

DRILL STEM TEST REPORT

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

1515 Wynkoop St. Ste 700
Denver, CO 80202

ATTN: Tom Fertal

Patrick #1-12

12-16s-17w Rush,KS

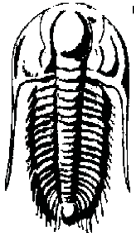
Start Date: 2012.02.09 @ 07:33:37

End Date: 2012.02.09 @ 14:52:37

Job Ticket #: 46421 DST #: 2

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

Printed: 2012.02.15 @ 09:09:56



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Samuel Gary Jr. and Associates, Inc.

12-16s-17w Rush, KS

1515 Wynkoop St. Ste 700
Denver, CO 80202

Patrick #1-12

Job Ticket: 46421

DST#: 2

ATTN: Tom Fertal

Test Start: 2012.02.09 @ 07:33:37

GENERAL INFORMATION:

Formation: **LKC "F-G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:14:37
 Time Test Ended: 14:52:37
 Interval: **3338.00 ft (KB) To 3388.00 ft (KB) (TVD)**
 Total Depth: 3388.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brian Fairbank
 Unit No: 41
 Reference Elevations: 1984.00 ft (KB)
 1974.00 ft (CF)
 KB to GR/CF: 10.00 ft

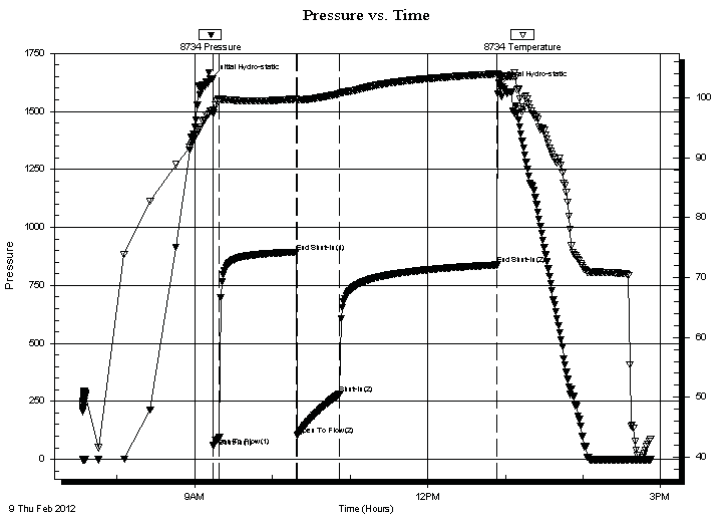
Serial #: 8734

Outside

Press@RunDepth: 283.35 psig @ 3375.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.02.09 End Date: 2012.02.09 Last Calib.: 2012.02.09
 Start Time: 07:33:38 End Time: 14:52:37 Time On Btm: 2012.02.09 @ 09:12:37
 Time Off Btm: 2012.02.09 @ 12:55:37

TEST COMMENT: 5 - IFP - BOB 3 min
 60 - ISI - sur blow back - died 16 min
 35 - FFP - BOB 4 min
 120 - ISI - sur blow back - died 7 min

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1639.90	97.82	Initial Hydro-static
2	58.73	97.48	Open To Flow (1)
7	93.46	99.65	Shut-In(1)
66	893.29	99.80	End Shut-In(1)
67	104.73	99.58	Open To Flow (2)
100	283.35	100.68	Shut-In(2)
221	838.30	103.98	End Shut-In(2)
223	1611.19	103.67	Final Hydro-static

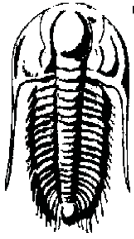
Recovery

Length (ft)	Description	Volume (bbl)
5.00	MUD 100%	0.07
504.00	MW 95%W, 5%M	7.07
1.00	FREE OIL TSTM	0.01

* Recovery from multiple tests

Gas Rates

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



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1515 Wynkoop St. Ste 700
Denver, CO 80202
ATTN: Tom Fertal

