



## DRILL STEM TEST REPORT

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

1515 Wynkoop  
Suite 700  
Denver Co. 80202

ATTN: Neil Sharp

### **7-16s-16w Rush KS**

#### **DLT 1-7**

Start Date: 2011.02.19 @ 17:55:05

End Date: 2011.02.20 @ 01:02:29

Job Ticket #: 041551                      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

S.Gary Jr. & Assoc. inc.

**DLT 1-7**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**7-16s-16w Rush KS**

Job Ticket: 041551

**DST#: 1**

Test Start: 2011.02.19 @ 17:55:05

## GENERAL INFORMATION:

Formation: **LKC"C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:34:20

Time Test Ended: 01:02:29

Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 39

**Interval: 3240.00 ft (KB) To 3288.00 ft (KB) (TVD)**

Reference Elevations: 1940.00 ft (KB)

Total Depth: 3288.00 ft (KB) (TVD)

1930.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8352 Outside**

Press @ Run Depth: 46.36 psig @ 3244.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.02.19

End Date:

2011.02.20

Last Calib.:

2011.02.20

Start Time: 17:55:05

End Time:

01:02:29

Time On Btm:

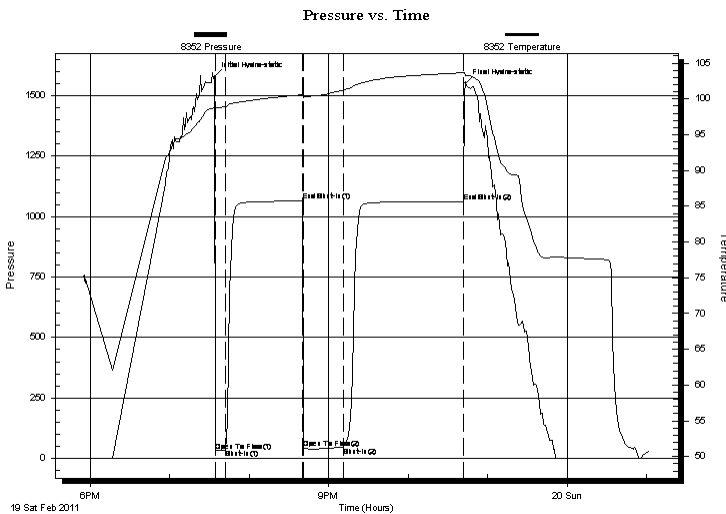
2011.02.19 @ 19:33:50

Time Off Btm:

2011.02.19 @ 22:43:09

**TEST COMMENT:** IF: Surface blow  
IS: No Return  
FF: Surface blow  
FS: No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1577.81	98.97	Initial Hydro-static
1	31.38	98.37	Open To Flow (1)
9	36.08	98.93	Shut-In(1)
67	1063.43	100.59	End Shut-In(1)
67	41.64	100.11	Open To Flow (2)
98	46.36	101.25	Shut-In(2)
188	1062.47	103.65	End Shut-In(2)
190	1551.78	103.28	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
50.00	mud w /slight oil specks in tool	0.70

## Gas Rates

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







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# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

S.Gary Jr.& Assoc. inc.

**DLT 1-7**

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**7-16s-16w Rush KS**

Job Ticket: 041551

**DST#: 1**

Test Start: 2011.02.19 @ 17:55:05

## Tool Information

Drill Pipe:	Length: 3222.00 ft	Diameter: 3.80 inches	Volume: 45.20 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	26000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 45.20 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3240.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	48.00 ft				
Tool Length:	82.00 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	8650	Fluid	3206.00	
Blank Spacing	5.00			3211.00	
Shut In Tool	5.00			3216.00	
Sampler	2.00			3218.00	
Hydraulic tool	5.00			3223.00	
Jars	5.00			3228.00	
Safety Joint	3.00			3231.00	
Packer	5.00			3236.00	34.00 Bottom Of Top Packer
Packer	4.00			3240.00	
Stubb	1.00			3241.00	
Perforations	2.00			3243.00	
Change Over Sub	1.00			3244.00	
Recorder	0.00	8017	Inside	3244.00	
Recorder	0.00	8352	Outside	3244.00	
Drill Pipe	31.00			3275.00	
Change Over Sub	1.00			3276.00	
Perforations	9.00			3285.00	
Bullnose	3.00			3288.00	48.00 Bottom Packers & Anchor

**Total Tool Length: 82.00**



**TRILOBITE  
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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

S.Gary Jr.& Assoc. inc.

**DLT 1-7**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**7-16s-16w Rush KS**

Job Ticket: 041551

**DST#: 1**

Test Start: 2011.02.19 @ 17:55:05

## 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: 56.00 sec/qt

Cushion Volume:

bbf

Water Loss: 9.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
50.00	mud w /slight oil specks in tool	0.701

Total Length: 50.00 ft      Total Volume: 0.701 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data=mud-200ml, water-800ml



**TRILOBITE  
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# DRILL STEM TEST REPORT

**GAS RATES**

S.Gary Jr.& Assoc. inc.

