



## DRILL STEM TEST REPORT

Prepared For: **FIML Natural Resources**

410 17th St.  
Suite 900  
Denver, CO 80202

ATTN: Gary Doke

**Fritzler #2-15- 2027**

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

Start Date: 2012.08.11 @ 17:24:00

End Date: 2012.08.12 @ 00:20:39

Job Ticket #: 48950                      DST #: 1

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

Printed: 2012.08.15 @ 15:09:34



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

FIML Natural Resources

15-20s-27w Lane, KS

410 17th St.  
Suite 900  
Denver, CO 80202  
ATTN: Gary Doke

**Fritzler #2-15- 2027**

Job Ticket: 48950

**DST#: 1**

Test Start: 2012.08.11 @ 17:24:00

## GENERAL INFORMATION:

Formation: **Mississippian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:35:20

Time Test Ended: 00:20:39

Test Type: Conventional Bottom Hole (Initial)

Tester: Chuck Smith

Unit No: 62

**Interval: 4475.00 ft (KB) To 4535.00 ft (KB) (TVD)**

Reference Elevations: 2640.00 ft (KB)

Total Depth: 4535.00 ft (KB) (TVD)

2630.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8018 Inside**

Press @ RunDepth: 41.68 psig @ 4478.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.11

End Date:

2012.08.12

Last Calib.:

2012.08.12

Start Time: 17:24:02

End Time:

00:20:40

Time On Btm:

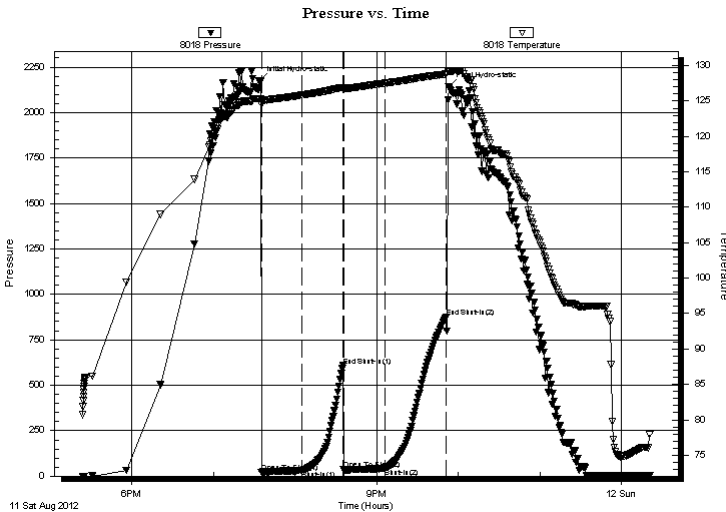
2012.08.11 @ 19:33:50

Time Off Btm:

2012.08.11 @ 21:53:00

**TEST COMMENT:** 1/4" Blow .  
No return.  
No blow .  
No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2173.10	125.38	Initial Hydro-static
2	20.65	124.51	Open To Flow (1)
32	31.09	125.84	Shut-In(1)
62	607.41	126.95	End Shut-In(1)
62	34.95	126.71	Open To Flow (2)
92	41.68	127.51	Shut-In(2)
138	872.90	128.81	End Shut-In(2)
140	2141.76	129.13	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	OCM 5o 95m	0.22
5.00	GO 20g 80o	0.02

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

FIML Natural Resources

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

410 17th St.  
Suite 900  
Denver, CO 80202  
ATTN: Gary Doke

**Fritzler #2-15- 2027**

Job Ticket: 48950

**DST#: 1**

Test Start: 2012.08.11 @ 17:24:00

## Tool Information

Drill Pipe:	Length: 4115.00 ft	Diameter: 3.80 inches	Volume: 57.72 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 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: 59.53 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4475.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	80.00 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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Change Over Sub	1.00			4456.00	
Shut In Tool	5.00			4461.00	
Hydraulic tool	5.00			4466.00	
Packer	5.00			4471.00	20.00 Bottom Of Top Packer
Packer	4.00			4475.00	
Stubb	1.00			4476.00	
Perforations	2.00			4478.00	
Recorder	0.00	8018	Inside	4478.00	
Recorder	0.00	6751	Outside	4478.00	
Perforations	21.00			4499.00	
Change Over Sub	1.00			4500.00	
Drill Pipe	31.00			4531.00	
Change Over Sub	1.00			4532.00	
Bullnose	3.00			4535.00	60.00 Bottom Packers & Anchor