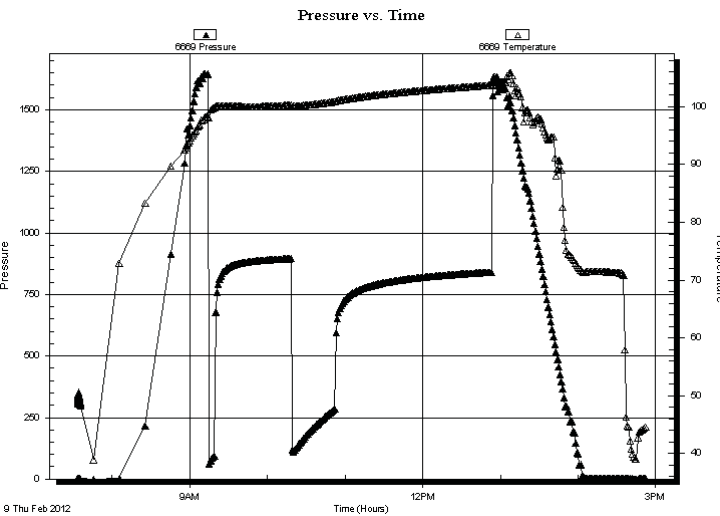
12-16s-17w Rush, KS
Patrick #1-12
Job Ticket: 46421 **DST#: 2**
Test Start: 2012.02.09 @ 07:33:37

GENERAL INFORMATION:

Formation: **LKC "F-G"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 09:14:37 Tester: Brian Fairbank
Time Test Ended: 14:52:37 Unit No: 41
Interval: 3338.00 ft (KB) To 3388.00 ft (KB) (TVD) Reference Elevations: 1984.00 ft (KB)
Total Depth: 3388.00 ft (KB) (TVD) 1974.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 10.00 ft

Serial #: 6669 **Inside**
Press@RunDepth: psig @ 3375.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.02.09 End Date: 2012.02.09 Last Calib.: 2012.02.09
Start Time: 07:33:38 End Time: 14:52:37 Time On Btm:
Time Off Btm:

TEST COMMENT: 5 - IFP - BOB 3 min
60 - ISI - sur blow back - died 16 min
35 - FFP - BOB 4 min
120 - ISI - sur blow back - died 7 min

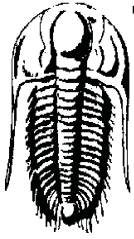


PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
5.00	MUD 100%	0.07
504.00	MV 95%W, 5%M	7.07
1.00	FREE OIL TSTM	0.01

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

* Recovery from multiple tests



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DRILL STEM TEST REPORT

Samuel Gary Jr. and Associates, Inc.

12-16s-17w Rush, KS

1515 Wynkoop St. Ste 700
Denver, CO 80202

Patrick #1-12

Job Ticket: 46421

DST#: 2

ATTN: Tom Fertal

Test Start: 2012.02.09 @ 07:33:37

GENERAL INFORMATION:

Formation: **LKC "F-G"**

Deviated: **No Whipstock:** ft (KB)

Time Tool Opened: 09:14:37

Time Test Ended: 14:52:37

Test Type: Conventional Bottom Hole (Reset)

Tester: Brian Fairbank

Unit No: 41

Interval: **3338.00 ft (KB) To 3388.00 ft (KB) (TVD)**

Reference Elevations: 1984.00 ft (KB)

Total Depth: 3388.00 ft (KB) (TVD)

1974.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8365 Fluid

Press@RunDepth: psig @ 3304.00 ft (KB)

Start Date: 2012.02.09

End Date:

2012.02.09

Start Time: 07:33:01

End Time:

14:52:00

Capacity: 8000.00 psig

Last Calib.:

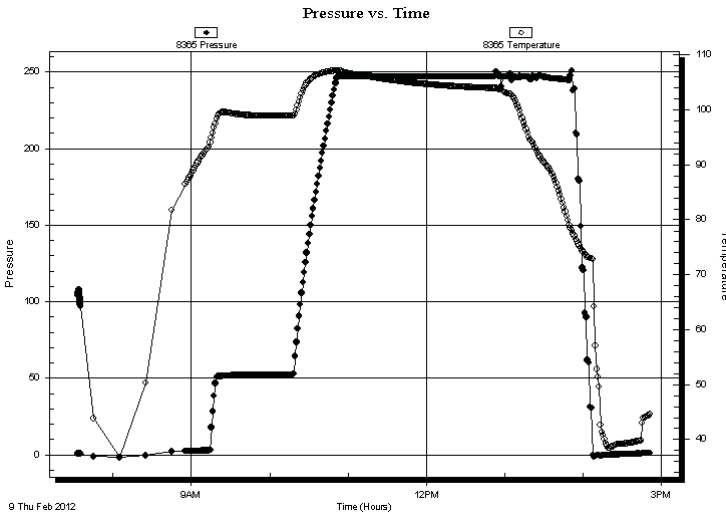
2012.02.09

Time On Btm:

Time Off Btm:

TEST COMMENT: 5 - IFP - BOB 3 min
60 - ISI - sur blow back - died 16 min
35 - FFP - BOB 4 min
120 - ISI - sur blow back - died 7 min

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

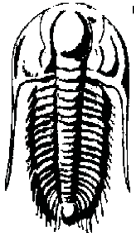
Recovery

Length (ft)	Description	Volume (bbl)
5.00	MUD 100%	0.07
504.00	MV 95%W, 5%M	7.07
1.00	FREE OIL TSTM	0.01

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Samuel Gary Jr. and Associates, Inc.

12-16s-17w Rush,KS

1515 Wynkoop St. Ste 700
Denver, CO 80202

Patrick #1-12

Job Ticket: 46421

DST#: 2

ATTN: Tom Fertal

Test Start: 2012.02.09 @ 07:33:37

Tool Information

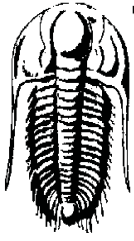
Drill Pipe:	Length: 3323.00 ft	Diameter: 3.80 inches	Volume: 46.61 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 46.61 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3338.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	84.00 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	3304.00	
Blank Spacing	5.00			3309.00	
Shut In Tool	5.00			3314.00	
Sampler	2.00			3316.00	
Hydraulic tool	5.00			3321.00	
Jars	5.00			3326.00	
Safety Joint	2.00			3328.00	
Packer	5.00			3333.00	34.00 Bottom Of Top Packer
Packer	5.00			3338.00	
Stubb	1.00			3339.00	
Perforations	3.00			3342.00	
Change Over Sub	1.00			3343.00	
Blank Spacing	31.00			3374.00	
Change Over Sub	1.00			3375.00	
Recorder	0.00	6669	Inside	3375.00	
Recorder	0.00	8734	Outside	3375.00	
Perforations	10.00			3385.00	
Bullnose	3.00			3388.00	50.00 Bottom Packers & Anchor

Total Tool Length: 84.00



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FLUID SUMMARY

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Patrick #1-12

Job Ticket: 46421

DST#: 2

ATTN: Tom Fertal

Test Start: 2012.02.09 @ 07:33:37

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:

57000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
5.00	MUD 100%	0.070
504.00	MW 95%W, 5%M	7.070
1.00	FREE OIL TSTM	0.014

