



## DRILL STEM TEST REPORT

Prepared For: **FIML Natural Resources LLC.**

410 17th. St. STE 900  
Denver CO. 80202+4420

ATTN: Kurt Talbolt

### **Luebbers #12-15-2027**

#### **15-20s-27w Lane,KS**

Start Date: 2012.08.21 @ 15:45:00

End Date: 2012.08.21 @ 22:54:30

Job Ticket #: 49396                      DST #: 1

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

Printed: 2012.08.24 @ 16:27:38



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

FIML Natural Resources LLC.

15-20s-27w Lane, KS

410 17th. St. STE 900  
Denver CO. 80202+4420

Luebbers #12-15-2027

ATTN: Kurt Talbolt

Job Ticket: 49396

DST#: 1

Test Start: 2012.08.21 @ 15:45:00

## GENERAL INFORMATION:

Formation: **Miss. Osage**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:20:30

Time Test Ended: 22:54:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Troy Leiker

Unit No: #44

Interval: **4470.00 ft (KB) To 4515.00 ft (KB) (TVD)**

Reference Elevations: 2618.00 ft (KB)

Total Depth: 4515.00 ft (KB) (TVD)

2608.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 10.00 ft

Serial #: **8321**

Inside

Press @ Run Depth: 83.10 psig @ 4505.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.21

End Date: 2012.08.21

Last Calib.: 2012.08.22

Start Time: 15:45:01

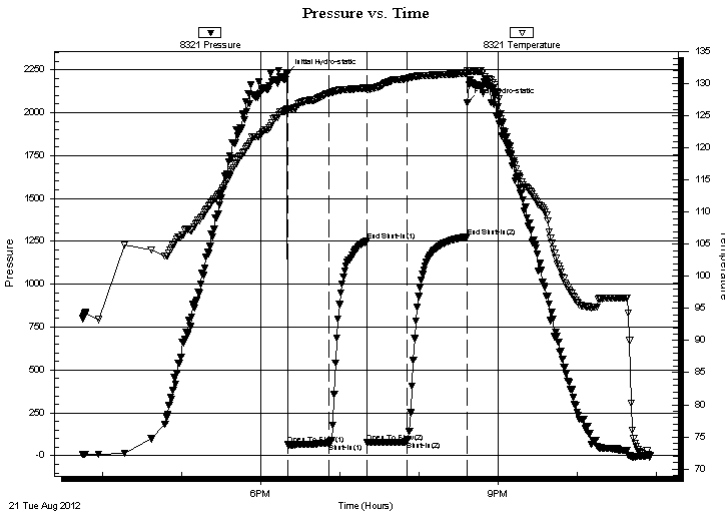
End Time: 22:54:30

Time On Btm: 2012.08.21 @ 18:20:00

Time Off Btm: 2012.08.21 @ 20:36:30

TEST COMMENT: IF 30 Weak Blow , Died in 28 min.  
IS 30 No Blow Back  
FF 30 Surge of Air When Tool Opened, No Blow After That  
FS 45 No Blow Back

## PRESSURE SUMMARY



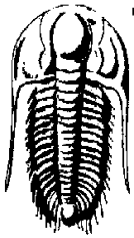
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2228.67	126.06	Initial Hydro-static
1	65.22	126.05	Open To Flow (1)
32	73.67	128.52	Shut-In(1)
60	1250.71	129.36	End Shut-In(1)
61	76.86	129.10	Open To Flow (2)
91	83.10	130.86	Shut-In(2)
136	1276.49	131.67	End Shut-In(2)
137	2058.60	132.10	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	Oil Spotted Mud 2%o 98% m	0.07

## Gas Rates

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



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TESTING, INC.**

# DRILL STEM TEST REPORT

FIML Natural Resources LLC.

15-20s-27w Lane, KS

410 17th. St. STE 900  
Denver CO. 80202+4420

**Luebbers #12-15-2027**

Job Ticket: 49396

**DST#: 1**

ATTN: Kurt Talbott

Test Start: 2012.08.21 @ 15:45:00

**GENERAL INFORMATION:**

Formation: **Miss. Osage**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:20:30

Time Test Ended: 22:54:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Troy Leiker

Unit No: #44

**Interval: 4470.00 ft (KB) To 4515.00 ft (KB) (TVD)**

Reference Elevations: 2618.00 ft (KB)

Total Depth: 4515.00 ft (KB) (TVD)

2608.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 10.00 ft

**Serial #: 8737 Outside**

Press @ RunDepth: psig @ 4505.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.21 End Date: 2012.08.21

