1037.72	96.6		425.5	66.17	88.8
	375.5	1029.59	96.6		426.7	35.22	89.1
	376.7	1023.55	96.5		428.0	35.15	89.2
	378.0	1019.63	96.5		429.2	34.98	89.3
	379.2	1015.29	96.5		430.5	19.54	89.4
	380.5	1010.99	96.5		431.7	-1.16	89.7
	381.7	983.25	96.5		433.0	-1.17	89.7

Printing every 5 samples

Serial # 6668 Outside				Serial # 6668 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	434.2	-1.21	89.6		485.5	-1.34	85.5
	435.5	-1.21	89.6		486.7	-1.45	83.6
	436.7	-1.20	89.6		488.0	-1.49	82.5
	438.0	-1.22	89.6		489.2	-1.45	86.6
	439.2	-1.23	89.6		490.5	-1.39	91.0
	440.5	-1.26	89.5		491.7	-1.36	95.1
	441.7	-1.26	89.5		493.0	-1.39	98.7
	443.0	-1.29	89.5		494.2	-1.16	101.8
	444.2	-1.29	89.4		494.5	-1.31	102.3
	445.5	-1.30	89.4				
	446.7	-1.29	89.4				
	448.0	-1.31	89.3				
	449.2	-1.34	89.3				
	450.5	-1.34	89.3				
	451.7	-1.36	89.2				
	453.0	-1.36	89.2				
	454.2	-1.37	89.1				
	455.5	-1.36	89.1				
	456.7	-1.37	89.1				
	458.0	-1.35	89.0				
	459.2	-1.35	89.0				
	460.5	-1.34	88.9				
	461.7	-1.34	88.9				
	463.0	-1.34	88.8				
	464.2	-1.35	88.8				
	465.5	-1.35	88.7				
	466.7	-1.36	88.7				
	468.0	-1.36	88.6				
	469.2	-1.37	88.6				
	470.5	-1.37	88.5				
	471.7	-1.36	88.5				
	473.0	-1.36	88.4				
	474.2	-1.36	88.4				
	475.5	-1.39	88.2				
	476.7	-1.40	87.8				
	478.0	-1.36	86.6				
	479.2	-1.27	84.3				
	480.5	-1.17	84.4				
	481.7	-1.10	84.8				
	483.0	-1.11	85.2				
	484.2	-1.20	85.4				

Printing every 5 samples



**TRILOBITE
TESTING, INC.**

DRILL STEM TESTING - DATA LISTING

Sam Gary Jr and Associates

Legleiter et al 1-10

1515 Wynkoop Street
Suite 700
Denver, CO. 80202
ATTN: Neil Sharp

10-16s-16w-Rush

Job Ticket: 43534

DST#: 2

Test Start: 2011.07.04 @ 05:16:11

Serial # 6755 Fluid				Serial # 6755 Fluid			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	0.0	-1.03	76.1		85.5	-0.02	98.8
	0.2	-1.10	76.7		86.7	0.01	99.2
	0.3	-1.04	76.8		88.0	0.05	99.5
	0.5	-1.00	76.8		89.2	0.08	99.9
	0.7	-1.04	77.6		90.5	0.10	100.3
	0.8	-1.07	78.0		91.7	0.12	100.6
	1.0	-1.10	77.9		93.0	0.14	101.0
	1.2	-1.11	77.8		94.2	0.17	101.5
	1.3	-1.12	77.7		95.5	0.19	101.9
	1.5	-1.12	77.5		96.7	0.21	102.3
	1.7	-1.07	77.3		98.0	0.23	102.6
	1.8	-1.03	77.1		99.2	0.25	102.9
	7.0	-0.79	76.8		100.5	0.26	103.2
	32.0	-1.18	74.3		101.7	0.26	103.4
	57.0	-0.29	89.5		103.0	5.50	103.8
	63.0	-0.26	93.7		104.2	45.84	107.5
	64.2	-0.25	94.0		105.5	62.67	108.0
	65.5	-0.24	94.4		106.7	73.30	108.0
	66.7	-0.24	94.7		108.0	80.17	107.8
	68.0	-0.25	95.0		109.2	85.60	107.7
	69.2	-0.24	95.3		110.5	90.64	107.7
	70.5	-0.23	95.6		111.7	95.24	107.7
	71.7	-0.22	96.0		113.0	99.81	107.7
	73.0	-0.21	96.2		114.2	103.82	107.8
	74.2	-0.20	96.5		115.5	106.05	107.9
	75.5	-0.18	96.8		116.7	105.94	107.9
	76.7	-0.16	97.0		118.0	106.02	108.0
	78.0	-0.14	97.2		119.2	106.11	108.0
	79.2	-0.13	97.4		120.5	106.19	107.9
	80.5	-0.12	97.6		121.7	106.26	107.9
	81.7	-0.11	97.9		123.0	106.29	107.9
	83.0	-0.08	98.2		124.2	106.33	107.9
	84.2	-0.06	98.5		125.5	106.34	107.9

