



## DRILL STEM TEST REPORT

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

PO Box 838  
Lawrenceville IL 62439

ATTN: Jon Christensen

### **Unruh D #1-21**

### **21-27s-18w Kiowa,KS**

Start Date: 2013.02.23 @ 11:26:42

End Date: 2013.02.23 @ 18:52:12

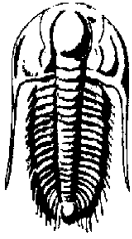
Job Ticket #: 50843                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.03.07 @ 11:19:13



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**21-27s-18w Kiowa, KS**  
**Unruh D #1-21**  
Job Ticket: 50843      **DST#: 1**  
Test Start: 2013.02.23 @ 11:26:42

## GENERAL INFORMATION:

Formation: **Lansing A**

Deviated: No Whipstock:      ft (KB)

Time Tool Opened: 14:01:12

Time Test Ended: 18:52:12

**Interval: 4205.00 ft (KB) To 4222.00 ft (KB) (TVD)**

Total Depth: 4222.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: Gary Pevoteaux

Unit No: 56

Reference Elevations: 2202.00 ft (KB)

2191.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8352      Outside**

Press @ Run Depth: 54.12 psig @ 4206.00 ft (KB)      Capacity: 8000.00 psig

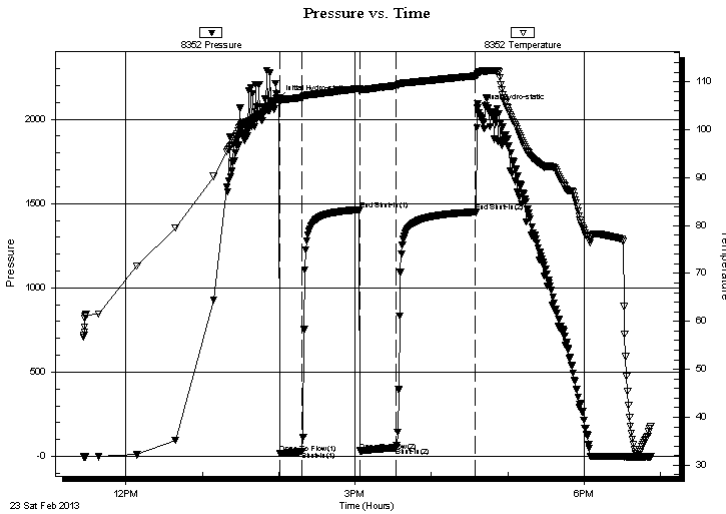
Start Date: 2013.02.23      End Date: 2013.02.23      Last Calib.: 2013.02.23

Start Time: 11:26:47      End Time: 18:52:11      Time On Btm: 2013.02.23 @ 13:59:42

Time Off Btm: 2013.02.23 @ 16:36:12

TEST COMMENT: IF:Weak blow . 1/2 - 1".  
IS:No blow .  
FF:Weak blow . 1/4 - 1/2".  
FS:No blow .

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2114.71	106.68	Initial Hydro-static
2	18.43	105.96	Open To Flow (1)
19	29.78	106.70	Shut-In(1)
64	1463.61	108.59	End Shut-In(1)
64	33.24	107.93	Open To Flow (2)
93	54.12	109.18	Shut-In(2)
155	1450.55	111.20	End Shut-In(2)
157	2065.10	111.49	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	MW 16% m 84% w	0.34

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**21-27s-18w Kiowa, KS**  
**Unruh D #1-21**  
 Job Ticket: 50843 **DST#: 1**  
 Test Start: 2013.02.23 @ 11:26:42

## GENERAL INFORMATION:

Formation: **Lansing A**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:01:12  
 Time Test Ended: 18:52:12  
 Interval: **4205.00 ft (KB) To 4222.00 ft (KB) (TVD)**  
 Total Depth: 4222.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)  
 Tester: Gary Pevoteaux  
 Unit No: 56  
 Reference Elevations: 2202.00 ft (KB)  
 2191.00 ft (CF)  
 KB to GR/CF: 11.00 ft

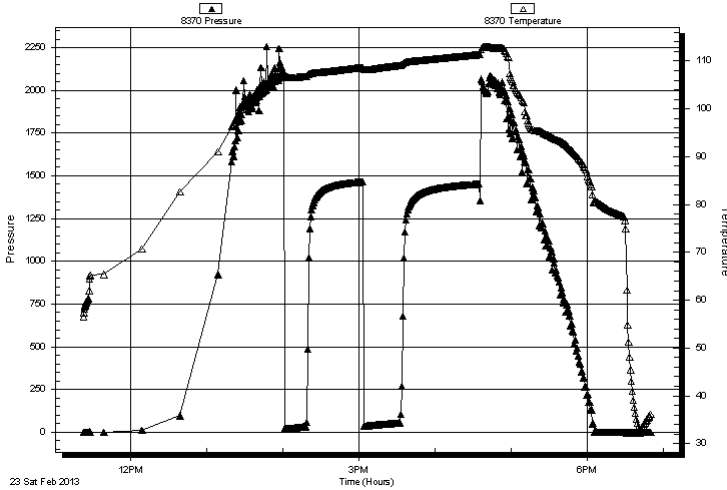
### Serial #: 8370

**Inside**

Press @ Run Depth: psig @ 4206.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.23 End Date: 2013.02.23 Last Calib.: 2013.02.23  
 Start Time: 11:23:17 End Time: 18:49:56 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF: Weak blow . 1/2 - 1".  
 IS: No blow .  
 FF: Weak blow . 1/4 - 1/2".  
 FS: No blow .

