



DRILL STEM TEST REPORT

Prepared For: **Herman L. Loeb, LLC.**

P.O. Box 838
Lawrenceville, IL 62439

ATTN: Jon Christensen

Carr #2-34

34-21s.-16w. Pawnee Co.

Start Date: 2012.10.14 @ 06:34:30

End Date: 2012.10.14 @ 13:59:45

Job Ticket #: 49580 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.10.17 @ 13:14:07



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Herman L. Loeb, LLC.
 P.O. Box 838
 Lawrenceville, IL 62439
 ATTN: Jon Christensen

34-21s-16w. Pawnee Co.
Carr #2-34
 Job Ticket: 49580 **DST#: 1**
 Test Start: 2012.10.14 @ 06:34:30

GENERAL INFORMATION:

Formation: **Lansing A-B**
 Deviated: No Whipstock: 0.00 ft (KB)
 Time Tool Opened: 08:38:30
 Time Test Ended: 13:59:45
 Interval: **3508.00 ft (KB) To 3544.00 ft (KB) (TVD)**
 Total Depth: 3544.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ryan Reynolds
 Unit No: 48
 Reference Elevations: 2002.00 ft (KB)
 1991.00 ft (CF)
 KB to GR/CF: 11.00 ft

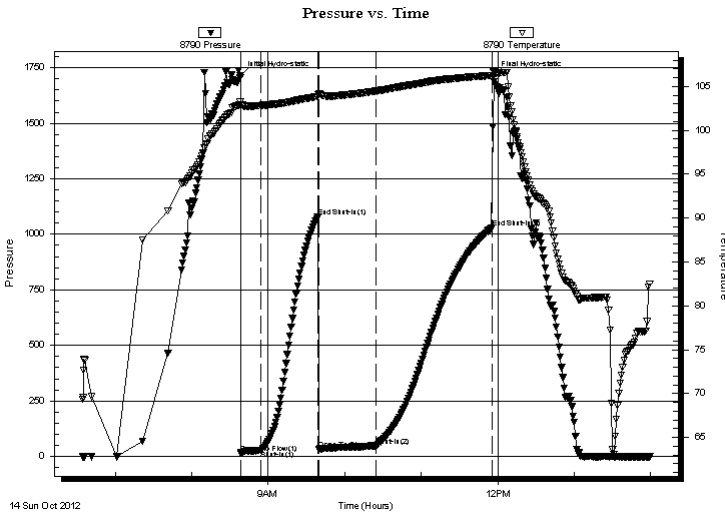
Serial #: 8790

Inside

Press @ Run Depth: 46.39 psig @ 3509.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.10.14 End Date: 2012.10.14 Last Calib.: 2012.10.14
 Start Time: 06:34:35 End Time: 13:59:44 Time On Btm: 2012.10.14 @ 08:38:15
 Time Off Btm: 2012.10.14 @ 11:56:45

TEST COMMENT: IF: Fair blow . 1/2" - 3 1/2"
 IS: No blow
 FF: Good blow . 1/2" - 7"
 FS: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1713.66	103.30	Initial Hydro-static
1	15.37	102.75	Open To Flow (1)
16	26.98	102.83	Shut-In(1)
61	1077.29	103.87	End Shut-In(1)
62	31.26	104.07	Open To Flow (2)
106	46.39	104.47	Shut-In(2)
197	1028.00	106.27	End Shut-In(2)
199	1714.14	106.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	GOWCM 10%gas, 15%oil, 20%w ater,	550.15ud
50.00	SLI WCOM Trc%w ater, 10%oil, 90%mud	0.25

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Herman L. Loeb, LLC.

34-21s.-16w. Pawnee Co.

