



## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr. and Associates, Inc.**

1515 Wynkoop St. Ste 700  
Denver, CO 80202

ATTN: Clayton Camozzi

**Herrman et al 1-12**

**12-16-17 Rush, Ks**

Start Date: 2012.03.29 @ 04:57:20

End Date: 2012.03.29 @ 13:34:50

Job Ticket #: 36075                      DST #: 1

Trilobite Testing, Inc

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Test Start: 2012.03.29 @ 04:57:20

## GENERAL INFORMATION:

Formation: **Penn Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:50:50

Time Test Ended: 13:34:50

Test Type: Conventional Bottom Hole (Initial)

Tester: Brian Fairbank

Unit No: 41

**Interval: 3509.00 ft (KB) To 3579.00 ft (KB) (TVD)**

Reference Elevations: 2004.00 ft (KB)

Total Depth: 3579.00 ft (KB) (TVD)

1994.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8734 Outside**

Press @ Run Depth: 50.07 psig @ 3511.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.03.29 End Date: 2012.03.29

Last Calib.: 1899.12.30

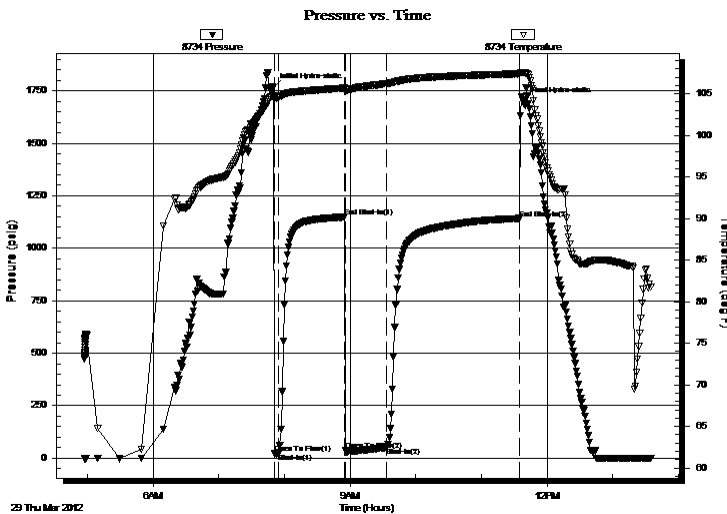
Start Time: 04:57:21 End Time: 13:34:50

Time On Btm: 2012.03.29 @ 07:49:50

Time Off Btm: 2012.03.29 @ 11:38:20

**TEST COMMENT:** 5 - IFP - weak blow throughout 1/2" - 1 1/2"  
60 - ISI - no blow back  
40 - FFP - BOB 22 min  
120 - FSI - no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1766.61	104.78	Initial Hydro-static
1	21.25	104.46	Open To Flow (1)
5	23.75	104.55	Shut-In(1)
65	1148.17	105.69	End Shut-In(1)
66	38.15	105.44	Open To Flow (2)
104	50.07	106.24	Shut-In(2)
225	1141.43	107.40	End Shut-In(2)
229	1697.94	107.54	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	MCO 50%O, 50%M	0.84
15.00	HOCM 35%O, 65%M	0.21

## 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: 3509.00 ft	Diameter: 3.80 inches	Volume: 49.22 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: 60000.00 lb
			<u>Total Volume: 49.22 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	34.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3509.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.00 ft			
Tool Length:	104.00 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	8365	Fluid	3475.00	
Blank Spacing	5.00			3480.00	
Shut In Tool	5.00			3485.00	
Sampler	2.00			3487.00	
Hydraulic tool	5.00			3492.00	
Jars	5.00			3497.00	
Safety Joint	2.00			3499.00	
Packer	5.00			3504.00	34.00 Bottom Of Top Packer
Packer	5.00			3509.00	
Stubb	1.00			3510.00	
Perforations	1.00			3511.00	
Recorder	0.00	6669	Inside	3511.00	
Recorder	0.00	8734	Outside	3511.00	
Change Over Sub	1.00			3512.00	
Blank Spacing	62.00			3574.00	
Change Over Sub	1.00			3575.00	
Perforations	1.00			3576.00	
Bullnose	3.00			3579.00	70.00 Bottom Packers & Anchor

