



DRILL STEM TEST REPORT

Prepared For: **SGJ & Assoc. Inc.**

1515 Wynkoop Ste 700
Denver CO 80202

ATTN: Tom Fertal

Miller-Leiker 1-28

28 14s 17w Ellis

Start Date: 2012.06.25 @ 14:48:00

End Date: 2012.06.26 @ 00:26:30

Job Ticket #: 47751 DST #: 3

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

Printed: 2012.06.26 @ 17:00:01



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

SGJ & Assoc. Inc.
1515 Wynkoop Ste 700
Denver CO 80202
ATTN: Tom Fertal

28 14s 17w Ellis
Miller-Leiker 1-28
Job Ticket: 47751 **DST#: 3**
Test Start: 2012.06.25 @ 14:48:00

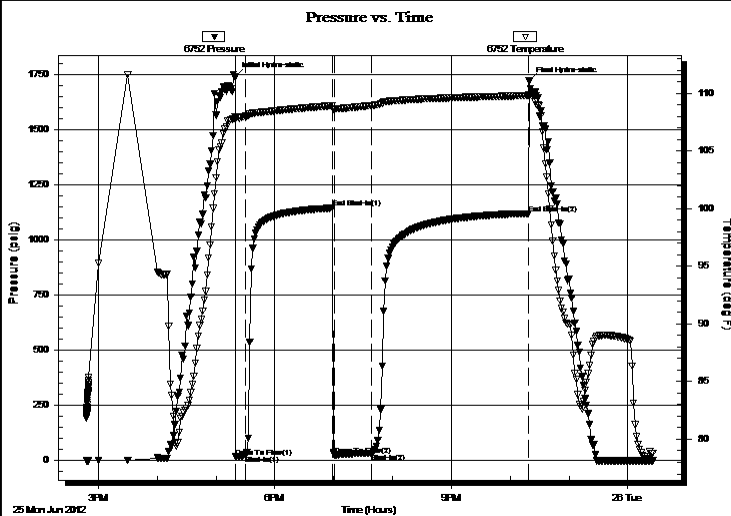
GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: 1965.00 ft (KB)
Time Tool Opened: 17:20:00
Time Test Ended: 00:26:30
Interval: **3504.00 ft (KB) To 3518.00 ft (KB) (TVD)**
Total Depth: 3595.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Straddle (Reset)
Tester: Cody Bloedorn
Unit No: 41
Reference Elevations: 1965.00 ft (KB)
1957.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 6752 Inside

Press @ Run Depth: 33.31 psig @ 3505.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.06.25 End Date: 2012.06.26 Last Calib.: 2012.06.26
Start Time: 14:48:01 End Time: 00:26:30 Time On Btm: 2012.06.25 @ 17:19:30
Time Off Btm: 2012.06.25 @ 22:19:30

TEST COMMENT: 10 - IF- 1/2" Blow
90 - IS- No blow back
40 - FF- 1 1/2" Blow
160 - FS- No blow back.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1737.87	107.95	Initial Hydro-static
1	16.23	107.74	Open To Flow (1)
11	21.50	108.02	Shut-In(1)
100	1144.11	108.93	End Shut-In(1)
101	24.47	108.70	Open To Flow (2)
140	33.31	108.96	Shut-In(2)
299	1118.69	109.81	End Shut-In(2)
300	1719.40	109.92	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	HOCM, 50%M, 50%O	0.10
25.00	Free Oil, 100%O	0.26

Gas Rates

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

* Recovery from multiple tests



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1515 Wynkoop Ste 700
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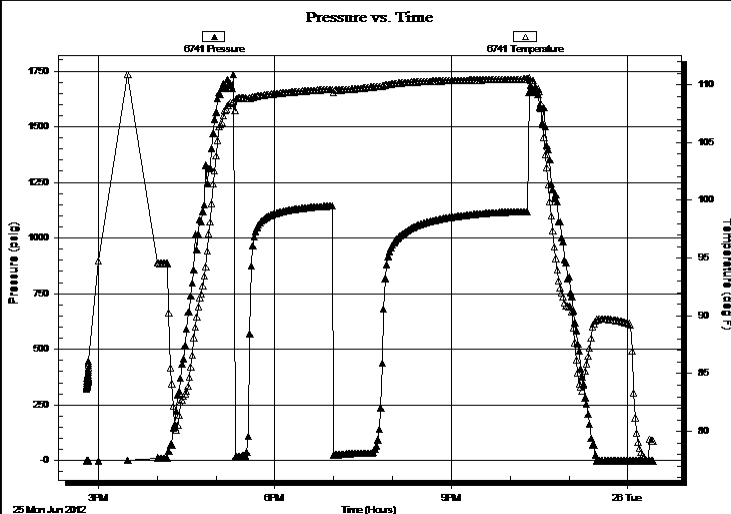
28 14s 17w Ellis
Miller-Leiker 1-28
Job Ticket: 47751 **DST#: 3**
Test Start: 2012.06.25 @ 14:48:00

GENERAL INFORMATION:

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Test Type: Conventional Straddle (Reset)
Tester: Cody Bloedorn
Unit No: 41
Reference Elevations: 1965.00 ft (KB)
1957.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 6741 Outside
Press @ Run Depth: psig @ 3505.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.06.25 End Date: 2012.06.26 Last Calib.: 2012.06.26
Start Time: 14:48:01 End Time: 00:26:30 Time On Btm:
Time Off Btm:

TEST COMMENT: 10 - IF- 1/2" Blow
90 - IS- No blow back
40 - FF- 1 1/2" Blow
160 - FS- No blow back.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	HOCM, 50%M, 50%O	0.10
25.00	Free Oil, 100%O	0.26

Gas Rates

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

* Recovery from multiple tests



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1515 Wynkoop Ste 700
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ATTN: Tom Fertal

28 14s 17w Ellis
Miller-Leiker 1-28
Job Ticket: 47751 **DST#: 3**
Test Start: 2012.06.25 @ 14:48:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: 1965.00 ft (KB)
Time Tool Opened: 17:20:00
Time Test Ended: 00:26:30

Test Type: Conventional Straddle (Reset)
Tester: Cody Bloedorn
Unit No: 41

Interval: **3504.00 ft (KB) To 3518.00 ft (KB) (TVD)**
Total Depth: 3595.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1965.00 ft (KB)
1957.00 ft (CF)
KB to GR/CF: 8.00 ft

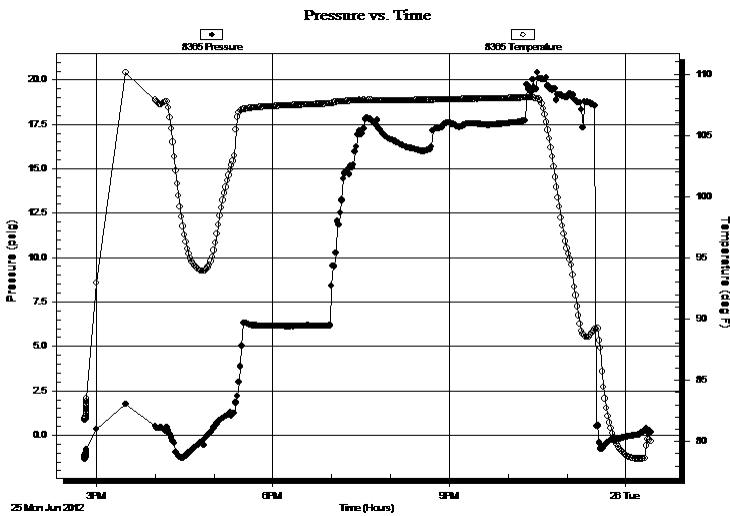
Serial #: 8365

Fluid

Press @RunDepth: psig @ 3470.00 ft (KB)
Start Date: 2012.06.25 End Date: 2012.06.26
Start Time: 14:48:01 End Time: 00:26:00

Capacity: 8000.00 psig
Last Calib.: 2012.06.26
Time On Btm:
Time Off Btm:

TEST COMMENT: 10 - IF- 1/2" Blow
90 - ISF- No blow back
40 - FF- 1 1/2" Blow
160 - FSI- No blow back.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	HOCM, 50%M, 50%O	0.10
25.00	Free Oil, 100%O	0.26

Gas Rates

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

* Recovery from multiple tests



**TRIOLOBITE
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DRILL STEM TEST REPORT

SGJ & Assoc. Inc.

28 14s 17w Ellis

1515 Wynkoop Ste 700
Denver CO 80202

Miller-Leiker 1-28

Job Ticket: 47751

DST#: 3

ATTN: Tom Fertal

Test Start: 2012.06.25 @ 14:48:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: 1965.00 ft (KB)

Time Tool Opened: 17:20:00

Time Test Ended: 00:26:30

Test Type: Conventional Straddle (Reset)

Tester: Cody Bloedorn

Unit No: 41

Interval: **3504.00 ft (KB) To 3518.00 ft (KB) (TVD)**

Reference Elevations: 1965.00 ft (KB)

Total Depth: 3595.00 ft (KB) (TVD)

1957.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8167 Below (Straddle)

Press @ Run Depth: psig @ 3595.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.06.25

End Date: 2012.06.26

Last Calib.: 2012.06.26

Start Time: 14:48:05

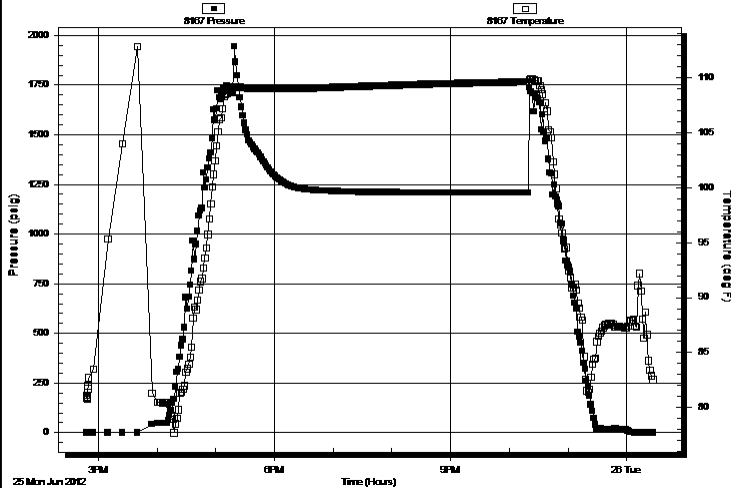
End Time: 00:26:30

Time On Btm:

Time Off Btm:

TEST COMMENT: 10 - IF- 1/2" Blow
90 - IS- No blow back
40 - FF- 1 1/2" Blow
160 - FS- No blow back.

