



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Gra Ex LLC.

2435 N.Marquette
Kingman Ks.67068

ATTN: Jeff A. Burk

1-24s-14w Stafford Ks.

Bookstore #2 RD

Job Ticket: 50845

DST#: 1

Test Start: 2013.03.04 @ 15:18:22

GENERAL INFORMATION:

Formation: **Lansing B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:08:22

Time Test Ended: 21:35:52

Test Type: Conventional Bottom Hole (Initial)

Tester: Gary Pevoteaux

Unit No: 56

Interval: 3631.00 ft (KB) To 3650.00 ft (KB) (TVD)

Reference Elevations: 1949.00 ft (KB)

Total Depth: 3650.00 ft (KB) (TVD)

1942.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8352 Outside

Press@RunDepth: 22.05 psig @ 3632.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.04

End Date:

2013.03.04

Last Calib.: 2013.03.04

Start Time: 15:18:27

End Time:

21:35:51

Time On Btm: 2013.03.04 @ 17:06:52

Time Off Btm: 2013.03.04 @ 20:12:52

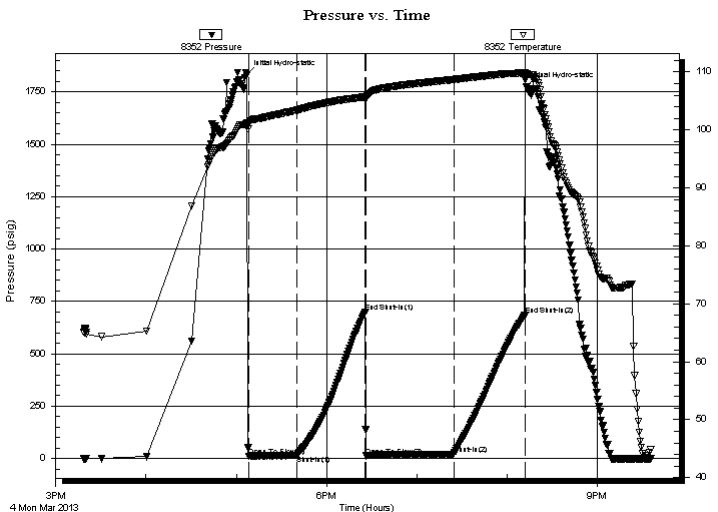
TEST COMMENT: IF:Fair blow . Slow increase to 11".

IS:No blow .

FF:Fair to strong blow . B.O.B. in 46 mins.

FS:Weak blow . 1/4". Died in 15 mins.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1832.79	101.20	Initial Hydro-static
2	11.25	101.14	Open To Flow (1)
34	16.41	103.42	Shut-In(1)
79	697.41	105.70	End Shut-In(1)
80	12.80	105.47	Open To Flow (2)
138	22.05	108.70	Shut-In(2)
185	682.94	109.82	End Shut-In(2)
186	1777.16	109.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	390 ft.of GIP	0.00
15.00	Drig.mud	0.21

Gas Rates

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

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1-24s-14w Stafford Ks.

2435 N.Marquette
Kingman Ks. 67068

Bookstore #2 RD

Job Ticket: 50845

DST#: 1

ATTN: Jeff A. Burk

Test Start: 2013.03.04 @ 15:18:22

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 53.00 sec/qt

Water Loss: 10.39 in³

Resistivity: 0.00 ohm.m

Salinity: 6800.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

6800 ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	390 ft.of GIP	0.000
15.00	Drig.mud	0.210