P.O. Box 838
Lawrenceville, IL 62439

Carr #2-34

Job Ticket: 49580

DST#: 1

ATTN: Jon Christensen

Test Start: 2012.10.14 @ 06:34:30

Tool Information

Drill Pipe:	Length: 3282.00 ft	Diameter: 3.80 inches	Volume: 46.04 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 217.00 ft	Diameter: 2.25 inches	Volume: 1.07 bbl	Weight to Pull Loose: 67000.00 lb
			<u>Total Volume: 47.11 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3508.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	58.00 ft			
Number of Packers:	2	Diameter: 6.50 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3491.00	
Hydraulic tool	5.00			3496.00	
Safety Joint	2.00			3498.00	
Packer	5.00			3503.00	22.00 Bottom Of Top Packer
Packer	5.00			3508.00	
Stubb	1.00			3509.00	
Recorder	0.00	8790	Inside	3509.00	
Recorder	0.00	8792	Outside	3509.00	
Perforations	32.00			3541.00	
Bullnose	3.00			3544.00	36.00 Bottom Packers & Anchor
Total Tool Length:	58.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Herman L. Loeb, LLC.
P.O. Box 838
Lawrenceville, IL 62439
ATTN: Jon Christensen

34-21s.-16w. Pawnee Co.
Carr #2-34
Job Ticket: 49580 **DST#: 1**
Test Start: 2012.10.14 @ 06:34:30

Mud and Cushion Information

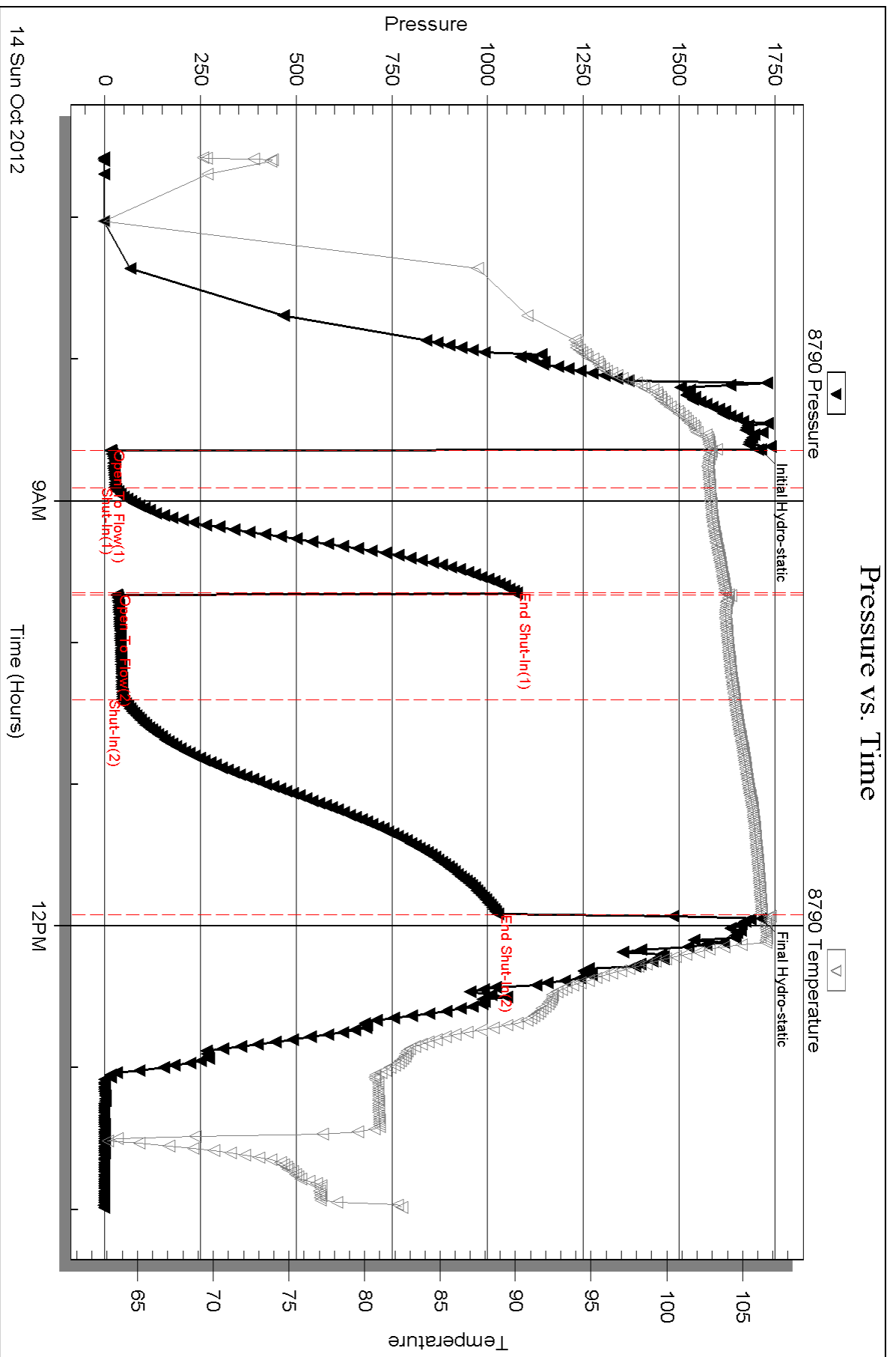
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	33000 ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.98 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 12800.00 ppm			
Filter Cake: 0.02 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	GOWCM 10%gas, 15%oil, 20%water, 55% mud	0.148
50.00	SLI WCOM 10%water, 10%oil, 90% mud	0.246