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	MW 16% m 84% w	0.34

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Herman L. Loeb ,LLC

**21-27s-18w Kiowa,KS**

PO Box 838  
Lawrenceville IL 62439

**Unruh D #1-21**

Job Ticket: 50843

**DST#: 1**

ATTN: Jon Christensen

Test Start: 2013.02.23 @ 11:26:42

## Tool Information

Drill Pipe:	Length: 3983.00 ft	Diameter: 3.80 inches	Volume: 55.87 bbl	Tool Weight:	2400.00 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:	78000.00 lb
			<u>Total Volume: 56.94 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	4205.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	17.00 ft				
Tool Length:	40.00 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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C.O. Sub	1.00			4183.00	
Shut in tool	5.00			4188.00	
HMV	5.00			4193.00	
Safety Joint	3.00			4196.00	
Packer	4.00			4200.00	23.00 Bottom Of Top Packer
Packer	5.00			4205.00	
Stubb	1.00			4206.00	
Recorder	0.00	8370	Inside	4206.00	
Recorder	0.00	8352	Outside	4206.00	
Perforations	11.00			4217.00	
Bullnose	5.00			4222.00	17.00 Bottom Packers & Anchor

**Total Tool Length: 40.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**21-27s-18w Kiowa,KS**  
**Unruh D #1-21**  
 Job Ticket: 50843      **DST#: 1**  
 Test Start: 2013.02.23 @ 11:26:42

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity:	81000 ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.36 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 10000.00 ppm			
Filter Cake: 0.20 inches			

## Recovery Information

Recovery Table

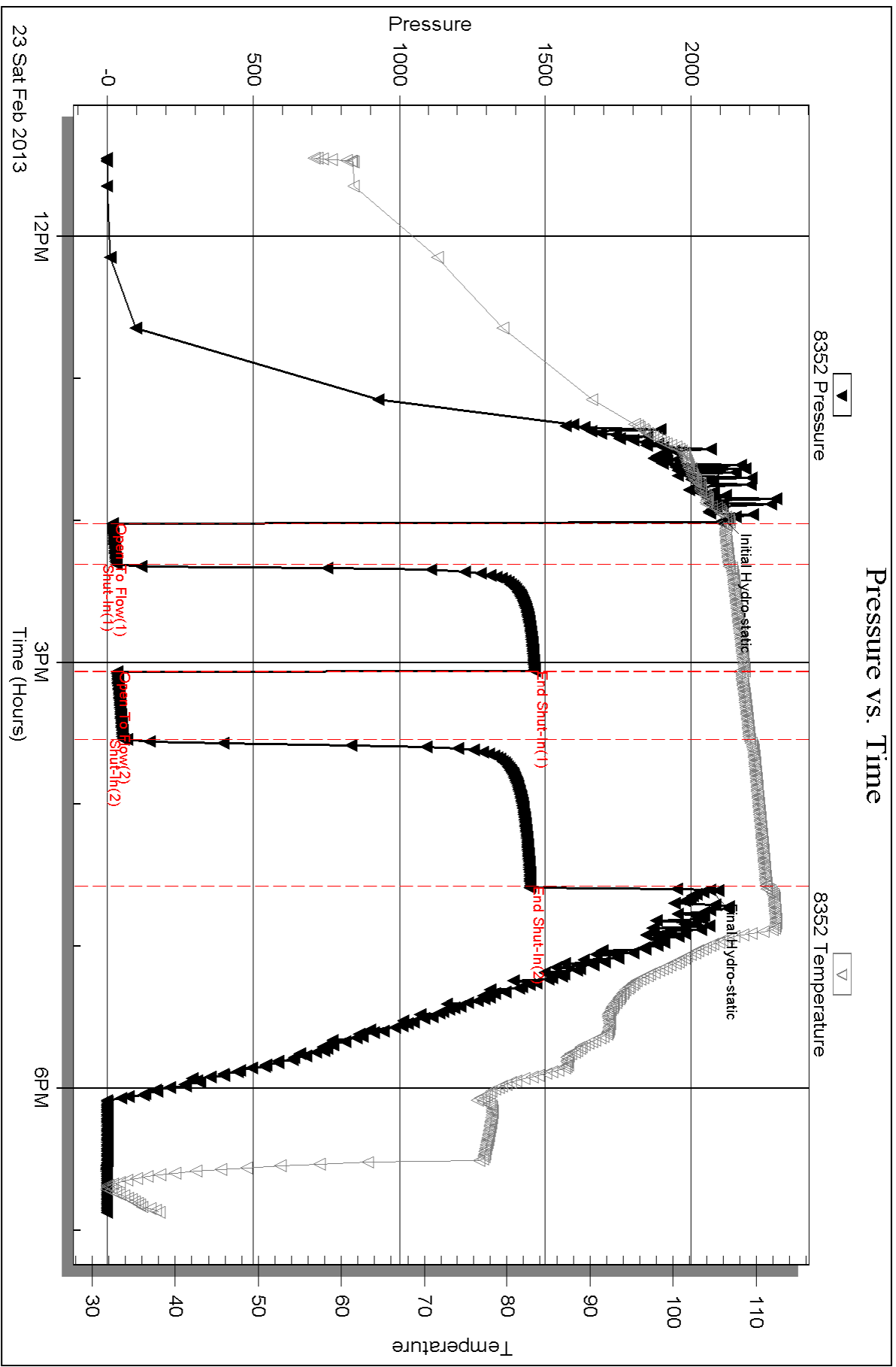
Length ft	Description	Volume bbl
70.00	MW 16% <sub>m</sub> 84% <sub>w</sub>	0.344

Total Length: 70.00 ft      Total Volume: 0.344 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #: none

Laboratory Name:      Laboratory Location:

Recovery Comments: Rw .16ohms @43deg



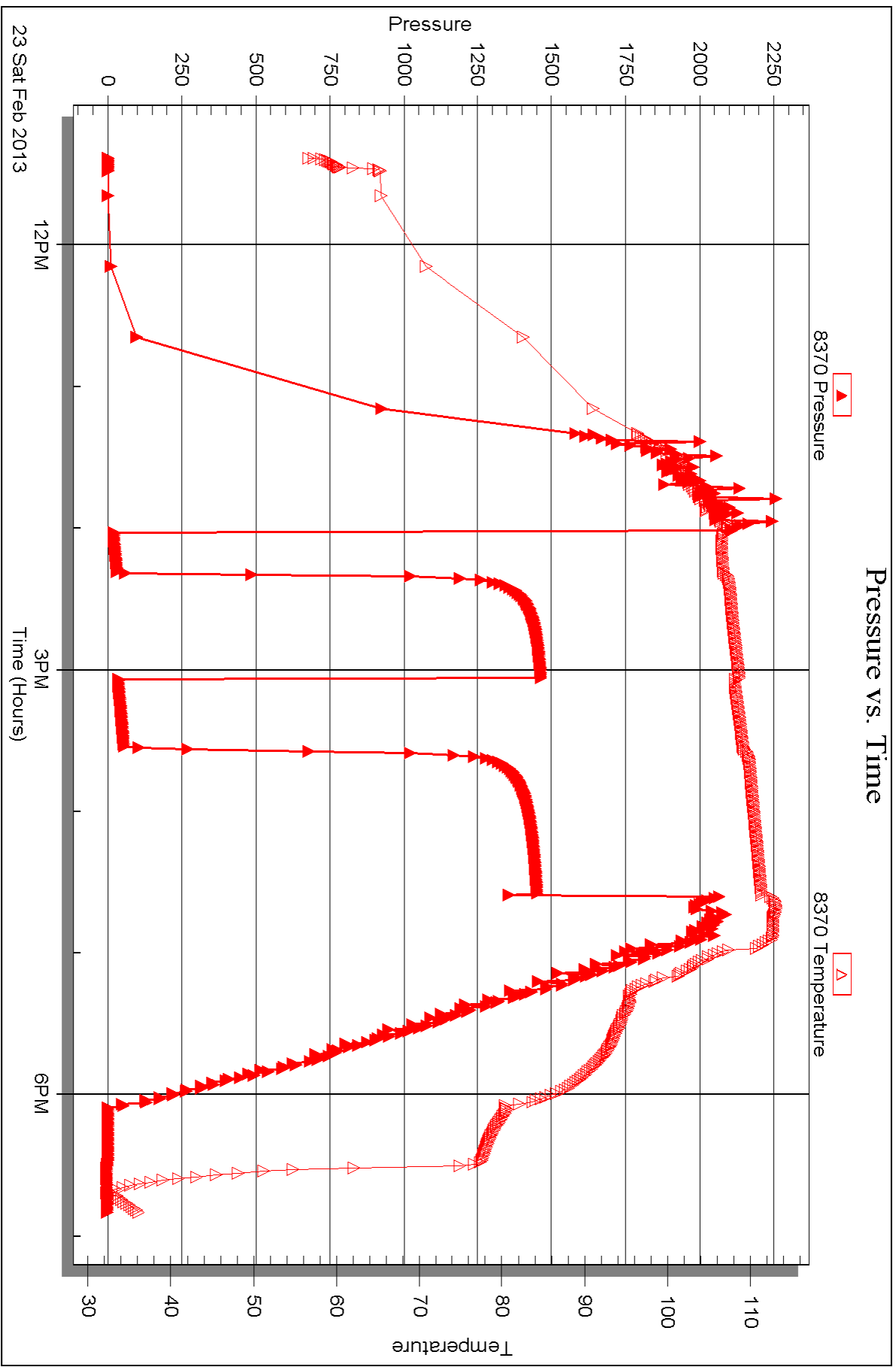
Serial #: 8370

Inside

Herrman L. Loeb, LLC

Unruh D#1-21

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 50843

Printed: 2013.03.07 @ 11:19:16



## DRILL STEM TEST REPORT

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

PO Box 838  
Lawrenceville IL 62439

ATTN: Jon Christensen

### **Unruh D #1-21**

### **21-27s-18w Kiowa,KS**

Start Date: 2013.02.24 @ 11:40:47

End Date: 2013.02.25 @ 01:53:30

Job Ticket #: 50844                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.03.07 @ 11:18:35





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**21-27s-18w Kiowa, KS**

**Unruh D #1-21**

Job Ticket: 50844

**DST#: 2**

Test Start: 2013.02.24 @ 11:40:47

## GENERAL INFORMATION:

Formation: **L K.C. " I"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:58:30  
 Time Test Ended: 01:53:30  
 Interval: **4398.00 ft (KB) To 4418.00 ft (KB) (TVD)**  
 Total Depth: 4418.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Gary Pevoteaux  
 Unit No: 56  
 Reference Elevations: 2202.00 ft (KB)  
 2191.00 ft (CF)  
 KB to GR/CF: 11.00 ft

## Serial #: 8352

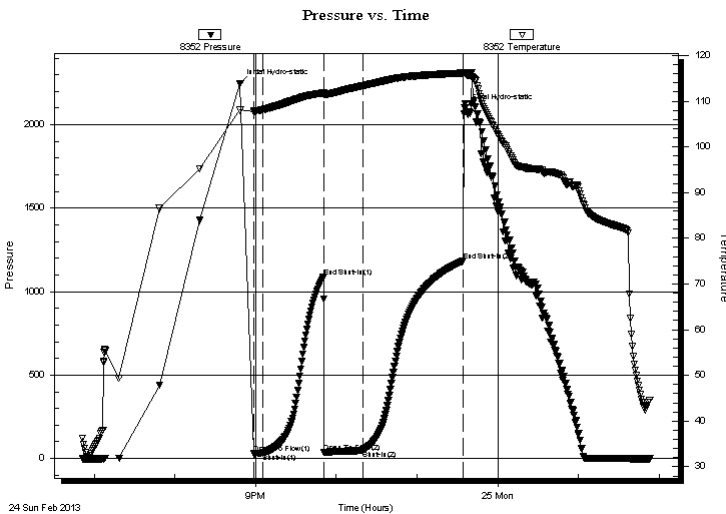
**Outside**

Press @ Run Depth: 48.66 psig @ 4399.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.24 End Date: 2013.02.25 Last Calib.: 2013.02.24  
 Start Time: 18:51:26 End Time: 01:53:30 Time On Btm: 2013.02.24 @ 20:48:30  
 Time Off Btm: 2013.02.24 @ 23:35:30

TEST COMMENT: IF: Weak blow . 1/2 - 3".  
 IS: No blow .  
 FF: Weak blow . 1 - 4".  
 FS: No blow .

## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2246.43	108.06	Initial Hydro-static
10	29.37	107.78	Open To Flow (1)
17	30.83	108.12	Shut-In(1)
62	1088.30	111.79	End Shut-In(1)
63	36.40	111.46	Open To Flow (2)
91	48.66	113.35	Shut-In(2)
166	1184.96	116.16	End Shut-In(2)
167	2099.83	116.18	Final Hydro-static



## Recovery

Length (ft)	Description	Volume (bbl)
55.00	Mud w o specs /Thin layer of clean	0.27
0.00	oil @top of recovery 110 ft.of GIP	0.00

\* 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

**21-27s-18w Kiowa,KS**

PO Box 838  
Lawrenceville IL 62439

**Unruh D #1-21**

Job Ticket: 50844

**DST#: 2**

ATTN: Jon Christensen

Test Start: 2013.02.24 @ 11:40:47

## Tool Information

Drill Pipe:	Length: 4174.00 ft	Diameter: 3.80 inches	Volume: 58.55 bbl	Tool Weight:	2400.00 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:	89000.00 lb
			<u>Total Volume: 59.62 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	72000.00 lb
Depth to Top Packer:	4398.00 ft			Final	72000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	20.00 ft				
Tool Length:	43.00 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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C.O. Sub	1.00			4376.00	
Shut in tool	5.00			4381.00	
HMV	5.00			4386.00	
Safety Joint	3.00			4389.00	
Packer	4.00			4393.00	23.00 Bottom Of Top Packer
Packer	5.00			4398.00	
Stubb	1.00			4399.00	
Recorder	0.00	8370	Inside	4399.00	
Recorder	0.00	8352	Outside	4399.00	
Perforations	14.00			4413.00	
Bullnose	5.00			4418.00	20.00 Bottom Packers & Anchor

**Total Tool Length: 43.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Herman L. Loeb ,LLC

**21-27s-18w Kiowa,KS**

PO Box 838  
Lawrenceville IL 62439

**Unruh D #1-21**

Job Ticket: 50844

**DST#: 2**

ATTN: Jon Christensen

Test Start: 2013.02.24 @ 11:40:47

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

10500 ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.36 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 10500.00 ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
55.00	Mud w o specs /Thin layer of clean	0.270
0.00	oil @top of recovery 110 ft.of GIP	0.000

Total Length: 55.00 ft Total Volume: 0.270 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

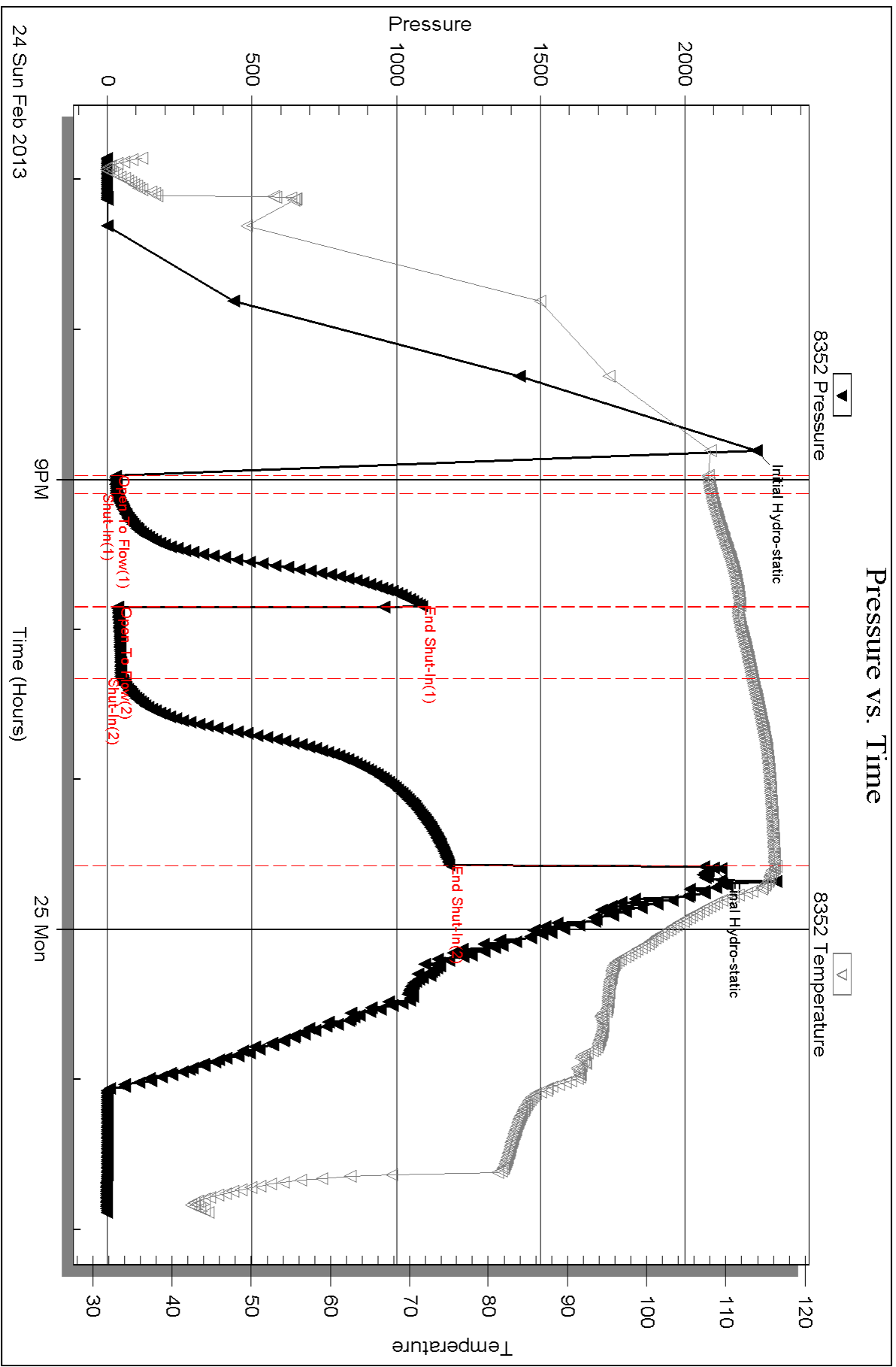
Recovery Comments:

Serial #: 8352

Outside Herrman L. Loeb, LLC

Unruh D#1-21

DST Test Number: 2





## DRILL STEM TEST REPORT

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

PO Box 838  
Lawrenceville IL 62439

ATTN: Jon Christensen

### **Unruh D #1-21**

### **21-27s-18w Kiowa,KS**

Start Date: 2013.02.27 @ 19:36:09

End Date: 2013.02.28 @ 03:47:39

Job Ticket #: 50860                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.03.07 @ 11:18:03



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**21-27s-18w Kiowa, KS**

**Unruh D #1-21**

Job Ticket: 50860

**DST#: 3**

Test Start: 2013.02.27 @ 19:36:09

## GENERAL INFORMATION:

Formation: **Miss. Chert**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:28:54

Time Test Ended: 03:47:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Reynolds

Unit No: 48

**Interval: 4739.00 ft (KB) To 4788.00 ft (KB) (TVD)**

Reference Elevations: 2202.00 ft (KB)

Total Depth: 4788.00 ft (KB) (TVD)

2191.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8790 Inside**

Press @ Run Depth: 30.72 psig @ 4740.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.27

End Date:

2013.02.28

Last Calib.:

2013.02.28

Start Time: 19:36:14

End Time:

03:47:38

Time On Btm:

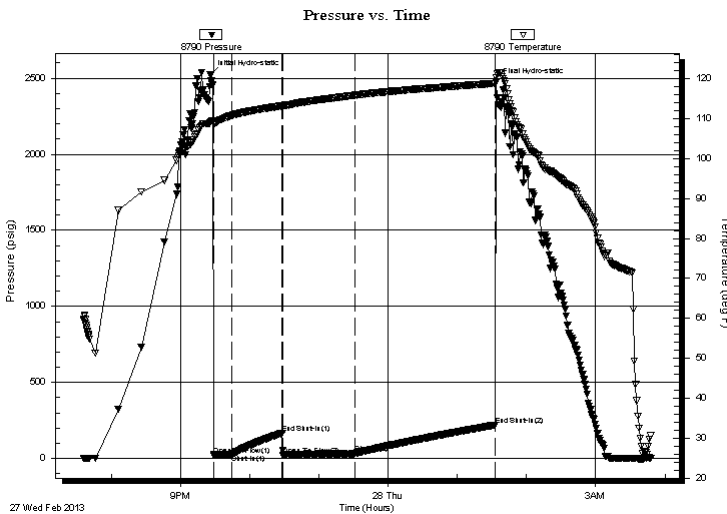
2013.02.27 @ 21:25:54

Time Off Btm:

2013.02.28 @ 01:33:39

**TEST COMMENT:** IF: Good blow . 1/4" - 10"  
 IS: No blow .  
 FF: Good blow . 3" - 11"  
 FS: No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2522.02	108.92	Initial Hydro-static
3	19.84	108.79	Open To Flow (1)
19	26.05	110.79	Shut-In(1)
63	166.31	113.17	End Shut-In(1)
64	22.56	113.14	Open To Flow (2)
125	30.72	115.82	Shut-In(2)
247	219.47	118.80	End Shut-In(2)
248	2471.33	120.19	Final Hydro-static

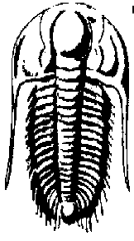
## Recovery

Length (ft)	Description	Volume (bbl)
35.00	Drig mud 100%mud	0.17
340.00	GIP 100%gas	3.12

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**21-27s-18w Kiowa, KS**

**Unruh D #1-21**

Job Ticket: 50860

**DST#: 3**

Test Start: 2013.02.27 @ 19:36:09

## GENERAL INFORMATION:

Formation: **Miss. Chert**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:28:54

Time Test Ended: 03:47:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Reynolds

Unit No: 48

Interval: **4739.00 ft (KB) To 4788.00 ft (KB) (TVD)**

Reference Elevations: 2202.00 ft (KB)

Total Depth: 4788.00 ft (KB) (TVD)

2191.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8788 Outside**

Press @ Run Depth: psig @ 4740.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.27

End Date:

2013.02.28

Last Calib.:

2013.02.28

Start Time: 19:32:18

End Time:

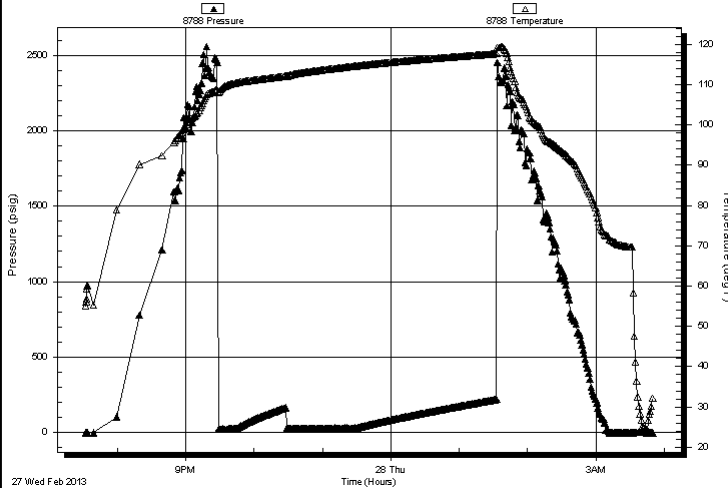
03:50:12

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF: Good blow . 1/4" - 10"  
IS: No blow .  
FF: Good blow . 3" - 11"  
FS: No blow

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
35.00	Drig mud 100% mud	0.17
340.00	GIP 100% gas	3.12

Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Herman L. Loeb ,LLC

**21-27s-18w Kiowa,KS**

PO Box 838  
Lawrenceville IL 62439

**Unruh D #1-21**

Job Ticket: 50860

**DST#: 3**

ATTN: Jon Christensen

Test Start: 2013.02.27 @ 19:36:09

## Tool Information

Drill Pipe:	Length: 4526.00 ft	Diameter: 3.80 inches	Volume: 63.49 bbl	Tool Weight: 2400.00 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: 216.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 87000.00 lb
			<u>Total Volume: 64.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 77000.00 lb
Depth to Top Packer:	4739.00 ft			Final 77000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	49.00 ft			
Tool Length:	72.00 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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C.O. Sub	1.00			4717.00	
Shut in tool	5.00			4722.00	
HMV	5.00			4727.00	
Safety Joint	3.00			4730.00	
Packer	4.00			4734.00	23.00 Bottom Of Top Packer
Packer	5.00			4739.00	
Stubb	1.00			4740.00	
Recorder	0.00	8790	Inside	4740.00	
Recorder	0.00	8788	Outside	4740.00	
Perforations	5.00			4745.00	
Change Over Sub	1.00			4746.00	
Blank Spacing	32.00			4778.00	
Change Over Sub	1.00			4779.00	
Perforations	6.00			4785.00	
Bullnose	3.00			4788.00	49.00 Bottom Packers & Anchor

**Total Tool Length: 72.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Herman L. Loeb ,LLC

**21-27s-18w Kiowa,KS**

PO Box 838  
Lawrenceville IL 62439

**Unruh D #1-21**

Job Ticket: 50860

**DST#: 3**

ATTN: Jon Christensen

Test Start: 2013.02.27 @ 19:36:09

## 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:

10500 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 10500.00 ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
35.00	Drig mud 100%mud	0.172
340.00	GIP 100%gas	3.120