Printing every 5 samples

Serial # 6755				Serial # 6755			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	126.7	106.33	107.9		178.0	122.84	107.9
	128.0	106.30	107.9		179.2	126.00	108.0
	129.2	106.30	107.8		180.5	128.19	108.1
	130.5	106.28	107.8		181.7	130.31	108.2
	131.7	106.27	107.8		183.0	132.32	108.3
	133.0	106.27	107.8		184.2	134.12	108.3
	134.2	106.30	107.8		185.5	135.79	108.4
	135.5	106.25	107.8		186.7	137.21	108.4
	136.7	106.20	107.7		188.0	138.69	108.5
	138.0	106.11	107.7		189.2	139.87	108.5
	139.2	105.92	107.7		190.5	140.96	108.5
	140.5	106.10	107.7		191.7	142.20	108.6
	141.7	105.52	107.7		193.0	143.19	108.6
	143.0	105.56	107.7		194.2	144.28	108.6
	144.2	105.58	107.7		195.5	145.35	108.6
	145.5	105.56	107.7		196.7	146.20	108.6
	146.7	105.49	107.7		198.0	147.07	108.6
	148.0	105.48	107.6		199.2	147.94	108.6
	149.2	105.47	107.6		200.5	148.79	108.6
	150.5	105.43	107.6		201.7	149.61	108.6
	151.7	105.38	107.6		203.0	150.33	108.6
	153.0	105.32	107.6		204.2	150.90	108.6
	154.2	105.26	107.6		205.5	151.62	108.6
	155.5	105.20	107.6		206.7	152.36	108.6
	156.7	105.16	107.6		208.0	152.95	108.6
	158.0	105.14	107.6		209.2	153.42	108.6
	159.2	105.14	107.6		210.5	153.90	108.6
	160.5	105.14	107.6		211.7	154.54	108.6
	161.7	105.13	107.6		213.0	155.02	108.6
	163.0	105.12	107.6		214.2	155.45	108.6
	164.2	105.13	107.6		215.5	155.57	108.6
	165.5	105.10	107.5		216.7	155.29	108.6
	166.7	105.09	107.5		218.0	155.03	108.6
	168.0	105.07	107.5		219.2	154.83	108.6
	169.2	105.09	107.5		220.5	154.35	108.6
	170.5	105.11	107.5		221.7	153.95	108.5
	171.7	105.12	107.5		223.0	153.89	108.5
	173.0	105.13	107.5		224.2	153.83	108.5
	174.2	106.00	107.5		225.5	153.77	108.5
	175.5	116.14	107.6		226.7	153.72	108.5
	176.7	119.56	107.7		228.0	153.71	108.5

