

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: 2012.02.08 @ 07:34:47

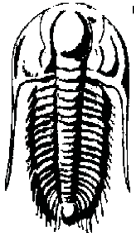
End Date: 2012.02.08 @ 15:55:47

Job Ticket #: 46420 DST #: 1

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

Printed: 2012.02.15 @ 09:10:53

Samuel Gary Jr. and Associates, Inc.
12-16s-17w Rush,KS
Patrick #1-12
DST # 1
LKC "A"
2012.02.08



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

ATTN: Tom Fertal

Job Ticket: 46420

DST#: 1

Test Start: 2012.02.08 @ 07:34:47

GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:33:47

Time Test Ended: 15:55:47

Test Type: Conventional Bottom Hole (Initial)

Tester: Brian Fairbank

Unit No: 41

Interval: 3256.00 ft (KB) To 3290.00 ft (KB) (TVD)

Reference Elevations: 1984.00 ft (KB)

Total Depth: 3290.00 ft (KB) (TVD)

1974.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8734 Outside

Press@RunDepth: 111.32 psig @ 3262.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.02.08 End Date: 2012.02.08

Last Calib.: 2012.02.08

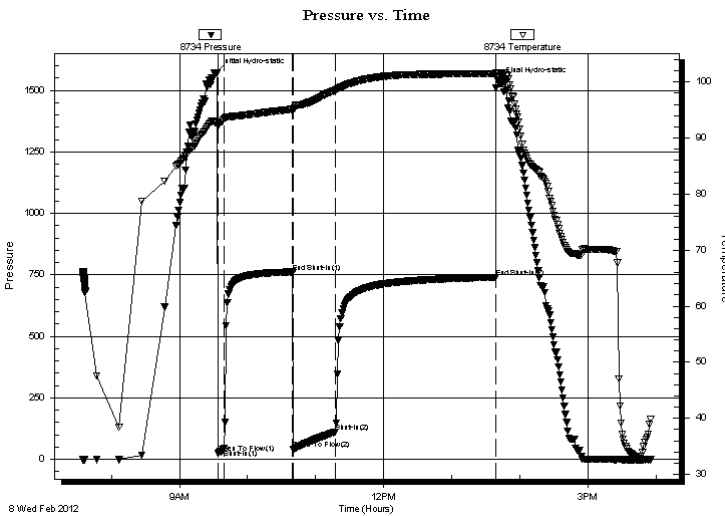
Start Time: 07:34:48 End Time: 15:55:47

Time On Btm: 2012.02.08 @ 09:32:17

Time Off Btm: 2012.02.08 @ 13:41:17

TEST COMMENT: 5 - IFP - weak to good blow 1"- 7"
60 - ISI - no blow back
40 - FFP - BOB 8 min
140 - FSI - 1/4" blow back - died 14 min

PRESSURE SUMMARY



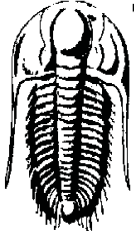
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1571.56	92.75	Initial Hydro-static
2	22.75	92.29	Open To Flow (1)
7	42.90	93.48	Shut-In(1)
68	760.69	95.14	End Shut-In(1)
68	40.75	95.06	Open To Flow (2)
106	111.32	98.59	Shut-In(2)
247	740.24	101.48	End Shut-In(2)
249	1537.50	101.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	MUD 100%	0.07
184.00	VSO CMV 3%O, 87%W, 10%M	2.58
1.00	FREE OIL TSTM	0.01
0.00	155' GIP	0.00

Gas Rates

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



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Patrick #1-12

Job Ticket: 46420

DST#: 1

ATTN: Tom Fertal

Test Start: 2012.02.08 @ 07:34:47

GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:33:47

Time Test Ended: 15:55:47

Interval: **3256.00 ft (KB) To 3290.00 ft (KB) (TVD)**

Total Depth: 3290.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Initial)

Tester: Brian Fairbank

Unit No: 41

Reference Elevations: 1984.00 ft (KB)

1974.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: **6669**

Inside

Press@RunDepth: psig @ 3262.00 ft (KB)