**DLT 1-7**

1515 Wynkoop  
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ATTN: Neil Sharp

**7-16s-16w Rush KS**

Job Ticket: 041551

**DST#: 1**

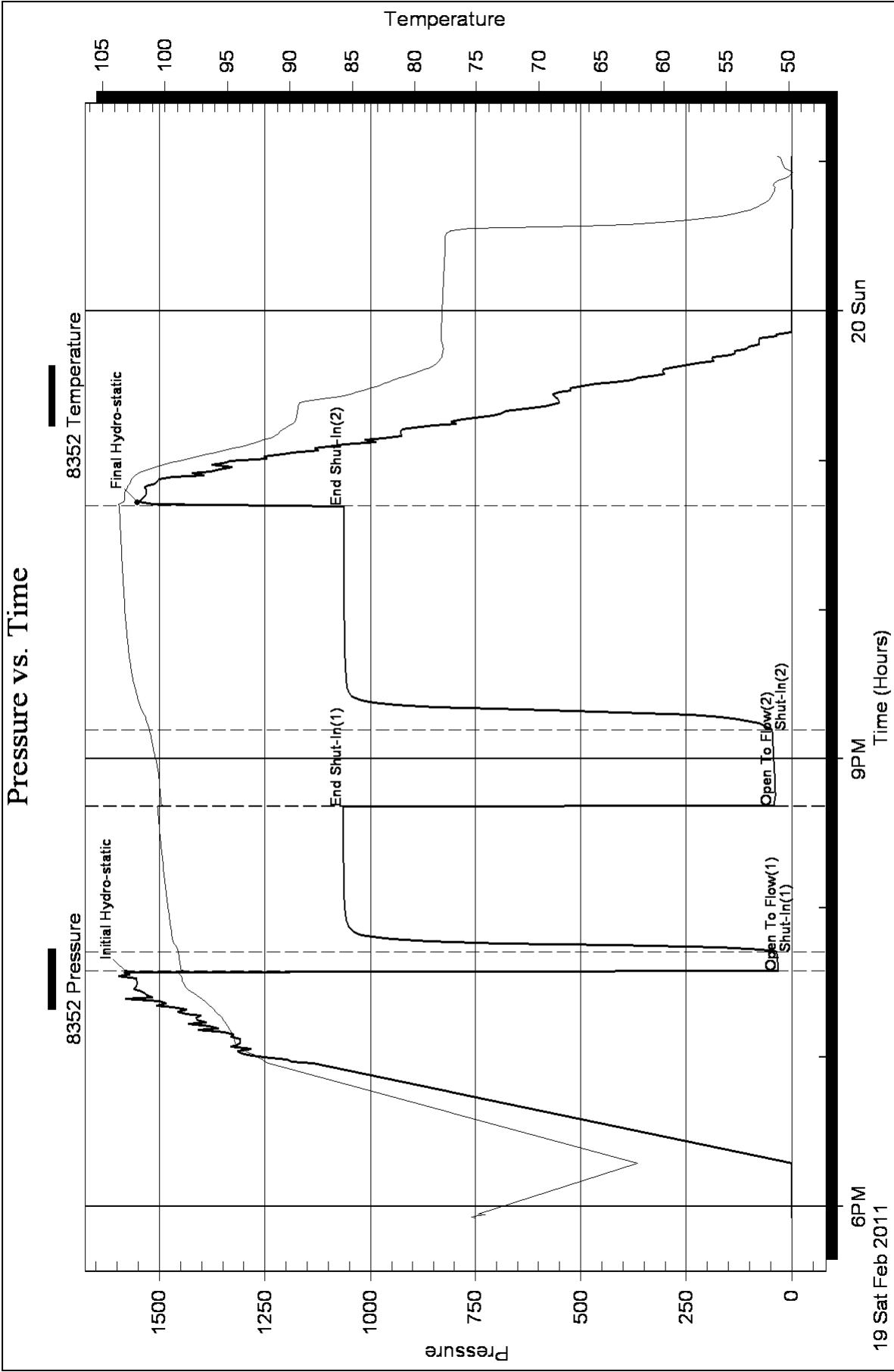
Test Start: 2011.02.19 @ 17:55:05

## 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 <sup>3</sup> /d)
		0.00	0.00	0.00





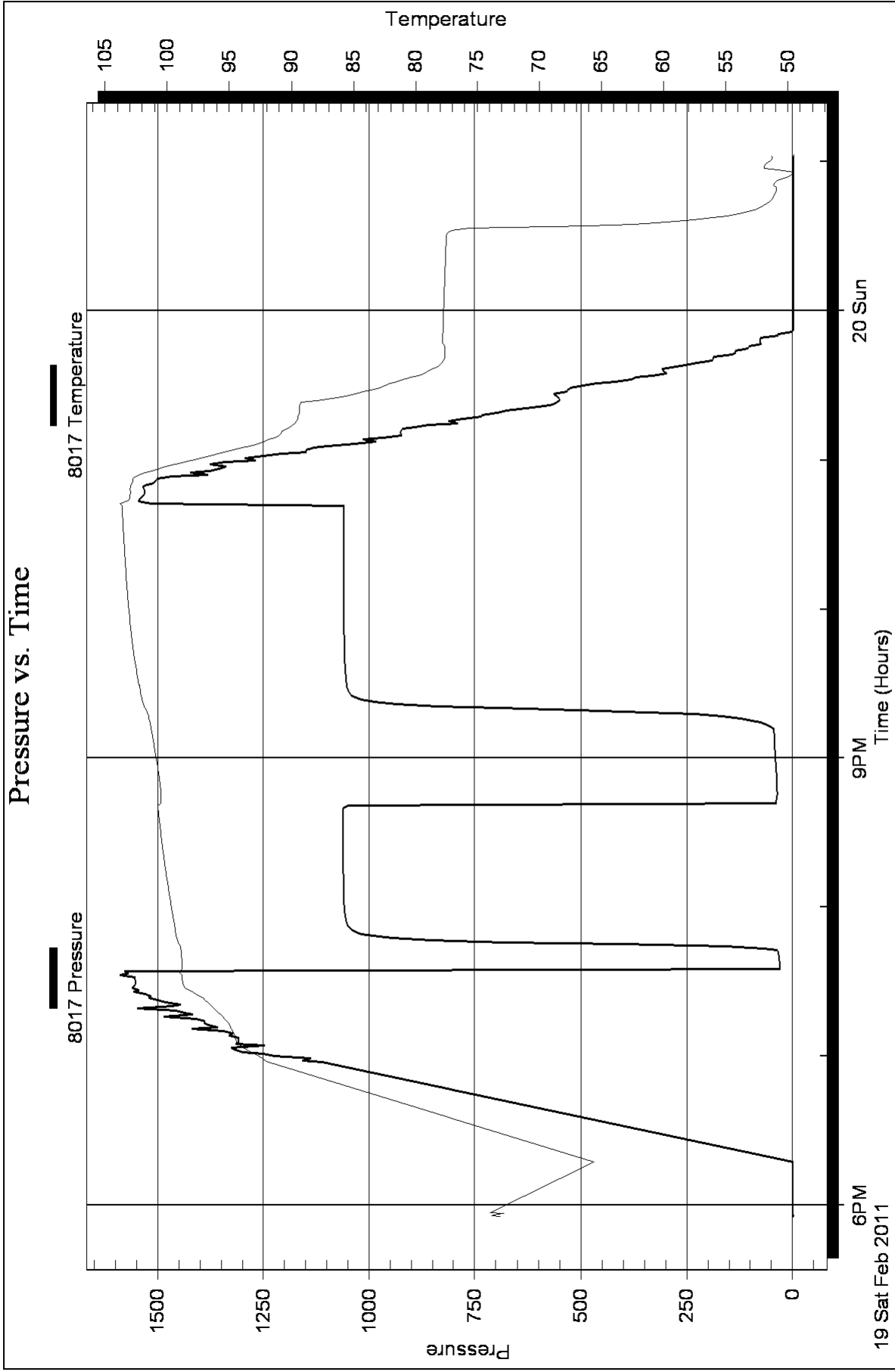
Serial #: 8017

Inside

S.Gary Jr. & Assoc. inc.

7-16s-16w Rush KS

DST Test Number: 1



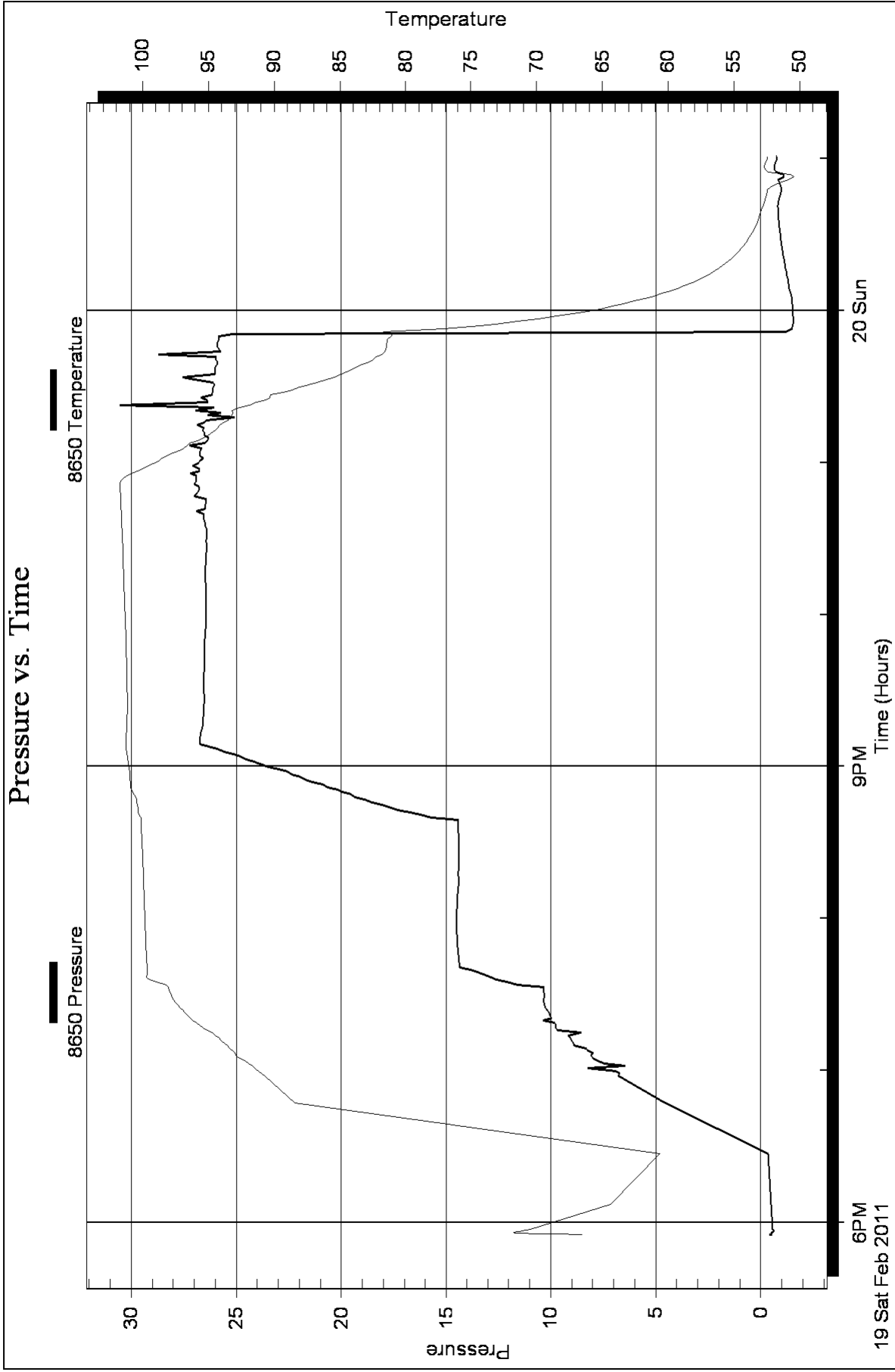
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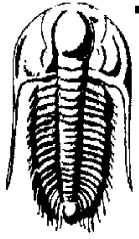
Fluid

S.Gary Jr. & Assoc. inc.

