



## DRILL STEM TEST REPORT

Prepared For: **Herman L Loeb LLC**

PO Box 838  
Lawrenceville IL 62439

ATTN: George Payne/ Jon Ch

### **Sampson #3-4**

#### **4-28s-18w Kiowa,KS**

Start Date: 2013.10.24 @ 05:11:55

End Date: 2013.10.24 @ 14:37:55

Job Ticket #: 52443                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.25 @ 14:53:55



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Herman L Loeb LLC  
 PO Box 838  
 Lawrenceville IL 62439  
 ATTN: George Payne/ Jon Ch

**4-28s-18w Kiowa,KS**  
**Sampson #3-4**  
 Job Ticket: 52443 **DST#: 1**  
 Test Start: 2013.10.24 @ 05:11:55

## GENERAL INFORMATION:

Formation: **Mississippi**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 08:54:25  
 Time Test Ended: 14:37:55  
 Interval: **4814.00 ft (KB) To 4842.00 ft (KB) (TVD)**  
 Total Depth: 4945.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Straddle (Initial)  
 Tester: Chris Staats  
 Unit No: #47  
 Reference Elevations: 2229.00 ft (KB)  
 2218.00 ft (CF)  
 KB to GR/CF: 11.00 ft

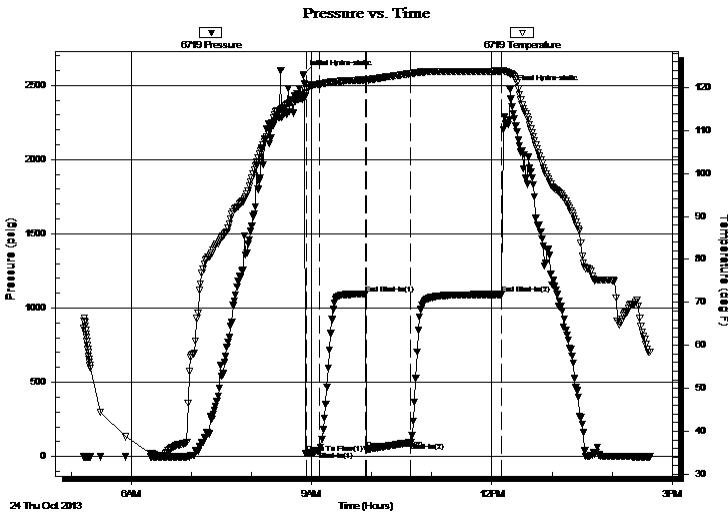
## Serial #: 6719

**Outside**

Press @ Run Depth: 95.72 psig @ 4815.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.10.24 End Date: 2013.10.24 Last Calib.: 2013.10.24  
 Start Time: 05:12:00 End Time: 14:37:55 Time On Btm: 2013.10.24 @ 08:51:40  
 Time Off Btm: 2013.10.24 @ 12:18:10

TEST COMMENT: IF: Strong blow BOB 5 min  
 IS: No blow back  
 FF: Strong blow BOB 4 min  
 FS: Weak blow back 1 1/2"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2572.91	117.67	Initial Hydro-static
3	20.57	118.78	Open To Flow (1)
17	38.44	120.77	Shut-In(1)
62	1094.89	121.79	End Shut-In(1)
64	46.07	121.65	Open To Flow (2)
108	95.72	123.24	Shut-In(2)
198	1092.57	123.81	End Shut-In(2)
207	2471.19	123.22	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Clean Oil	0.05
20.00	M,O 10% mud 90% oil	0.10
60.00	G,O,W,M 5% oil 4% water 10% gas 81% mud	0.30
60.00	O,G,M,W 2% oil 5% gas 43% mud 50% water	0.30

## Gas Rates

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



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**Sampson #3-4**

Job Ticket: 52443

**DST#: 1**

ATTN: George Payne/ Jon Ch

Test Start: 2013.10.24 @ 05:11:55

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Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Test Type: Conventional Straddle (Initial)

Time Tool Opened: 08:54:25

Tester: Chris Staats

Time Test Ended: 14:37:55

Unit No: #47

Interval: **4814.00 ft (KB) To 4842.00 ft (KB) (TVD)**

Reference Elevations: 2229.00 ft (KB)

