



DRILL STEM TEST REPORT

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

1515 Wynkoop, STE 700
Denver, CO, 80202

ATTN: Chris Mitchell

Fellhoelter 1-15

15-10S-30W Sheridan KS

Start Date: 2015.01.14 @ 05:50:00

End Date: 2015.01.14 @ 15:13:15

Job Ticket #: 62143 DST #: 3

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

Printed: 2015.01.14 @ 15:07:09



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TESTING, INC.**

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DST#: 3

Test Start: 2015.01.14 @ 05:50:00

GENERAL INFORMATION:

Formation: **LKC "K&L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:05:45

Time Test Ended: 15:13:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann/ Jam

Unit No: 83

Interval: 4172.00 ft (KB) To 4206.00 ft (KB) (TVD)

Reference Elevations: 2881.00 ft (KB)

Total Depth: 4206.00 ft (KB) (TVD)

2873.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8791

Inside

Press @ Run Depth: 393.45 psig @ 4173.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.01.14

End Date: 2015.01.14

Last Calib.: 2015.01.14

Start Time: 05:50:05

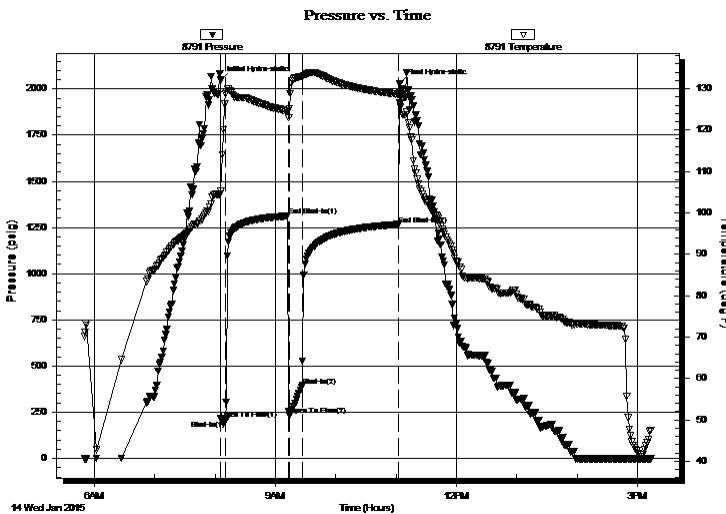
End Time: 15:13:15

Time On Btm: 2015.01.14 @ 08:05:30

Time Off Btm: 2015.01.14 @ 11:03:45

TEST COMMENT: 5 - IF - Strong surface blow built to BOB in 40 sec. (In Diesel)
60 - ISI - Return built to BOB in 27 min.
30 - FF - Strong surface blow built to BOB in 1 min.
120 - FSI - Return built to BOB in 11 min. GTS by end of close

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2047.30	105.26	Initial Hydro-static
1	214.86	105.18	Open To Flow (1)
5	208.16	128.78	Shut-In(1)
67	1312.08	124.59	End Shut-In(1)
69	234.55	125.19	Open To Flow (2)
82	393.45	132.87	Shut-In(2)
177	1266.50	128.64	End Shut-In(2)
179	2029.46	128.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
190.00	GMO 48%g, 31%o, 21%m	2.38
807.00	SMCGO 66%o, 32%g, 2%m	11.32
248.00	CGO 92%o, 8%g (Stands mostly gas)	3.48
0.00	GIP = 2916	0.00

Gas Rates

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



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2873.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: **8366** Outside

Press @ Run Depth: psig @ 4173.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.01.14 End Date: 2015.01.14