7-16s-16w Rush KS

DST Test Number: 1





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TESTING - DATA LISTING

S.Gary Jr.& Assoc. inc.

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**DLT 1-7**

**7-16s-16w Rush KS**

Job Ticket: 041551

**DST#: 1**

Test Start: 2011.02.19 @ 17:55:05

Serial # 8352 Outside				Serial # 8352 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	0.0	-0.65	75.1		95.6	1553.54	98.6
	0.6	-0.50	75.2		96.8	1559.99	98.7
	1.2	-0.52	74.4		97.9	1569.53	98.8
	1.8	-0.52	74.8		98.4	1575.22	98.9
	51.9	376.73	86.7		98.6	1575.14	98.9
	62.9	1185.13	91.9	Initial Hydro-static	98.8	1577.81	99.0
	64.1	1134.82	92.3		98.9	1577.35	99.0
	65.3	1168.59	92.7		99.1	1577.47	99.0
	66.4	1228.64	93.2	Open To Flow (1)	99.3	31.38	98.4
	67.6	1258.35	93.7		99.4	31.53	98.7
	68.8	1330.63	94.1		99.6	31.75	98.7
	69.9	1313.62	94.4		99.8	31.89	98.7
	71.1	1310.60	94.4		100.9	32.57	98.8
	72.3	1308.47	94.4		102.1	32.59	98.8
	73.4	1326.19	94.5		103.3	33.22	98.8
	74.6	1346.15	94.7		104.4	33.65	98.9
	75.8	1362.53	94.8		105.6	34.97	98.9
	76.9	1375.37	94.9		106.6	35.21	98.9
	78.1	1372.78	95.1		106.8	35.21	98.9
	79.3	1412.30	95.3	Shut-In(1)	106.9	36.08	98.9
	80.4	1414.17	95.4		107.1	40.11	98.9
	81.6	1444.62	95.7		107.3	44.72	98.9
	82.8	1457.90	95.9		107.4	50.19	98.9
	83.9	1481.54	96.1		108.6	139.58	99.0
	85.1	1425.08	96.3		109.8	480.75	99.2
	86.3	1483.13	96.6		110.9	805.49	99.3
	87.4	1498.90	96.9		112.1	949.34	99.4
	88.6	1516.23	97.2		113.3	1006.70	99.4
	89.8	1529.42	97.5		114.4	1031.94	99.5
	90.9	1545.30	97.9		115.6	1044.10	99.5
	92.1	1560.02	98.2		116.8	1050.29	99.5
	93.3	1554.38	98.4		117.9	1053.78	99.6
	94.4	1551.64	98.5		119.1	1055.94	99.6

Printing every 7 samples

Serial # 8352 Outside				Serial # 8352 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	120.3	1057.36	99.6	End Shut-In(1)	165.3	1063.43	100.6
	121.4	1058.30	99.7		165.4	1037.04	100.6
	122.6	1058.99	99.7	Open To Flow (2)	165.6	41.64	100.1
	123.8	1059.66	99.7		165.8	40.42	100.3
	124.9	1060.10	99.8		166.9	40.97	100.3
	126.1	1060.81	99.8		168.1	40.11	100.3
	127.3	1061.08	99.8		169.3	39.26	100.4
	128.4	1061.30	99.8		170.4	38.24	100.4
	129.6	1061.52	99.9		171.6	38.36	100.4
	130.8	1061.71	99.9		172.8	38.58	100.4
	131.9	1061.87	99.9		173.9	38.87	100.4
	133.1	1062.01	100.0		175.1	38.87	100.4
	134.3	1062.15	100.0		176.3	39.24	100.5
	135.4	1062.28	100.0		177.4	39.60	100.5
	136.6	1062.38	100.0		178.6	40.01	100.5
	137.8	1062.46	100.1		179.8	40.49	100.6
	138.9	1062.57	100.1		180.9	40.85	100.6
	140.1	1062.65	100.1		182.1	41.23	100.6
	141.3	1062.72	100.1		183.3	41.78	100.7
	142.4	1062.81	100.2		184.4	42.20	100.7
	143.6	1062.88	100.2		185.6	42.65	100.8
	144.8	1062.92	100.2		186.8	42.94	100.8
	145.9	1062.99	100.2		187.9	43.37	100.9
	147.1	1063.05	100.3		189.1	43.84	100.9
	148.3	1063.08	100.3		190.3	44.50	101.0
	149.4	1063.13	100.3		191.4	44.52	101.0
	150.6	1063.20	100.3		192.6	44.90	101.1
	151.8	1063.22	100.4		193.8	45.28	101.1
	152.9	1063.24	100.4		194.9	45.91	101.2
	154.1	1063.29	100.4		195.9	46.11	101.2
	155.3	1063.32	100.4	Shut-In(2)	196.1	46.19	101.2
	156.4	1063.36	100.4		196.3	46.36	101.2
	157.6	1063.38	100.5		196.4	47.81	101.3
	158.8	1063.38	100.5		196.6	49.45	101.3
	159.9	1063.41	100.5		196.8	51.11	101.3
	161.1	1063.45	100.5		197.9	65.50	101.3
	162.3	1063.46	100.5		199.1	86.55	101.4
	163.4	1063.47	100.6		200.3	120.31	101.5
	164.6	1063.48	100.6		201.4	180.62	101.6
	164.9	1063.48	100.6		202.6	300.43	101.7
	165.1	1063.46	100.6		203.8	518.67	101.8

Printing every 7 samples

Serial # 8352 Outside				Serial # 8352 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	204.9	765.31	101.9		252.8	1061.69	103.3
	206.1	924.32	102.0		253.9	1061.75	103.3
	207.3	999.20	102.1		255.1	1061.79	103.3
	208.4	1030.54	102.2		256.3	1061.84	103.4
	209.6	1043.52	102.2		257.4	1061.87	103.4
	210.8	1049.31	102.3		258.6	1061.92	103.4
	211.9	1052.31	102.3		259.8	1061.95	103.4
	213.1	1054.04	102.4		260.9	1061.98	103.4
	214.3	1055.22	102.4		262.1	1062.02	103.4
	215.4	1056.03	102.5		263.3	1062.03	103.4
	216.6	1056.70	102.6		264.4	1062.06	103.4
	217.8	1057.19	102.6		265.6	1062.09	103.5
	218.9	1057.62	102.6		266.8	1062.14	103.5
	220.1	1058.32	102.7		267.9	1062.18	103.5
	221.3	1058.35	102.7		269.1	1062.18	103.5
	222.4	1058.94	102.8		270.3	1062.21	103.5
	223.6	1059.15	102.8		271.4	1062.23	103.5
	224.8	1059.36	102.8		272.6	1062.23	103.5
	225.9	1059.57	102.9		273.8	1062.26	103.5
	227.1	1059.76	102.9		274.9	1062.30	103.5
	228.3	1059.92	102.9		276.1	1062.32	103.6
	229.4	1060.09	102.9		277.3	1062.35	103.6
	230.6	1060.22	103.0		278.4	1062.36	103.6
	231.8	1060.35	103.0		279.6	1062.37	103.6
	232.9	1060.49	103.0		280.8	1062.40	103.6
	234.1	1060.62	103.0		281.9	1062.40	103.6
	235.3	1060.72	103.1		283.1	1062.41	103.6
	236.4	1060.80	103.1		284.3	1062.44	103.6
	237.6	1060.90	103.1		285.4	1062.45	103.6
	238.8	1061.00	103.1		286.1	1062.45	103.6
	239.9	1061.08	103.1		286.3	1062.47	103.7
	241.1	1061.15	103.2	End Shut-In(2)	286.4	1062.47	103.6
	242.3	1061.22	103.2		286.6	1045.53	103.6
	243.4	1061.31	103.2		286.8	1487.67	103.8
	244.6	1061.37	103.2		286.9	1475.44	103.7
	245.8	1061.41	103.2		287.8	1547.08	103.4
	246.9	1061.48	103.2		287.9	1546.14	103.3
	248.1	1061.53	103.3	Final Hydro-static	288.1	1551.78	103.3
	249.3	1061.56	103.3		288.3	1551.14	103.3
	250.4	1061.60	103.3		288.4	1548.80	103.2
	251.6	1061.63	103.3		288.6	1546.76	103.2

