



DRILL STEM TEST REPORT

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

1515 Wynkoop, STE 700
Denver CO 80202

ATTN: Clayton Camozzi

Hoss et al #1-22

22-16s-16w Rush, KS

Start Date: 2012.04.12 @ 21:48:15

End Date: 2012.04.13 @ 05:43:15

Job Ticket #: 47711 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.04.13 @ 09:46:16

Samuel Gary Jr. & Associates

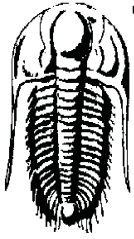
22-16s-16w Rush, KS

Hoss et al #1-22

DST # 2

KC "H-J"

2012.04.12



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

22-16s-16w Rush, KS

1515 Wynkoop, STE 700
Denver CO 80202

Hoss et al #1-22

Job Ticket: 47711

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2012.04.12 @ 21:48:15

GENERAL INFORMATION:

Formation: **KC "H-J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:10:45

Time Test Ended: 05:43:15

Test Type: Conventional Straddle (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: 3362.00 ft (KB) To 3418.00 ft (KB) (TVD)

Reference Elevations: 1944.00 ft (KB)

Total Depth: 3640.00 ft (KB) (TVD)

1934.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8369 Outside

Press@RunDepth: 33.88 psig @ 3414.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.04.12

End Date: 2012.04.13

Last Calib.: 2012.04.13

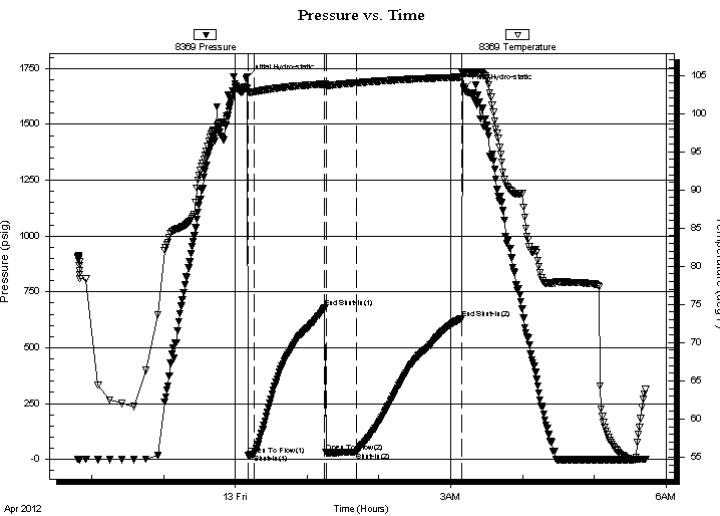
Start Time: 21:48:20

End Time: 05:43:14

Time On Btm: 2012.04.13 @ 00:08:45

Time Off Btm: 2012.04.13 @ 03:11:15

TEST COMMENT: IF-9" blow
ISI-No blow
FF-BOB in 5 min
FSI-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1704.26	103.30	Initial Hydro-static
2	19.12	102.84	Open To Flow (1)
7	22.57	102.84	Shut-In(1)
66	679.48	103.86	End Shut-In(1)
67	31.72	103.70	Open To Flow (2)
92	33.88	104.02	Shut-In(2)
180	629.14	104.78	End Shut-In(2)
183	1660.34	105.29	Final Hydro-static

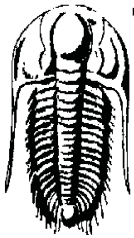
Recovery

Length (ft)	Description	Volume (bbl)
45.00	VSGOCM 5%G 10%O 85%M	0.63
0.00	75ft GIP	0.00

* Recovery from multiple tests

Gas Rates

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



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Test Type: Conventional Straddle (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: 3362.00 ft (KB) To 3418.00 ft (KB) (TVD)

Reference Elevations: 1944.00 ft (KB)

Total Depth: 3640.00 ft (KB) (TVD)

1934.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8319 **Inside**

Press@RunDepth: psig @ 3414.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.04.12