Total Length: 15.00 ft

Total Volume: 0.210 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

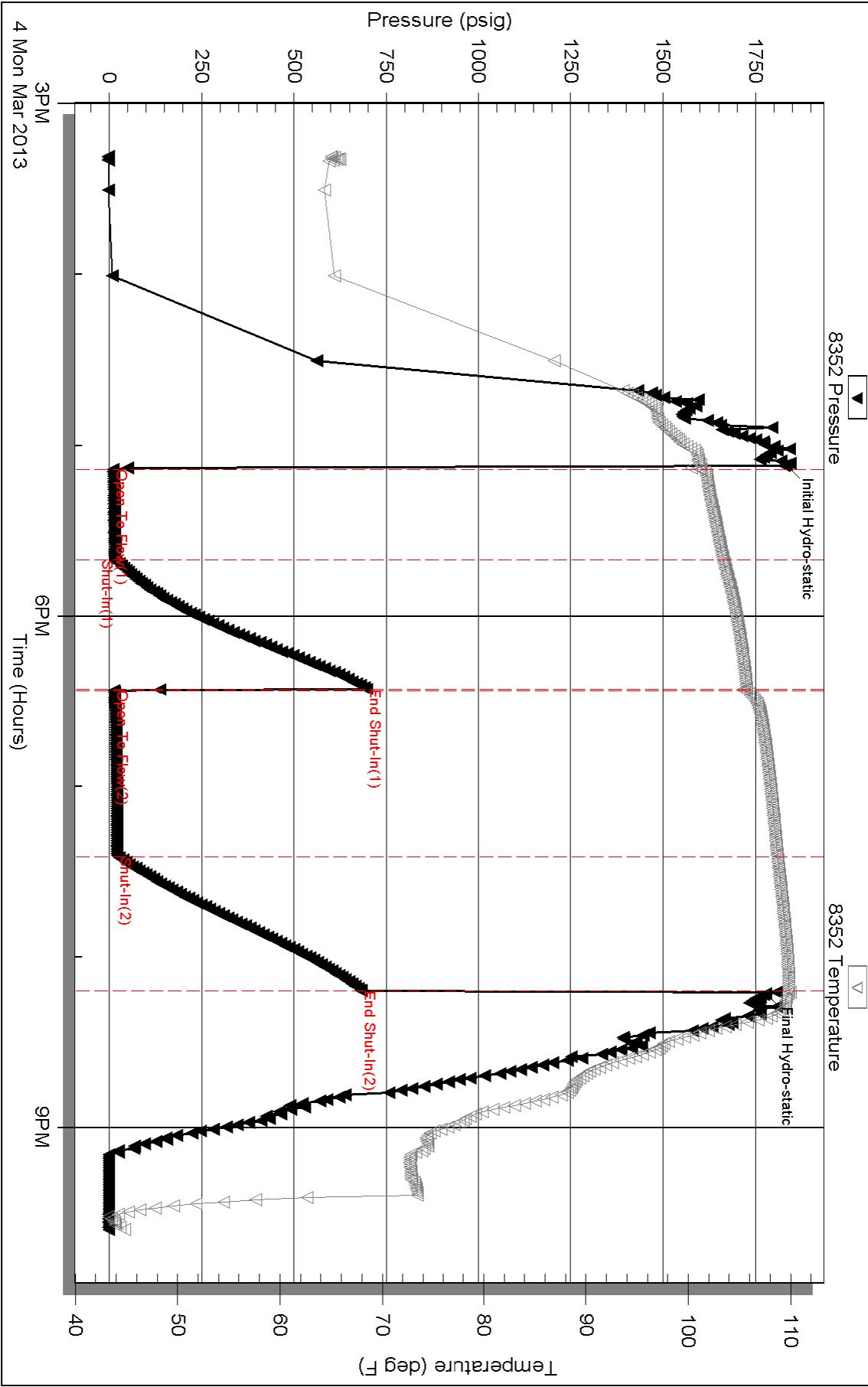
Serial #: 8352

Outside Gra Ex LLC.

Bookstore #2 RD

DST Test Number: 1

Pressure vs. Time





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DRILL STEM TEST REPORT

Gra Ex LLC.

2435 N.Marquette
Kingman Ks.67068

ATTN: Jeff A. Burk

1-24s-14w Stafford Ks.

Bookstore #2 RD

Job Ticket: 50846

DST#: 2

Test Start: 2013.03.05 @ 05:27:32

GENERAL INFORMATION:

Formation: **Lansing**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:18:32

Time Test Ended: 12:34:47

Test Type: Conventional Bottom Hole (Reset)

Tester: Gary Pevoteaux

Unit No: 56

Interval: 3676.00 ft (KB) To 3689.00 ft (KB) (TVD)

Total Depth: 3689.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1949.00 ft (KB)

1942.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8352 Outside

Press@RunDepth: 200.17 psig @ 3677.00 ft (KB)

Start Date: 2013.03.05

End Date:

2013.03.05

Start Time: 05:27:37

End Time:

12:34:46

Capacity: 8000.00 psig

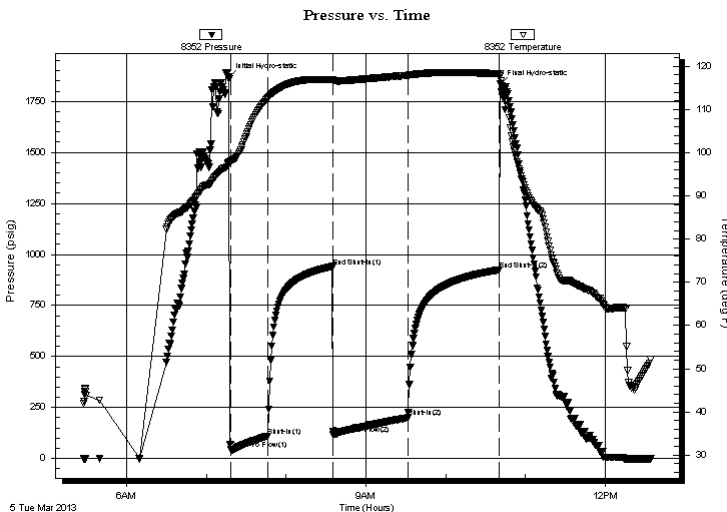
Last Calib.: 2013.03.05

Time On Btm: 2013.03.05 @ 07:16:32

Time Off Btm: 2013.03.05 @ 10:41:17

TEST COMMENT: IF: Strong blow . B.O.B. in 6 secs.
IS: GTS in 30 secs. Weak blow . 1 - 4".
FF: Strong blow . (see gas flow report) TSTM @ 40 mins.
FS: Fair to strong blow . B.O.B.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1865.51	97.54	Initial Hydro-static
2	44.31	98.08	Open To Flow (1)
30	110.41	112.63	Shut-In (1)
79	941.34	116.96	End Shut-In (1)
79	120.57	116.70	Open To Flow (2)
136	200.17	117.91	Shut-In (2)
204	924.40	118.33	End Shut-In (2)
205	1834.09	117.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
280.00	CGO 31%g 69%o	3.93
62.00	OCMW 15%o 35%m 50%w	0.87
123.00	SW /Rw .13 ohms @45deg	1.73

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	2.00	26.02
Last Gas Rate	0.25	0.30	23.32
Max. Gas Rate	0.25	2.00	26.02

* Recovery from multiple tests



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FLUID SUMMARY

Gra Ex LLC.

1-24s-14w Stafford Ks.

2435 N.Marquette
Kingman Ks. 67068

Bookstore #2 RD

Job Ticket: 50846

DST#: 2

ATTN: Jeff A. Burk

Test Start: 2013.03.05 @ 05:27:32

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 62.00 sec/qt

Water Loss: 20.79 in³

Resistivity: 0.00 ohm.m

Salinity: 22000.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API: 28.6 deg API

Water Salinity: 94000 ppm

ft
bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
280.00	CGO 31%g 69%o	3.928
62.00	OCMW 15%o 35%m 50%w	0.870
123.00	SW /Rw .13 ohms@45deg	1.725