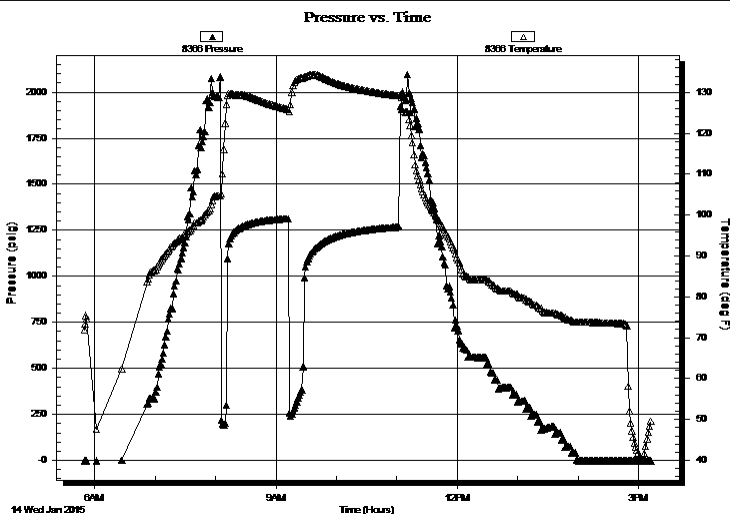
Last Calib.: 2015.01.14

Start Time: 05:50:05 End Time: 15:13:00

Time On Btm:

Time Off Btm:

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Recovery

Length (ft)	Description	Volume (bbl)
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Reference Elevations: 2881.00 ft (KB)

Total Depth: 4206.00 ft (KB) (TVD)

2873.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8320 Fluid

Press @ Run Depth: psig @ 4139.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.01.14

End Date: 2015.01.14

Last Calib.: 2015.01.14

Start Time: 05:50:05

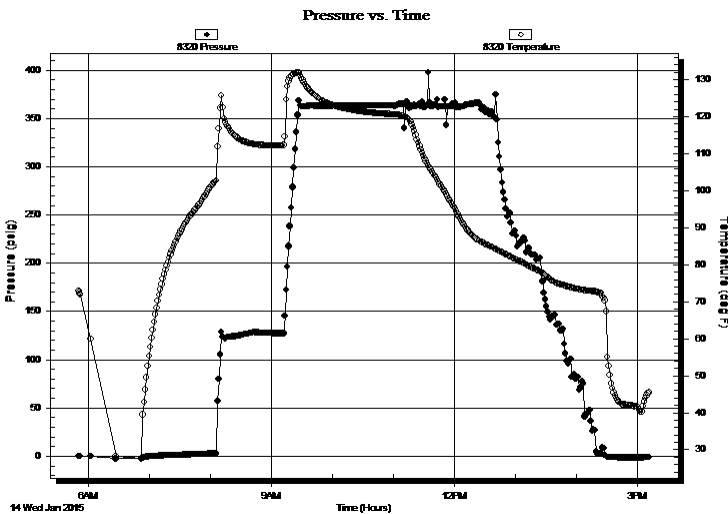
End Time: 15:12:15

Time On Btm:

Time Off Btm:

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PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
190.00	GMO 48%g, 31%o, 21%m	2.38
807.00	SMCGO 66%o, 32%g, 2%m	11.32
248.00	CGO 92%o, 8%g (Stands mostly gas)	3.48
0.00	GIP = 2916	0.00

Gas Rates

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



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TOOL DIAGRAM

Samuel Gary Jr. & Associates, Inc.

15-10S-30W Sheridan KS

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Fellhoelter 1-15

Job Ticket: 62143

DST#: 3

ATTN: Chris Mitchell

Test Start: 2015.01.14 @ 05:50:00

Tool Information

Drill Pipe:	Length: 4125.00 ft	Diameter: 3.80 inches	Volume: 57.86 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: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 58.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4172.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	67.00 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	8320	Fluid	4139.00	
Change Over Sub	5.00			4144.00	
Shut In Tool	5.00			4149.00	
Hydraulic tool	5.00			4154.00	
Jars	5.00			4159.00	
Safety Joint	3.00			4162.00	
Packer	5.00			4167.00	33.00 Bottom Of Top Packer
Packer	5.00			4172.00	
Stubb	1.00			4173.00	
Recorder	0.00	8791	Inside	4173.00	
Recorder	0.00	8366	Outside	4173.00	
Perforations	30.00			4203.00	
Bullnose	3.00			4206.00	34.00 Bottom Packers & Anchor

Total Tool Length: 67.00



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FLUID SUMMARY

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Fellhoelter 1-15

Job Ticket: 62143

DST#: 3

ATTN: Chris Mitchell

Test Start: 2015.01.14 @ 05:50:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 42.4 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 63.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.40 cm ³	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 500.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
190.00	GMO 48%g, 31%o, 21%m	2.383
807.00	SMCGO 66%o, 32%g, 2%m	11.320
248.00	CGO 92%o, 8%g (Stands mostly gas)	3.479
0.00	GIP = 2916	0.000