End Date: 2012.04.13

Last Calib.: 2012.04.13

Start Time: 21:48:20

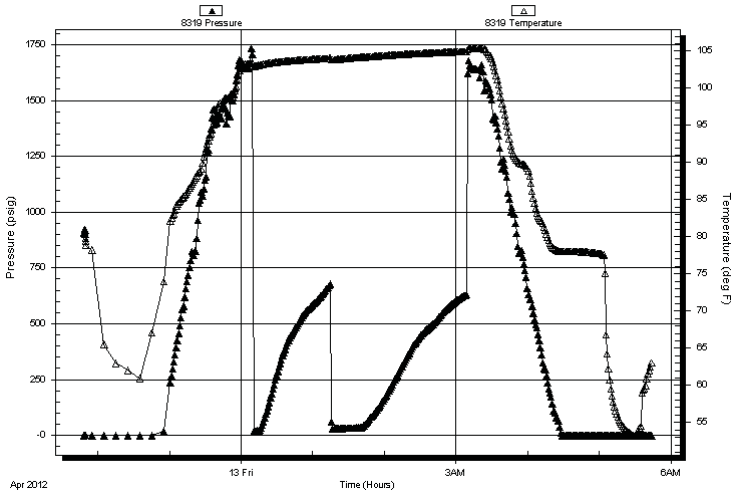
End Time: 05:43:44

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-9" blow
ISI-No blow
FF-BOB in 5 min
FSI-No blow

Pressure vs. Time



PRESSURE SUMMARY

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

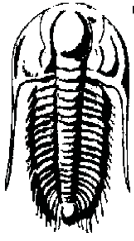
Recovery

Length (ft)	Description	Volume (bbl)
45.00	VSGOCM 5%G 10%O 85%M	0.63
0.00	75ft GIP	0.00

Gas Rates

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

* Recovery from multiple tests



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DRILL STEM TEST REPORT

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22-16s-16w Rush, KS

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Denver CO 80202

Hoss et al #1-22

Job Ticket: 47711

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2012.04.12 @ 21:48:15

GENERAL INFORMATION:

Formation: **KC "H-J"**

Deviated: No Whipstock: ft (KB)

Test Type: Conventional Straddle (Reset)

Time Tool Opened: 00:10:45

Tester: Brett Dickinson

Time Test Ended: 05:43:15

Unit No: 59

Interval: 3362.00 ft (KB) To 3418.00 ft (KB) (TVD)

Reference Elevations: 1944.00 ft (KB)

Total Depth: 3640.00 ft (KB) (TVD)

1934.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 6753

Fluid

Press@RunDepth: psig @ 3334.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.04.12

End Date: 2012.04.13

Last Calib.: 2012.04.13

Start Time: 21:48:20

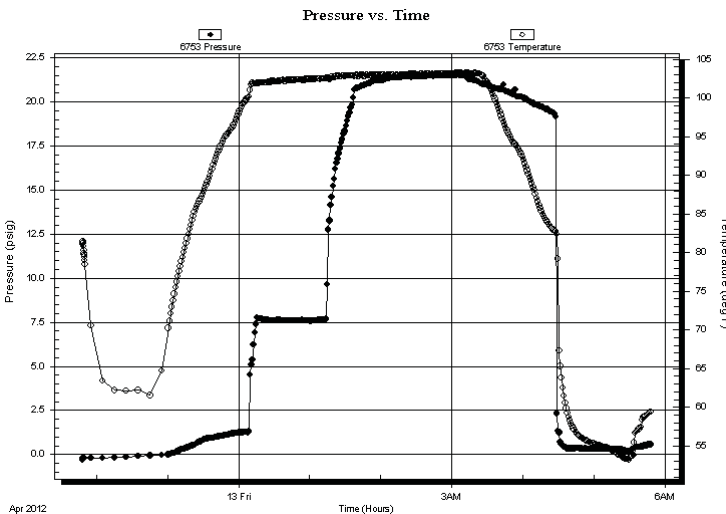
End Time: 05:47:44

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-9" blow
ISI-No blow
FF-BOB in 5 min
FSI-No blow

PRESSURE SUMMARY



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

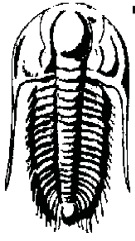
Recovery

Length (ft)	Description	Volume (bbl)
45.00	VSGOCM 5%G 10%O 85%M	0.63
0.00	75ft GIP	0.00