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
20.00	HOCM, 50%M, 50%O	0.10
25.00	Free Oil, 100%O	0.26

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

TOOL DIAGRAM

SGJ & Assoc. Inc.
1515 Wynkoop Ste 700
Denver CO 80202
ATTN: Tom Fertal

28 14s 17w Ellis
Miller-Leiker 1-28
Job Ticket: 47751 **DST#: 3**
Test Start: 2012.06.25 @ 14:48:00

Tool Information

Drill Pipe:	Length: 3448.00 ft	Diameter: 3.80 inches	Volume: 48.37 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 52000.00 lb
		Total Volume: 48.52 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3504.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	3518.00 ft			
Interval between Packers:	14.00 ft			
Tool Length:	129.00 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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Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3470.00	
Recorder	0.00	8365	Fluid	3470.00	
Blank Spacing	5.00			3475.00	
Shut In Tool	5.00			3480.00	
Sampler	2.00			3482.00	
Hydraulic tool	5.00			3487.00	
Jars	5.00			3492.00	
Safety Joint	2.00			3494.00	
Packer	5.00			3499.00	35.00 Bottom Of Top Packer
Packer	5.00			3504.00	
Stubb	1.00			3505.00	
Recorder	0.00	6752	Inside	3505.00	
Recorder	0.00	6741	Outside	3505.00	
Perforations	12.00			3517.00	
Blank Off Sub	1.00			3518.00	14.00 Tool Interval
Packer	5.00			3523.00	
Change Over Sub	1.00			3524.00	
Drill Pipe	62.00			3586.00	
Change Over Sub	1.00			3587.00	
Perforations	8.00			3595.00	
Recorder	0.00	8167	Below	3595.00	
Bullnose	3.00			3598.00	80.00 Bottom Packers & Anchor

Total Tool Length: 129.00



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FLUID SUMMARY

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Miller-Leiker 1-28

Job Ticket: 47751

DST#: 3

ATTN: Tom Fertal

Test Start: 2012.06.25 @ 14:48:00

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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 cm³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
20.00	HOCM, 50%M, 50%O	0.098
25.00	Free Oil, 100%O	0.260

Total Length: 45.00 ft Total Volume: 0.358 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler: 200 MLM, 1800 MLO