Printing every 5 samples

Serial # 6755				Serial # 6755			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	229.2	153.70	108.5		280.5	153.56	108.3
	230.5	153.70	108.5		281.7	153.56	108.3
	231.7	153.68	108.5		283.0	153.55	108.3
	233.0	153.64	108.5		284.2	153.54	108.3
	234.2	153.62	108.5		285.5	153.51	108.3
	235.5	153.63	108.5		286.7	153.49	108.3
	236.7	153.65	108.4		288.0	153.47	108.3
	238.0	153.68	108.4		289.2	153.46	108.3
	239.2	153.70	108.4		290.5	153.47	108.3
	240.5	153.68	108.4		291.7	153.52	108.3
	241.7	153.63	108.4		293.0	153.75	108.3
	243.0	153.57	108.4		294.2	153.47	108.3
	244.2	153.52	108.4		295.5	154.09	108.3
	245.5	153.48	108.4		296.7	154.09	108.3
	246.7	153.57	108.4		298.0	154.13	108.3
	248.0	153.68	108.4		299.2	154.16	108.3
	249.2	153.78	108.4		300.5	154.18	108.3
	250.5	153.76	108.4		301.7	154.14	108.3
	251.7	153.74	108.4		303.0	154.12	108.3
	253.0	153.72	108.4		304.2	154.12	108.2
	254.2	153.69	108.4		305.5	154.11	108.3
	255.5	153.65	108.3		306.7	154.12	108.3
	256.7	153.61	108.3		308.0	154.14	108.3
	258.0	153.57	108.3		309.2	154.15	108.3
	259.2	153.55	108.3		310.5	154.13	108.3
	260.5	153.63	108.3		311.7	154.12	108.3
	261.7	153.77	108.3		313.0	154.11	108.3
	263.0	153.89	108.3		314.2	154.10	108.3
	264.2	153.88	108.3		315.5	154.12	108.3
	265.5	153.84	108.3		316.7	154.13	108.3
	266.7	153.83	108.3		318.0	154.13	108.3
	268.0	153.80	108.3		319.2	154.10	108.3
	269.2	153.77	108.3		320.5	154.08	108.3
	270.5	153.73	108.3		321.7	154.08	108.3
	271.7	153.70	108.3		323.0	154.09	108.3
	273.0	153.66	108.3		324.2	154.12	108.3
	274.2	153.64	108.3		325.5	154.14	108.3
	275.5	153.63	108.3		326.7	154.13	108.3
	276.7	153.61	108.3		328.0	154.12	108.3
	278.0	153.59	108.3		329.2	154.10	108.3
	279.2	153.58	108.3		330.5	154.09	108.3

Printing every 5 samples

Serial # 6755				Serial # 6755			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	331.7	154.11	108.3		383.0	155.79	100.1
	333.0	154.13	108.3		384.2	153.67	99.8
	334.2	154.12	108.3		385.5	151.53	99.6
	335.5	154.08	108.3		386.7	156.34	99.4
	336.7	155.33	108.3		388.0	156.09	99.1
	338.0	156.15	108.3		389.2	156.03	98.9
	339.2	154.99	108.3		390.5	159.65	98.7
	340.5	154.90	108.3		391.7	155.37	98.5
	341.7	154.87	108.3		393.0	156.45	98.3
	343.0	154.88	108.3		394.2	156.21	98.1
	344.2	157.07	108.3		395.5	155.94	97.8
	345.5	156.58	108.3		396.7	155.63	97.3
	346.7	156.15	108.2		398.0	159.87	96.8
	348.0	155.35	108.2		399.2	151.99	96.4
	349.2	155.26	108.2		400.5	155.81	95.8
	350.5	156.19	108.2		401.7	155.58	95.2
	351.7	156.25	108.1		403.0	155.33	94.5
	353.0	156.31	108.0		404.2	158.93	93.8
	354.2	156.00	107.9		405.5	155.99	93.0
	355.5	159.24	107.7		406.7	156.06	92.4
	356.7	153.46	107.4		408.0	155.73	91.9
	358.0	156.69	107.1		409.2	155.86	91.5
	359.2	156.58	106.9		410.5	162.58	91.2
	360.5	156.06	106.5		411.7	154.82	91.0
	361.7	155.85	106.1		413.0	150.23	90.8
	363.0	156.73	105.6		414.2	152.65	90.7
	364.2	156.38	105.2		415.5	153.98	90.6
	365.5	156.67	104.7		416.7	126.36	90.5
	366.7	156.48	104.2		418.0	128.77	90.4
	368.0	156.46	103.7		419.2	119.18	90.3
	369.2	155.87	103.2		420.5	95.68	90.3
	370.5	155.84	102.8		421.7	103.59	90.3
	371.7	159.75	102.4		423.0	75.72	90.2
	373.0	156.77	102.0		424.2	60.95	90.1
	374.2	155.38	101.6		425.5	65.75	90.0
	375.5	154.89	101.4		426.7	54.69	90.0
	376.7	154.39	101.1		428.0	42.60	89.9
	378.0	154.40	100.9		429.2	41.12	89.9
	379.2	154.39	100.7		430.5	42.81	90.0
	380.5	154.76	100.5		431.7	24.78	90.0
	381.7	155.80	100.3		433.0	19.96	90.0