Total Length: 465.00 ft

Total Volume: 6.523 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

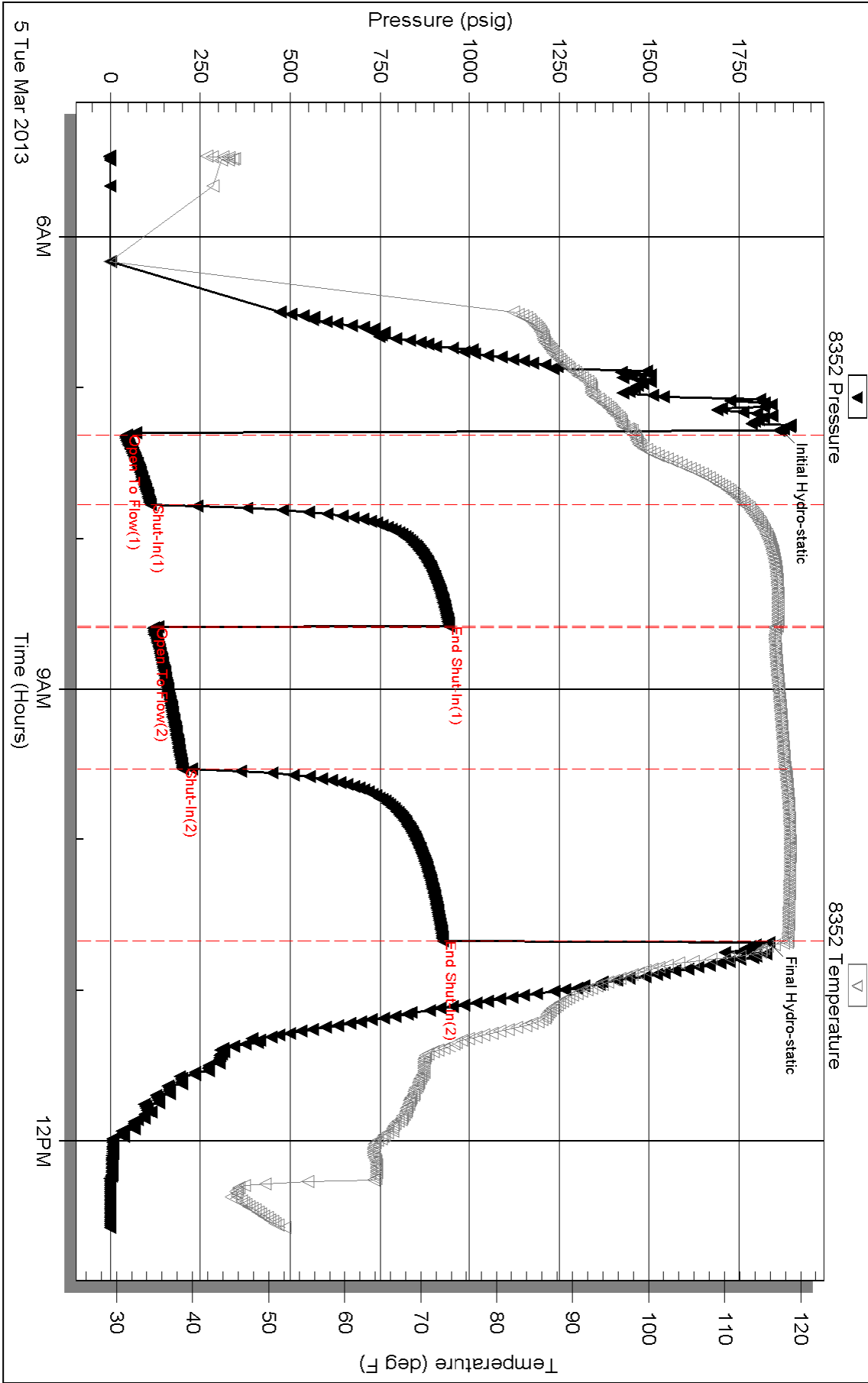
Serial #: 8352

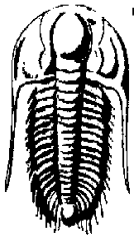
Outside Gra Ex LLC.

Bookstore #2 RD

DST Test Number: 2

Pressure vs. Time





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DRILL STEM TEST REPORT

Gra Ex LLC.

2435 N.Marquette
Kingman Ks.67068

ATTN: Jeff A. Burk

1-24s-14w Stafford Ks.

Bookstore #2 RD

Job Ticket: 50847

DST#: 3

Test Start: 2013.03.05 @ 21:09:18

GENERAL INFORMATION:

Formation: **Lansing H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:00:00

Time Test Ended: 00:22:33

Test Type: Conventional Bottom Hole (Reset)

Tester: Gary Pevoteaux

Unit No: 56

Interval: 3725.00 ft (KB) To 3750.00 ft (KB) (TVD)

Reference Elevations: 1949.00 ft (KB)

Total Depth: 3750.00 ft (KB) (TVD)

1942.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 7.00 ft

Serial #: 8352 Outside

Press@RunDepth: psig @ 3726.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.05

End Date:

2013.03.06

Last Calib.:

2013.03.06

Start Time: 21:09:23

End Time:

00:22:33

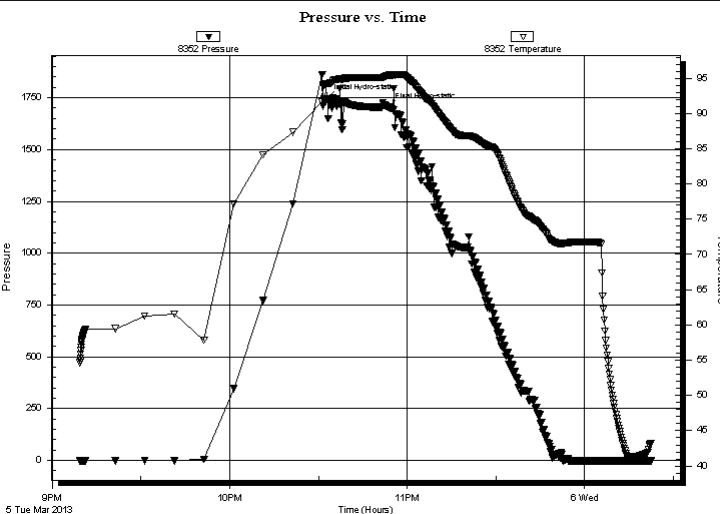
Time On Btm:

2013.03.05 @ 22:32:48

Time Off Btm:

2013.03.05 @ 22:53:33

TEST COMMENT: Solid bridge 160 - 170 ft. off btm. Hit bridge several times using full string w.t. Could not get through bridge. Aborted test. MISRUN!



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1747.09	94.19	Initial Hydro-static
21	1702.06	95.39	Final Hydro-static

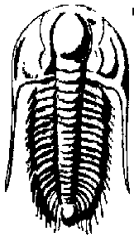
Recovery

Length (ft)	Description	Volume (bbl)
110.00	Drig.mud	1.54

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



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DRILL STEM TEST REPORT

FLUID SUMMARY

Gra Ex LLC.

1-24s-14w Stafford Ks.

2435 N.Marquette
Kingman Ks.67068

Bookstore #2 RD

Job Ticket: 50847

DST#: 3

ATTN: Jeff A. Burk

Test Start: 2013.03.05 @ 21:09:18

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 57.00 sec/qt

Water Loss: 20.78 in³

Resistivity: 0.00 ohm.m

Salinity: 22000.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

22000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
110.00	Drig.mud	1.543

Total Length: 110.00 ft

Total Volume: 1.543 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

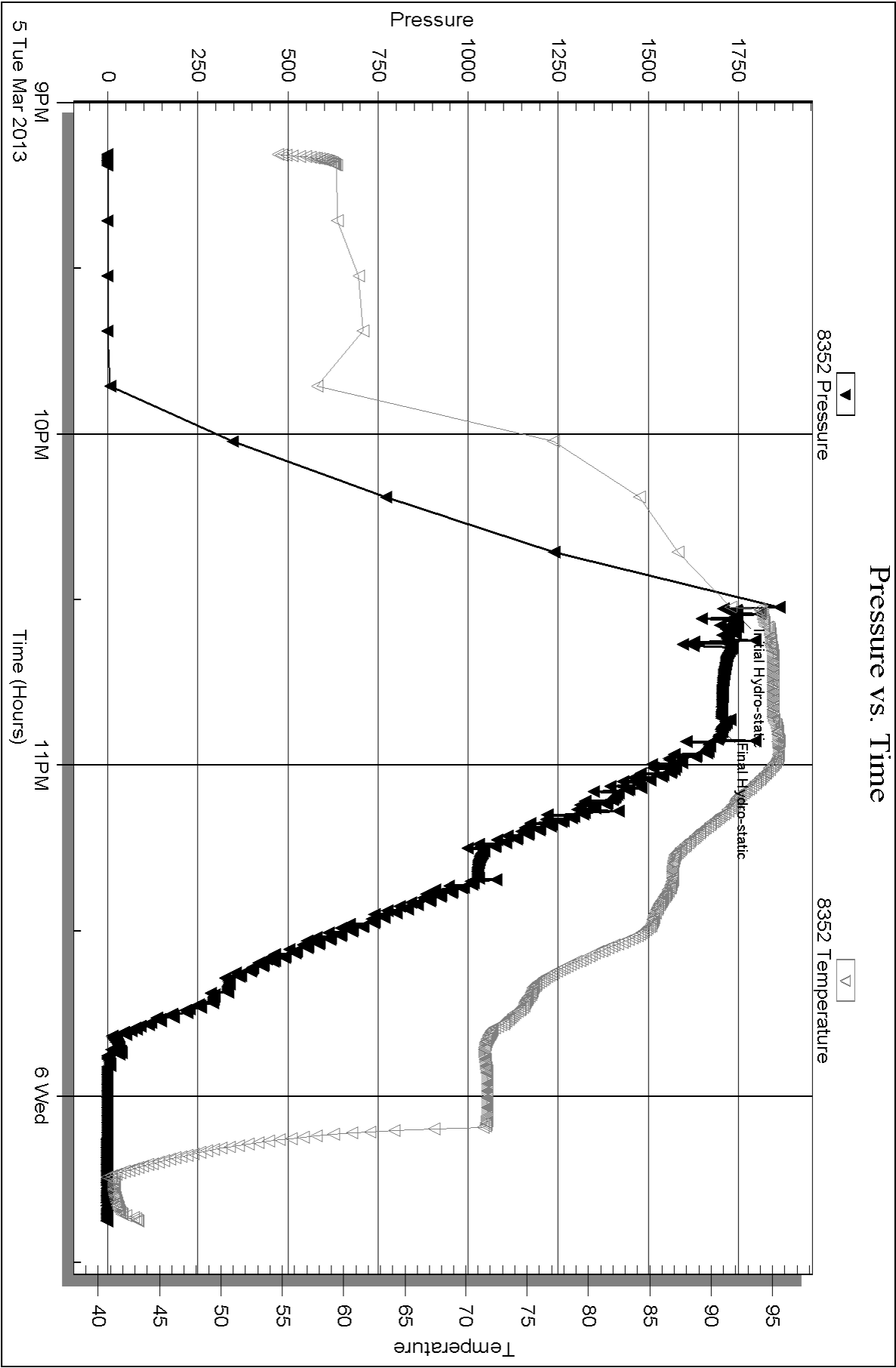
Recovery Comments: Misrun