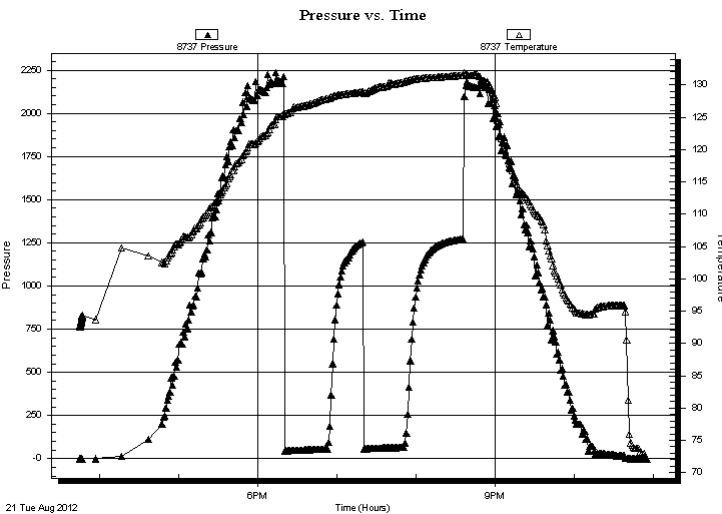
Last Calib.: 1899.12.30

Start Time: 15:45:01 End Time: 22:54:30

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF 30 Weak Blow , Died in 28 min.  
IS 30 No Blow Back  
FF 30 Surge of Air When Tool Opened, No Blow After That  
FS 45 No Blow Back



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
15.00	Oil Spotted Mud 2%o 98%o	0.07

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

FIML Natural Resources LLC.

**15-20s-27w Lane, KS**

410 17th. St. STE 900  
Denver CO. 80202+4420

**Luebbers #12-15-2027**

Job Ticket: 49396

**DST#: 1**

ATTN: Kurt Talbolt

Test Start: 2012.08.21 @ 15:45:00

## Tool Information

Drill Pipe:	Length: 4110.00 ft	Diameter: 3.80 inches	Volume: 57.65 bbl	Tool Weight: 2500.00 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: 369.00 ft	Diameter: 2.25 inches	Volume: 1.81 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 59.46 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4470.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	65.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4451.00	
Shut In Tool	5.00			4456.00	
Hydraulic tool	5.00			4461.00	
Packer	4.00			4465.00	20.00 Bottom Of Top Packer
Packer	5.00			4470.00	
Stubb	1.00			4471.00	
Perforations	1.00			4472.00	
Change Over Sub	1.00			4473.00	
Drill Pipe	31.00			4504.00	
Change Over Sub	1.00			4505.00	
Recorder	0.00	8321	Inside	4505.00	
Recorder	0.00	8737	Outside	4505.00	
Perforations	7.00			4512.00	
Bullnose	3.00			4515.00	45.00 Bottom Packers & Anchor

**Total Tool Length: 65.00**



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

FIML Natural Resources LLC.

**15-20s-27w Lane, KS**

410 17th. St. STE 900  
Denver CO. 80202+4420

**Luebbers #12-15-2027**

Job Ticket: 49396

**DST#: 1**

ATTN: Kurt Talbolt

Test Start: 2012.08.21 @ 15:45:00

## 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: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	Oil Spotted Mud 2%o 98%m	0.074