Start Date: 2012.02.08

End Date: 2012.02.08

Capacity: 8000.00 psig

Last Calib.: 2012.02.08

Start Time: 07:34:18

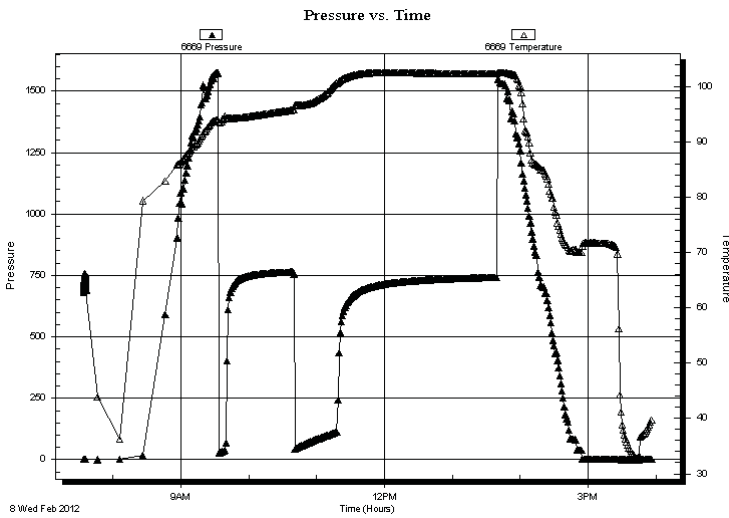
End Time: 15:55:47

Time On Btm

Time Off Btm

TEST COMMENT: 5 - IFFP - weak to good blow 1"- 7"
60 - ISI - no blow back
40 - FFP - BOB 8 min
140 - FSI - 1/4" blow back - died 14 min

PRESSURE SUMMARY



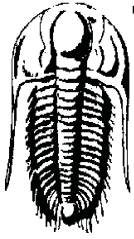
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
5.00	MUD 100%	0.07
184.00	VSOCMV 3%O, 87%W, 10%M	2.58
1.00	FREE OIL TSTM	0.01
0.00	155' GIP	0.00

Gas Rates

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



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DRILL STEM TEST REPORT

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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: 46420 **DST#: 1**
Test Start: 2012.02.08 @ 07:34:47

GENERAL INFORMATION:

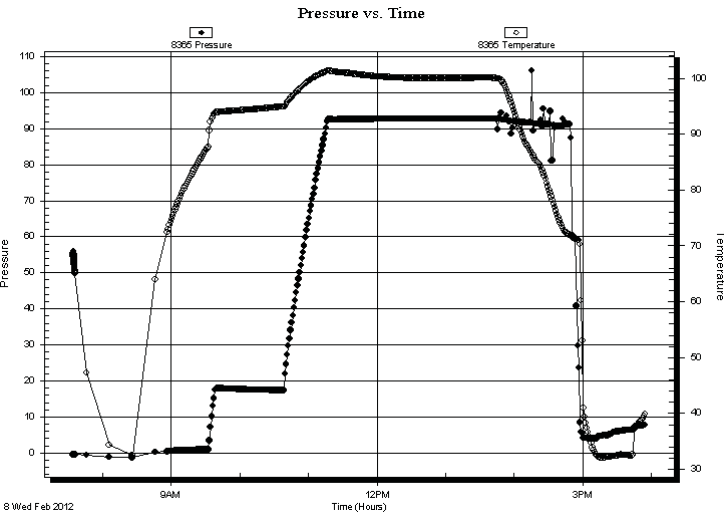
Formation: **LKC "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:33:47
Time Test Ended: 15:55:47
Interval: **3256.00 ft (KB) To 3290.00 ft (KB) (TVD)**
Total Depth: 3290.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Brian Fairbank
Unit No: 41
Reference Elevations: 1984.00 ft (KB)
1974.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8365

Fluid

Press@RunDepth: psig @ 3222.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.02.08 End Date: 2012.02.08 Last Calib.: 2012.02.08
Start Time: 07:34:03 End Time: 15:55:02 Time On Btm:
Time Off Btm:

TEST COMMENT: 5 - IFP - weak to good blow 1"- 7"
60 - ISI - no blow back
40 - FFP - BOB 8 min
140 - FSI - 1/4" blow back - died 14 min



PRESSURE SUMMARY

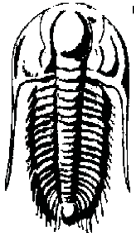
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
5.00	MUD 100%	0.07
184.00	VSOCMV 3%O, 87%W, 10%M	2.58
1.00	FREE OIL TSTM	0.01
0.00	155' GIP	0.00

Gas Rates

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



**TRILOBITE
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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: 46420

DST#: 1

ATTN: Tom Fertal

Test Start: 2012.02.08 @ 07:34:47

Tool Information

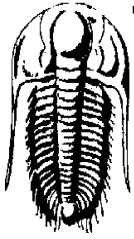
Drill Pipe:	Length: 3230.00 ft	Diameter: 3.80 inches	Volume: 45.31 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 45.31 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3256.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Recorder	0.00	8365	Fluid	3222.00	
Blank Spacing	5.00			3227.00	
Shut In Tool	5.00			3232.00	
Sampler	2.00			3234.00	
Hydraulic tool	5.00			3239.00	
Jars	5.00			3244.00	
Safety Joint	2.00			3246.00	
Packer	5.00			3251.00	34.00 Bottom Of Top Packer
Packer	5.00			3256.00	
Stubb	1.00			3257.00	
Perforations	5.00			3262.00	
Recorder	0.00	6669	Inside	3262.00	
Recorder	0.00	8734	Outside	3262.00	
Perforations	25.00			3287.00	
Bullnose	3.00			3290.00	34.00 Bottom Packers & Anchor