Total Length: 80.00 ft Total Volume: 0.394 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #: none
 Laboratory Name: Laboratory Location:
 Recovery Comments:

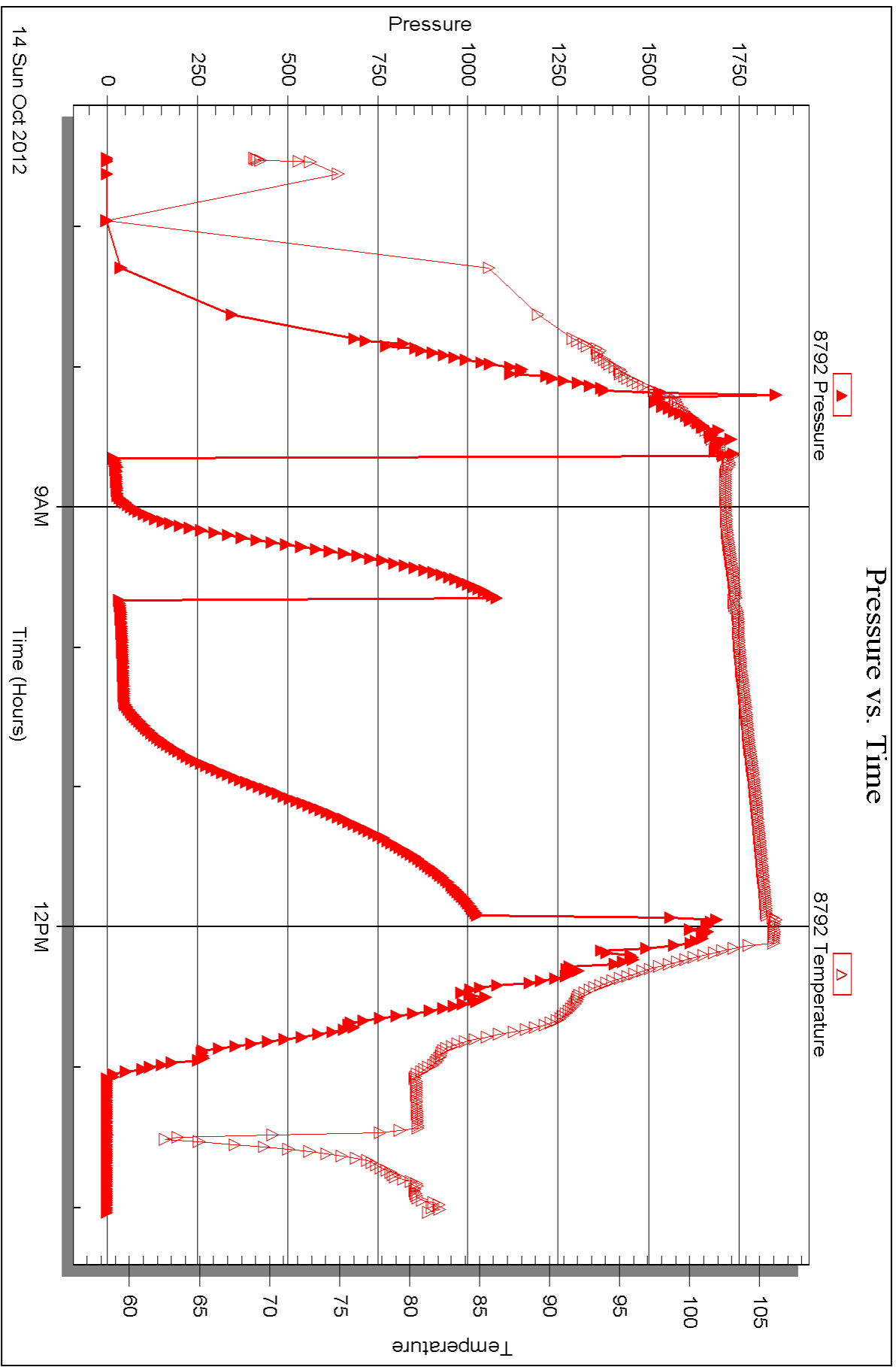


Serial #: 8792

Outside Herman L. Loeb, LLC.

Carr #2-34

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Herman L. Loeb, LLC.**

P.O. Box 838
Lawrenceville, IL 62439

ATTN: Jon Christensen

Carr #2-34

34-21s.-16w. Pawnee Co.

Start Date: 2012.10.15 @ 14:15:32

End Date: 2012.10.15 @ 21:17:02

Job Ticket #: 49581 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.10.17 @ 13:13:10



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Herman L. Loeb, LLC.
 P.O. Box 838
 Lawrenceville, IL 62439
 ATTN: Jon Christensen

34-21s-16w. Pawnee Co.