Total Length: 15.00 ft      Total Volume: 0.074 bbl

Num Fluid Samples: 0

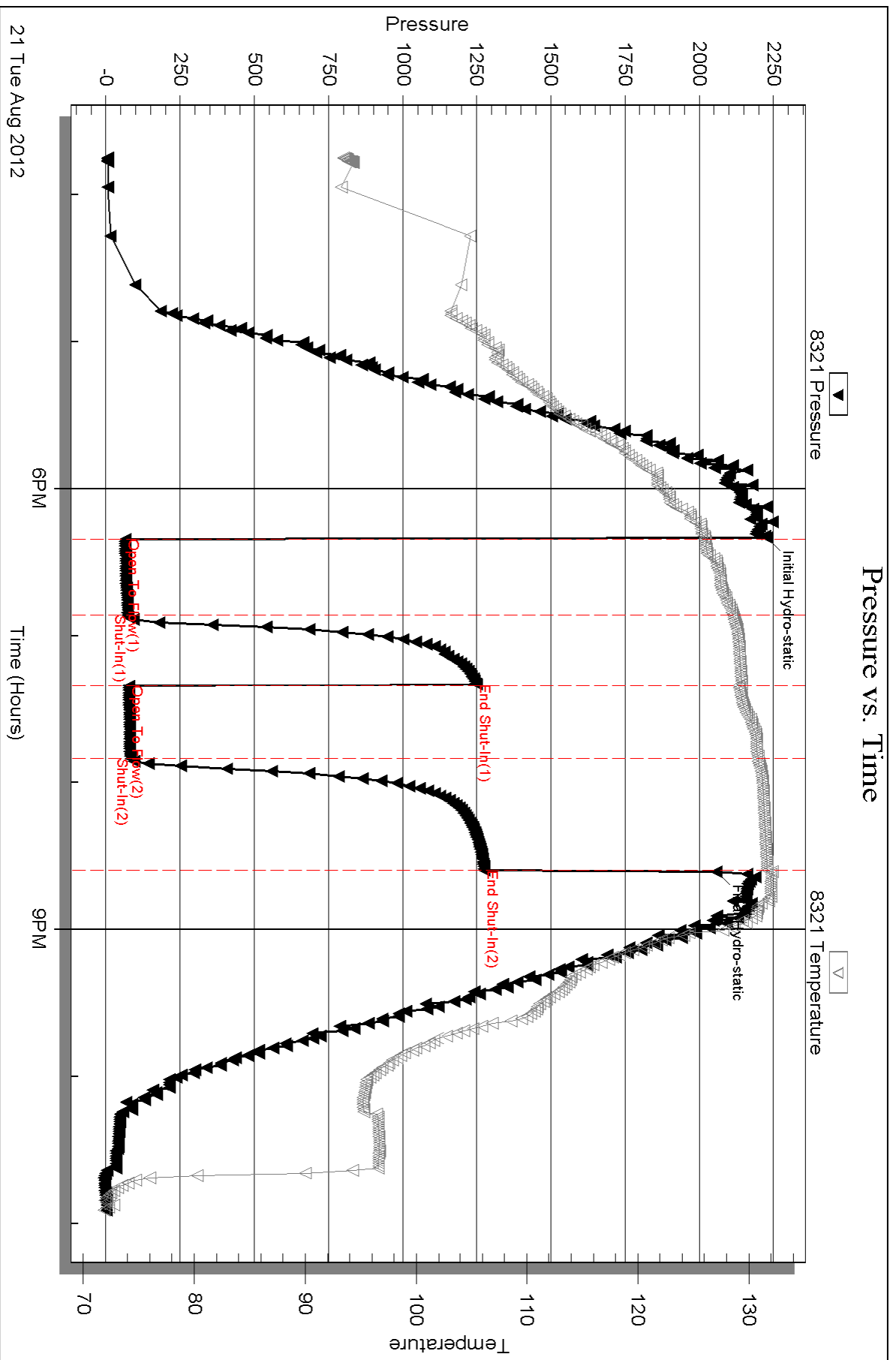
Num Gas Bombs: 0

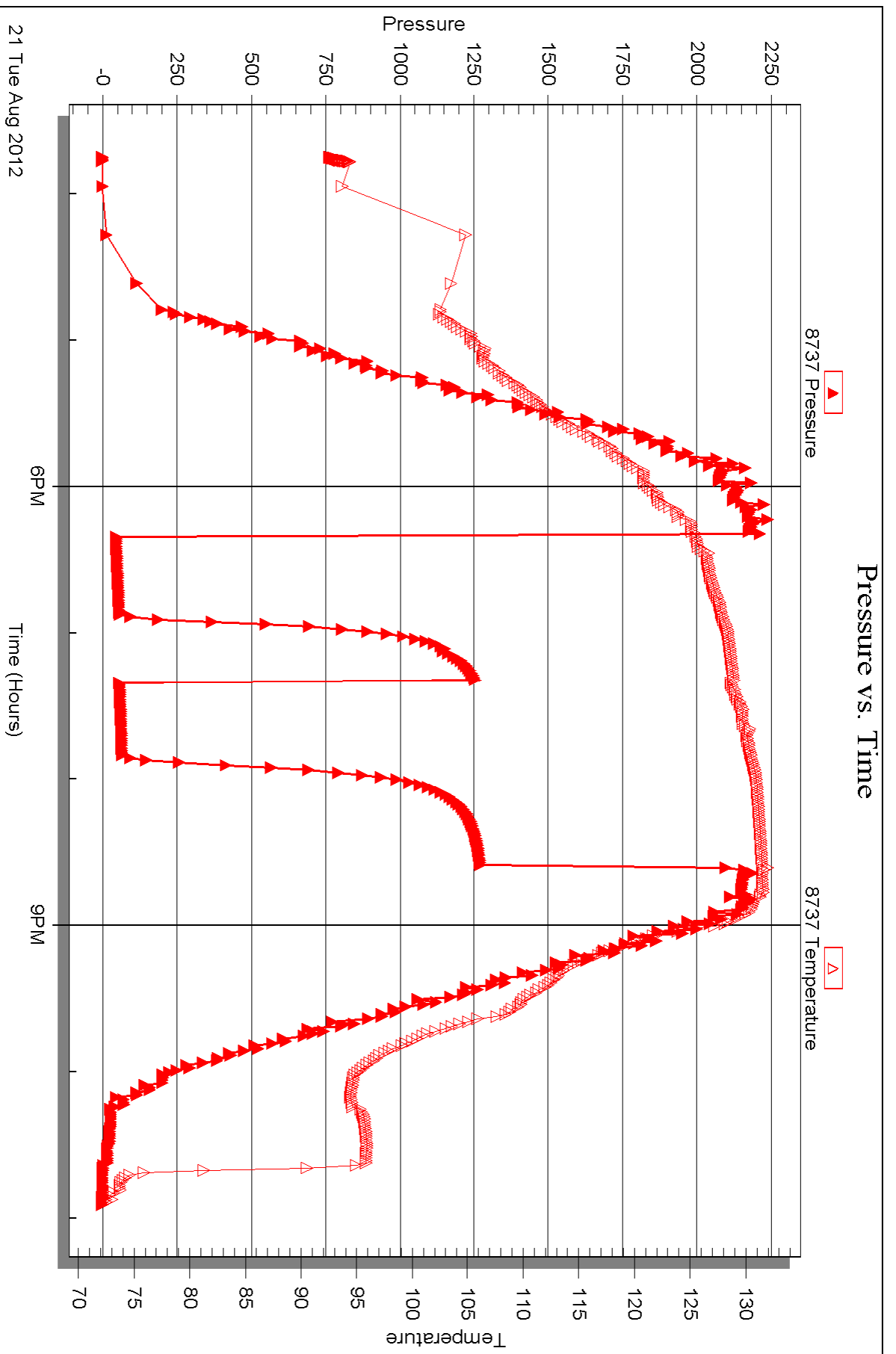
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **FIML Natural Resources LLC.**

410 17th. St. STE 900  
Denver CO. 80202+4420

ATTN: Kurt Talbolt

### **Luebbers #12-15-2027**

#### **15-20s-27w Lane,KS**

Start Date: 2012.08.22 @ 05:11:00

End Date: 2012.08.22 @ 15:52:00

Job Ticket #: 49397                      DST #: 2

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

Printed: 2012.08.24 @ 16:26:32





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

FIML Natural Resources LLC.

15-20s-27w Lane, KS

410 17th. St. STE 900  
Denver CO. 80202+4420

Luebbers #12-15-2027

ATTN: Kurt Talbolt

Job Ticket: 49397

DST#: 2

Test Start: 2012.08.22 @ 05:11:00

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:57:00

Time Test Ended: 15:52:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Troy Leiker

Unit No: #44

Interval: **4510.00 ft (KB) To 4522.00 ft (KB) (TVD)**

Reference Elevations: 2618.00 ft (KB)

Total Depth: 4515.00 ft (KB) (TVD)

2608.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 10.00 ft

**Serial #: 8679 Outside**

Press @ Run Depth: 1286.97 psig @ 4511.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.22