Total Length: 1245.00 ft Total Volume: 17.182 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

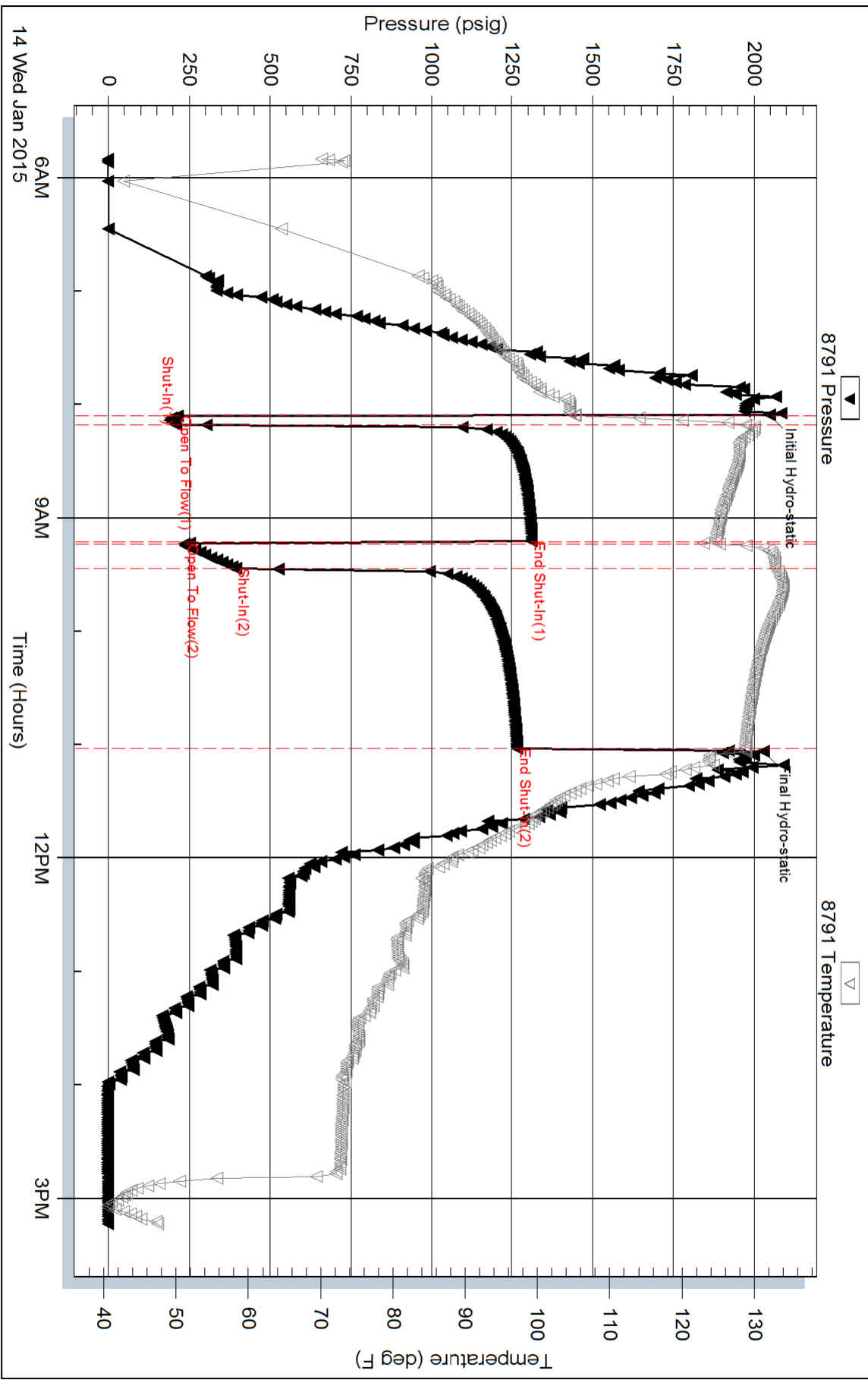
Laboratory Location:

Recovery Comments: Gravity = 41.4 api @ 50 deg F

Corrected Gravity = 42.4 api

In the Fluid the top 248' w hen dumped didn't have much fluid per stand the percentages are of the fluid that caught, but I w ould say at least 75% of the stands w ere gas