Carr #2-34
 Job Ticket: 49581 **DST#: 2**
 Test Start: 2012.10.15 @ 14:15:32

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: 0.00 ft (KB)
 Time Tool Opened: 16:13:02
 Time Test Ended: 21:17:02
 Interval: **3772.00 ft (KB) To 3855.00 ft (KB) (TVD)**
 Total Depth: 3855.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Reynolds
 Unit No: 48
 Reference Elevations: 2002.00 ft (KB)
 1991.00 ft (CF)
 KB to GR/CF: 11.00 ft

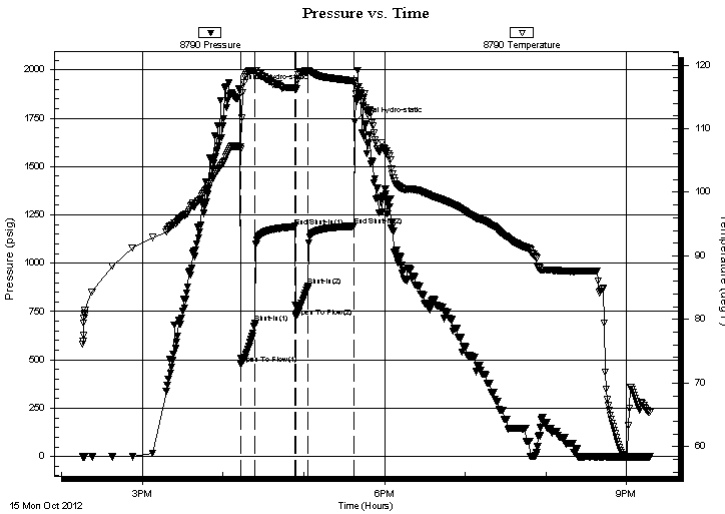
Serial #: 8790

Inside

Press @ Run Depth: 881.27 psig @ 3773.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.10.15 End Date: 2012.10.15 Last Calib.: 2012.10.15
 Start Time: 14:15:37 End Time: 21:17:01 Time On Btm: 2012.10.15 @ 16:12:17
 Time Off Btm: 2012.10.15 @ 17:38:02