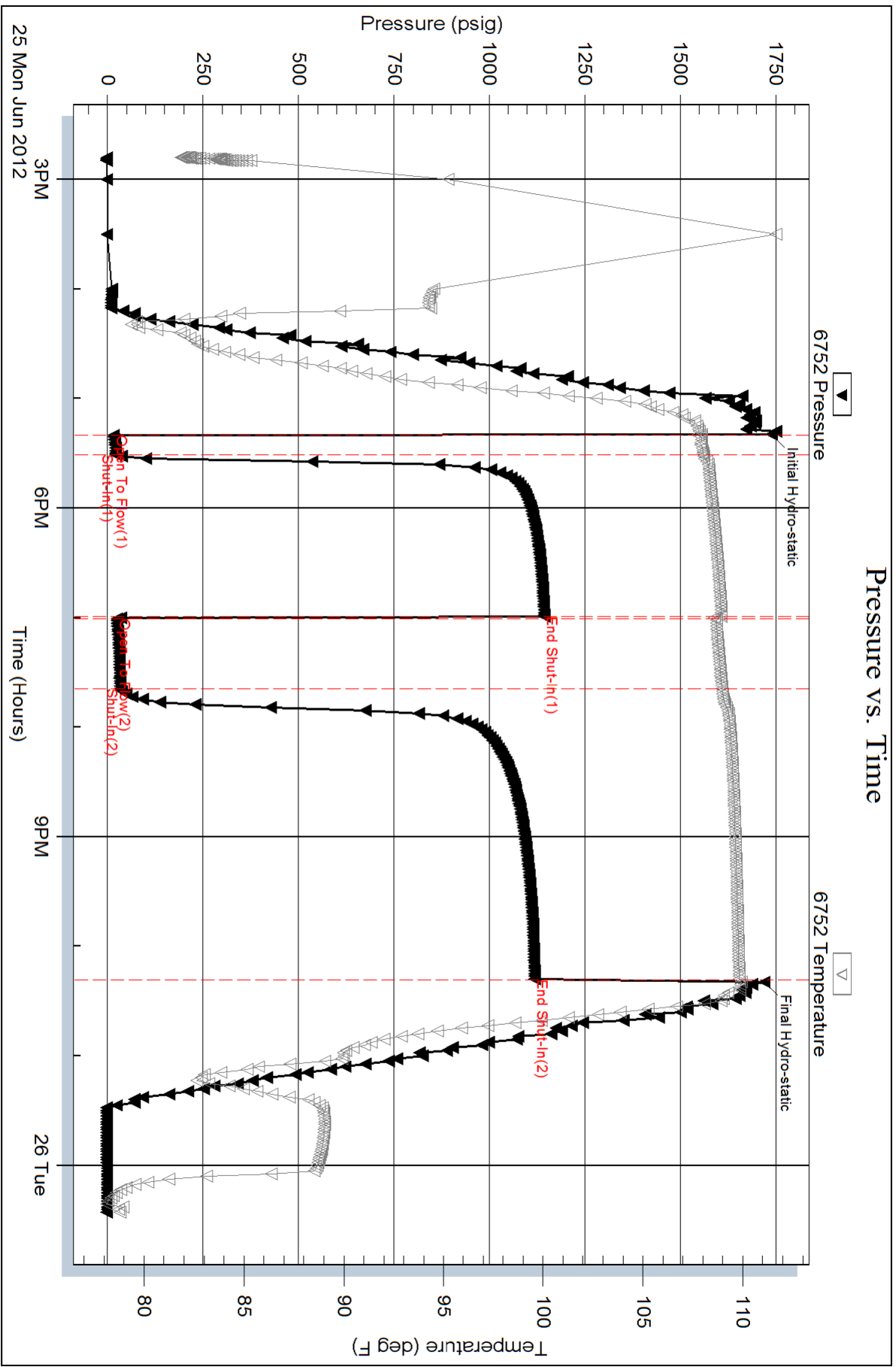
Serial #: 6752

Inside

SGJ & Assoc. Inc.

Miller-Leiker 1-28

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 47751

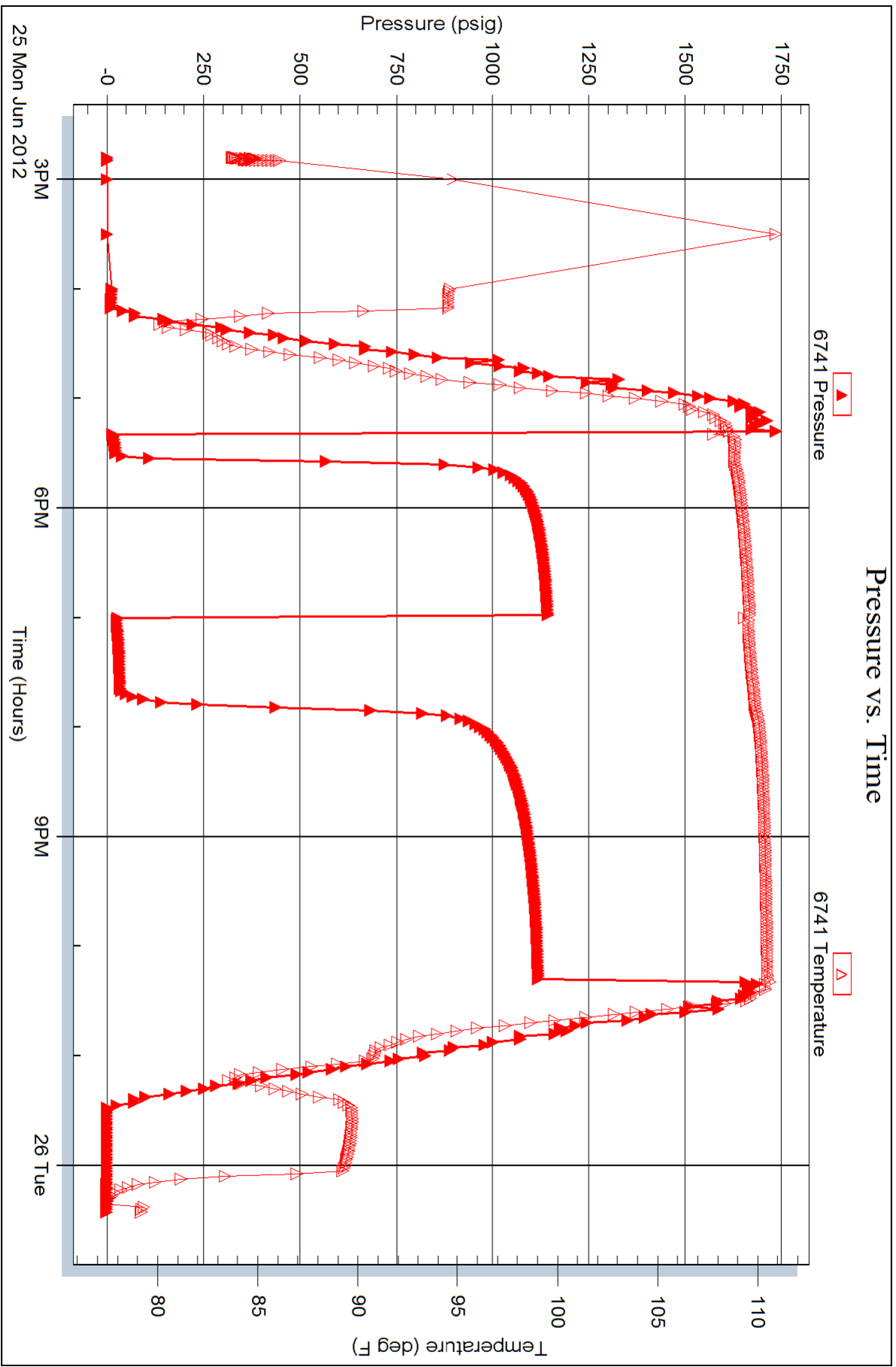
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Serial #: 6741

Outside SGJ & Assoc. Inc.