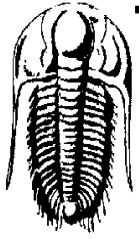
Printing every 7 samples

Serial # 8352 Outside				Serial # 8352 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	289.8	1537.28	103.2		337.6	377.21	81.4
	290.9	1532.37	103.2		338.8	333.63	80.7
	292.1	1529.64	103.2		339.9	320.45	79.9
	293.3	1528.61	103.1		341.1	316.01	79.3
	294.4	1530.64	103.0		342.3	275.45	78.7
	295.6	1509.21	102.8		343.4	229.45	78.3
	296.8	1503.63	102.7		344.6	184.30	78.0
	297.9	1467.10	102.6		345.8	188.28	77.9
	299.1	1421.65	102.3		346.9	144.72	77.8
	300.3	1377.53	101.9		348.1	136.36	77.8
	301.4	1365.74	101.1		349.3	106.61	77.7
	302.6	1378.99	100.4		350.4	101.58	77.7
	303.8	1339.98	99.5		351.6	76.62	77.8
	304.9	1295.84	98.6		352.8	76.44	77.9
	306.1	1251.78	97.5		353.9	76.20	77.9
	307.3	1207.80	96.5		355.1	36.49	77.9
	308.4	1174.86	95.5		356.3	1.05	77.9
	309.6	1132.41	94.5		357.4	-0.70	77.9
	310.8	1101.19	93.5		358.6	-0.63	77.9
	311.9	1006.72	92.7		359.8	-0.65	77.8
	313.1	947.52	92.1		360.9	-0.65	77.8
	314.3	899.95	91.4		362.1	-0.65	77.8
	315.4	927.32	90.9		363.3	-0.64	77.8
	316.6	893.18	90.8		364.4	-0.63	77.8
	317.8	894.84	90.4		365.6	-0.61	77.8
	318.9	852.88	90.0		366.8	-0.62	77.8
	320.1	810.76	89.7		367.9	-0.64	77.8
	321.3	780.77	89.5		369.1	-0.63	77.8
	322.4	741.93	89.5		370.3	-0.62	77.8
	323.6	720.96	89.4		371.4	-0.64	77.8
	324.8	677.33	89.4		372.6	-0.65	77.7
	325.9	593.67	89.3		373.8	-0.67	77.7
	327.1	569.62	89.3		374.9	-0.70	77.7
	328.3	545.70	89.1		376.1	-0.70	77.7
	329.4	547.41	87.6		377.3	-0.70	77.7
	330.6	567.36	85.7		378.4	-0.72	77.7
	331.8	582.34	84.8		379.6	-0.73	77.7
	332.9	523.56	84.1		380.8	-0.74	77.7
	334.1	486.43	83.3		381.9	-0.74	77.7
	335.3	463.07	82.6		383.1	-0.74	77.6
	336.4	420.66	82.0		384.3	-0.74	77.6

Printing every 7 samples

<b>Serial # 8352 Outside</b>				<b>Serial # 8017 Inside</b>			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	385.4	-0.75	77.6				
	386.6	-0.76	77.6				
	387.8	-0.76	77.6				
	388.9	-0.73	77.6				
	390.1	-0.73	77.6				
	391.3	-0.76	77.6				
	392.4	-0.77	77.6				
	393.6	-0.76	77.6				
	394.8	-0.76	77.5				
	395.9	-0.85	77.5				
	397.1	-0.83	77.0				
	398.3	-1.10	70.1				
	399.4	-1.75	63.5				
	400.6	-1.83	59.7				
	401.8	-1.84	57.0				
	402.9	-1.79	55.4				
	404.1	-1.72	54.1				
	405.3	-1.68	53.2				
	406.4	-1.65	52.6				
	407.6	-1.60	52.1				
	408.8	-1.54	51.8				
	409.9	-1.49	51.5				
	411.1	-1.43	51.3				
	412.3	-1.37	51.2				
	413.4	-1.31	51.1				
	414.6	-1.23	51.1				
	415.8	-1.12	51.3				
	416.9	-1.06	51.1				
	418.1	-1.03	50.3				
	419.3	-1.01	49.9				
	420.4	-1.01	49.7				
	421.6	-1.01	50.1				
	422.8	-1.01	50.3				
	423.9	-1.01	50.5				
	425.1	-1.04	50.6				
	426.3	-1.02	50.7				
	427.4	-1.06	53.0				

Printing every 6 samples



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TESTING - DATA LISTING

S.Gary Jr.& Assoc. inc.

**DLT 1-7**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**7-16s-16w Rush KS**

Job Ticket: 041551

**DST#: 1**

Test Start: 2011.02.19 @ 17:55:05

Serial # 8017 Inside				Serial # 8017 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	0.0	-1.94	73.2		90.1	1475.20	97.9
	0.5	-2.08	73.8		91.1	1543.90	98.3
	1.0	-1.96	73.2		92.1	1559.77	98.6
	1.5	-1.95	72.8		93.1	1554.41	98.7
	11.9	-1.98	73.9		94.1	1550.94	98.7
	62.1	1111.18	91.9		95.1	1553.03	98.8
	63.1	1114.78	92.1		96.1	1552.36	98.8
	64.1	1133.88	92.5		97.1	1588.11	98.8
	65.1	1168.46	92.8		98.1	1570.74	98.9
	66.1	1195.53	93.2		99.1	1576.47	99.1
	67.1	1315.37	93.6		100.1	29.31	98.8
	68.1	1338.90	93.9		101.1	29.84	98.8
	69.1	1291.01	94.1		102.1	30.14	98.8
	70.1	1310.76	94.4		103.1	30.78	98.8
	71.1	1309.79	94.5		104.1	30.96	98.8
	72.1	1307.39	94.5		105.1	31.69	98.8
	73.1	1329.01	94.6		106.1	32.35	98.9
	74.1	1344.65	94.6		107.1	36.61	98.9
	75.1	1339.84	94.8		108.1	79.51	98.9
	76.1	1360.21	94.9		109.1	235.28	99.0
	77.1	1379.64	95.0		110.1	579.55	99.1
	78.1	1449.80	95.1		111.1	827.16	99.2
	79.1	1458.53	95.3		112.1	945.06	99.2
	80.1	1405.81	95.4		113.1	998.42	99.3
	81.1	1418.12	95.6		114.1	1024.55	99.3
	82.1	1436.31	95.9		115.1	1038.10	99.3
	83.1	1454.43	96.1		116.1	1045.69	99.4
	84.1	1470.51	96.3		117.1	1050.07	99.4
	85.1	1464.00	96.5		118.1	1052.64	99.4
	86.1	1483.30	96.7		119.1	1054.26	99.5
	87.1	1500.04	97.0		120.1	1055.46	99.5
	88.1	1548.41	97.1		121.1	1056.48	99.5
	89.1	1531.27	97.5		122.1	1057.21	99.6