End Date: 2012.08.22

Last Calib.: 2012.08.22

Start Time: 05:11:01

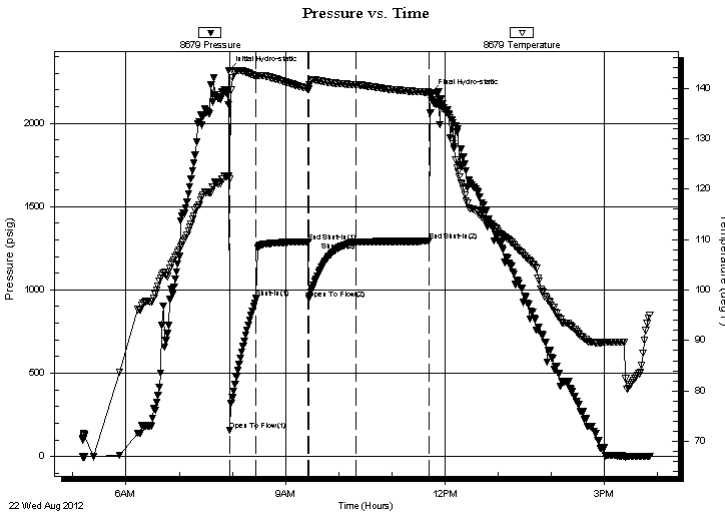
End Time: 15:52:00

Time On Btm: 2012.08.22 @ 07:56:00

Time Off Btm: 2012.08.22 @ 11:44:00

**TEST COMMENT:** IF 30 Very Strong Blow off Bottom in 1 min.  
IS 60 Increasing Blow to 1" Then Decreasing to 1/2"  
FF 45 Very Strong Blow off Bottom in 1 min.  
FS 90 Very Weak on Top of Bkt, Then Died

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2317.14	122.62	Initial Hydro-static
1	157.62	121.95	Open To Flow (1)
31	948.79	142.33	Shut-In(1)
90	1289.59	139.91	End Shut-In(1)
90	947.94	139.73	Open To Flow (2)
144	1286.97	140.72	Shut-In(2)
227	1292.39	139.16	End Shut-In(2)
228	2180.80	138.38	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
300.00	Gas In Pipe	1.48
3450.00	Clean Gassy Oil 20%g 80%o	47.77
50.00	Clean Gassy Oil 10%g 90%o	0.70

\* Recovery from multiple tests

## Gas Rates

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



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# DRILL STEM TEST REPORT

FIML Natural Resources LLC.

15-20s-27w Lane, KS

410 17th. St. STE 900  
Denver CO. 80202+4420

Luebbers #12-15-2027

ATTN: Kurt Talbolt

Job Ticket: 49397

DST#: 2

Test Start: 2012.08.22 @ 05:11:00

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:57:00

Time Test Ended: 15:52:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Troy Leiker

Unit No: #44

Interval: **4510.00 ft (KB) To 4522.00 ft (KB) (TVD)**

Reference Elevations: 2618.00 ft (KB)

Total Depth: 4515.00 ft (KB) (TVD)

2608.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 10.00 ft

**Serial #: 8321 Inside**

Press @ Run Depth: psig @ 4511.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.22 End Date: 2012.08.22

Last Calib.: 1899.12.30

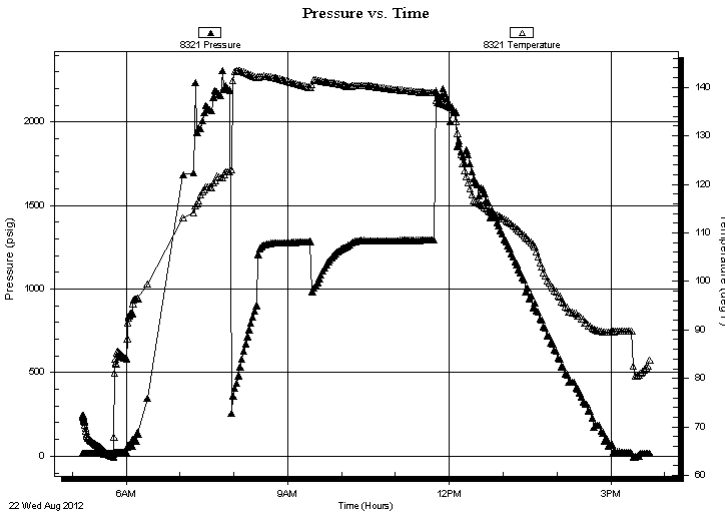
Start Time: 05:11:33 End Time: 15:44:02

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF 30 Very Strong Blow off Bottom in 1 min.  
IS 60 Increasing Blow to 1" Then Decreasing to 1/2"  
FF 45 Very Strong Blow off Bottom in 1 min.  
FS 90 Very Weak on Top of Bkt, Then Died

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
300.00	Gas In Pipe	1.48
3450.00	Clean Gassy Oil 20%g 80%o	47.77
50.00	Clean Gassy Oil 10%g 90%o	0.70

## Gas Rates

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

\* Recovery from multiple tests



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TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

FIML Natural Resources LLC.