TEST COMMENT: IF: Strong blow . BOB 1 min. No GTS
 IS: No blow
 FF: Strong blow BOB 2 min. No GTS
 FS: Good blow . 7" into bucket

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1903.18	107.16	Initial Hydro-static
1	475.81	106.79	Open To Flow (1)
12	691.78	119.17	Shut-In(1)
42	1189.60	116.39	End Shut-In(1)
42	724.02	116.19	Open To Flow (2)
51	881.27	119.05	Shut-In(2)
86	1192.00	117.48	End Shut-In(2)
86	1733.45	117.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
420.00	GMW 5%gas, 5%mud, 90%mud	3.91
770.00	GOMCW 5%gas, 20%mud, 20%oil, 55%w tr	10.80
490.00	GWOOCM 10%gas, 25%w tr, 25%oil, 40%r	6.87

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Herman L. Loeb, LLC.

34-21s.-16w. Pawnee Co.

P.O. Box 838
Lawrenceville, IL 62439

Carr #2-34

Job Ticket: 49581

DST#: 2

ATTN: Jon Christensen

Test Start: 2012.10.15 @ 14:15:32

Tool Information

Drill Pipe:	Length: 3537.00 ft	Diameter: 3.80 inches	Volume: 49.61 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 217.00 ft	Diameter: 2.25 inches	Volume: 1.07 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 50.68 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 67000.00 lb
Depth to Top Packer:	3772.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	83.00 ft			
Tool Length:	105.00 ft			
Number of Packers:	2	Diameter: 6.50 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3755.00	
Hydraulic tool	5.00			3760.00	
Safety Joint	2.00			3762.00	
Packer	5.00			3767.00	22.00 Bottom Of Top Packer
Packer	5.00			3772.00	
Stubb	1.00			3773.00	
Recorder	0.00	8790	Inside	3773.00	
Recorder	0.00	8792	Outside	3773.00	
Perforations	2.00			3775.00	
Blank Spacing	66.00			3841.00	
Perforations	11.00			3852.00	
Bullnose	3.00			3855.00	83.00 Bottom Packers & Anchor

Total Tool Length: 105.00



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FLUID SUMMARY

Herman L. Loeb, LLC.
P.O. Box 838
Lawrenceville, IL 62439
ATTN: Jon Christensen

34-21s.-16w. Pawnee Co.
Carr #2-34
Job Ticket: 49581 **DST#: 2**
Test Start: 2012.10.15 @ 14:15:32