Total Tool Length: 68.00



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FLUID SUMMARY

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Denver, CO 80202

Patrick #1-12

Job Ticket: 46420

DST#: 1

ATTN: Tom Fertal

Test Start: 2012.02.08 @ 07:34:47

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:

60000 ppm

Viscosity: 44.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.36 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
5.00	MUD 100%	0.070
184.00	VSOCMMW 3%O, 87%W, 10%M	2.581
1.00	FREE OIL TSTM	0.014
0.00	155' GIP	0.000

Total Length: 190.00 ft Total Volume: 2.665 bbl

Num Fluid Samples: 0

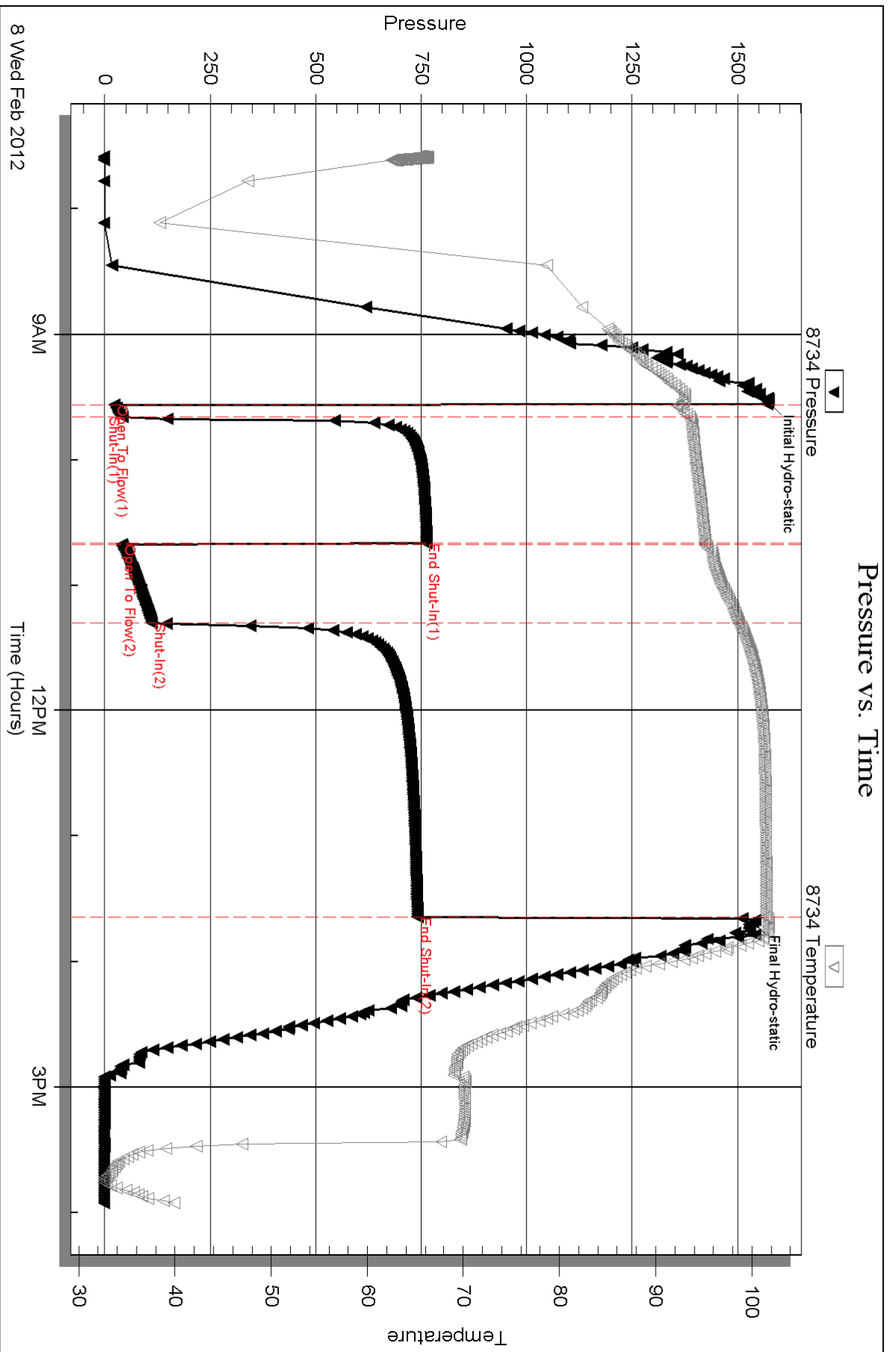
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 200 ML G, 150 ML O, 150 ML M, 3500 ML W, 360 LBS, 60,000 CHLORIDES