**15-20s-27w Lane, KS**

410 17th. St. STE 900  
Denver CO. 80202+4420

**Luebbers #12-15-2027**

ATTN: Kurt Talbolt

Job Ticket: 49397

**DST#: 2**

Test Start: 2012.08.22 @ 05:11:00

## Tool Information

Drill Pipe:	Length: 4141.00 ft	Diameter: 3.80 inches	Volume: 58.09 bbl	Tool Weight: 2500.00 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: 369.00 ft	Diameter: 2.25 inches	Volume: 1.81 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 59.90 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4510.00 ft			Final 84000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	12.00 ft			
Tool Length:	32.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4491.00	
Shut In Tool	5.00			4496.00	
Hydraulic tool	5.00			4501.00	
Packer	4.00			4505.00	20.00 Bottom Of Top Packer
Packer	5.00			4510.00	
Stubb	1.00			4511.00	
Recorder	0.00	8321	Inside	4511.00	
Recorder	0.00	8679	Outside	4511.00	
Perforations	8.00			4519.00	
Bullnose	3.00			4522.00	12.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>32.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

FIML Natural Resources LLC.

**15-20s-27w Lane,KS**

410 17th. St. STE 900  
Denver CO. 80202+4420

**Luebbers #12-15-2027**

Job Ticket: 49397

**DST#: 2**

ATTN: Kurt Talbolt

Test Start: 2012.08.22 @ 05:11:00

## 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: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
300.00	Gas In Pipe	1.475
3450.00	Clean Gassy Oil 20%g 80%o	47.766
50.00	Clean Gassy Oil 10%g 90%o	0.701

Total Length: 3800.00 ft      Total Volume: 49.942 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

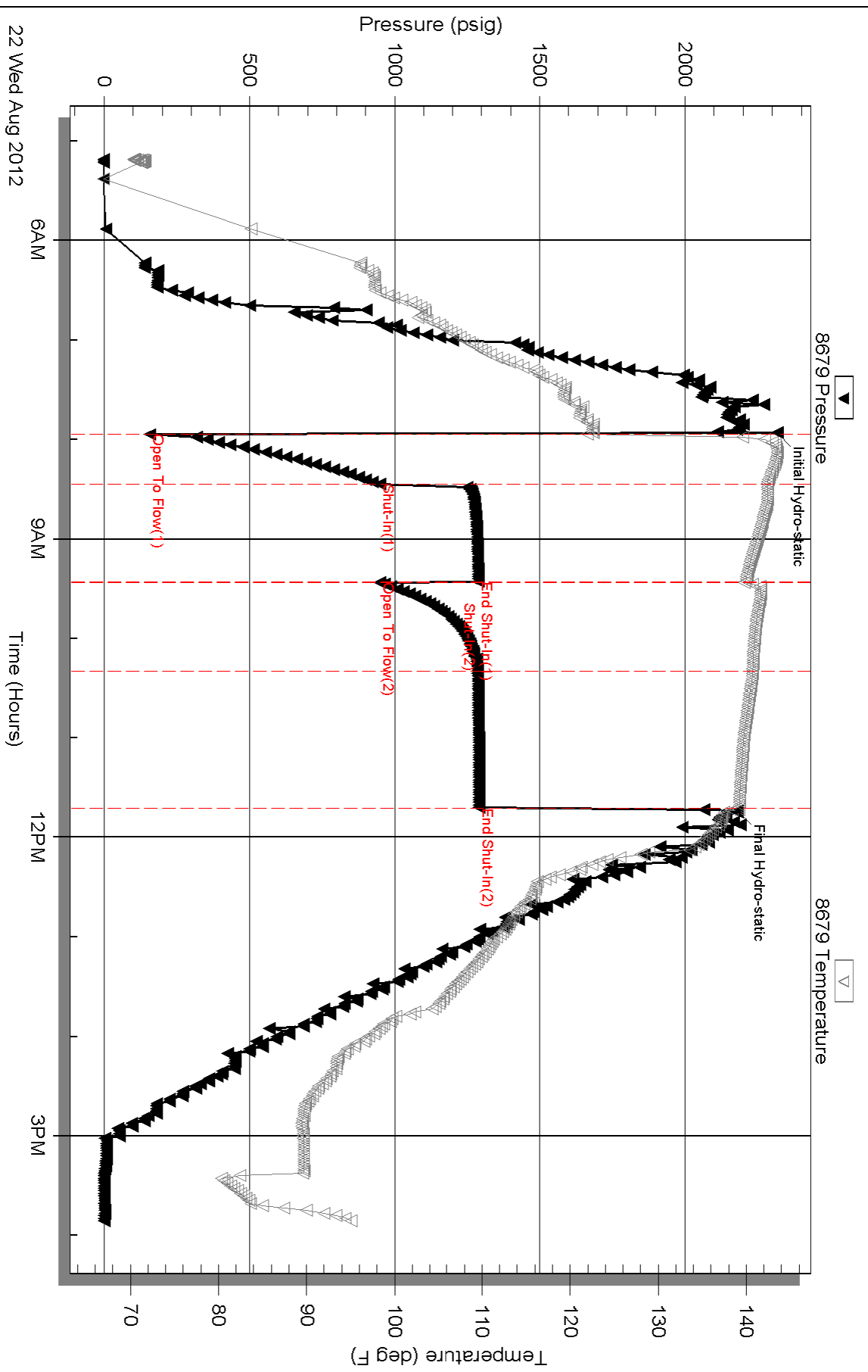
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time