Total Length: 375.00 ft

Total Volume: 3.292 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

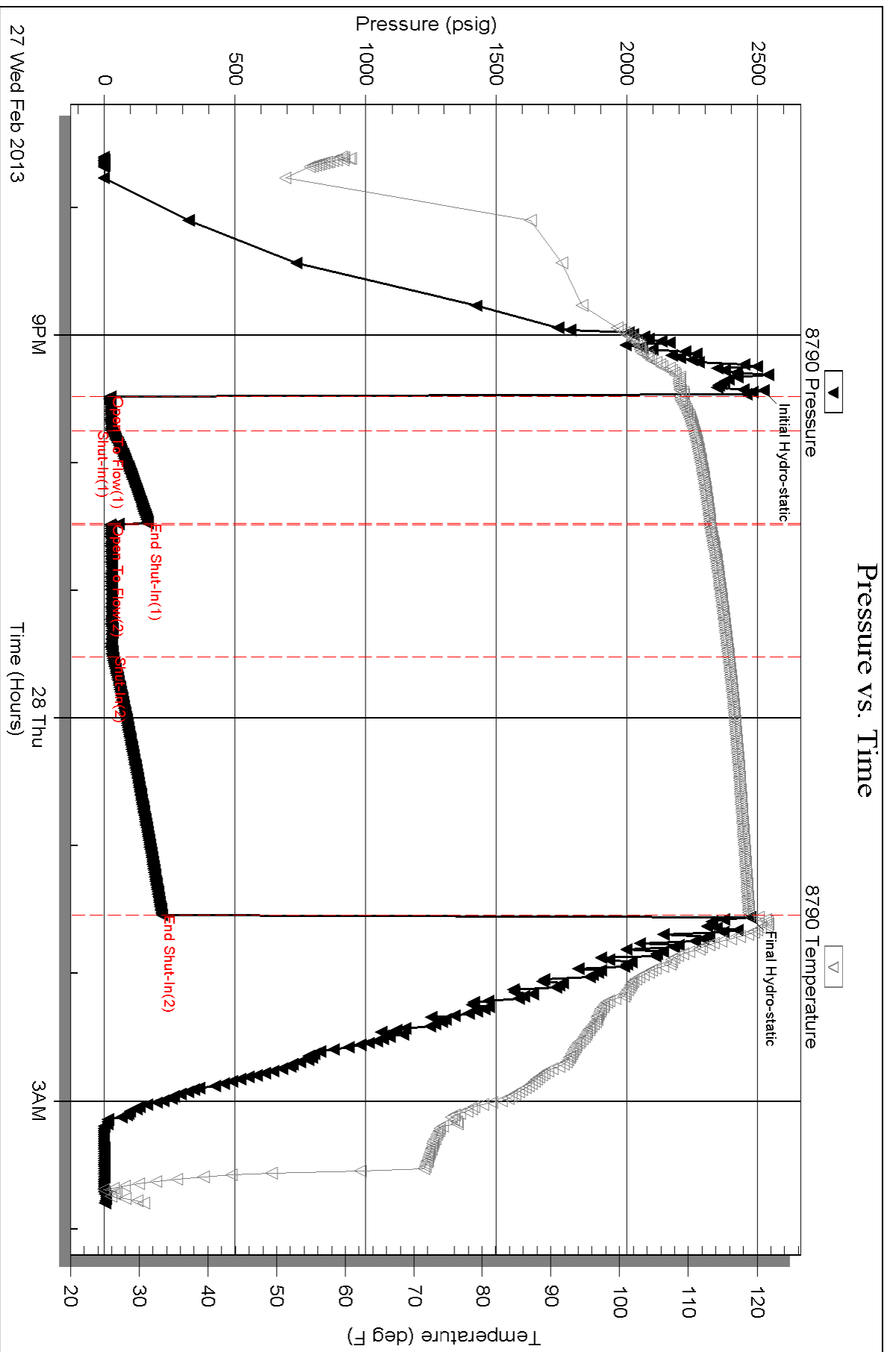
Serial #: 8790

Inside

Herrman L. Loeb, LLC

Unruh D#1-21

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 50860

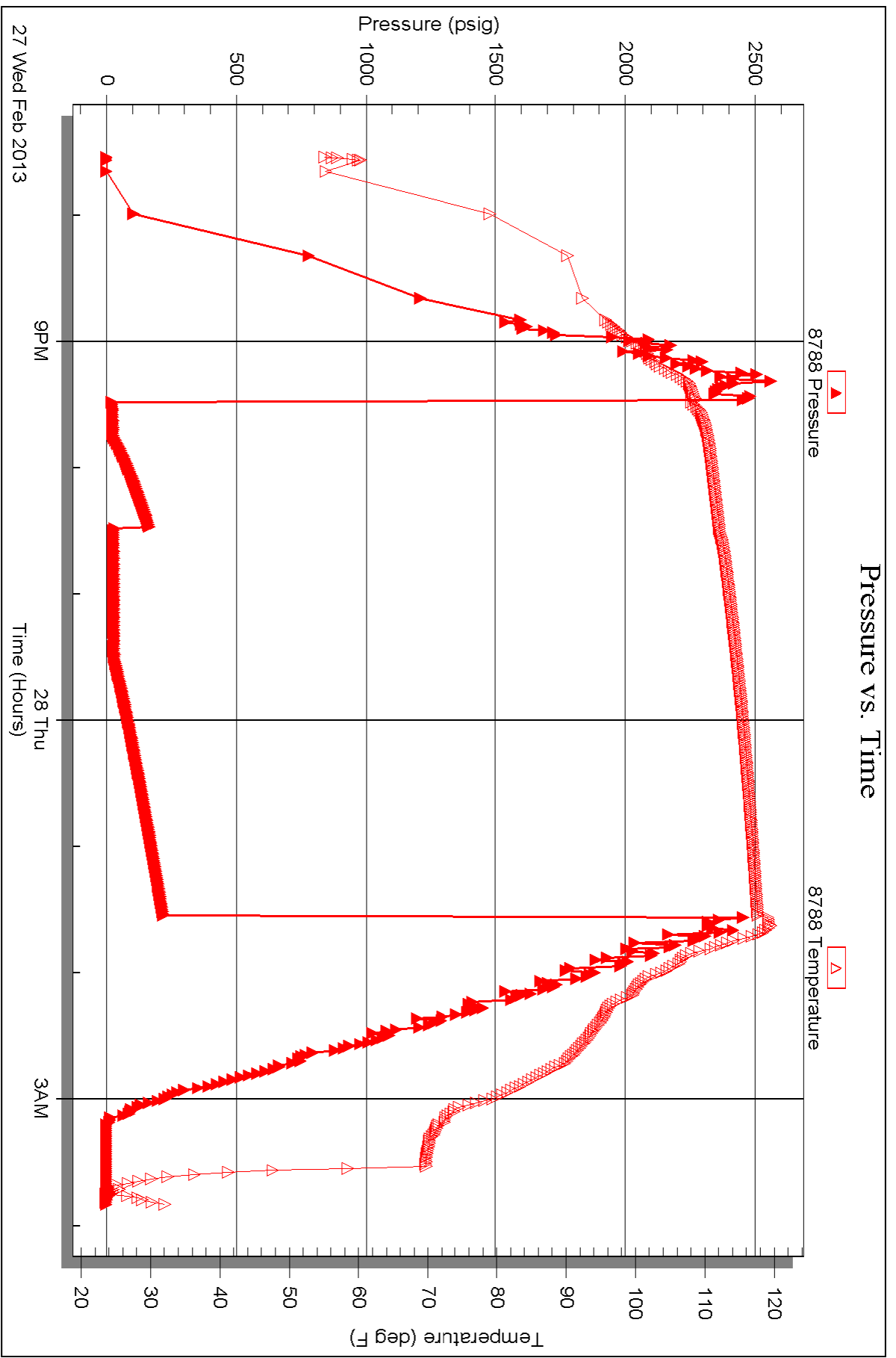
Printed: 2013.03.07 @ 11:18:06

Serial #: 8788

Outside Herran L. Loeb, LLC

Unruh D#1-21

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 50860

Printed: 2013.03.07 @ 11:18:06



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50843

4/10

Well Name & No. D. UNRUH # 1-21 Test No. 1 Date 2-23-13  
 Company HERMAN L. LOEB, LLC Elevation 2202 KB 2191 GL  
 Address P.O. Box 838, LAWRENCEVILLE IL. 62439  
 Co. Rep / Geo. JON CHRISTENSEN Rig STERLING DRUG #2  
 Location: Sec. 21 Twp. 27<sup>s</sup> Rge. 18<sup>w</sup> Co. KIOWA State Ks.