Total Length: 510.00 ft Total Volume: 7.154 bbl

Num Fluid Samples: 0

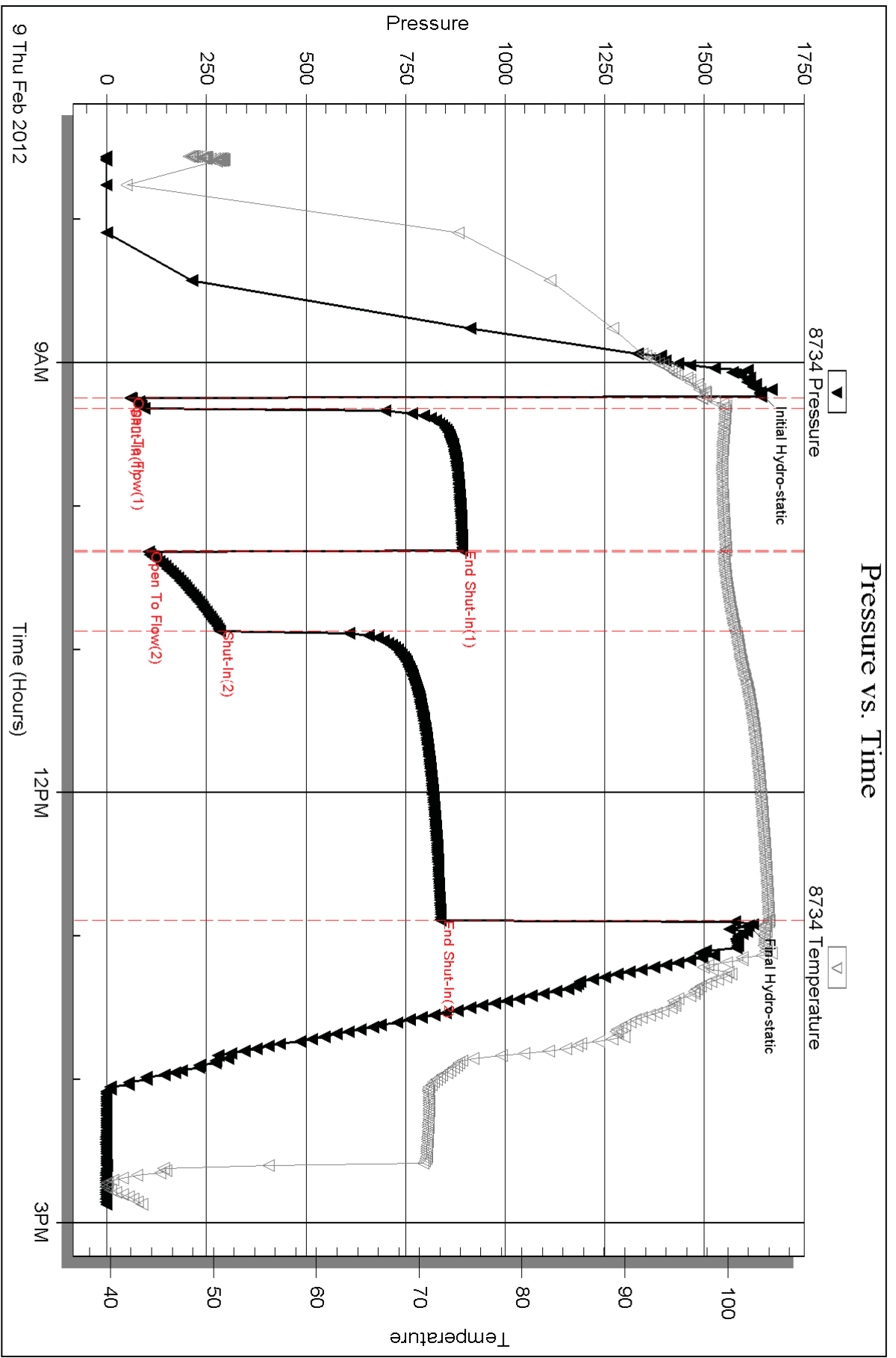
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 200 ML O, 400 ML M, 3400 ML W, 350 LBS, 57,000 CHLORIDES