* Recovery from multiple tests

Gas Rates

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



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Hoss et al #1-22

Job Ticket: 47711

DST#: 2

Test Start: 2012.04.12 @ 21:48:15

GENERAL INFORMATION:

Formation: **KC "H-J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:10:45

Time Test Ended: 05:43:15

Test Type: Conventional Straddle (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: **3362.00 ft (KB) To 3418.00 ft (KB) (TVD)**

Reference Elevations: 1944.00 ft (KB)

Total Depth: 3640.00 ft (KB) (TVD)

1934.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8788 Below (Straddle)

Press@RunDepth: psig @ 3425.00 ft (KB)

Start Date: 2012.04.12

End Date: 2012.04.13

Capacity: 8000.00 psig

Last Calib.: 2012.04.13

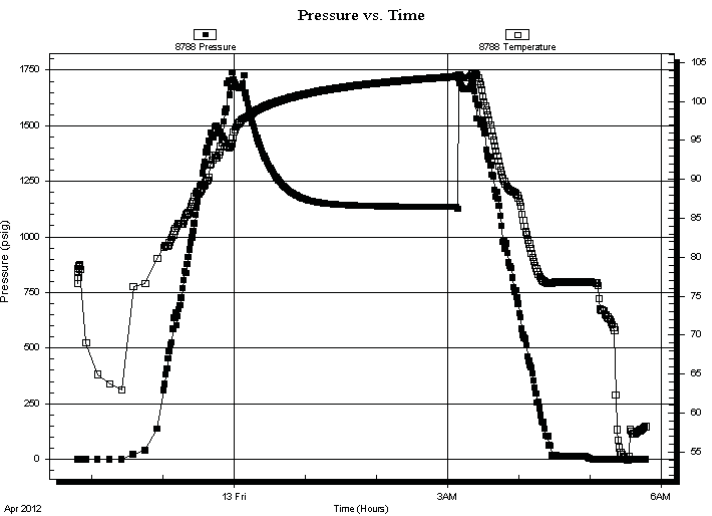
Start Time: 21:48:20

End Time: 05:46:44

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-9" blow
IS-NO blow
FF-BOB in 5 min
FS-NO blow



PRESSURE SUMMARY

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

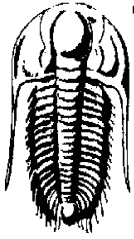
Recovery

Length (ft)	Description	Volume (bbl)
45.00	VSGOCM 5%G 10%O 85%M	0.63
0.00	75ft GIP	0.00

Gas Rates

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

* Recovery from multiple tests



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Samuel Gary Jr. & Associates

22-16s-16w Rush, KS

1515 Wynkoop, STE 700
Denver CO 80202

Hoss et al #1-22

Job Ticket: 47711

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2012.04.12 @ 21:48:15

Tool Information

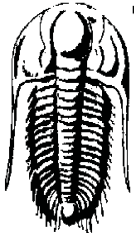
Drill Pipe:	Length: 3356.00 ft	Diameter: 3.80 inches	Volume: 47.08 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 46000.00 lb
			<u>Total Volume: 47.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3362.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	3418.00 ft			
Interval between Packers:	56.00 ft			
Tool Length:	313.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Change Over Sub	5.00			3334.00	
Recorder	0.00	6753	Fluid	3334.00	
Shut In Tool	5.00			3339.00	
Sampler	2.00			3341.00	
Hydraulic tool	5.00			3346.00	
Jars	5.00			3351.00	
Safety Joint	2.00			3353.00	
Packer	4.00			3357.00	33.00 Bottom Of Top Packer
Packer	5.00			3362.00	
Stubb	1.00			3363.00	
Perforations	5.00			3368.00	
change Over Sub	1.00			3369.00	
Blank Spacing	31.00			3400.00	
change Over Sub	1.00			3401.00	
Perforations	13.00			3414.00	
Recorder	0.00	8319	Inside	3414.00	
Recorder	0.00	8369	Outside	3414.00	
Blank Off Sub	4.00			3418.00	56.00 Tool Interval
Packer	4.00			3422.00	
Stubb	1.00			3423.00	
perforations	1.00			3424.00	
Change Over Sub	1.00			3425.00	
Recorder	0.00	8788	Below	3425.00	
Blank Spacing	217.00			3642.00	224.00 Bottom Packers & Anchor
Total Tool Length:	313.00				