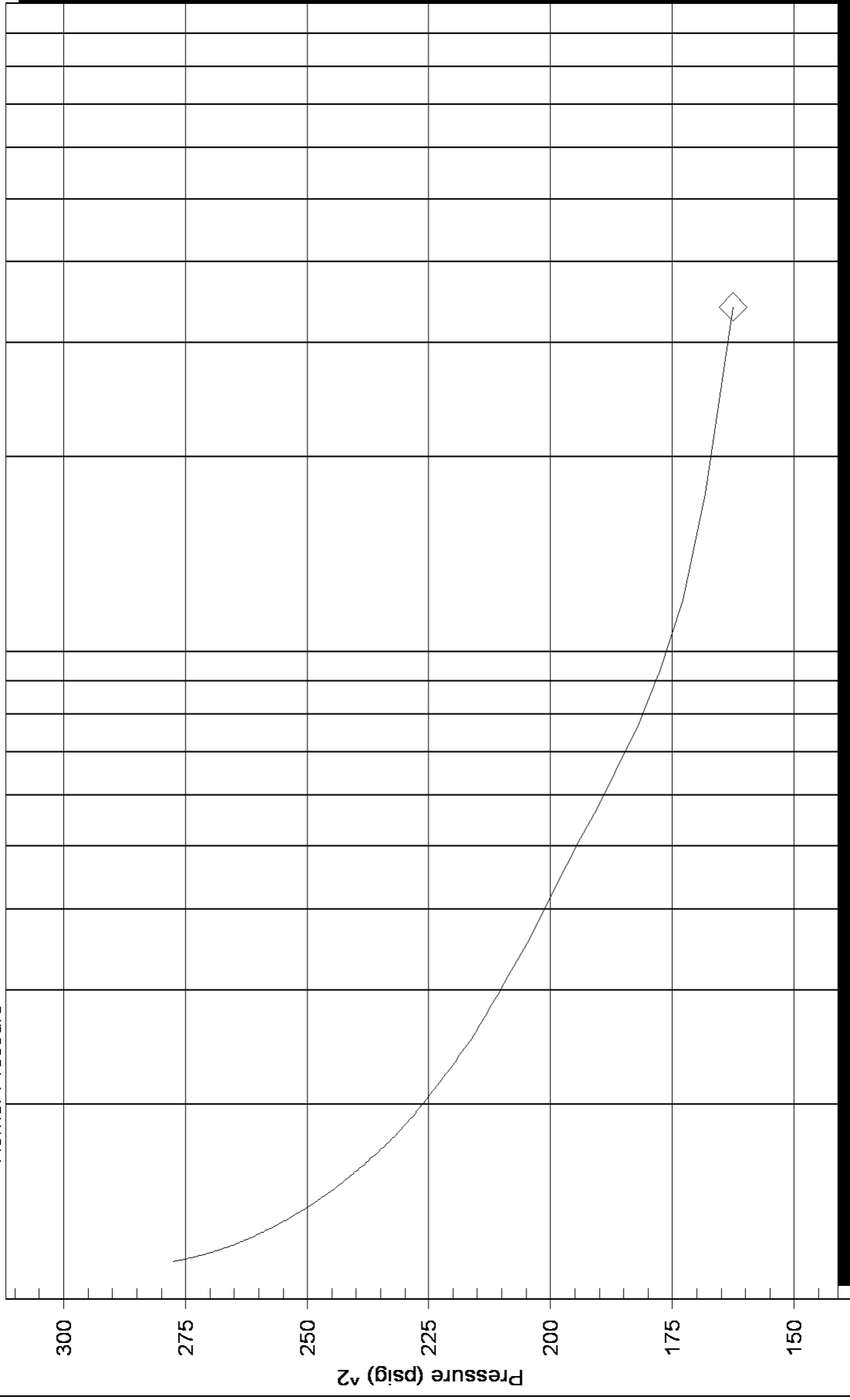
Printing every 5 samples

Serial # 6755				Serial # 6755			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	434.2	21.92	90.0		485.5	-1.40	92.6
	435.5	0.06	90.0		486.7	-1.43	93.1
	436.7	-0.51	90.0		488.0	-1.43	95.9
	438.0	-1.37	86.5		489.2	-1.43	98.5
	439.2	-0.92	84.2		490.5	-1.43	101.0
	440.5	-0.94	84.7		491.7	-1.52	103.2
	441.7	-0.93	84.8		493.0	-1.36	105.1
	443.0	-0.91	84.9		494.2	-1.39	106.8
	444.2	-1.28	84.3		494.5	-1.44	107.2
	445.5	-1.29	85.0				
	446.7	-1.31	85.7				
	448.0	-1.32	86.4				
	449.2	-1.32	87.2				
	450.5	-1.32	87.9				
	451.7	-1.32	88.6				
	453.0	-1.34	89.3				
	454.2	-1.35	90.0				
	455.5	-1.35	90.7				
	456.7	-1.34	91.3				
	458.0	-1.33	91.9				
	459.2	-1.34	92.5				
	460.5	-1.32	93.0				
	461.7	-1.33	93.4				
	463.0	-1.34	93.6				
	464.2	-1.36	93.7				
	465.5	-1.35	93.8				
	466.7	-1.34	93.8				
	468.0	-1.33	93.9				
	469.2	-1.32	93.8				
	470.5	-1.30	93.8				
	471.7	-1.28	93.7				
	473.0	-1.27	93.6				
	474.2	-1.25	93.5				
	475.5	-1.24	93.4				
	476.7	-1.21	93.3				
	478.0	-1.20	93.2				
	479.2	-1.19	93.1				
	480.5	-1.22	92.9				
	481.7	-1.26	92.8				
	483.0	-1.31	92.8				
	484.2	-1.34	92.7				