**Total Tool Length: 80.00**



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

FIML Natural Resources

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

410 17th St.  
Suite 900  
Denver, CO 80202  
ATTN: Gary Doke

**Fritzler #2-15- 2027**

Job Ticket: 48950

**DST#: 1**

Test Start: 2012.08.11 @ 17:24:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 5.80 sec/qt

Cushion Volume:

bbf

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
45.00	OCM 5o 95m	0.221
5.00	GO 20g 80o	0.025

Total Length: 50.00 ft      Total Volume: 0.246 bbf

Num Fluid Samples: 0

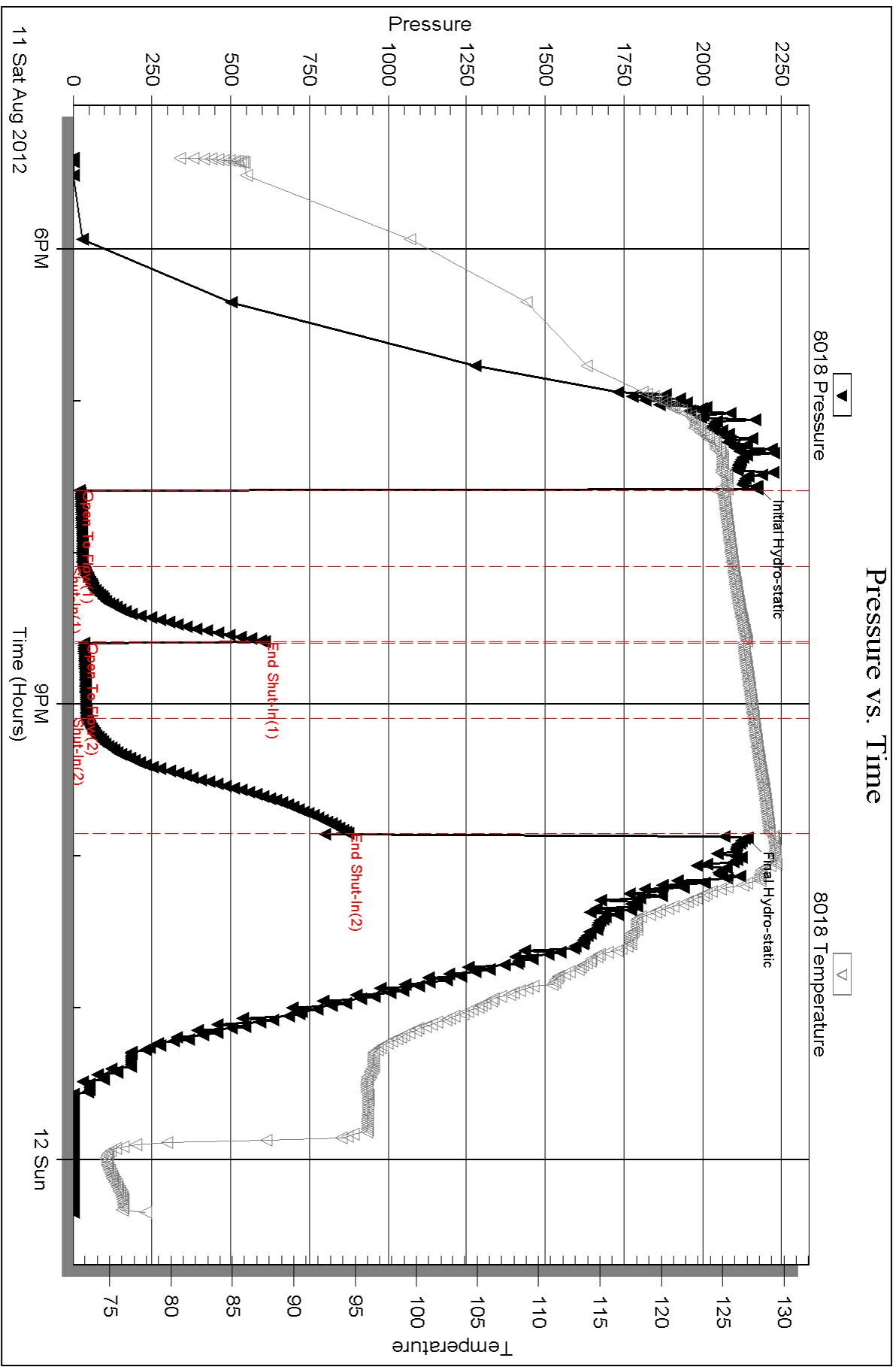
Num Gas Bombs: 0

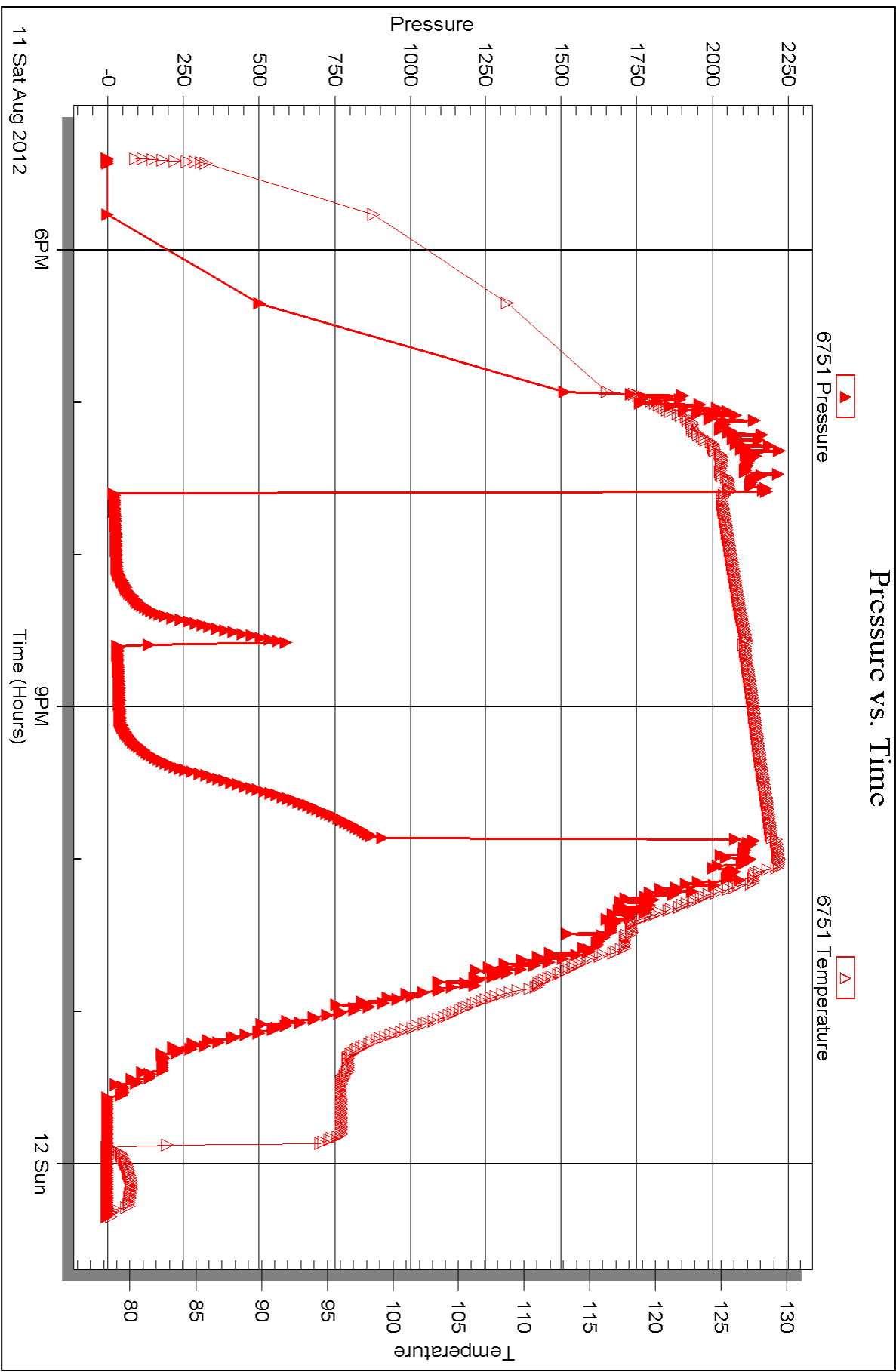
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 38 @ 80 Degrees F = 36.