Pressure vs. Time

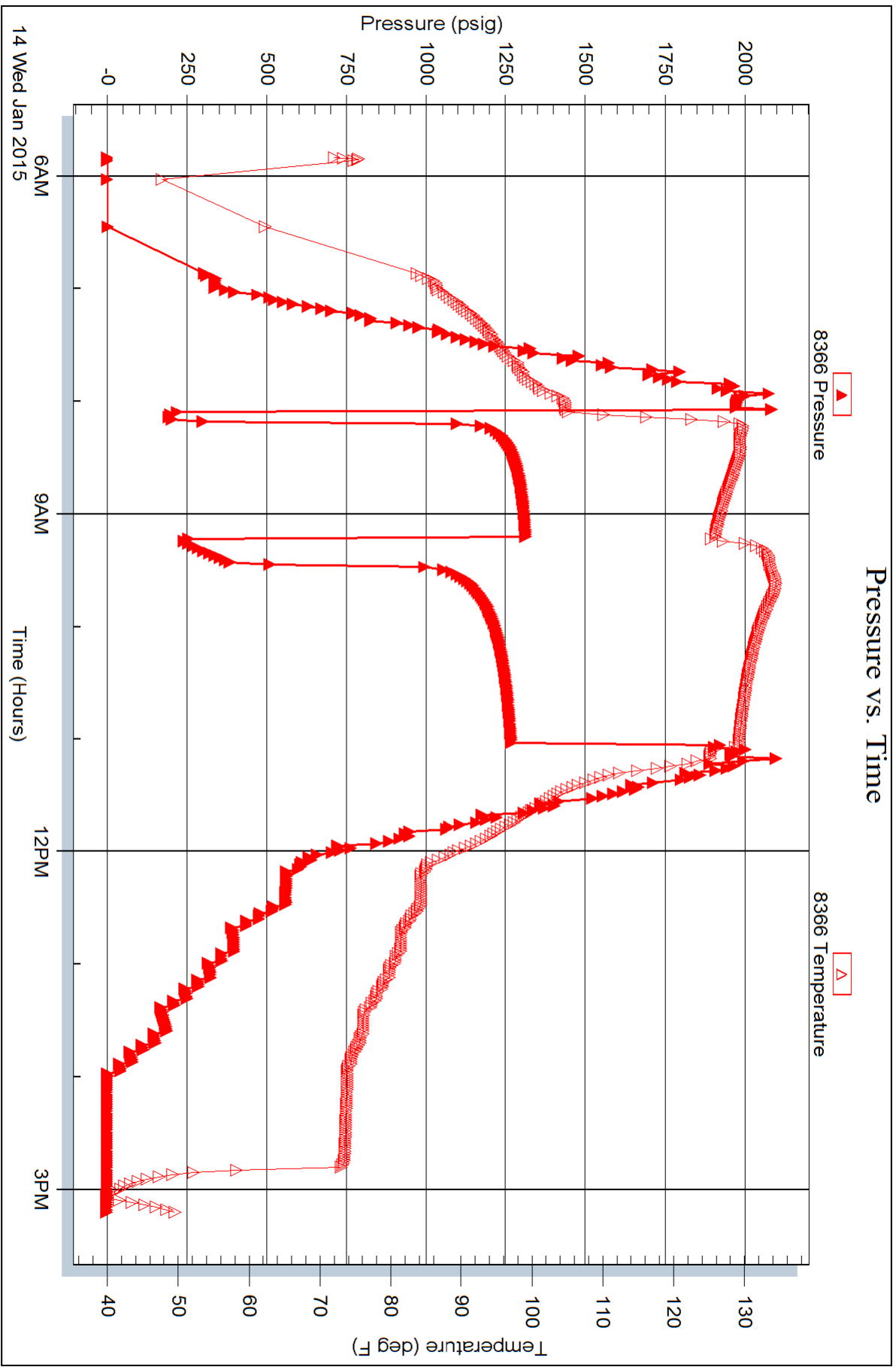


Serial #: 8366

Outside Samuel Gary Jr. & Associates, Inc.

Feilhoelter 1-15

DST Test Number: 3



Serial #: 8320

Fluid

Samuel Gary Jr. & Associates, Inc.

Fellnoelter 1-15

DST Test Number: 3