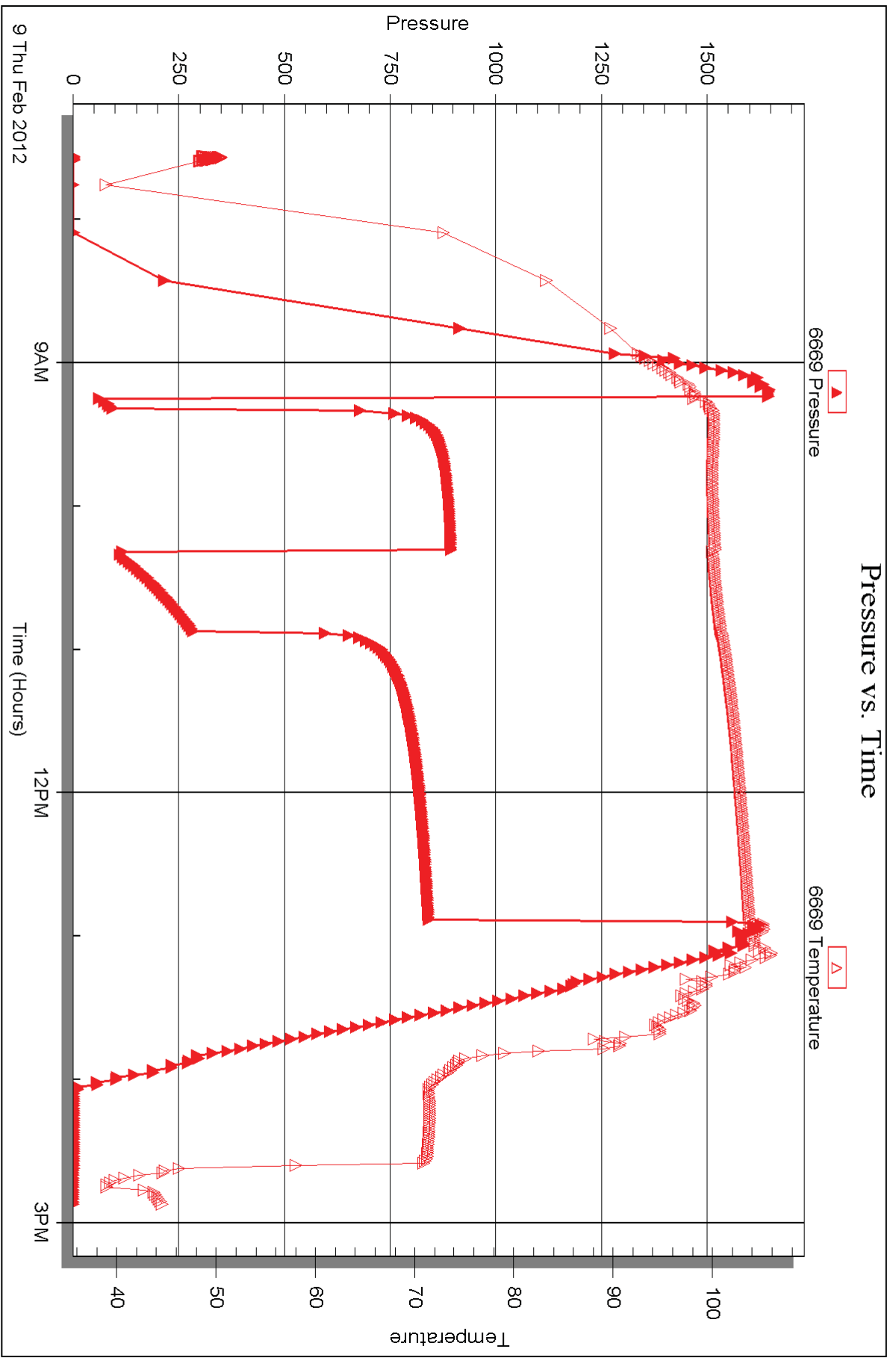
Serial #: 6669

Inside

Samuel Gary Jr. and Associates, Inc.

Patrick#1-12

DST Test Number: 2



Serial #: 8365

Fluid

Samuel Gary Jr. and Associates, Inc.

Patrick #1-12

DST Test Number: 2