Mud and Cushion Information

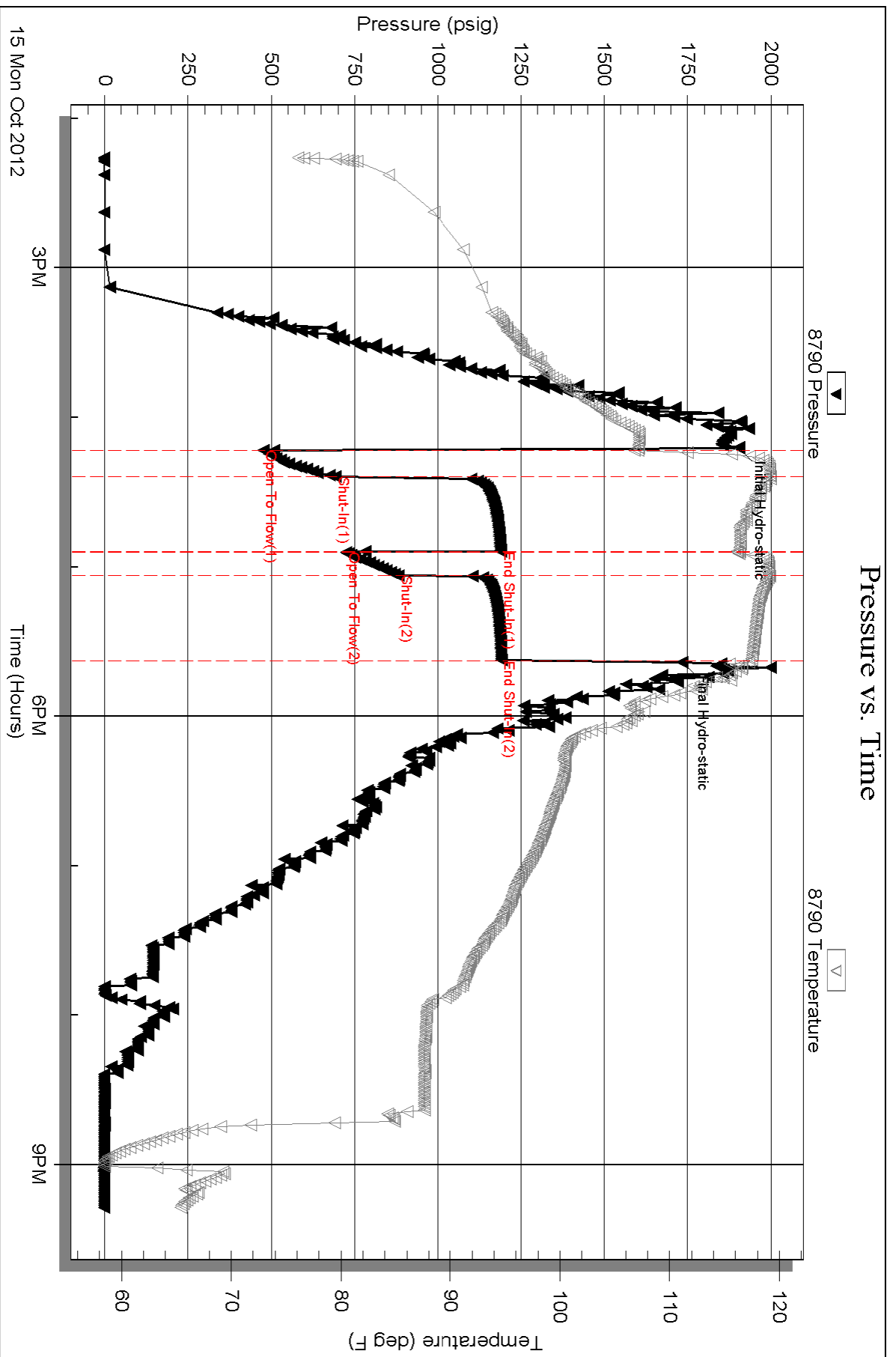
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	37000 ppm
Viscosity: 73.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6500.00 ppm			
Filter Cake: 0.02 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
420.00	GMW 5%gas, 5%mud, 90%mud	3.915
770.00	GOMCW 5%gas, 20%mud, 20%oil, 55%w tr	10.801
490.00	GWOCM 10%gas, 25%w tr, 25%oil, 40%mud	6.873

Total Length: 1680.00 ft Total Volume: 21.589 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #: none
Laboratory Name: Laboratory Location:
Recovery Comments:

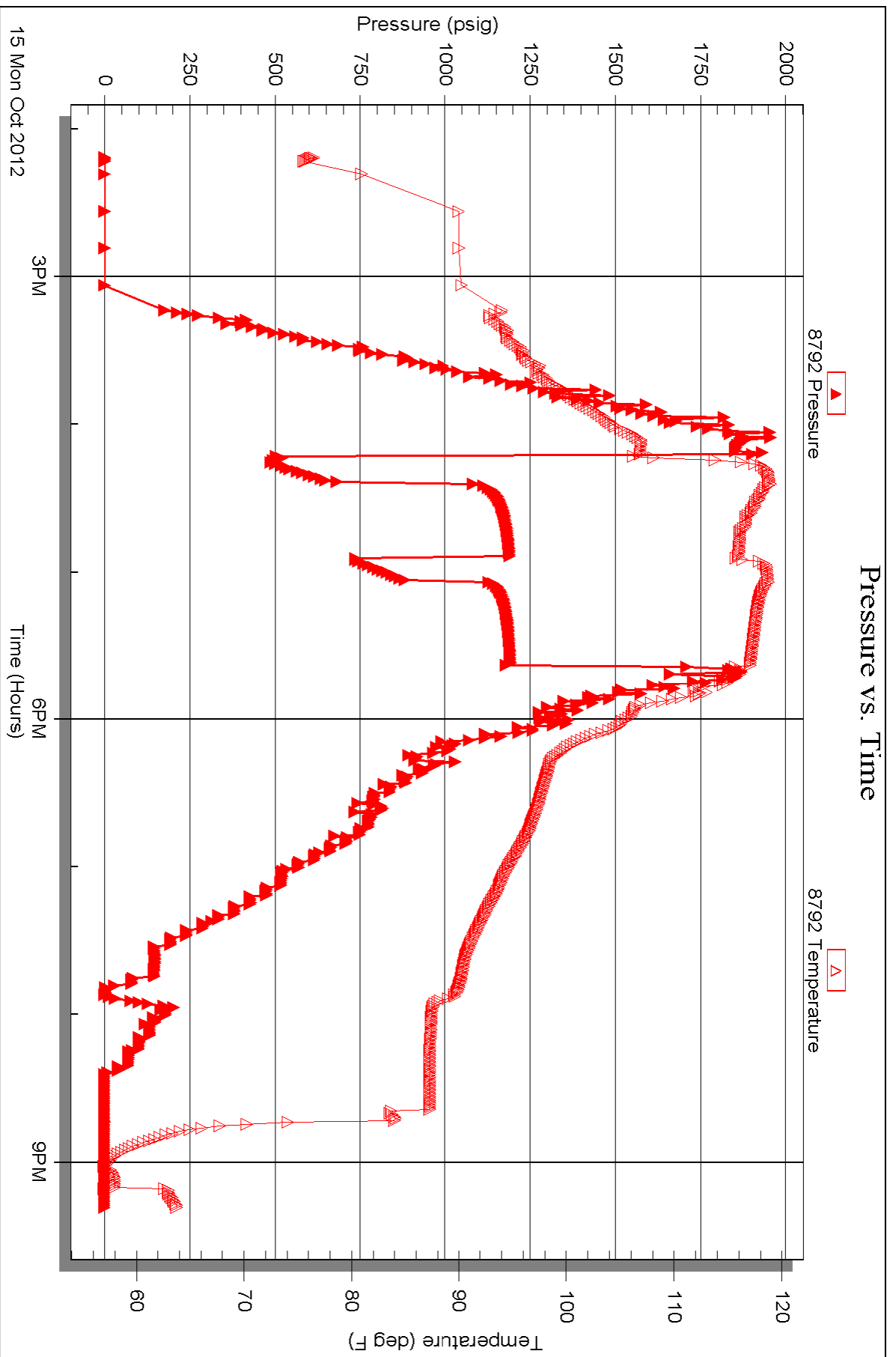


Serial #: 8792

Outside Herrman L. Loeb, LLC.