Miller-Leiker 1-28

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 47751

Printed: 2012.06.26 @ 17:00:03

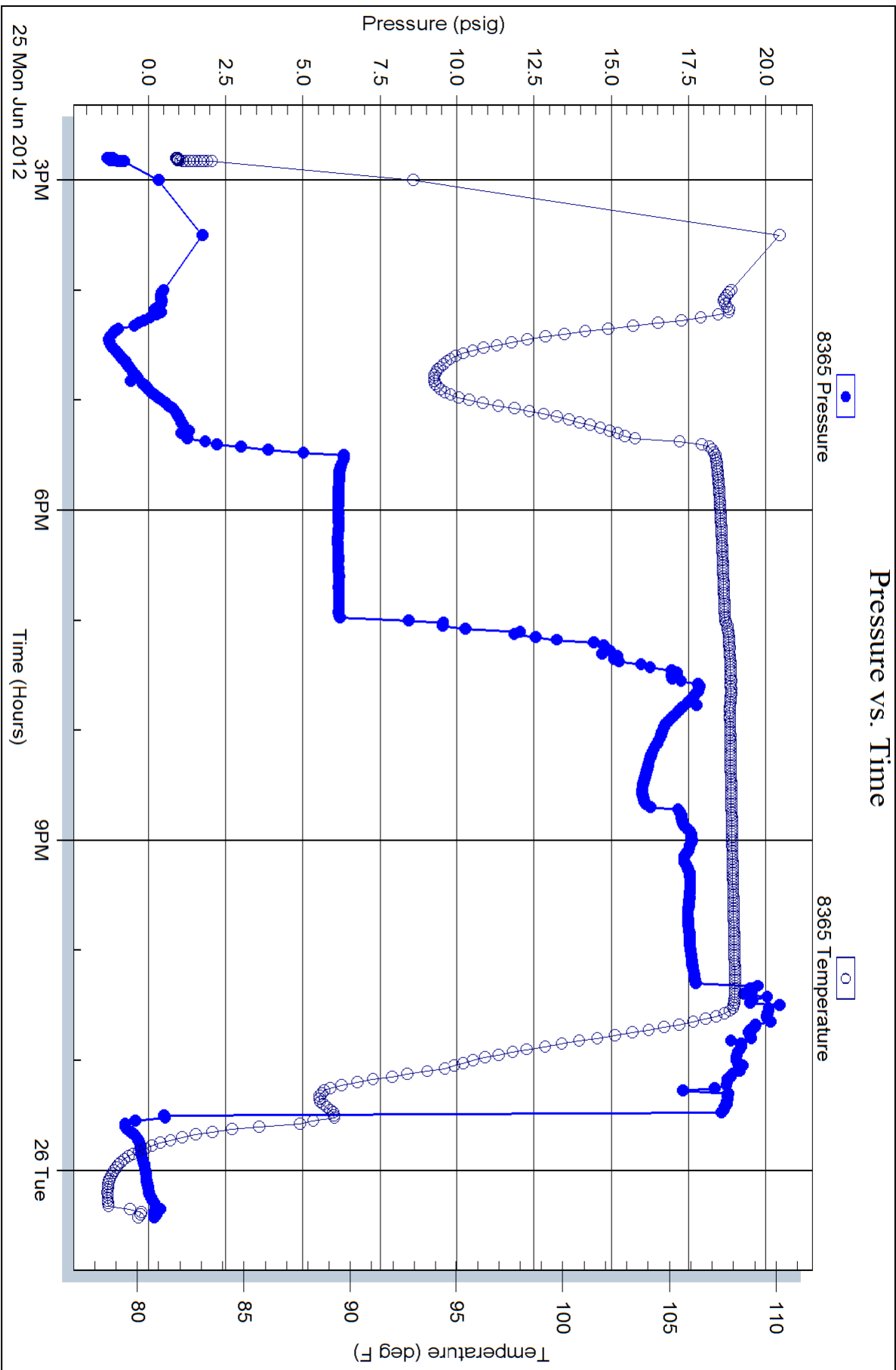
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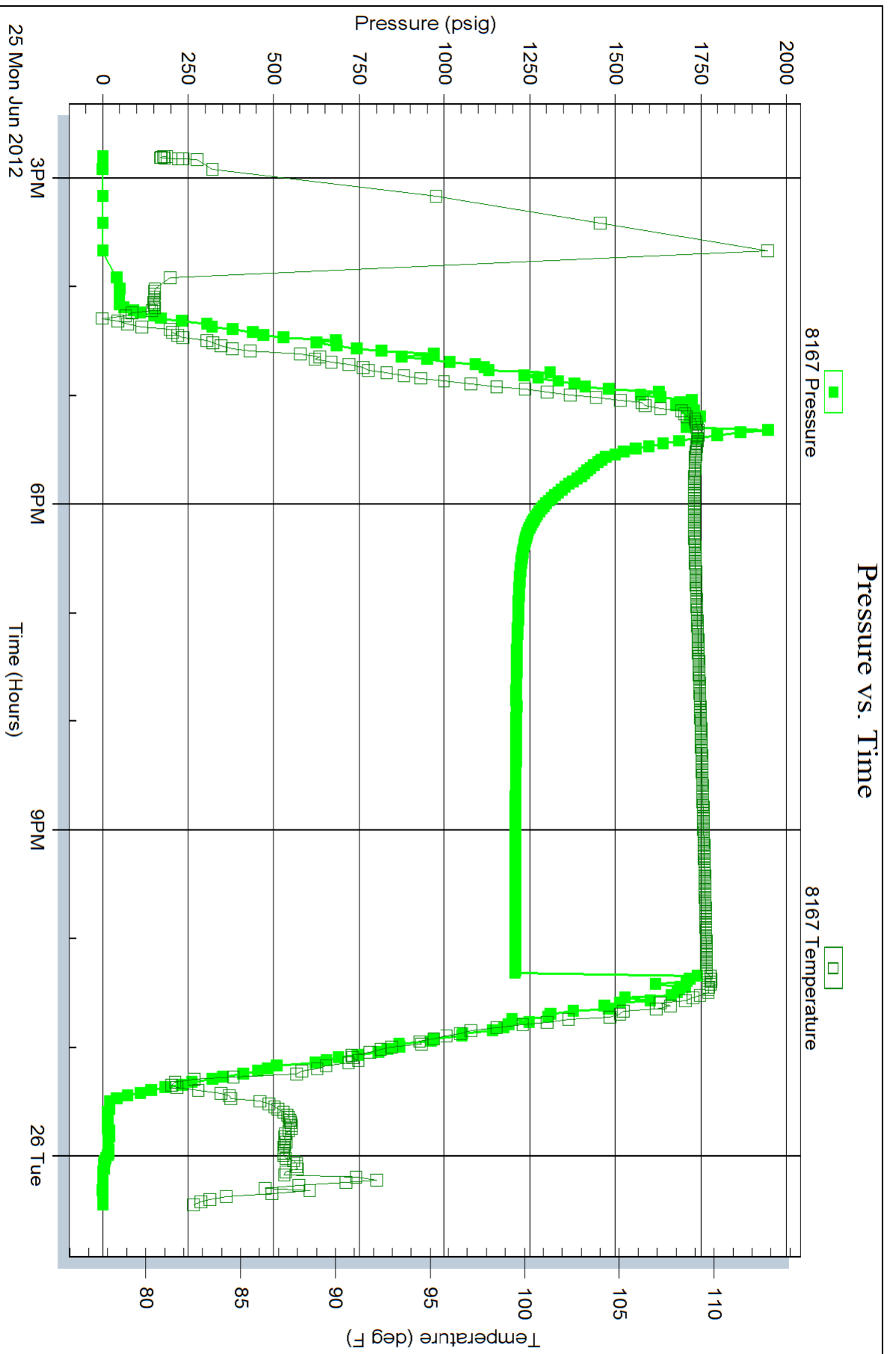
Fluid