Total Depth: 4945.00 ft (KB) (TVD)

2218.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6773 Inside**

Press@RunDepth: psig @ 4815.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.24

End Date:

2013.10.24

Last Calib.:

2013.10.24

Start Time: 05:07:19

End Time:

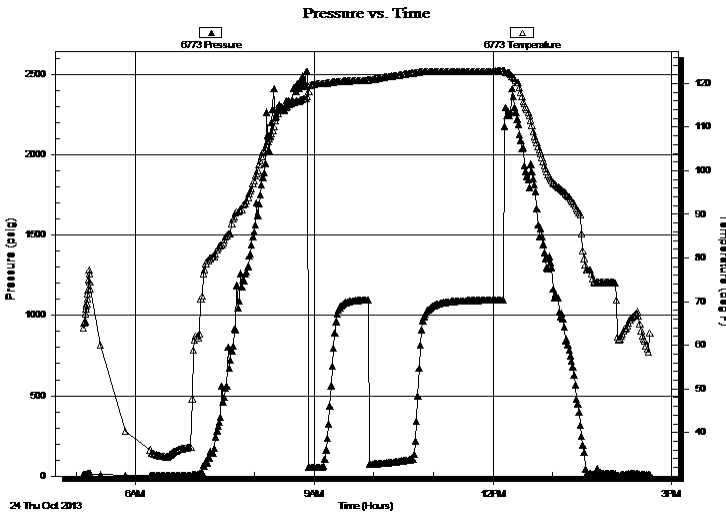
14:38:14

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Strong blow BOB 5 min  
IS: No blow back  
FF: Strong blow BOB 4 min  
FS: Weak blow back 1 1/2"

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Clean Oil	0.05
20.00	M,O 10% mud 90% oil	0.10
60.00	G,O,W,M 5% oil 4% water 10% gas 81% mud	0.30
60.00	O,G,M,W 2% oil 5% gas 43% mud 50% water	0.30

## Gas Rates

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



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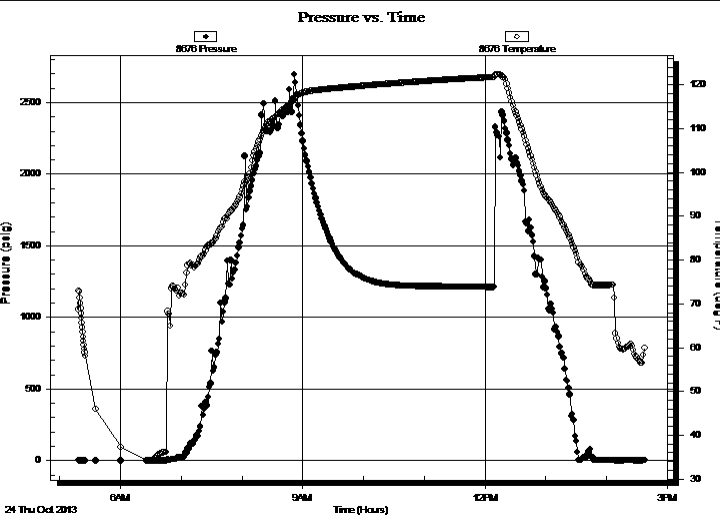
**4-28s-18w Kiowa, KS**  
**Sampson #3-4**  
Job Ticket: 52443 **DST#: 1**  
Test Start: 2013.10.24 @ 05:11:55

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Interval: **4814.00 ft (KB) To 4842.00 ft (KB) (TVD)**  
Total Depth: 4945.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2229.00 ft (KB)  
2218.00 ft (CF)  
KB to GR/CF: 11.00 ft  
Test Type: Conventional Straddle (Initial)  
Tester: Chris Staats  
Unit No: #47

**Serial #: 8676 Below (Straddle)**  
Press @ Run Depth: psig @ 4844.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2013.10.24 End Date: 2013.10.24 Last Calib.: 2013.10.24  
Start Time: 05:18:24 End Time: 14:38:04 Time On Btm:  
Time Off Btm:

**TEST COMMENT:** IF: Strong blow BOB 5 min  
IS: No blow back  
FF: Strong blow BOB 4 min  
FS: Weak blow back 1 1/2"



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Clean Oil	0.05
20.00	M,O 10%mud 90%oil	0.10
60.00	G,O,W,M 5%oil 4%water 10%gas 81%mo	0.30
60.00	O,G,M,W 2%oil 5%gas 43%mud 50%water	0.30

## Gas Rates

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



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TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Herman L Loeb LLC

**4-28s-18w Kiowa,KS**

PO Box 838  
Lawrenceville IL 62439

**Sampson #3-4**

Job Ticket: 52443

**DST#: 1**

ATTN: George Payne/ Jon Ch

Test Start: 2013.10.24 @ 05:11:55

## Tool Information

Drill Pipe:	Length: 4495.00 ft	Diameter: 3.80 inches	Volume: 63.05 bbl	Tool Weight: 2200.00 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: 307.00 ft	Diameter: 2.25 inches	Volume: 1.51 bbl	Weight to Pull Loose: 100.00 lb
			<u>Total Volume: 64.56 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 82000.00 lb
Depth to Top Packer:	4814.00 ft			Final 86000.00 lb
Depth to Bottom Packer:	4945.00 ft			
Interval between Packers:	131.00 ft			
Tool Length:	155.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4791.00	
Shut In Tool	5.00			4796.00	
Hydraulic tool	5.00			4801.00	
Safety Joint	3.00			4804.00	
Packer	5.00			4809.00	24.00 Bottom Of Top Packer
Packer	5.00			4814.00	
Stubb	1.00			4815.00	
Recorder	0.00	6719	Outside	4815.00	
Recorder	0.00	6773	Inside	4815.00	
Perforations	23.00			4838.00	
Blank Off Sub	1.00			4839.00	
Packer - Shale	5.00			4844.00	
Recorder	0.00	8676	Below	4844.00	
Change Over Sub	0.50			4844.50	
Perforations	3.00			4847.50	
Drill Pipe	94.00			4941.50	
Change Over Sub	0.50			4942.00	
Bullnose	3.00			4945.00	131.00 Bottom Packers & Anchor