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FLUID SUMMARY

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22-16s-16w Rush, KS

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Hoss et al #1-22

Job Ticket: 47711

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2012.04.12 @ 21:48:15

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: 66.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	VSGOCM 5%G 10%O 85%M	0.631
0.00	75ft GIP	0.000

Total Length: 45.00 ft Total Volume: 0.631 bbl

Num Fluid Samples: 0

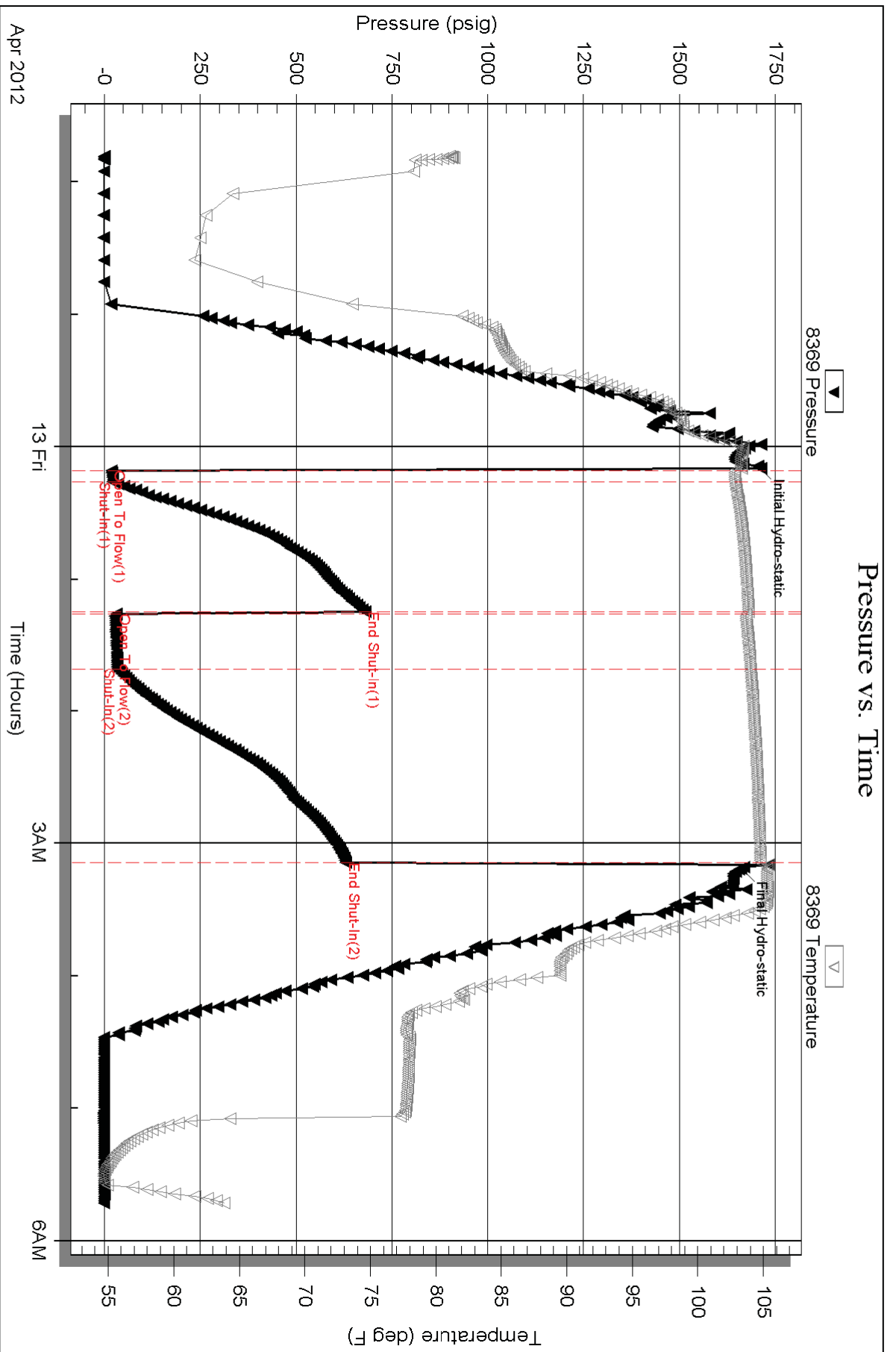
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: SamplerData 1500mlGas 250mlOil 1250mlMud 475 PSI