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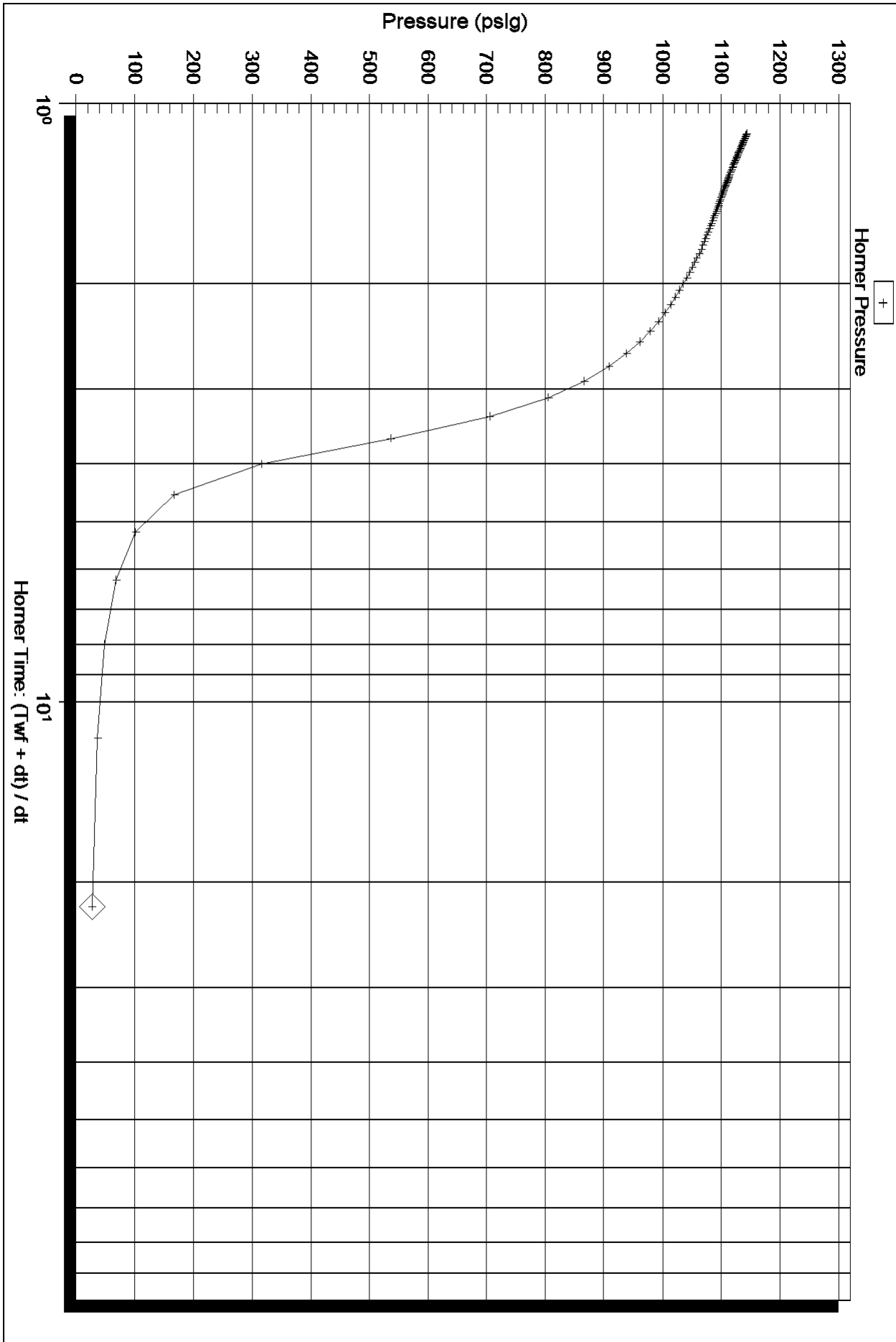
Miller-Leiker 1-28