**Total Tool Length: 104.00**



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**FLUID SUMMARY**

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## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

40 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.80 cm<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6700.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	MCO 50%O, 50%M	0.842
15.00	HOCM 35%O, 65%M	0.210

Total Length: 75.00 ft      Total Volume: 1.052 bbl

Num Fluid Samples: 0

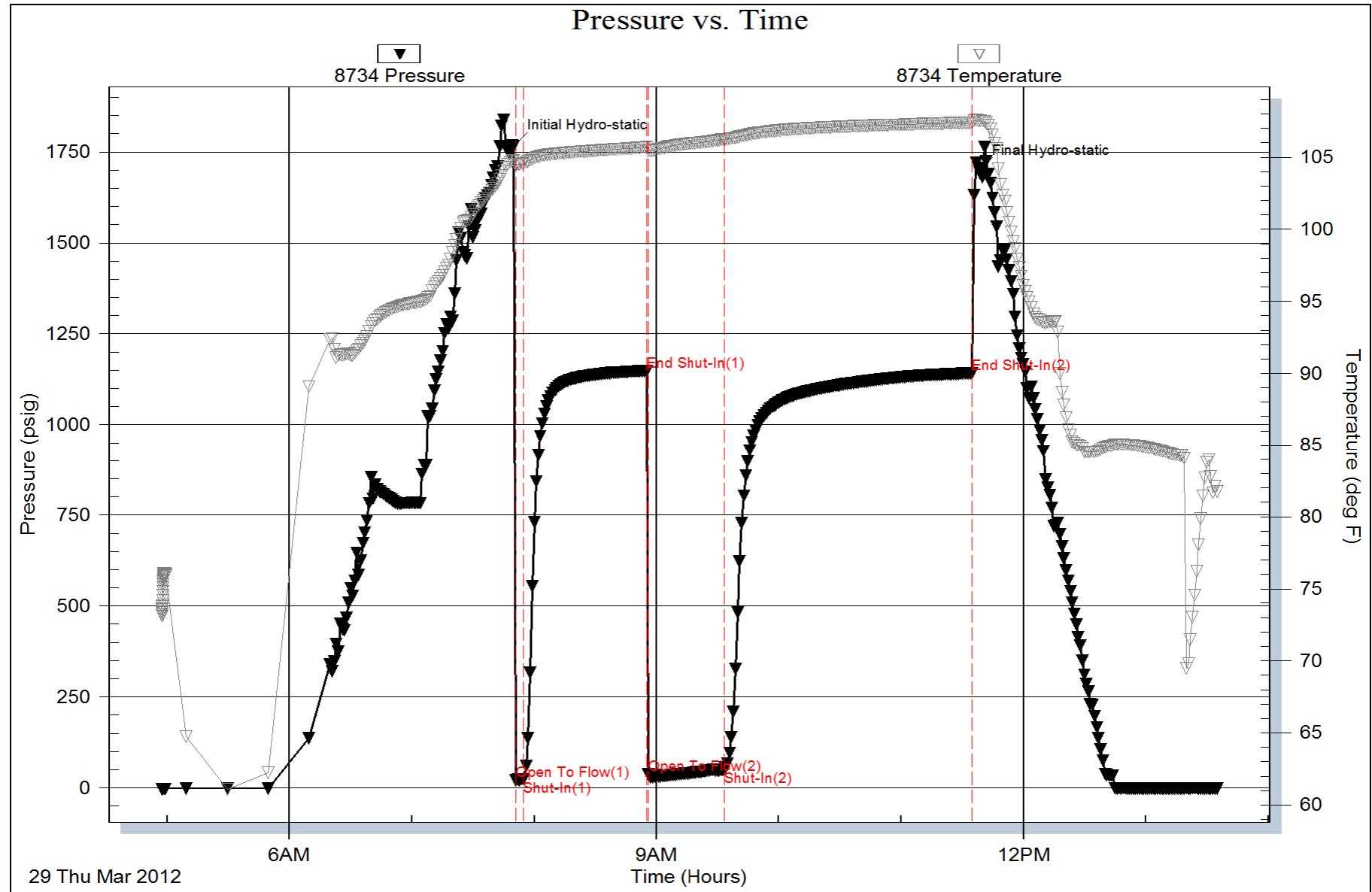
Num Gas Bombs: 0

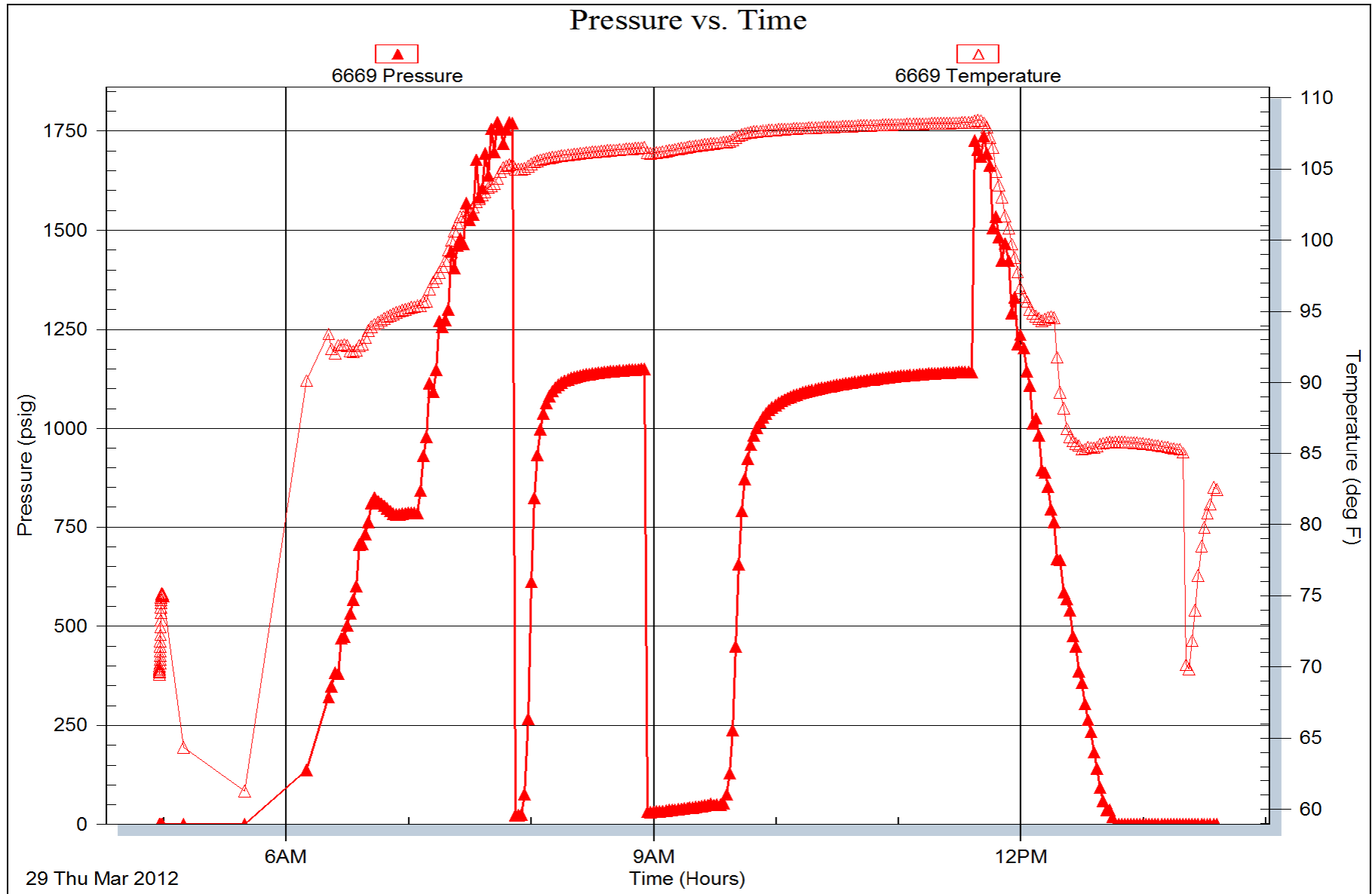
Serial #:

Laboratory Name:

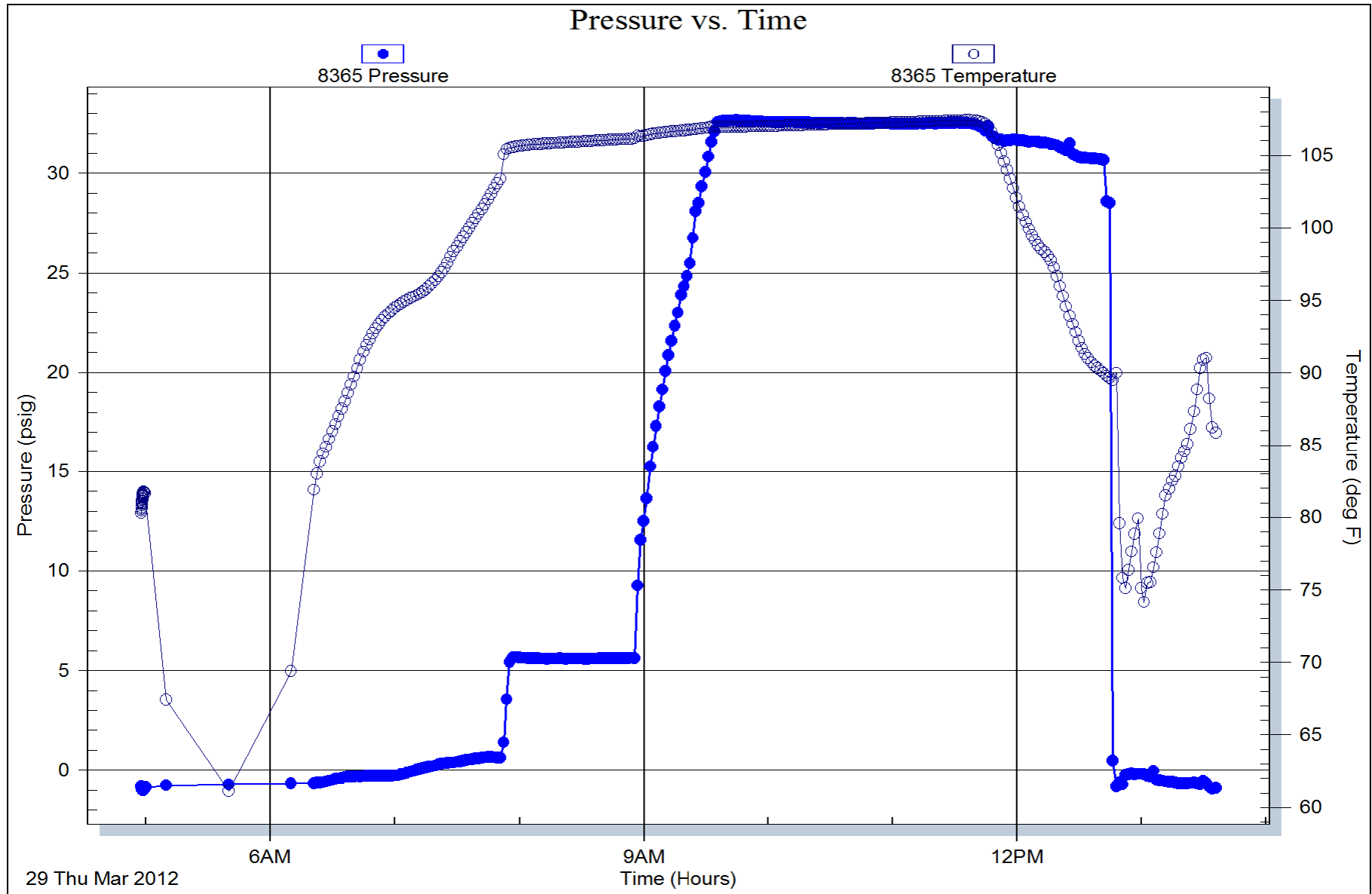
Laboratory Location:

Recovery Comments: 400 ml G, 3200 ml O, 400 ml M, 275 lbs 40 gravity









### Horner Plot