Printing every 5 samples

Homer Plot

Horner Pressure



Horner Time: (Twf + dt) / dt

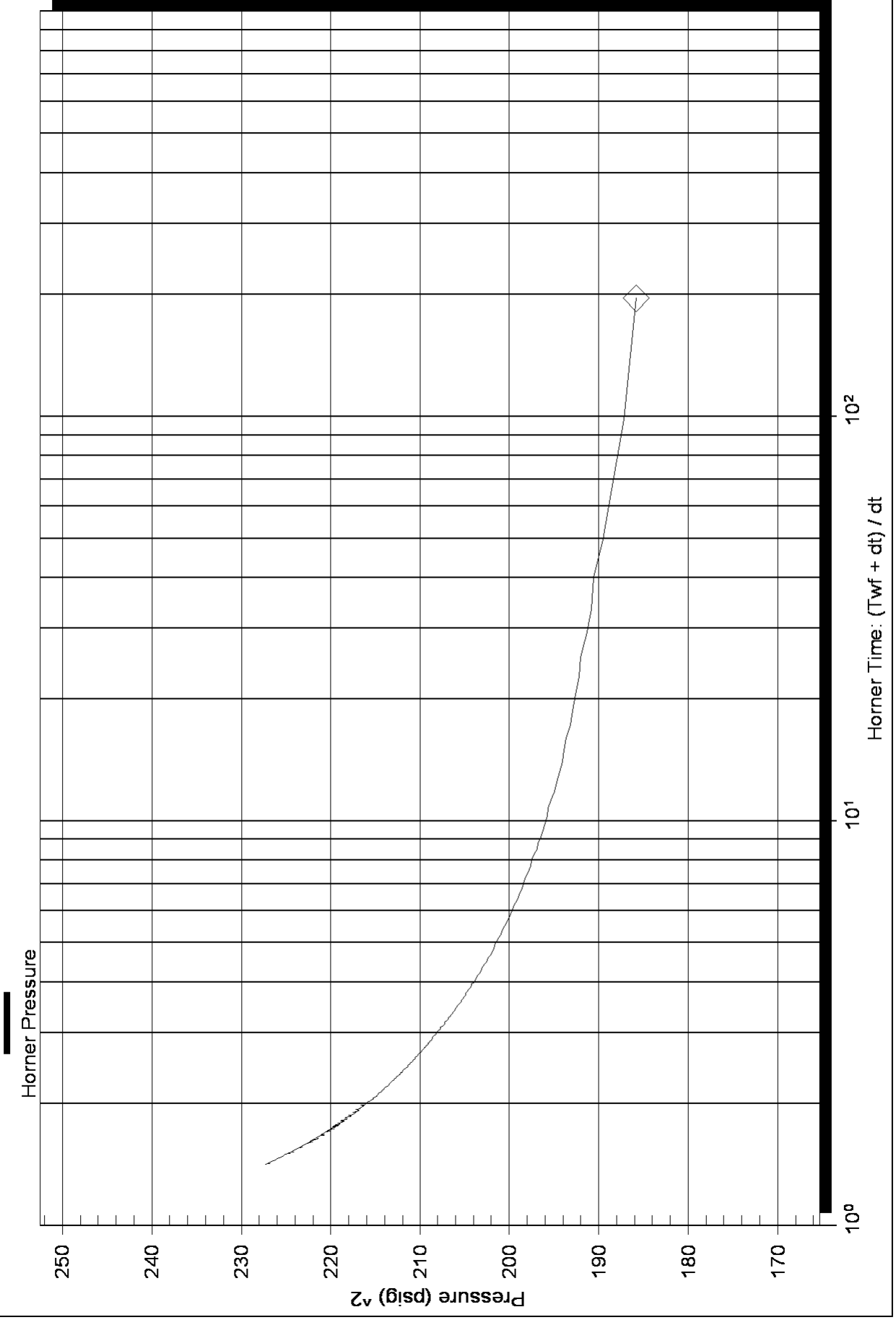
Slope (m) : kpa/log cycle

P* :