Printing every 6 samples



Serial # 8017 Inside				Serial # 8017 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	123.1	1057.67	99.6		164.1	1062.01	100.7
	124.1	1058.25	99.6		165.1	1062.01	100.7
	125.1	1058.93	99.7		166.1	37.30	100.5
	126.1	1058.85	99.7		167.1	38.50	100.5
	127.1	1059.47	99.7		168.1	37.72	100.5
	128.1	1059.71	99.8		169.1	36.64	100.5
	129.1	1059.90	99.8		170.1	35.69	100.5
	130.1	1060.11	99.8		171.1	35.71	100.5
	131.1	1060.30	99.9		172.1	35.90	100.5
	132.1	1060.42	99.9		173.1	35.82	100.6
	133.1	1060.53	99.9		174.1	36.38	100.6
	134.1	1060.65	100.0		175.1	36.34	100.6
	135.1	1060.74	100.0		176.1	36.59	100.6
	136.1	1060.85	100.0		177.1	37.01	100.6
	137.1	1060.95	100.0		178.1	37.34	100.7
	138.1	1061.04	100.1		179.1	37.58	100.7
	139.1	1061.14	100.1		180.1	38.05	100.7
	140.1	1061.21	100.1		181.1	38.31	100.8
	141.1	1061.29	100.2		182.1	38.81	100.8
	142.1	1061.35	100.2		183.1	39.19	100.8
	143.1	1061.44	100.2		184.1	39.60	100.9
	144.1	1061.48	100.2		185.1	39.95	100.9
	145.1	1061.53	100.3		186.1	40.30	100.9
	146.1	1061.57	100.3		187.1	40.60	101.0
	147.1	1061.59	100.3		188.1	40.87	101.0
	148.1	1061.65	100.4		189.1	41.24	101.0
	149.1	1061.71	100.4		190.1	41.66	101.1
	150.1	1061.75	100.4		191.1	42.33	101.1
	151.1	1061.79	100.4		192.1	42.34	101.1
	152.1	1061.80	100.5		193.1	42.56	101.2
	153.1	1061.81	100.5		194.1	42.95	101.2
	154.1	1061.84	100.5		195.1	43.46	101.2
	155.1	1061.88	100.5		196.1	43.58	101.3
	156.1	1061.91	100.5		197.1	51.68	101.3
	157.1	1061.92	100.6		198.1	64.77	101.4
	158.1	1061.94	100.6		199.1	82.90	101.4
	159.1	1061.97	100.6		200.1	110.35	101.4
	160.1	1061.99	100.6		201.1	154.27	101.5
	161.1	1062.01	100.7		202.1	231.66	101.5
	162.1	1062.02	100.7		203.1	373.02	101.6
	163.1	1062.02	100.7		204.1	582.88	101.7

Printing every 6 samples

<b>Serial # 8017 Inside</b>				<b>Serial # 8017 Inside</b>			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	205.1	786.55	101.8		246.1	1059.59	103.1
	206.1	919.37	101.9		247.1	1059.65	103.1
	207.1	989.01	101.9		248.1	1059.69	103.1
	208.1	1022.08	102.0		249.1	1059.71	103.2
	209.1	1037.61	102.1		250.1	1059.74	103.2
	210.1	1045.10	102.1		251.1	1059.79	103.2
	211.1	1048.79	102.1		252.1	1059.81	103.2
	212.1	1050.88	102.2		253.1	1059.84	103.2
	213.1	1052.29	102.2		254.1	1059.87	103.2
	214.1	1053.23	102.3		255.1	1059.91	103.2
	215.1	1053.95	102.3		256.1	1059.94	103.3
	216.1	1054.56	102.3		257.1	1059.97	103.3
	217.1	1055.04	102.4		258.1	1059.98	103.3
	218.1	1055.35	102.4		259.1	1060.02	103.3
	219.1	1055.88	102.4		260.1	1060.06	103.3
	220.1	1056.15	102.5		261.1	1060.10	103.3
	221.1	1056.74	102.5		262.1	1060.11	103.3
	222.1	1056.99	102.5		263.1	1060.13	103.4
	223.1	1057.18	102.6		264.1	1060.13	103.4
	224.1	1057.39	102.6		265.1	1060.15	103.4
	225.1	1057.58	102.6		266.1	1060.15	103.4
	226.1	1057.79	102.7		267.1	1060.18	103.4
	227.1	1057.97	102.7		268.1	1060.23	103.4
	228.1	1058.12	102.7		269.1	1060.26	103.4
	229.1	1058.23	102.7		270.1	1060.28	103.5
	230.1	1058.38	102.8		271.1	1060.28	103.5
	231.1	1058.50	102.8		272.1	1060.30	103.5
	232.1	1058.60	102.8		273.1	1060.33	103.5
	233.1	1058.71	102.8		274.1	1060.35	103.5
	234.1	1058.82	102.9		275.1	1060.34	103.5
	235.1	1058.91	102.9		276.1	1060.36	103.5
	236.1	1058.99	102.9		277.1	1060.37	103.5
	237.1	1059.07	102.9		278.1	1060.37	103.5
	238.1	1059.17	103.0		279.1	1060.37	103.6
	239.1	1059.23	103.0		280.1	1060.38	103.6
	240.1	1059.28	103.0		281.1	1060.41	103.6
	241.1	1059.34	103.0		282.1	1060.41	103.6
	242.1	1059.41	103.0		283.1	1060.41	103.6
	243.1	1059.45	103.1		284.1	1060.45	103.6
	244.1	1059.50	103.1		285.1	1060.49	103.6
	245.1	1059.55	103.1		286.1	1060.52	103.6

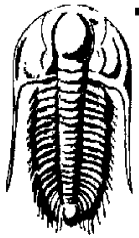
Printing every 6 samples

Serial # 8017 Inside				Serial # 8017 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	287.1	1515.12	103.8		328.1	536.65	89.2
	288.1	1549.54	103.3		329.1	518.47	87.6
	289.1	1541.35	103.1		330.1	538.99	86.2
	290.1	1535.07	103.0		331.1	537.31	85.1
	291.1	1531.44	103.0		332.1	533.58	84.2
	292.1	1528.71	102.9		333.1	517.29	83.4
	293.1	1529.40	103.0		334.1	478.88	82.7
	294.1	1532.46	102.9		335.1	463.17	82.3
	295.1	1509.12	102.8		336.1	421.51	81.7
	296.1	1506.02	102.8		337.1	380.28	81.0
	297.1	1501.59	102.7		338.1	336.93	80.3
	298.1	1465.89	102.5		339.1	311.82	79.7
	299.1	1420.20	102.1		340.1	323.04	79.1
	300.1	1399.75	101.6		341.1	314.12	78.7
	301.1	1328.93	100.9		342.1	284.65	78.3
	302.1	1338.68	100.1		343.1	254.87	78.0
	303.1	1356.21	99.3		344.1	225.70	77.8
	304.1	1337.42	98.4		345.1	187.07	77.7
	305.1	1294.54	97.5		346.1	187.34	77.7
	306.1	1250.85	96.7		347.1	143.79	77.6
	307.1	1207.09	96.0		348.1	135.15	77.6
	308.1	1169.65	95.2		349.1	131.19	77.6
	309.1	1129.78	94.4		350.1	105.44	77.7
	310.1	1087.26	93.7		351.1	75.13	77.8
	311.1	1034.77	92.9		352.1	75.11	77.8
	312.1	985.75	92.2		353.1	74.90	77.8
	313.1	957.60	91.7		354.1	74.67	77.8
	314.1	949.10	91.2		355.1	34.96	77.8
	315.1	926.51	90.8		356.1	23.90	77.8
	316.1	925.68	90.8		357.1	-2.27	77.8
	317.1	922.10	90.4		358.1	-2.25	77.8
	318.1	895.80	90.1		359.1	-2.26	77.8
	319.1	852.40	89.8		360.1	-2.25	77.8
	320.1	808.68	89.6		361.1	-2.28	77.8
	321.1	776.86	89.5		362.1	-2.30	77.8
	322.1	734.56	89.4		363.1	-2.29	77.8
	323.1	712.85	89.4		364.1	-2.28	77.8
	324.1	652.64	89.4		365.1	-2.29	77.8
	325.1	627.18	89.3		366.1	-2.28	77.7
	326.1	571.50	89.3		367.1	-2.28	77.7
	327.1	564.85	89.3		368.1	-2.28	77.7