## DRILL STEM TEST REPORT

Prepared For: **FIML Natural Resources**

410 17th St.  
Suite 900  
Denver, CO 80202

ATTN: Gary Doke

**Fritzler #2-15- 2027**

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

Start Date: 2012.08.12 @ 07:51:00

End Date: 2012.08.12 @ 17:04:49

Job Ticket #: 45981                      DST #: 2

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

Printed: 2012.08.15 @ 15:07:28





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

FIML Natural Resources

15-20s-27w Lane, KS

410 17th St.  
Suite 900  
Denver, CO 80202  
ATTN: Gary Duke

**Fritzler #2-15- 2027**

Job Ticket: 45981

**DST#: 2**

Test Start: 2012.08.12 @ 07:51:00

## GENERAL INFORMATION:

Formation: **Mississippian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:54:50

Time Test Ended: 17:04:49

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 62

**Interval: 4553.00 ft (KB) To 4550.00 ft (KB) (TVD)**

Reference Elevations: 2640.00 ft (KB)

Total Depth: 4550.00 ft (KB) (TVD)

2630.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8018**

**Inside**

Press @ Run Depth: 783.97 psig @ 4535.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.12

End Date:

2012.08.12

Last Calib.:

2012.08.12

Start Time: 07:51:02

End Time:

17:04:49

Time On Btm:

2012.08.12 @ 09:52:40

Time Off Btm:

2012.08.12 @ 13:41:00

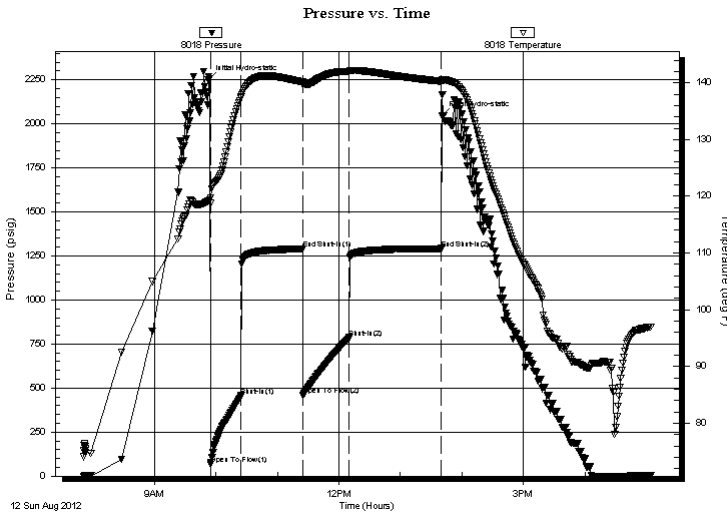
TEST COMMENT: B.O.B. @ 3 1/2 min.

No return.

B.O.B. @ 6 min.

1/2" Return died @ 40 min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2249.48	119.18	Initial Hydro-static
3	67.61	118.75	Open To Flow (1)
32	456.69	137.49	Shut-In(1)
93	1290.57	140.13	End Shut-In(1)
93	459.52	139.68	Open To Flow (2)
138	783.97	142.00	Shut-In(2)
228	1292.42	140.28	End Shut-In(2)
229	2047.60	140.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
939.00	MW 5m 95w	9.81
457.00	GMOCW Emulsion 30g 10o 15m 25w 20	6.41:i
469.00	GO 20g 80o	6.58
0.00	110 Feet Weak 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**

FIML Natural Resources

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

410 17th St.  
Suite 900  
Denver, CO 80202  
ATTN: Gary Doke

**Fritzler #2-15- 2027**

Job Ticket: 45981

**DST#: 2**

Test Start: 2012.08.12 @ 07:51:00

## Tool Information

Drill Pipe:	Length: 4175.00 ft	Diameter: 3.80 inches	Volume: 58.56 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 369.00 ft	Diameter: 2.25 inches	Volume: 1.81 bbl	Weight to Pull Loose:	85000.00 lb
			<u>Total Volume: 60.37 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	74000.00 lb
Depth to Top Packer:	4533.00 ft			Final	80000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	17.00 ft				
Tool Length:	37.00 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			4514.00	
Shut In Tool	5.00			4519.00	
Hydraulic tool	5.00			4524.00	
Packer	5.00			4529.00	20.00 Bottom Of Top Packer
Packer	4.00			4533.00	
Stubb	1.00			4534.00	
Perforations	1.00			4535.00	
Recorder	0.00	8018	Inside	4535.00	
Recorder	0.00	6751	Outside	4535.00	
Perforations	12.00			4547.00	
Bullnose	3.00			4550.00	17.00 Bottom Packers & Anchor