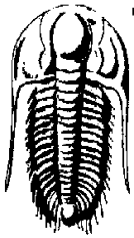
Serial #: 8352

Outside Gra Ex LLC.

Bookstore #2 RD

DST Test Number: 3





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DRILL STEM TEST REPORT

Gra Ex LLC.

2435 N.Marquette
Kingman Ks.67068

ATTN: Jeff A. Burk

1-24s-14w Stafford Ks.

Bookstore #2 RD

Job Ticket: 50848

DST#: 4

Test Start: 2013.03.06 @ 22:43:55

GENERAL INFORMATION:

Formation: **Lans. H&I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:33:40

Time Test Ended: 06:11:55

Test Type: Conventional Straddle (Reset)

Tester: Gary Pevoteaux

Unit No: 56

Interval: 3725.00 ft (KB) To 3761.00 ft (KB) (TVD)

Total Depth: 3858.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 1949.00 ft (KB)

1942.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8649 Outside

Press@RunDepth: 184.20 psig @ 3726.00 ft (KB)

Start Date: 2013.03.06

End Date:

2013.03.07

Start Time: 22:43:56

End Time:

06:11:55

Capacity: 8000.00 psig

Last Calib.: 2013.03.07

Time On Btm: 2013.03.07 @ 00:31:25

Time Off Btm: 2013.03.07 @ 03:37:10

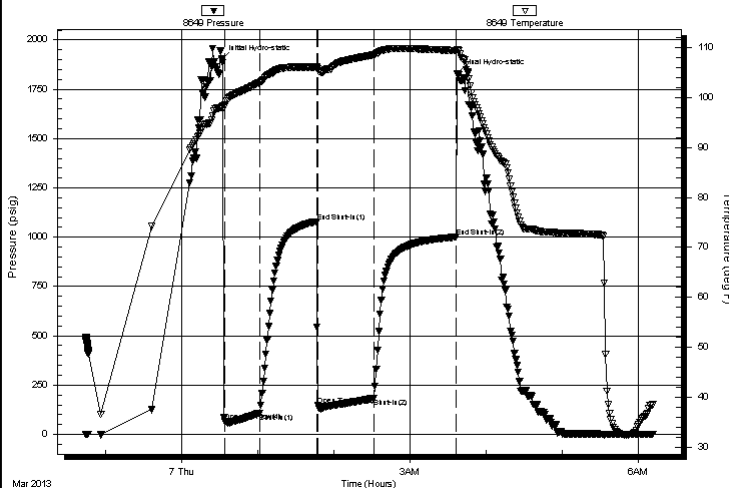
TEST COMMENT: IF:Strong blow . B.O.B. in 35 secs.GTS in 20 mins.(see gas flow report)

ISI:Weak blow . 1/4".