Interval Tested 4205 ~ 4222' Zone Tested LANSING A  
 Anchor Length 17' Drill Pipe Run 3983' Mud Wt. 9.5  
 Top Packer Depth 4200' Drill Collars Run 217' Vis S2  
 Bottom Packer Depth 4205' Wt. Pipe Run 0 WL 10.4cc  
 Total Depth 4222' Chlorides 10,000 ppm System LCM TR.  
 Blow Description IF: Weak blow. 1/2 - 1". ISI: No blow.

FF: Weak blow. 1/4 - 1/2". FSI: No blow.

Rec	Feet of	%gas	%oil	%water	%mud
<u>70</u>	<u>mw</u>		<u>84</u>		<u>16</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 70 Fluid BHT 116° Gravity N/A API RW .16 @ 43 °F Chlorides 81,000 ppm

(A) Initial Hydrostatic 2115  Test 1250 T-On Location 1004  
 (B) First Initial Flow 18  Jars \_\_\_\_\_ T-Started 1126  
 (C) First Final Flow 30  Safety Joint 75 T-Open 1401  
 (D) Initial Shut-In 1464  Circ Sub \_\_\_\_\_ T-Pulled 1634  
 (E) Second Initial Flow 33  Hourly Standby \_\_\_\_\_ T-Out 1852  
 (F) Second Final Flow 54  Mileage (80) 124 Comments \_\_\_\_\_  
 (G) Final Shut-In 1451  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2065  Straddle \_\_\_\_\_

Initial Open 15  Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Shut-In 60  Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 1449  
 Sub Total 1449 MP/DST Disc't \_\_\_\_\_

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.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50844

4/10

Well Name & No. D. UNRUH #1-21 Test No. 2 Date 2-24-13  
 Company HERMAN L. LOEB, LLC Elevation 2202 KB 2191 GL  
 Address P.O. Box 838, LAWRENCEVILLE IL. 62439  
 Co. Rep / Geo. JON CHRISTENSEN Rig STEERING DRILL #2  
 Location: Sec. 21 Twp. 27S Rge. 18W Co. Knowa State Ks

Interval Tested 4398 - 4418' Zone Tested LKC. "I"  
 Anchor Length 20' Drill Pipe Run 4174' Mud Wt. 9.5  
 Top Packer Depth 4393' Drill Collars Run 217 Vis 61  
 Bottom Packer Depth 4398' Wt. Pipe Run 0 WL 10.4 cc  
 Total Depth 4418' Chlorides 10,500 ppm System LCM 0  
 Blow Description IF: Weak below. 1/2 - 3". FSI: No below.

FF: Weak below. 1-4". FSI: No below.

Rec	Feet of	%gas	%oil	%water	%mud
<u>110</u>	<u>Gas in pipe</u>				
<u>55</u>	<u>Mud w/o spec.</u>				
	<u>Thin layer of clean oil</u>				
	<u>@ top of recovery</u>				

Rec Total 55 BHT 116° Gravity N/A API RW N/C @ ~ ° F Chlorides 10,500 ppm

(A) Initial Hydrostatic 2246  Test 1250 T-On Location 1115  
 (B) First Initial Flow 29  Jars \_\_\_\_\_ T-Started 1140  
 (C) First Final Flow 31  Safety Joint 75 T-Open 1340  
 (D) Initial Shut-In 1088  Circ Sub \_\_\_\_\_ T-Pulled 1625  
 (E) Second Initial Flow 36  Hourly Standby \_\_\_\_\_ T-Out 1845  
 (F) Second Final Flow 49  Mileage 80 124 Comments \_\_\_\_\_  
 (G) Final Shut-In 1185  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2100  Straddle \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1449 MP/DST Disc't \_\_\_\_\_

Approved By [Signature]

Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50860

4/10

Well Name & No. D. Unruh #1-21 Test No. 3 Date 2-27-13  
 Company Herman Li Loeb, LLC Elevation 2202 KB 2191 GL  
 Address P.O. Box 838 Lawrenceville, IL 62439  
 Co. Rep / Geo. Jon Christensen Rig Sterling #2  
 Location: Sec. 21 Twp. 27s. Rge. 18w. Co. Kiowa State KS

Interval Tested 4739-4788 Zone Tested Miss. Chert  
 Anchor Length 49 Drill Pipe Run 4526 Mud Wt. 9.3  
 Top Packer Depth 4734 Drill Collars Run 216 Vis 58  
 Bottom Packer Depth 4739 Wt. Pipe Run 8 WL 10.4  
 Total Depth 4788 Chlorides 10,500 ppm System LCM 3#  
 Blow Description IF: Good blow, 1/4" - 10" ISI: No blow

FF: Good blow, 3" - 11"

FST: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>340'</u>	<u>GIP</u>	<u>100</u>			
<u>35'</u>	<u>Dry mud</u>			<u>100</u>	

Rec Total 375 BHT 120 Gravity n/c API RW n/c @ n/c °F Chlorides 10500 ppm  
 (A) Initial Hydrostatic 2522  Test 1250 T-On Location 1845  
 (B) First Initial Flow 20  Jars          T-Started 1936  
 (C) First Final Flow 26  Safety Joint 75 T-Open 2129  
 (D) Initial Shut-In 166  Circ Sub          T-Pulled 0126  
 (E) Second Initial Flow 23  Hourly Standby          T-Out 0348  
 (F) Second Final Flow 31  Mileage 124 Comments           
 (G) Final Shut-In 219  Sampler           
 (H) Final Hydrostatic 2471  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 1449  
 Final Flow 60  Accessibility          MP/DST Disc't           
 Final Shut-In 120 Sub Total 1449

Approved By

*[Signature]*

Our Representative

*[Signature]*

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