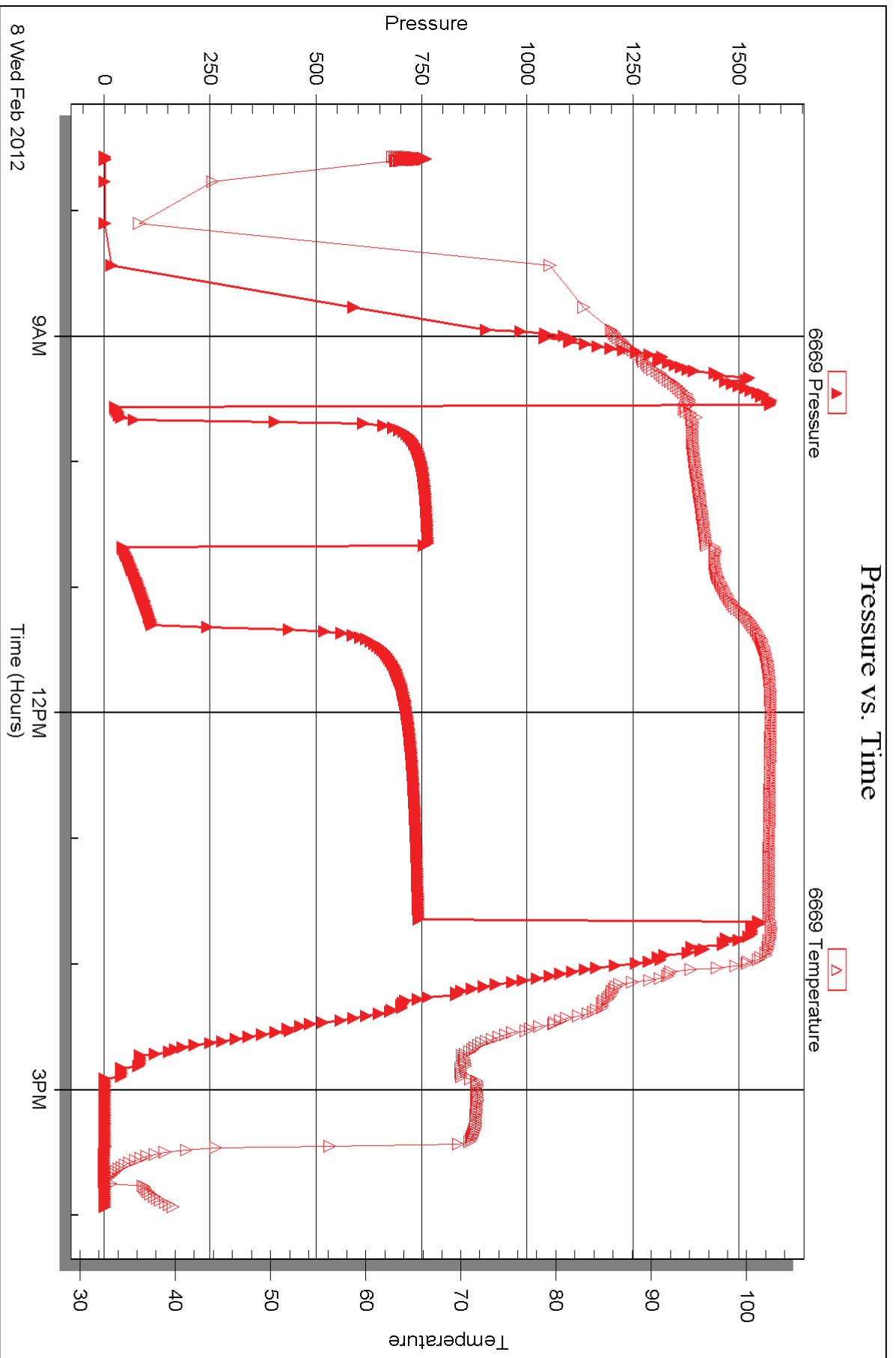
Serial #: 6669

Inside

Samuel Gary Jr. and Associates, Inc.

Patrick#1-12

DST Test Number: 1



Serial #: 8365

Fluid

Samuel Gary Jr. and Associates, Inc.

Patrick#1-12

DST Test Number: 1