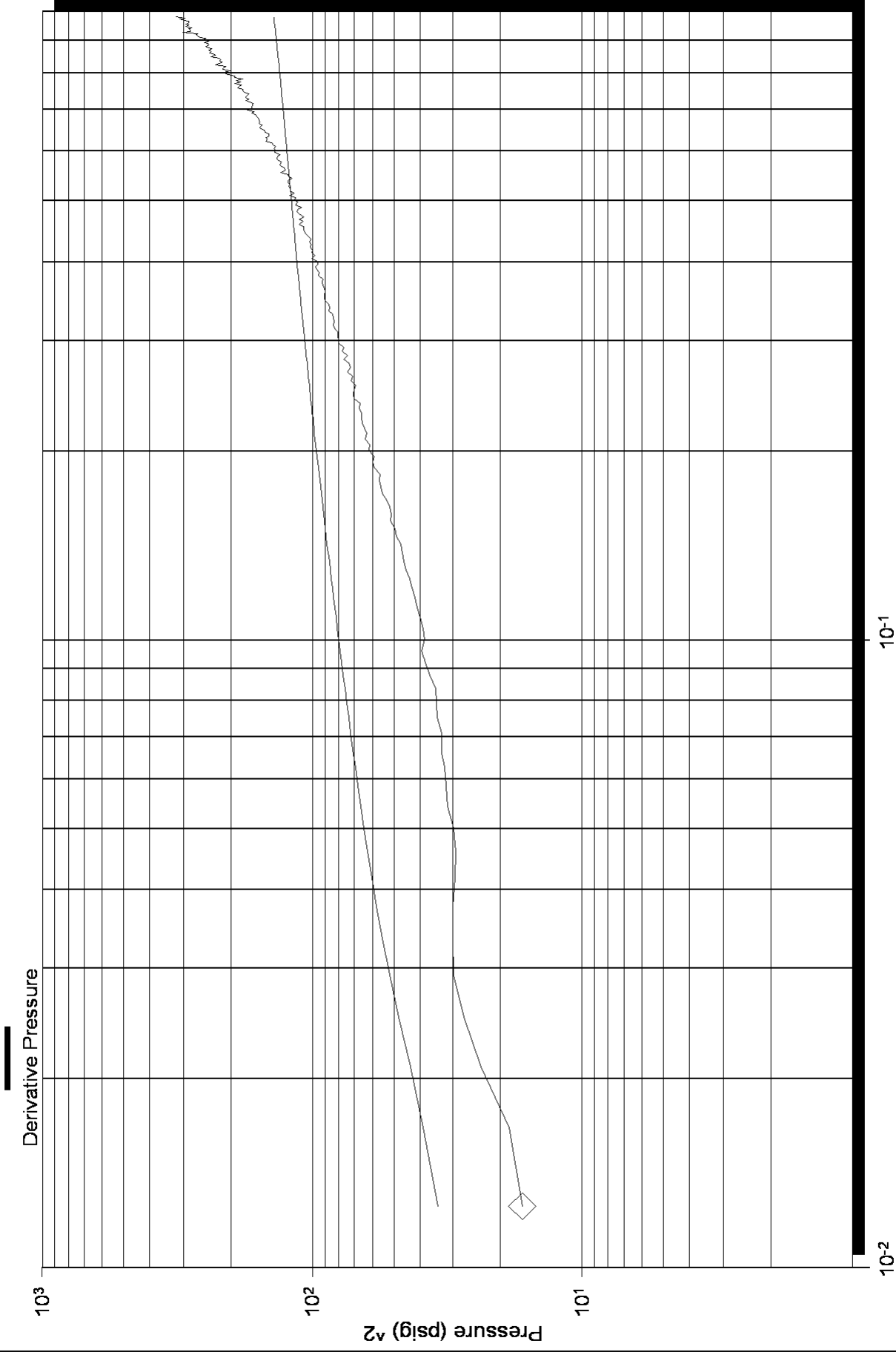
Serial Number: 8673 (Inside)

Flow Cycle: 1

Homer Plot



Log-Log and Pseudo-Log-Derivative



Log-Log and Pseudo-Derivative