DST Test Number: 3





Horner Plot



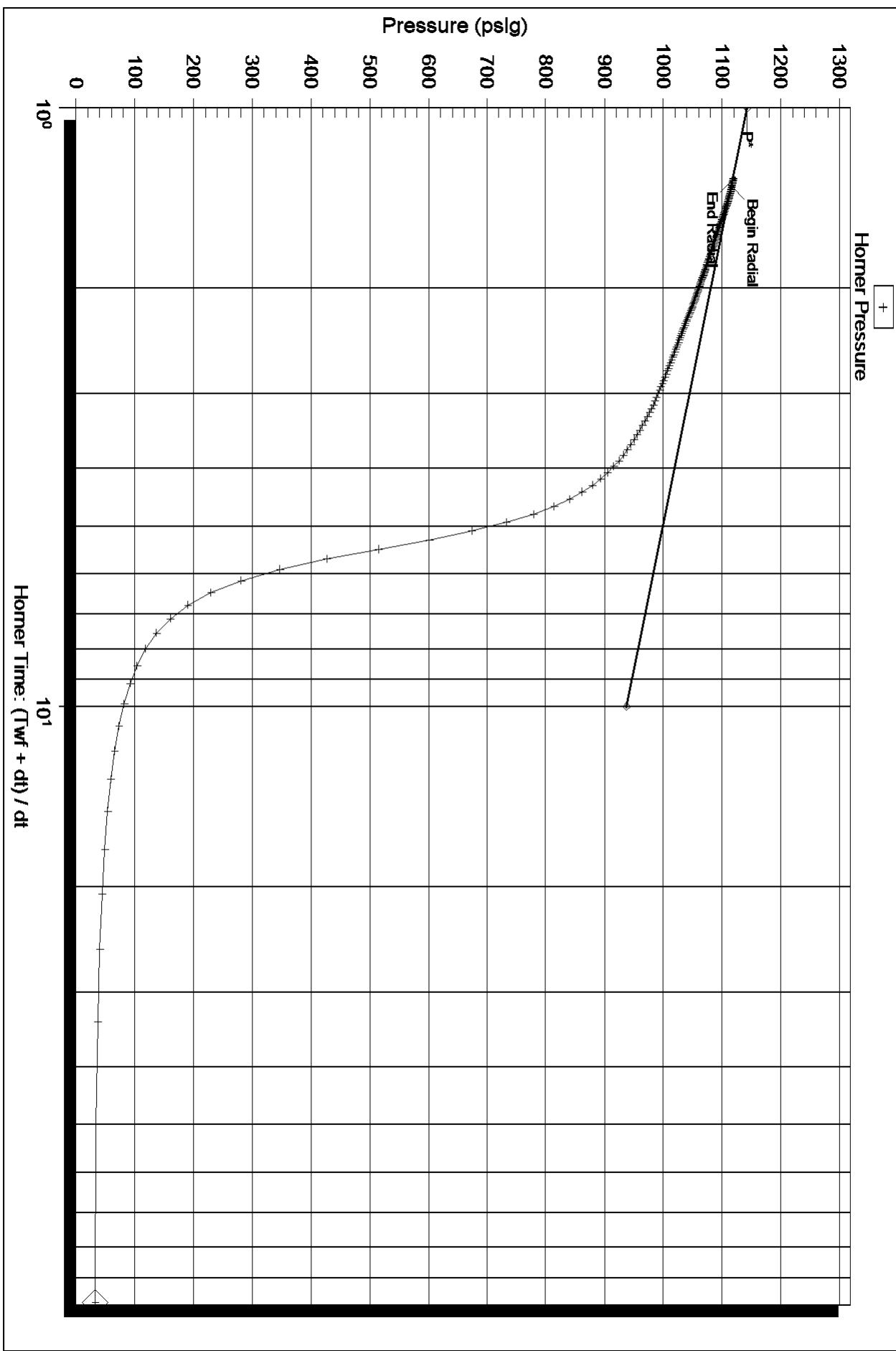
Serial Number: 6752 (Inside)