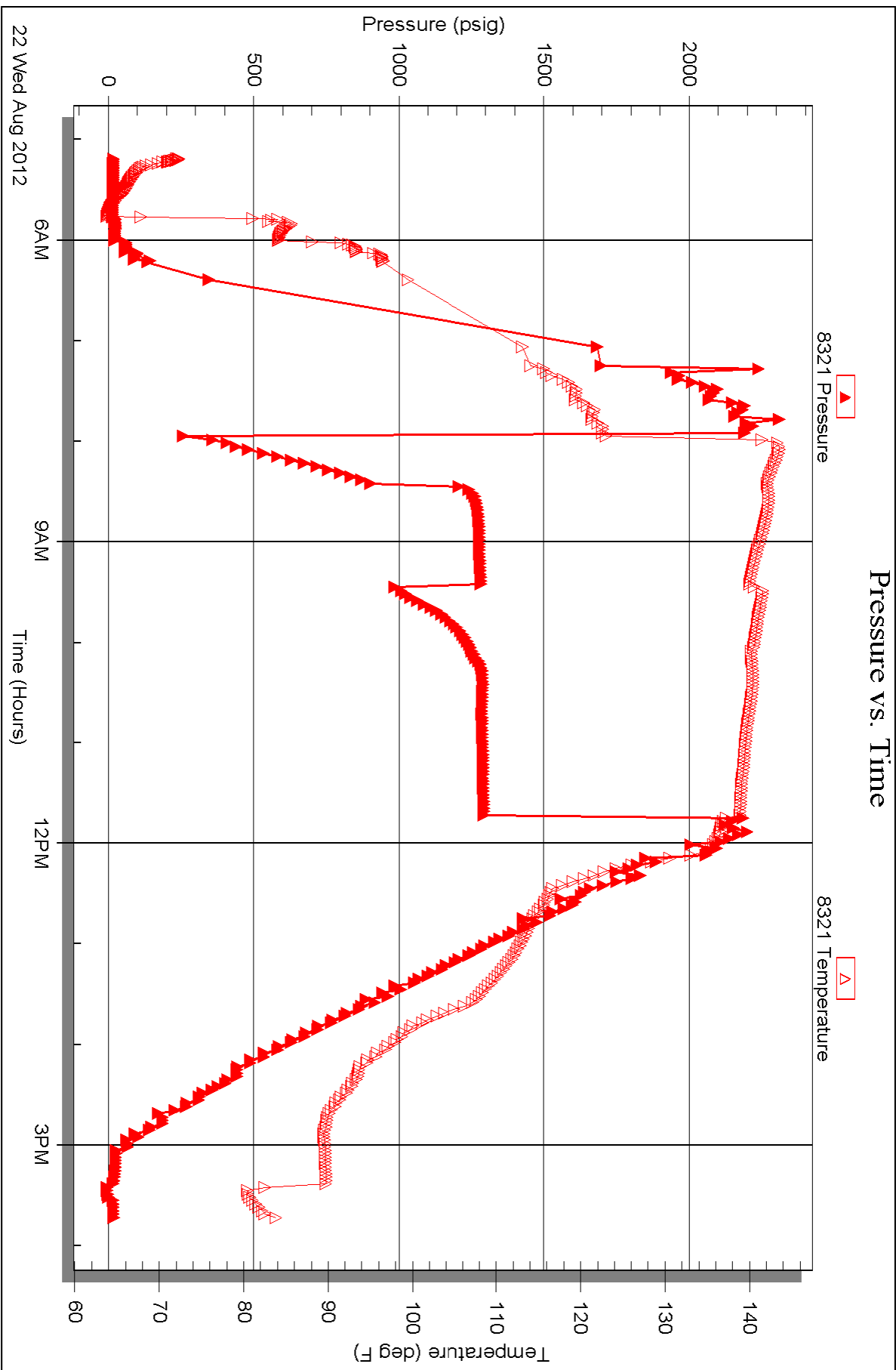
Serial #: 8321

Inside

FIML Natural Resources LLC

Luebbers #12-15-2027

DST Test Number: 2





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 49396

4/10

Well Name & No. Luebbers #12-15-2027 Test No. 1 Date 8-21-12  
 Company FIML Natural Resources, LLC Elevation 2618 KB 2608 GL  
 Address 410 17th St. STE 900 Denver, CO. 80202+4420  
 Co. Rep / Geo. Kurt Talbot Rig H2 Drly LLC Rig #1  
 Location: Sec. 15 Twp. 20 S Rge. 27 E Co. Lane State KS.