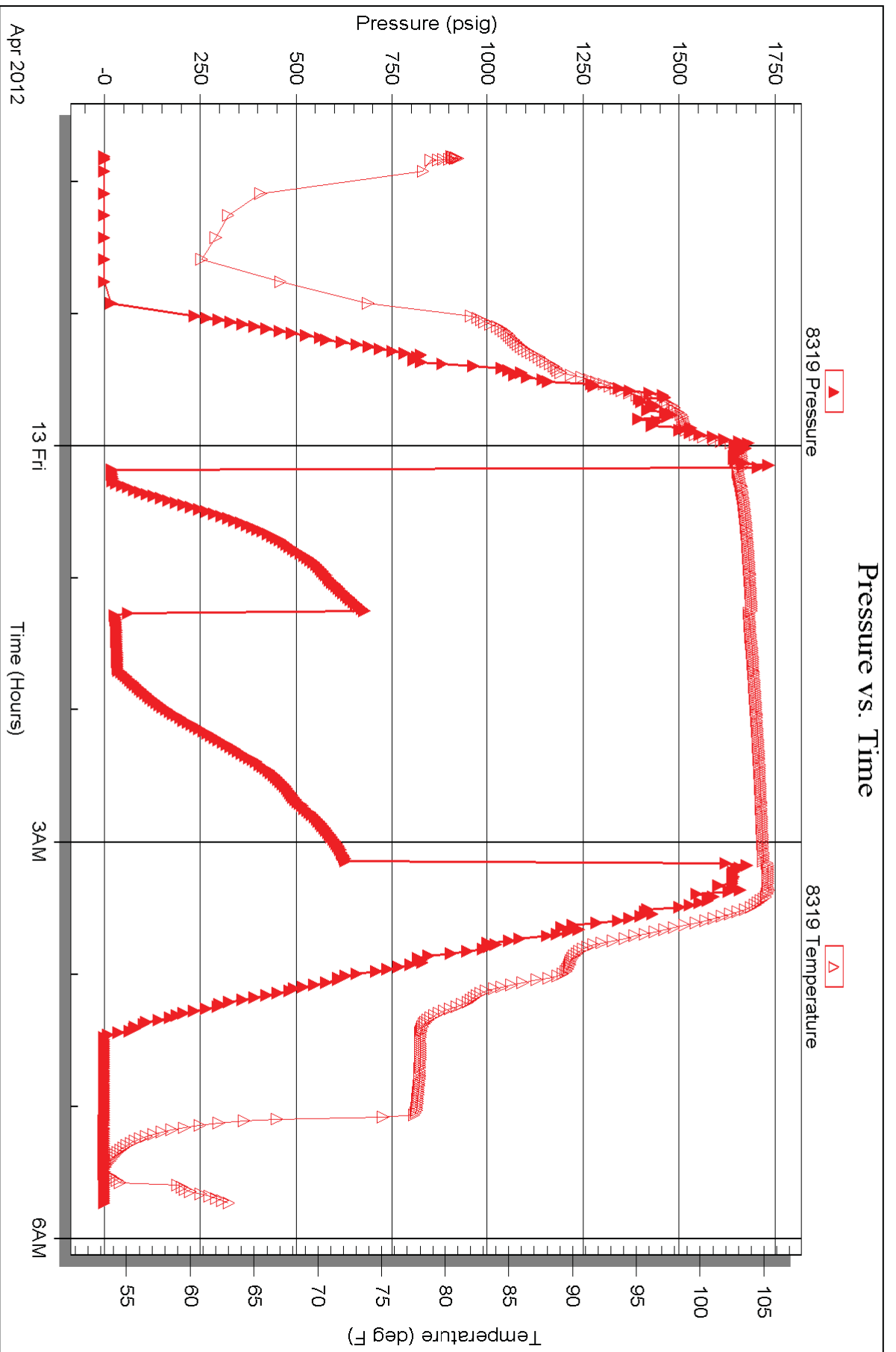
Serial #: 8319

Inside

Samuel Gary Jr. & Associates

Hoss et al #1-22

DST Test Number: 2



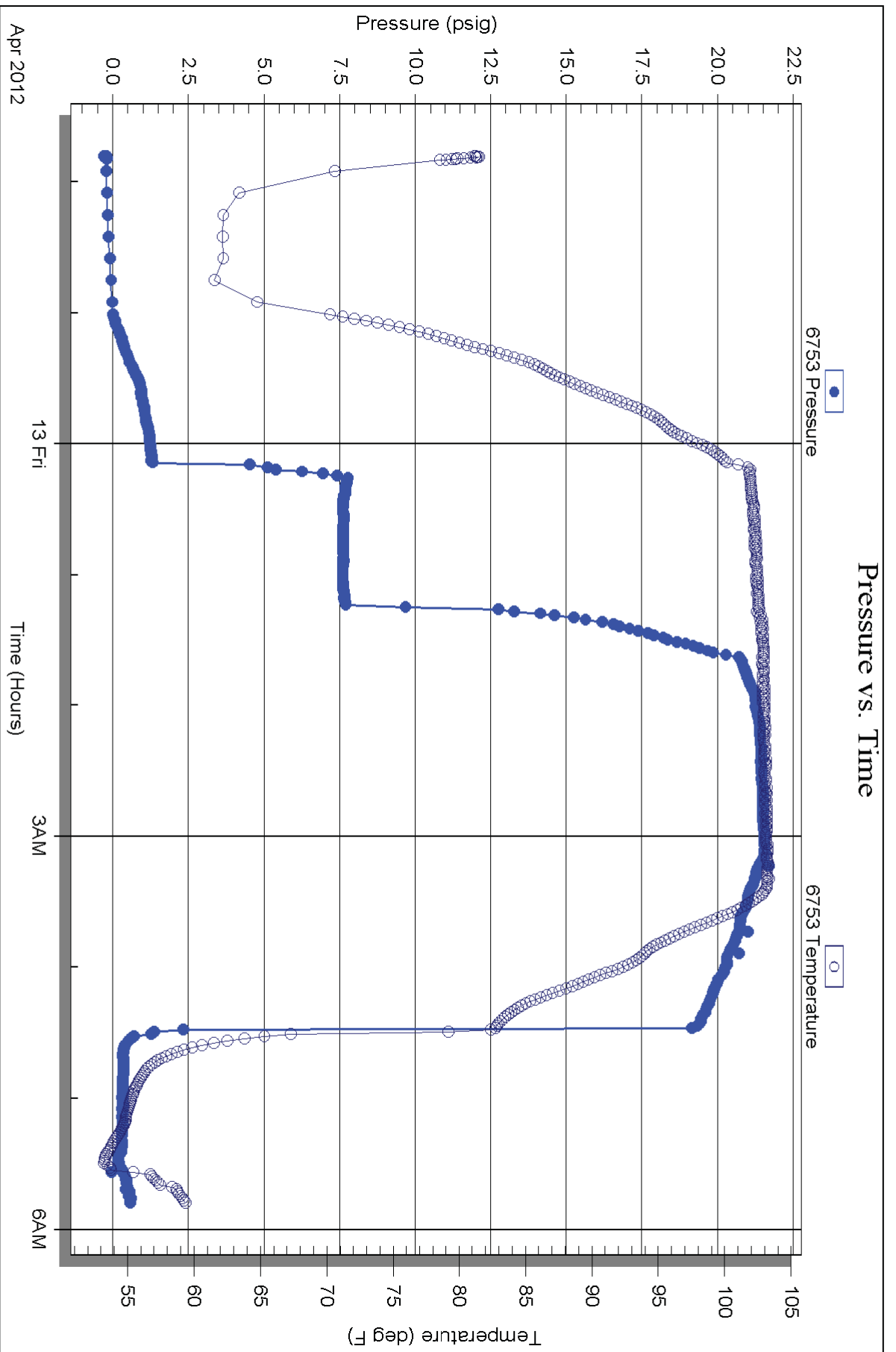
Serial #: 6753

Fluid

Samuel Gary Jr. & Associates

Hoss et al #1-22

DST Test Number: 2



Serial #: 8788

Below (Stratton) Gary Jr. & Associates

Hoss et al #1-22

DST Test Number: 2