Printing every 6 samples

<b>Serial # 8017 Inside</b>				<b>Serial # 8017 Inside</b>			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	369.1	-2.28	77.7		410.1	-2.39	51.2
	370.1	-2.30	77.7		411.1	-2.39	51.1
	371.1	-2.30	77.7		412.1	-2.37	51.0
	372.1	-2.29	77.7		413.1	-2.36	50.9
	373.1	-2.30	77.7		414.1	-2.39	50.9
	374.1	-2.29	77.7		415.1	-2.38	50.9
	375.1	-2.28	77.7		416.1	-2.31	51.0
	376.1	-2.29	77.7		417.1	-2.29	50.9
	377.1	-2.30	77.7		418.1	-2.31	50.2
	378.1	-2.29	77.7		419.1	-2.32	49.8
	379.1	-2.29	77.7		420.1	-2.35	49.6
	380.1	-2.33	77.7		421.1	-2.36	49.8
	381.1	-2.37	77.6		422.1	-2.36	51.9
	382.1	-2.37	77.6		423.1	-2.29	51.9
	383.1	-2.35	77.6		424.1	-2.25	51.7
	384.1	-2.34	77.6		425.1	-2.23	51.5
	385.1	-2.32	77.6		426.1	-2.26	51.2
	386.1	-2.30	77.6		427.1	-2.18	51.3
	387.1	-2.33	77.6		427.4	-2.32	54.2
	388.1	-2.35	77.6				
	389.1	-2.32	77.6				
	390.1	-2.31	77.6				
	391.1	-2.31	77.6				
	392.1	-2.32	77.5				
	393.1	-2.32	77.5				
	394.1	-2.27	77.5				
	395.1	-2.26	77.5				
	396.1	-2.28	77.5				
	397.1	-2.23	77.1				
	398.1	-2.16	71.4				
	399.1	-2.25	64.4				
	400.1	-2.30	60.7				
	401.1	-2.33	58.0				
	402.1	-2.33	56.0				
	403.1	-2.35	54.7				
	404.1	-2.37	53.6				
	405.1	-2.39	52.9				
	406.1	-2.41	52.3				
	407.1	-2.41	52.0				
	408.1	-2.41	51.6				
	409.1	-2.41	51.4				

Printing every 3 samples



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TESTING - DATA LISTING

S.Gary Jr.& Assoc. inc.

**DLT 1-7**

1515 Wynkoop  
Suite 700  
Denver Co. 80202  
ATTN: Neil Sharp

**7-16s-16w Rush KS**

Job Ticket: 041551

**DST#: 1**

Test Start: 2011.02.19 @ 17:55:05

Serial # 8650 Fluid				Serial # 8650 Fluid			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	0.0	-0.51	66.6		1.6	-0.65	70.8
	0.1	-0.44	66.9		1.7	-0.65	70.8
	0.1	-0.45	67.4		1.8	-0.65	70.7
	0.2	-0.44	67.9		1.8	-0.65	70.7
	0.2	-0.43	68.4		1.9	-0.60	70.6
	0.3	-0.45	69.2		1.9	-0.60	70.6
	0.3	-0.47	70.0		2.0	-0.57	70.5
	0.3	-0.48	70.6		12.0	-0.49	64.4
	0.4	-0.49	71.0		42.0	-0.13	70.1
	0.4	-0.50	71.3		62.5	6.80	90.7
	0.5	-0.49	71.5		64.0	7.02	91.1
	0.6	-0.49	71.6		65.5	8.22	91.4
	0.6	-0.49	71.7		67.0	7.38	91.8
	0.6	-0.50	71.7		68.5	7.80	92.2
	0.7	-0.51	71.8		70.0	7.99	92.8
	0.8	-0.52	71.8		71.5	7.98	93.0
	0.8	-0.53	71.7		73.0	8.26	93.3
	0.9	-0.54	71.7		74.5	8.87	93.6
	0.9	-0.54	71.7		76.0	8.94	93.9
	0.9	-0.54	71.6		77.5	9.07	94.2
	1.0	-0.55	71.6		79.0	9.15	94.6
	1.0	-0.57	71.5		80.5	9.68	95.0
	1.1	-0.58	71.5		82.0	9.75	95.5
	1.1	-0.60	71.4		83.5	9.82	95.9
	1.2	-0.59	71.4		85.0	9.84	96.3
	1.3	-0.61	71.3		86.5	10.04	96.6
	1.3	-0.62	71.3		88.0	10.14	96.8
	1.4	-0.62	71.2		89.5	10.24	97.1
	1.4	-0.62	71.1		91.0	10.30	97.4
	1.5	-0.63	71.1		92.5	10.31	97.7
	1.5	-0.64	71.0		94.0	10.30	97.8
	1.5	-0.64	71.0		95.5	10.31	97.9
	1.6	-0.65	70.9		97.0	10.34	98.0

Printing every 3 samples

Serial # 8650				Serial # 8650			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	98.5	11.59	98.2		160.0	14.40	100.1
	100.0	12.28	99.2		161.5	14.41	100.1
	101.5	12.84	99.7		163.0	14.38	100.1
	103.0	13.42	99.6		164.5	15.72	100.1
	104.5	13.81	99.6		166.0	16.60	100.3
	106.0	14.34	99.7		167.5	17.31	100.4
	107.5	14.36	99.7		169.0	17.98	100.4
	109.0	14.36	99.7		170.5	18.52	100.4
	110.5	14.39	99.7		172.0	19.19	100.5
	112.0	14.39	99.7		173.5	19.57	100.6
	113.5	14.42	99.7		175.0	20.05	100.8
	115.0	14.42	99.8		176.5	20.67	100.9
	116.5	14.44	99.8		178.0	21.12	100.9
	118.0	14.45	99.8		179.5	21.69	100.9
	119.5	14.45	99.8		181.0	22.19	101.0
	121.0	14.46	99.8		182.5	22.59	101.0
	122.5	14.47	99.8		184.0	23.16	101.0
	124.0	14.47	99.8		185.5	23.87	101.1
	125.5	14.46	99.8		187.0	24.48	101.1
	127.0	14.46	99.8		188.5	24.81	101.2
	128.5	14.46	99.9		190.0	25.43	101.2
	130.0	14.44	99.9		191.5	25.94	101.2
	131.5	14.44	99.9		193.0	26.30	101.3
	133.0	14.44	99.9		194.5	26.75	101.3
	134.5	14.42	99.9		196.0	26.72	101.3
	136.0	14.40	99.9		197.5	26.69	101.2
	137.5	14.39	99.9		199.0	26.66	101.2
	139.0	14.37	99.9		200.5	26.62	101.2
	140.5	14.37	99.9		202.0	26.58	101.2
	142.0	14.40	99.9		203.5	26.57	101.2
	143.5	14.39	100.0		205.0	26.56	101.2
	145.0	14.38	100.0		206.5	26.54	101.2
	146.5	14.38	100.0		208.0	26.54	101.2
	148.0	14.37	100.0		209.5	26.53	101.2
	149.5	14.38	100.0		211.0	26.51	101.2
	151.0	14.38	100.0		212.5	26.51	101.2
	152.5	14.38	100.0		214.0	26.52	101.2
	154.0	14.38	100.0		215.5	26.53	101.2
	155.5	14.38	100.1		217.0	26.54	101.2
	157.0	14.38	100.1		218.5	26.53	101.2
	158.5	14.39	100.1		220.0	26.53	101.2