P* :

Slope (m) : kpa/log cycle

Flow Cycle: 1

Horner Plot



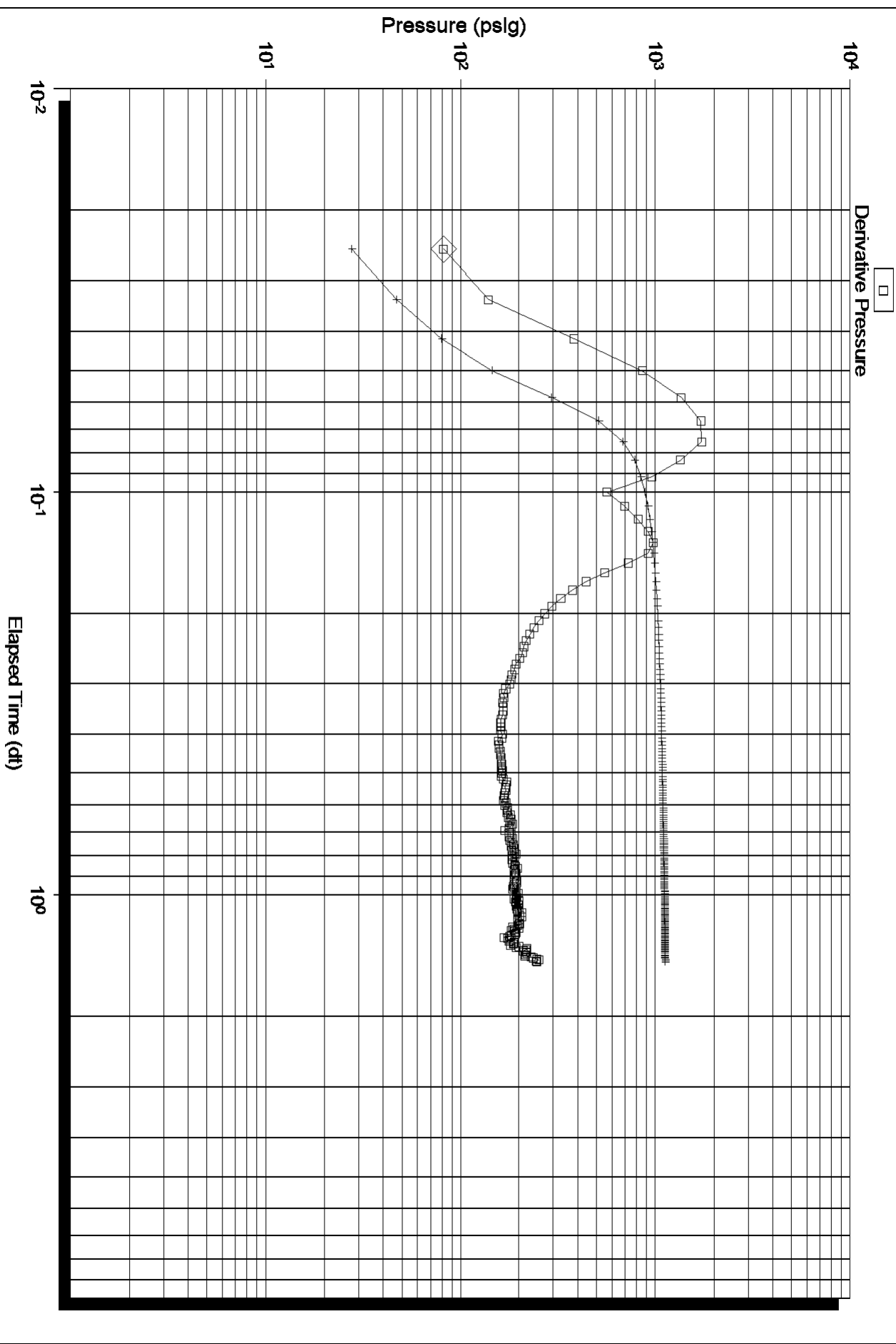
Serial Number: 6752 (Inside)

P* : 1142.90

Slope (m) : 205.30 kpa/log cycle

Flow Cycle: 2

Log-Log and Pseudo-Derivative



Log-Log and Pseudo-Derivative