FF:Strong blow.(see gas flow report)

FS:Strong blow . B.O.B.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1900.48	98.19	Initial Hydro-static
3	68.19	98.32	Open To Flow (1)
30	108.80	103.08	Shut-In(1)
75	1079.43	106.11	End Shut-In(1)
76	149.48	105.89	Open To Flow (2)
120	184.20	108.61	Shut-In(2)
185	1000.60	109.46	End Shut-In(2)
186	1826.96	109.70	Final Hydro-static

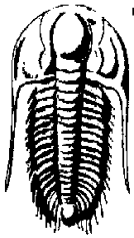
Recovery

Length (ft)	Description	Volume (bbl)
110.00	GMCO 43%g 28%m 29%o	1.54
125.00	GMCO 49%g 10%m 41%o	1.75
185.00	CGO 36%g 64%o	2.60

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	2.50	26.81
Last Gas Rate	0.25	3.50	28.40
Max. Gas Rate	0.25	5.00	30.78

* Recovery from multiple tests



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DRILL STEM TEST REPORT

Gra Ex LLC.

2435 N.Marquette
Kingman Ks.67068

ATTN: Jeff A. Burk

1-24s-14w Stafford Ks.

Bookstore #2 RD

Job Ticket: 50848

DST#: 4

Test Start: 2013.03.06 @ 22:43:55

GENERAL INFORMATION:

Formation: **Lans. H&I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:33:40

Time Test Ended: 06:11:55

Test Type: Conventional Straddle (Reset)

Tester: Gary Pevoteaux

Unit No: 56

Interval: 3725.00 ft (KB) To 3761.00 ft (KB) (TVD)

Total Depth: 3858.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 1949.00 ft (KB)

1942.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8352 Below (Straddle)

Press@RunDepth: psig @ 3762.00 ft (KB)

Start Date: 2013.03.06

End Date:

2013.03.07

Start Time: 22:39:34

End Time:

06:11:58

Capacity: 8000.00 psig

Last Calib.: 2013.03.07

Time On Btm:

Time Off Btm:

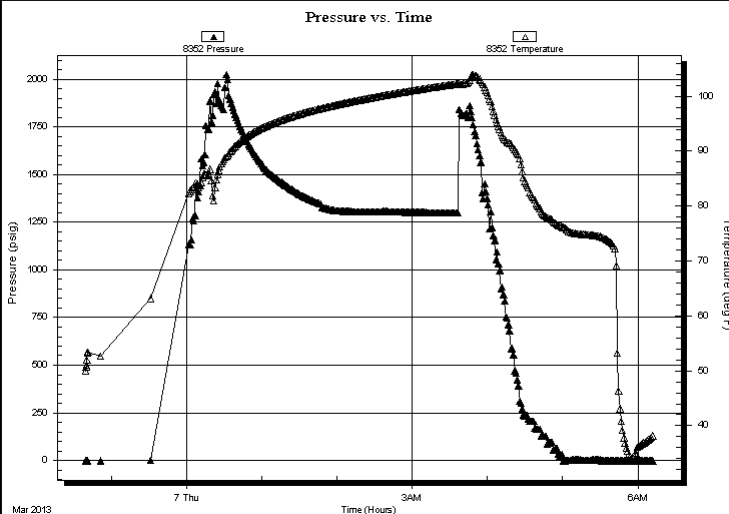
TEST COMMENT: IF:Strong blow . B.O.B. in 35 secs.GTS in 20 mins.(see gas flow report)

ISI:Weak blow . 1/4".

FF:Strong blow.(see gas flow report)

FS:Strong blow . B.O.B.

PRESSURE SUMMARY



Time
(Min.)

Pressure
(psig)

Temp
(deg F)

Annotation

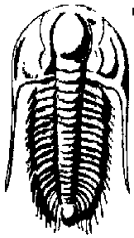
Recovery

Length (ft)	Description	Volume (bbl)
110.00	GMCO 43%g 28%m 29%o	1.54
125.00	GMCO 49%g 10%m 41%o	1.75
185.00	CGO 36%g 64%o	2.60

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	2.50	26.81
Last Gas Rate	0.25	3.50	28.40
Max. Gas Rate	0.25	5.00	30.78

* Recovery from multiple tests



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TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Gra Ex LLC.

1-24s-14w Stafford Ks.