Printing every 3 samples

Serial # 8650				Serial # 8650			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	221.5	26.53	101.2		283.0	26.53	101.6
	223.0	26.52	101.2		284.5	26.54	101.6
	224.5	26.52	101.2		286.0	26.53	101.6
	226.0	26.51	101.2		287.5	26.48	101.7
	227.5	26.51	101.2		289.0	26.45	101.7
	229.0	26.50	101.2		290.5	26.42	101.7
	230.5	26.51	101.2		292.0	27.84	101.7
	232.0	26.49	101.2		293.5	26.84	101.7
	233.5	26.50	101.3		295.0	26.77	101.7
	235.0	26.49	101.3		296.5	27.01	101.7
	236.5	26.47	101.3		298.0	26.94	101.6
	238.0	26.47	101.3		299.5	26.88	101.2
	239.5	26.46	101.3		301.0	26.80	100.7
	241.0	26.44	101.3		302.5	26.75	100.0
	242.5	26.44	101.3		304.0	27.07	99.3
	244.0	26.43	101.3		305.5	26.71	98.8
	245.5	26.42	101.3		307.0	26.65	98.4
	247.0	26.43	101.4		308.5	26.73	97.7
	248.5	26.43	101.4		310.0	26.66	97.0
	250.0	26.43	101.4		311.5	27.24	96.6
	251.5	26.43	101.4		313.0	26.41	96.3
	253.0	26.43	101.4		314.5	26.32	95.4
	254.5	26.44	101.4		316.0	26.46	94.9
	256.0	26.44	101.4		317.5	26.60	94.5
	257.5	26.45	101.4		319.0	23.86	94.3
	259.0	26.46	101.4		320.5	26.53	93.9
	260.5	26.45	101.4		322.0	26.38	93.5
	262.0	26.46	101.5		323.5	26.35	93.2
	263.5	26.46	101.5		325.0	26.28	93.0
	265.0	26.45	101.5		326.5	26.06	92.6
	266.5	26.44	101.5		328.0	26.36	91.6
	268.0	26.43	101.5		329.5	26.41	90.7
	269.5	26.43	101.5		331.0	26.15	90.4
	271.0	26.42	101.5		332.5	26.16	89.4
	272.5	26.41	101.5		334.0	26.08	88.3
	274.0	26.41	101.5		335.5	26.04	87.4
	275.5	26.41	101.5		337.0	26.07	86.5
	277.0	26.41	101.5		338.5	27.53	85.4
	278.5	26.41	101.6		340.0	26.01	84.7
	280.0	26.47	101.6		341.5	26.01	84.2
	281.5	26.50	101.6		343.0	26.36	83.5

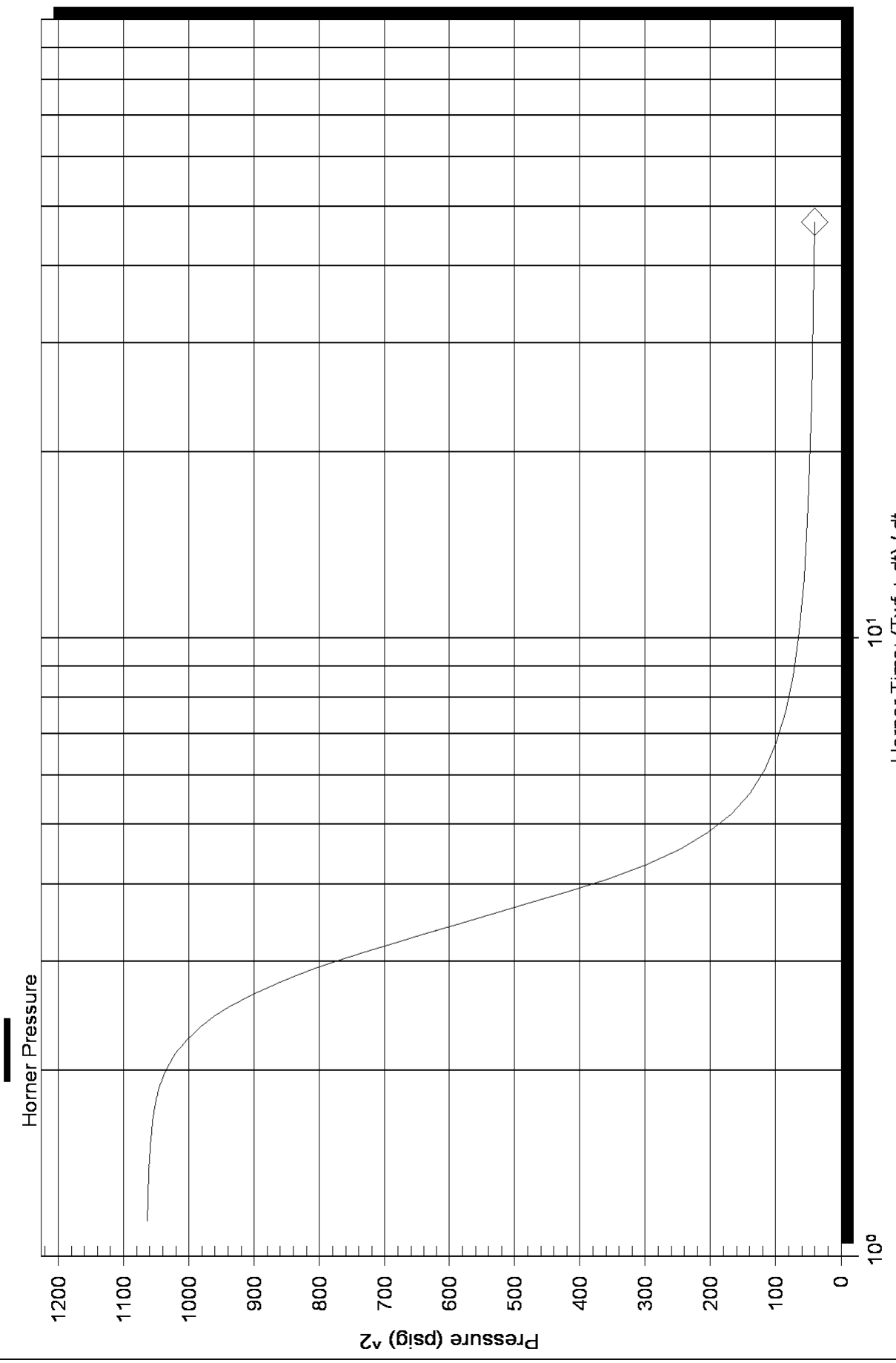
Printing every 3 samples

Serial # 8650				Serial # 8650			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	344.5	25.88	82.8		406.0	-0.83	52.8
	346.0	27.88	82.3		407.5	-0.84	52.7
	347.5	28.69	81.8		409.0	-0.87	52.6
	349.0	25.75	81.5		410.5	-0.92	52.5
	350.5	25.88	81.4		412.0	-0.98	52.5
	352.0	25.86	81.4		413.5	-0.96	52.2
	353.5	25.83	81.4		415.0	-0.90	51.8
	355.0	25.81	81.1		416.5	-0.83	50.8
	356.5	-1.17	81.7		418.0	-1.11	50.3
	358.0	-1.51	76.0		419.5	-0.72	52.4
	359.5	-1.54	73.1		421.0	-0.67	52.7
	361.0	-1.57	70.6		422.5	-0.68	52.6
	362.5	-1.55	68.5		424.0	-0.72	52.5
	364.0	-1.55	66.7		425.5	-0.74	52.4
	365.5	-1.53	65.2				
	367.0	-1.52	63.8				
	368.5	-1.50	62.6				
	370.0	-1.47	61.4				
	371.5	-1.42	60.4				
	373.0	-1.39	59.6				
	374.5	-1.34	58.8				
	376.0	-1.31	58.1				
	377.5	-1.28	57.5				
	379.0	-1.25	56.9				
	380.5	-1.21	56.4				
	382.0	-1.17	56.0				
	383.5	-1.14	55.6				
	385.0	-1.11	55.3				
	386.5	-1.08	54.9				
	388.0	-1.05	54.7				
	389.5	-1.03	54.4				
	391.0	-1.00	54.2				
	392.5	-0.97	54.0				
	394.0	-0.95	53.8				
	395.5	-0.93	53.6				
	397.0	-0.90	53.5				
	398.5	-0.88	53.3				
	400.0	-0.86	53.2				
	401.5	-0.85	53.1				
	403.0	-0.84	53.0				
	404.5	-0.83	52.9				