**Total Tool Length: 155.00**



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**FLUID SUMMARY**

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 ATTN: George Payne/ Jon Ch

**4-28s-18w Kiowa,KS**  
**Sampson #3-4**  
 Job Ticket: 52443      **DST#: 1**  
 Test Start: 2013.10.24 @ 05:11:55

## Mud and Cushion Information

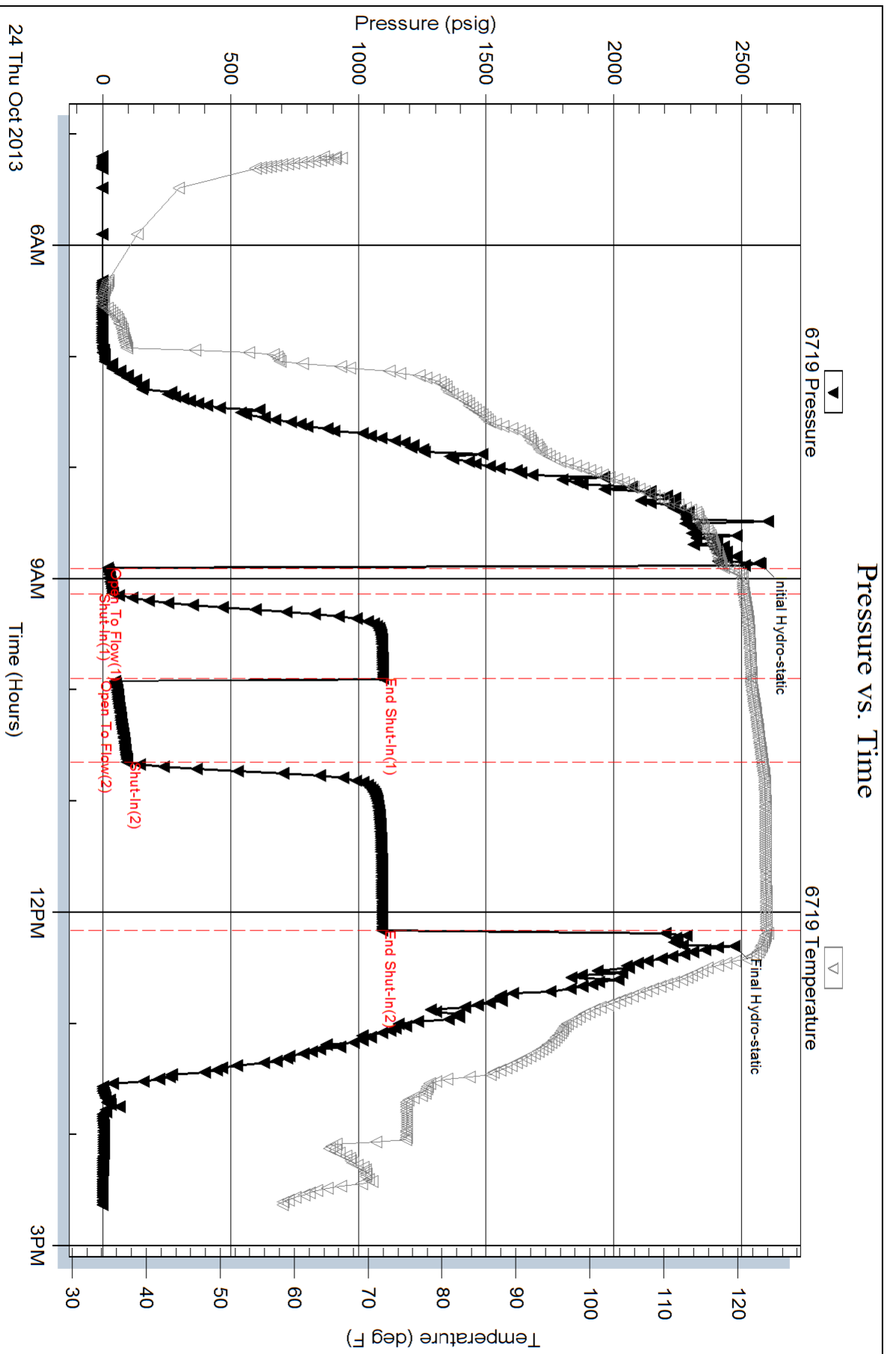
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	50 ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.78 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 6500.00 ppm			
Filter Cake: 0.02 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Clean Oil	0.049
20.00	M,O 10%mud 90%oil	0.098
60.00	G,O,W,M 5%oil 4%w ater 10%gas 81%mud	0.295
60.00	O,G,M,W 2%oil 5%gas 43%mud 50%w ater	0.295

Total Length: 150.00 ft      Total Volume: 0.737 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:



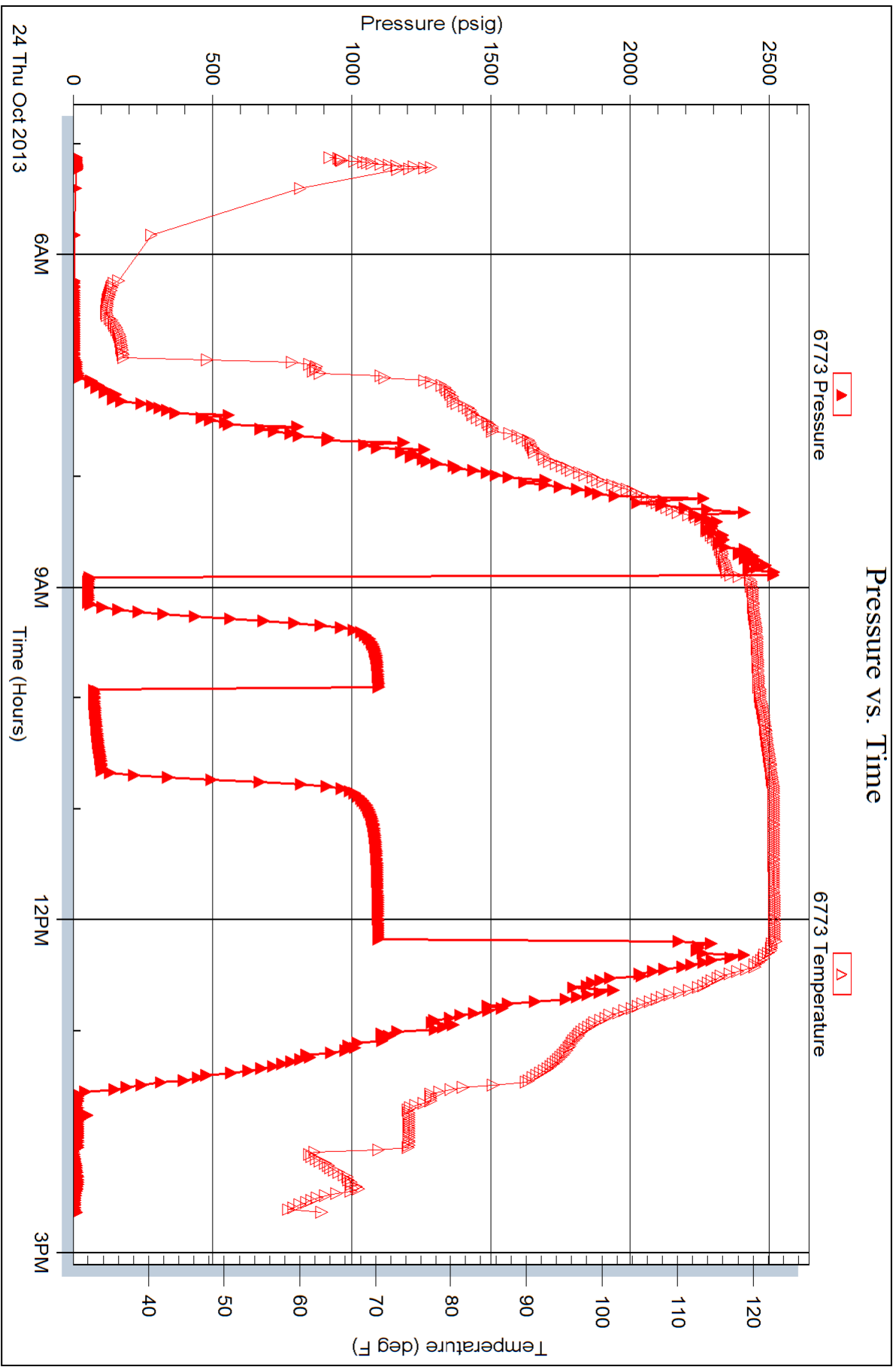
Serial #: 6773

Inside

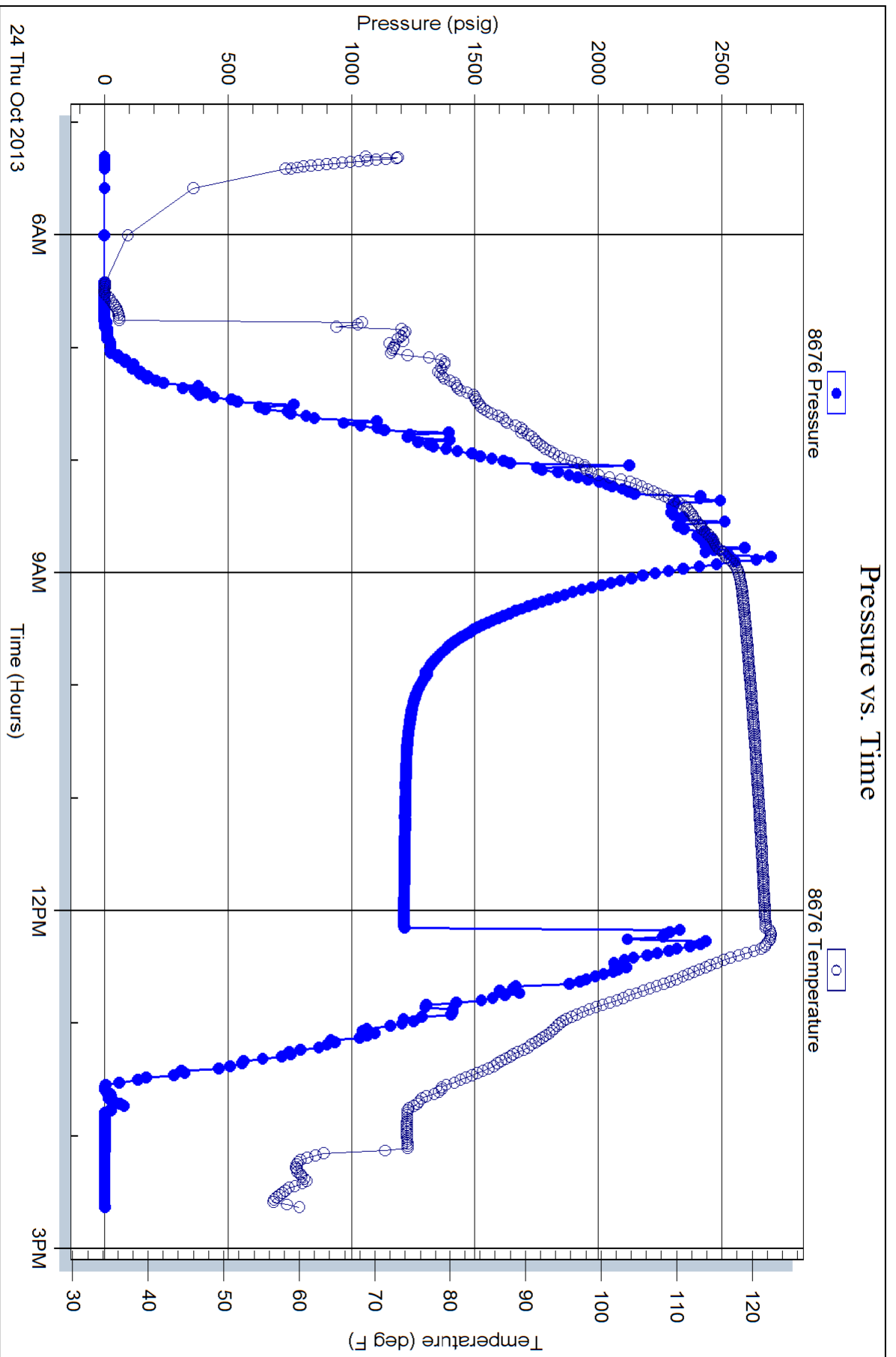
Herrnan L Loeb LLC

Sampson #3-4

DST Test Number: 1









# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 52443

Well Name & No. Sampson #3-4 Test No. 1 Date 10-24-13  
 Company Herman L Loeb LLC Elevation 2229 KB 2218 GL  
 Address Po box 838 Lawrenceville IL 62439  
 Co. Rep / Geo. George Payne / John Christensen Rig Sterling #2  
 Location: Sec. 4 Twp. 28 Rge. 18 Co. Kiowa State KS

Interval Tested 4814 - 4842 Zone Tested MISS  
 Anchor Length 28' Drill Pipe Run 4495 Mud Wt. 9.0  
 Top Packer Depth 4809 Drill Collars Run 307 Vis 53  
 Bottom Packer Depth 4814 Wt. Pipe Run 0 WL 9.8  
 Total Depth 4945 Chlorides 61500 ppm System LCM 1#

Blow Description IF: Strong blow BOBSmih  
ISI: NO blow back  
FF: Strong blow BOD 4 min  
FSI: weak blow back 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
10'	Clean oil				
20'	M,O		90		10
60'	G,O,W,M	10	5	4	81
60'	O,G,M,W	5	2	50	43
	1280' GIP				

Rec Total 150' BHT 125' Gravity - API RW 18 @ 54 ° F Chlorides 50,000 ppm

(A) Initial Hydrostatic 2572  Test 1250 T-On Location 4:35  
 (B) First Initial Flow 20  Jars \_\_\_\_\_ T-Started 5:11  
 (C) First Final Flow 38  Safety Joint 75 T-Open 8:54  
 (D) Initial Shut-In 1094  Circ Sub \_\_\_\_\_ T-Pulled 12:10  
 (E) Second Initial Flow 46  Hourly Standby \_\_\_\_\_ T-Out 14:25  
 (F) Second Final Flow 95  Mileage 80 miles 124  
 (G) Final Shut-In 1092  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2471  Straddle 600  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_

Initial Open 15  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 45  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 45  Day Standby \_\_\_\_\_ Total 2049  
 Final Shut-In 90  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 2049

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.