2435 N.Marquette
Kingman Ks.67068

Bookstore #2 RD

Job Ticket: 50848

DST#: 4

ATTN: Jeff A. Burk

Test Start: 2013.03.06 @ 22:43:55

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 73.00 sec/qt

Water Loss: 10.79 in³

Resistivity: 0.00 ohm.m

Salinity: 12000.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

30.9 deg API

12000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
110.00	GMCO 43%g 28%m 29%o	1.543
125.00	GMCO 49%g 10%m 41%o	1.753
185.00	CGO 36%g 64%o	2.595

Total Length: 420.00 ft

Total Volume: 5.891 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

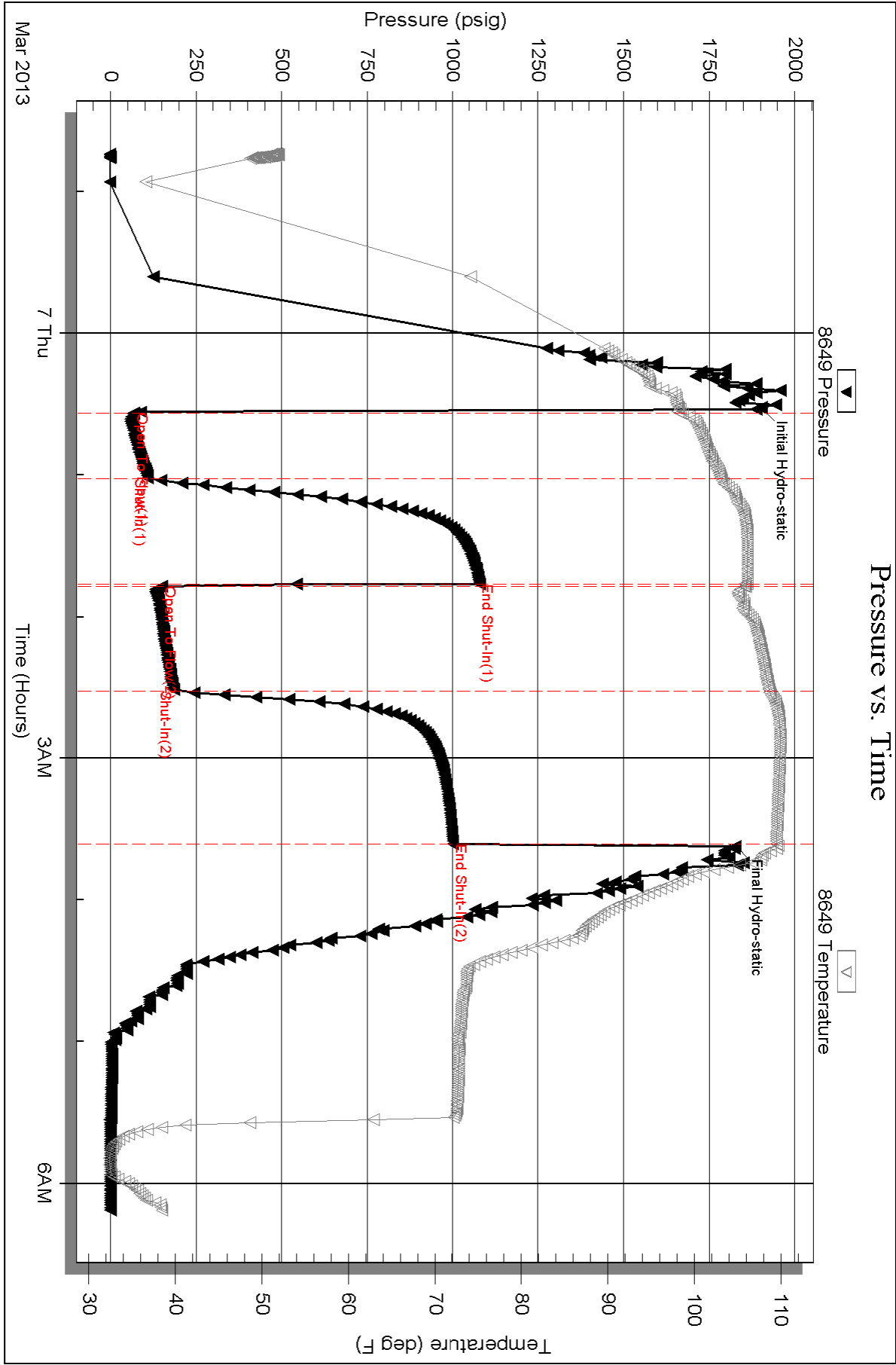
Recovery Comments:

Serial #: 8649

Outside Gra Ex LLC.

Bookstore #2 RD

DST Test Number: 4



Serial #: 8352

Below (Stratley) LLC.

Bookstore #2 RD

DST Test Number: 4