Carr #2-34

DST Test Number: 2





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49580

4/10

Well Name & No. Carr #2-34 Test No. 1 Date 10-14-12
 Company Herman L. Loeb, LLC. Elevation 2002 KB 1991 GL
 Address P.O. Box 838 Lawrenceville, IL 62439
 Co. Rep / Geo. Jon Christensen Rig Sterling #2
 Location: Sec. 34 Twp. 21s. Rge. 16w. Co. Pawnee State KS

Interval Tested 3508-3544 Zone Tested Lansing "A-B"
 Anchor Length 36' Drill Pipe Run 3282 Mud Wt. 8.7
 Top Packer Depth 3503 Drill Collars Run 217 Vis 48
 Bottom Packer Depth 3508 Wt. Pipe Run Ø WL 10.0
 Total Depth 3544 Chlorides 12,800 ppm System LCM Trc.
 Blow Description IF: Fair blow, 1/2" - 3 1/2". ISI: No blow

FF: Good blow, 1/2" - 7"
 FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
200	GIP	100			
50	SLI W LOM		10	Trc	90
30	GD WGM	10	15	20	55

Rec Total 280 BHT 107 Gravity N/C API RW 14 @ 93.5° F Chlorides 33000 ppm

(A) Initial Hydrostatic 1714 Test 1150 T-On Location 0525
 (B) First Initial Flow 15 Jars T-Started 0634
 (C) First Final Flow 27 Safety Joint 75 T-Open 0838
 (D) Initial Shut-In 1077 Circ Sub T-Pulled 1155
 (E) Second Initial Flow 31 Hourly Standby T-Out 1400
 (F) Second Final Flow 46 Mileage 120 186 Comments _____
 (G) Final Shut-In 1028 Sampler _____
 (H) Final Hydrostatic 1714 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 15 Extra Recorder _____ Sub Total 0
 Initial Shut-In 45 Day Standby _____ Total 1411
 Final Flow 45 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1411

Approved By [Signature]

Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49581

4/10

Well Name & No. Carr #2-34 Test No. 2 Date 10-15-12
 Company Herman L. Loeb, LLC. Elevation 2002 KB 1991 GL
 Address P.O. Box 838 Lawrenceville, IL 62439
 Co. Rep / Geo. Jon Christensen Rig Sterling #2
 Location: Sec. 34 Twp. 21s. Rge. 16w. Co. Pawnee State KS

Interval Tested 3772-3855 Zone Tested Arbuckle
 Anchor Length 83' Drill Pipe Run 3537 Mud Wt. 9.3
 Top Packer Depth 3767 Drill Collars Run 217 Vis 73
 Bottom Packer Depth 3772 Wt. Pipe Run ∅ WL 8.8
 Total Depth 3855 Chlorides 6500 ppm System LCM 1#
 Blow Description IF: Strong blow. BOB 1 min. IST: No blow

FF: Strong blow. BOB 2 min. No GTS

FST: Good blow. 7"

Rec	Feet of	%gas	%oil	%water	%mud
<u>370</u>	<u>GIP</u>	<u>100</u>			
<u>490</u>	<u>BWOCM</u>	<u>10</u>	<u>25</u>	<u>25</u>	<u>40</u>
<u>770</u>	<u>GOMCW</u>	<u>5</u>	<u>20</u>	<u>55</u>	<u>20</u>
<u>420</u>	<u>GMW</u>	<u>5</u>		<u>90</u>	<u>5</u>

Rec Total 2050 BHT 117 Gravity N/C API RW 19 @ 73 °F Chlorides 37000 ppm

(A) Initial Hydrostatic 1903 Test 1150 T-On Location 1315
 (B) First Initial Flow 476 Jars T-Started 1416
 (C) First Final Flow 692 Safety Joint 75 T-Open 1613
 (D) Initial Shut-In 1190 Circ Sub T-Pulled 1735
 (E) Second Initial Flow 724 Hourly Standby T-Out 2117
 (F) Second Final Flow 881 Mileage 120 186 Comments _____
 (G) Final Shut-In 1192 Sampler _____
 (H) Final Hydrostatic 1733 Straddle _____ Ruined Shale Packer _____

Initial Open 10 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 30 Extra Packer _____ Extra Copies _____
 Final Flow 10 Extra Recorder _____ Sub Total 0
 Final Shut-In 30 Day Standby _____ Total 1411
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1411

Approved By [Signature]

Our Representative [Signature]

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