Interval Tested 4470 - 4515 Zone Tested Miss Osage  
 Anchor Length 45' Drill Pipe Run ~~4110~~ 4110 Mud Wt. 9.2  
 Top Packer Depth 4465 Drill Collars Run 369 Vis 64  
 Bottom Packer Depth 4470 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4515 Chlorides 3600 ppm System LCM 2

Blow Description 1st Flow - Weak Blow on top of BKT, Die in 28 min.  
1st Shut - NO Blow Back  
2nd Flow - Surge when tool opened, NO Blow after that.  
2nd Shut - NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>15'</u>	<u>Oil Spotted Mud</u>	<u>2</u>		<u>98</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 15 BHT 93° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2228  Test 1250 T-On Location 11:30 Am  
 (B) First Initial Flow 65  Jars \_\_\_\_\_ T-Started 3:45 pm  
 (C) First Final Flow 73  Safety Joint \_\_\_\_\_ T-Open 6:20 pm  
 (D) Initial Shut-In 1250  Circ Sub \_\_\_\_\_ T-Pulled 8:35 pm  
 (E) Second Initial Flow 76  Hourly Standby \_\_\_\_\_ T-Out 10:55 pm  
 (F) Second Final Flow 83  Mileage 110 x 2 Hays ~~88rt 136.40~~ Comments \_\_\_\_\_  
 (G) Final Shut-In 1276  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2058  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 30  Day Standby \_\_\_\_\_ Total 1536.40  
 Final Flow 30  Accessibility Steps 150 MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 45 Sub Total 1536.40

Approved By \_\_\_\_\_ Our Representative

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. 49397

Well Name & No. Luebbers #12-15-2027 Test No. 2 Date 8-22-12  
 Company FI ML Natural Resources, LLC Elevation 2618 KB 2608 GL  
 Address 410 17th St. STE 900 Denver, CO. 80202 + 4420  
 Co. Rep / Geo. Kurt Talbot Rig H2 Drilg. LLC Rig #1  
 Location: Sec. 15 Twp. 20S Rge. 27E Co. Lane State KS.

Interval Tested 4510 - 4522 Zone Tested Mississippi  
 Anchor Length 12' Drill Pipe Run 4141 Mud Wt. 9.2  
 Top Packer Depth 4505 Drill Collars Run 369 Vis 64  
 Bottom Packer Depth 4510 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4522 Chlorides 3600 ppm System LCM 2

Blow Description 1st Flow - Very Strong Blow, OFF Bottom in 1 min.  
1st Shut - Increased to 1" then decreased to 1/2" in BKT.  
2nd Flow - Very Strong Blow, OFF Bottom in 1 min.  
2nd Shut - Very weak on Top of BKT, then DIED OFF

Rec	Feet of	%gas	%oil	%water	%mud
<u>300</u>	<u>Gas in Pipe</u>				
<u>50'</u>	<u>clean oil</u>	<u>10</u>	<u>90</u>		
<u>3450'</u>	<u>clean oil</u>	<u>20</u>	<u>80</u>		
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 3800 BHT 71 Gravity \_\_\_\_\_ API RW 38 @ 60 °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2317  Test 1250 T-On Location 1:00 AM  
 (B) First Initial Flow 157  Jars \_\_\_\_\_ T-Started 5:11 AM  
 (C) First Final Flow 948  Safety Joint \_\_\_\_\_ T-Open 7:58 AM  
 (D) Initial Shut-In 1289  Circ Sub \_\_\_\_\_ T-Pulled 11:43 AM  
 (E) Second Initial Flow 947  Hourly Standby 5hrs 500 T-Out 15:52  
 (F) Second Final Flow 1286  Mileage 110x2 Hays 136.40 Comments \_\_\_\_\_  
 (G) Final Shut-In 1292  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2180  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 45  
 Final Shut-In 90

Accessibility Steps 150  
 Sub Total 2036.40

Sub Total 2036.40  
 Total 2036.40  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ 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.