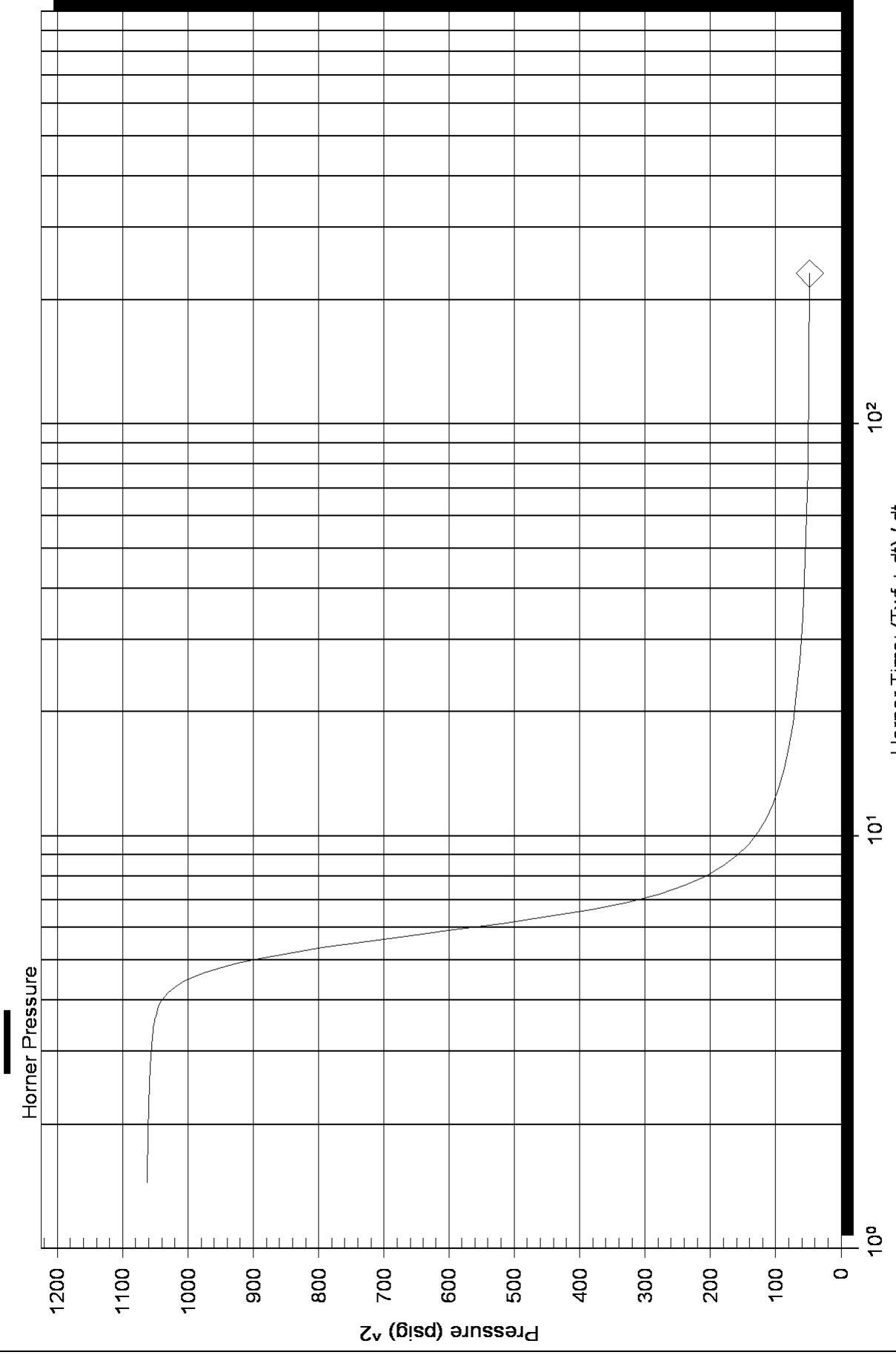
Printing every 3 samples



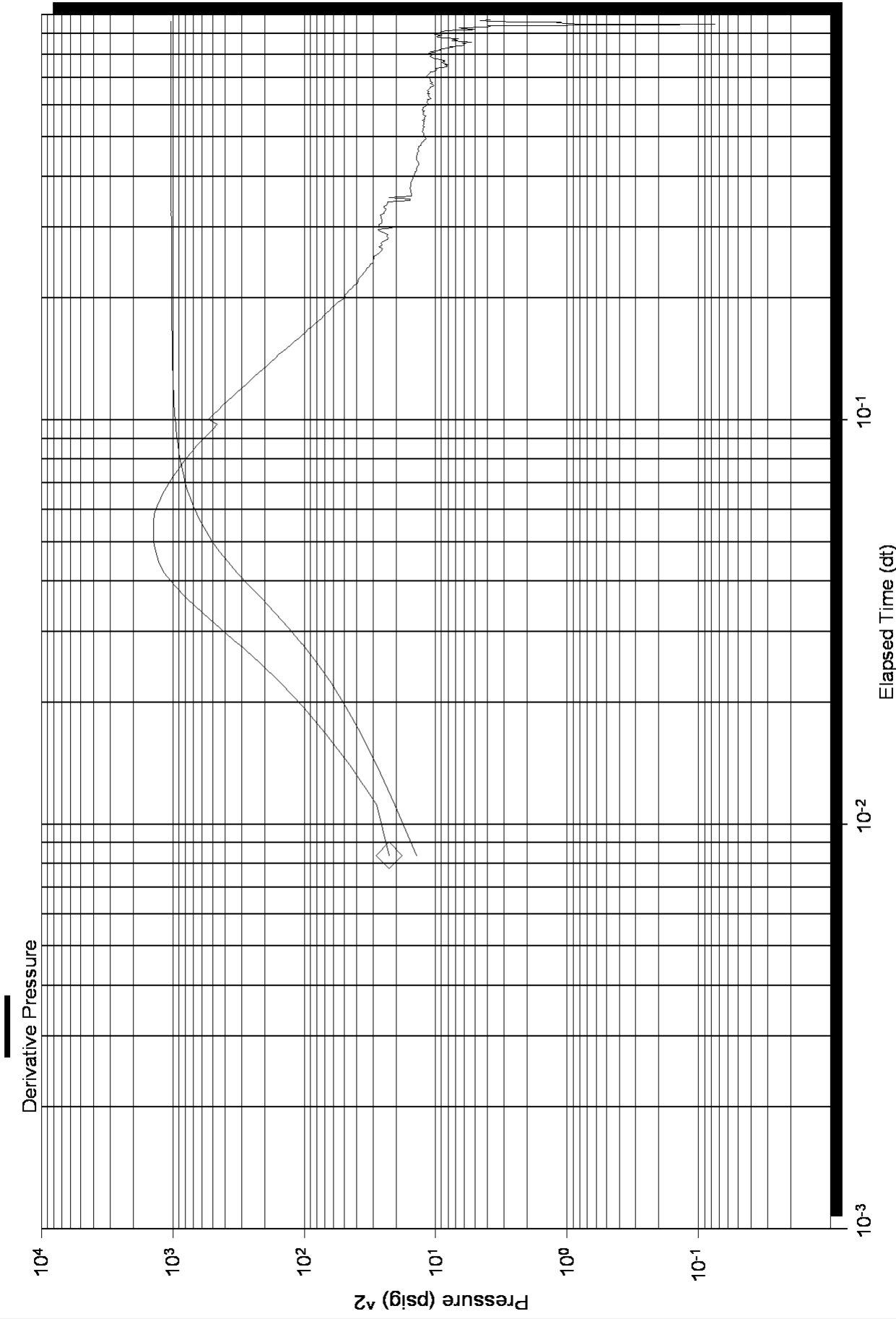
### Homer Plot



### Homer Plot



# Log-Log and Pseudo-Derivative



# Log-Log and Pseudo-Derivative