**Total Tool Length: 37.00**



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Denver, CO 80202  
ATTN: Gary Doke

**Fritzler #2-15- 2027**

Job Ticket: 45981

**DST#: 2**

Test Start: 2012.08.12 @ 07:51:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

28000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
939.00	MW 5m 95w	9.810
457.00	GMOCW Emulsion 30g 10o 15m 25w 20 Emul:	6.411
469.00	GO 20g 80o	6.579
0.00	110 Feet Weak GIP	0.000

Total Length: 1865.00 ft      Total Volume: 22.800 bbl

Num Fluid Samples: 0

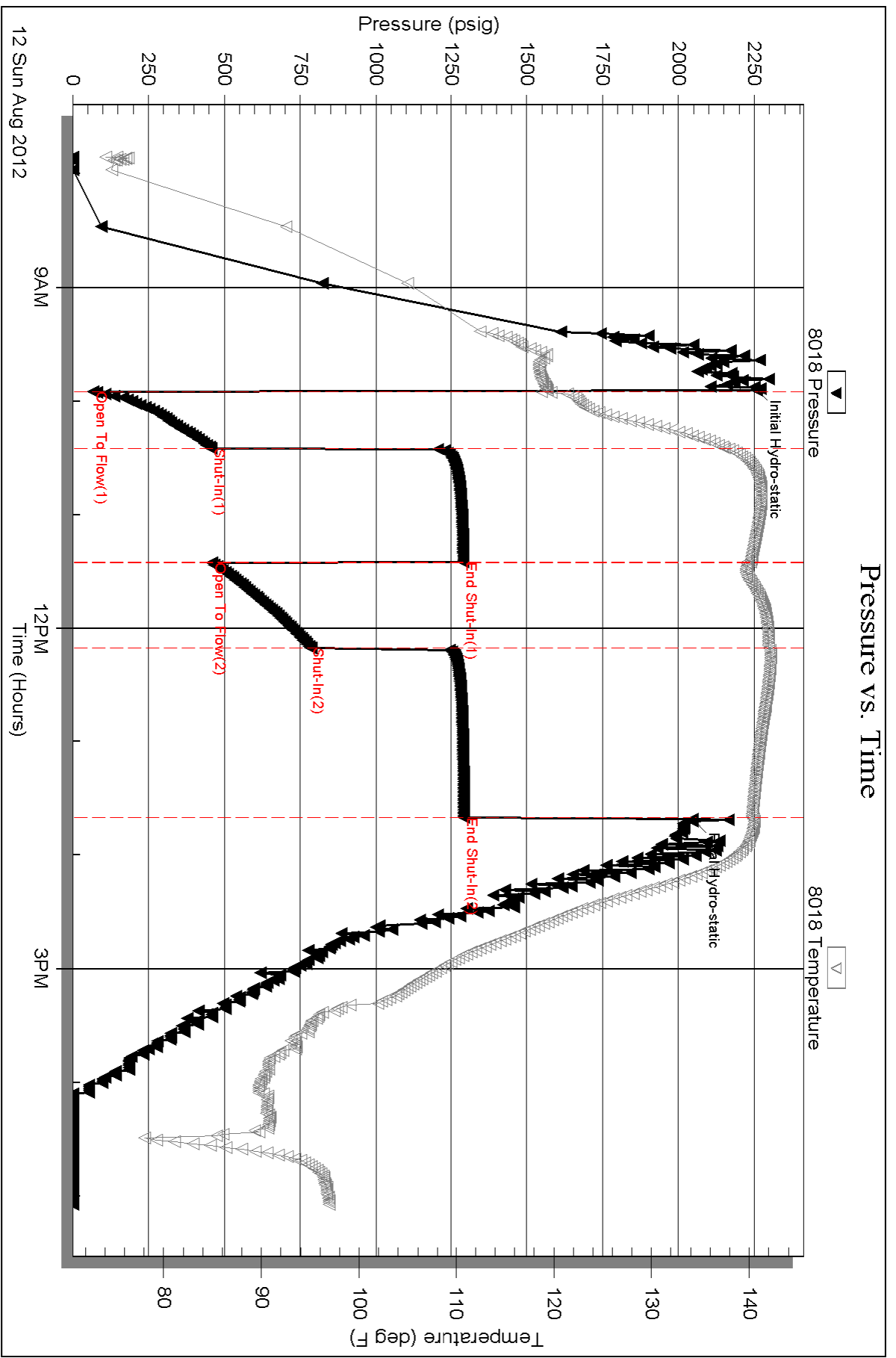
Num Gas Bombs: 0

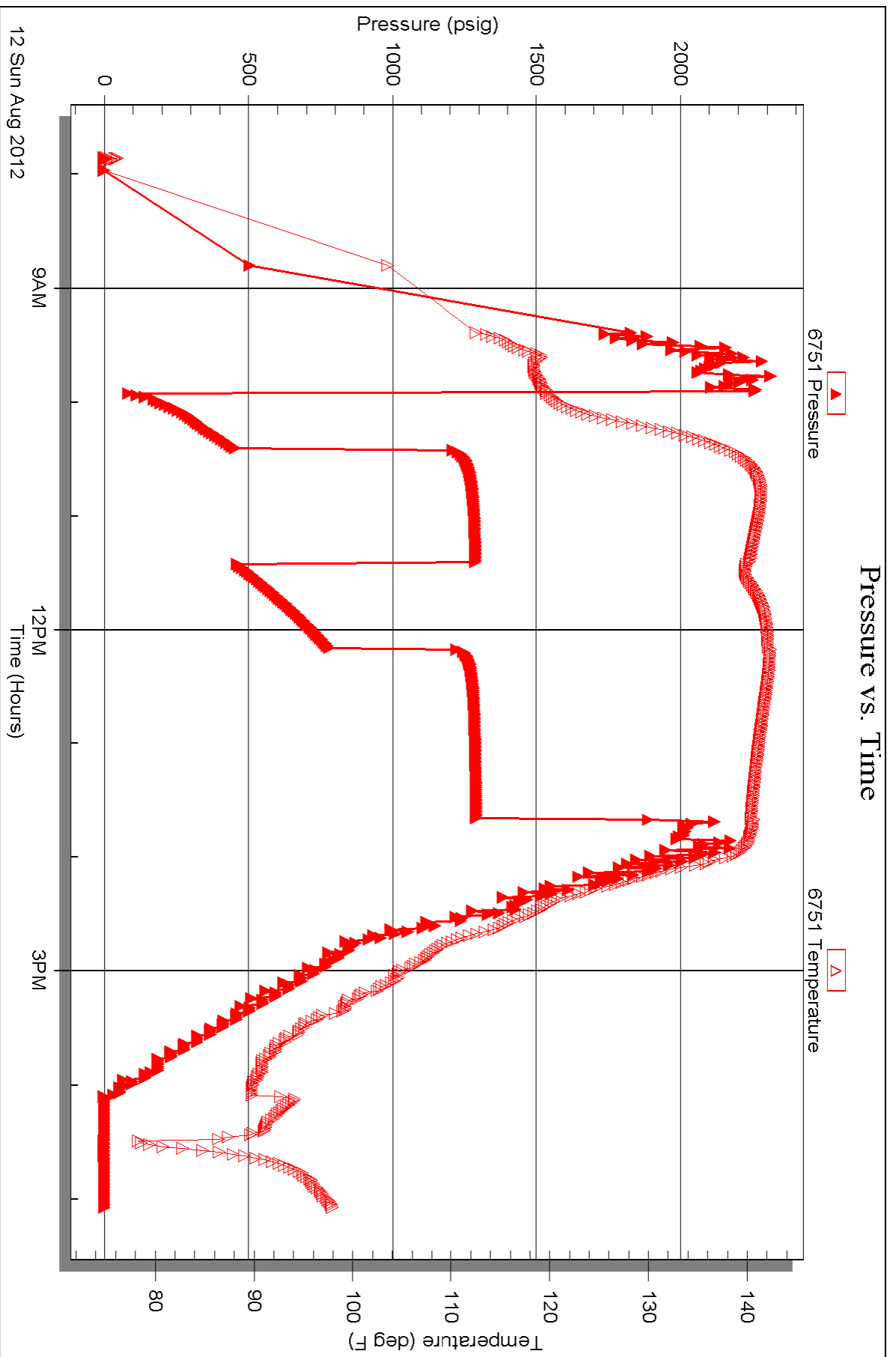
Serial #:

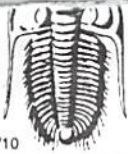
Laboratory Name:

Laboratory Location:

Recovery Comments: API: 36 @ 90 Degrees F = 33. RW: .178 @92 Degrees F = 28000 PPM







# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48950

Well Name & No. Fritzier #2-15-2027 Test No. 1 Date 8-11-12  
 Company FIML Natural Resources Elevation 2640 KB 2630 GL  
 Address 410 17<sup>th</sup> St. Ste. 900 Denver, CO 80202  
 Co. Rep / Geo. Gary Duke Rig H2<sup>nd</sup>  
 Location: Sec. 15 Twp. 20s Rge. 27w Co. Lane State K5

Interval Tested 4475-4535 Zone Tested Mississippian  
 Anchor Length 60 Drill Pipe Run 4115 Mud Wt. 9.1  
 Top Packer Depth 4471 Drill Collars Run 369 Vis 58  
 Bottom Packer Depth 4475 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4535 Chlorides 2000 ppm System LCM 2<sup>nd</sup>  
 Blow Description 1/4" Blow.  
No return.  
No blow.  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>GO</u>	<u>20</u>	<u>80</u>		
<u>45</u>	<u>OCM</u>		<u>5</u>		<u>95</u>

Rec Total 50 BHT 129 Gravity 36 API RW @ °F Chlorides — ppm

(A) Initial Hydrostatic 2173  Test 1250 T-On Location 17:00  
 (B) First Initial Flow 21  Jars T-Started 17:24  
 (C) First Final Flow 31  Safety Joint T-Open 219:35  
 (D) Initial Shut-In 607  Circ Sub N/C T-Pulled 21:51  
 (E) Second Initial Flow 35  Hourly Standby T-Out 00:21  
 (F) Second Final Flow 42  Mileage 88RT 136.40 Comments \_\_\_\_\_  
 (G) Final Shut-In 873  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2142  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 150 MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 45 Sub Total 1536.40

Approved By [Signature] Our Representative Chuck Smith

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. 45981

4/10

Well Name & No. Fritzler #2-15-2027 Test No. 2 Date 8-12-12  
 Company FIML Natural Resources Elevation 2640 KB 2630 GL  
 Address 410 17<sup>th</sup> St. Ste. 900 Denver, CO 80202  
 Co. Rep / Geo. Gary Duke Rig H2#1  
 Location: Sec. 15 Twp. 20s Rge. 27w Co. Lane State KS

Interval Tested 4533-4550 Zone Tested Mississippian  
 Anchor Length 17 Drill Pipe Run 4175 Mud Wt. 9.0  
 Top Packer Depth 4529 Drill Collars Run 369 Vis 58  
 Bottom Packer Depth 4533 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4550 Chlorides 2000 ppm System LCM 3"  
 Blow Description B.O.B. @ 3 1/2 min  
No return  
B.O.B. @ 6 min.  
1/2" Return died @ 40 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>469 360</u>	<u>GO</u>	<u>20</u>	<u>80</u>		
<u>457 475</u>	<u>G MOCW Emulsion</u>	<u>20% Emul.</u>	<u>30</u>	<u>10</u>	<u>25</u> <del><u>15</u></del> <u>10</u> %mud
<u>939</u>	<u>MW</u>			<u>95</u>	<u>5</u> %mud
	<u>110' Weak GIP</u>				

Rec Total 1865 BHT 141 Gravity 33 API RW .178 @ 92 °F Chlorides 28,000 ppm

(A) Initial Hydrostatic	<u>2250</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>	T-On Location	<u>7:45</u>
(B) First Initial Flow	<u>68</u>	<input type="checkbox"/> Jars		T-Started	<u>7:51</u>
(C) First Final Flow	<u>457</u>	<input type="checkbox"/> Safety Joint		T-Open	<u>9:55</u>
(D) Initial Shut-In	<u>1291</u>	<input checked="" type="checkbox"/> Circ Sub	<u>N/C</u>	T-Pulled	<u>13:40</u>
(E) Second Initial Flow	<u>460</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>17:05</u>
(F) Second Final Flow	<u>784</u>	<input checked="" type="checkbox"/> Mileage	<u>88RT 136<sup>40</sup></u>	Comments	
(G) Final Shut-In	<u>1293</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2048</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

Initial Open 30  Extra Packer  
 Initial Shut-In 60  Extra Recorder  
 Final Flow 45  Day Standby  
 Final Shut-In 90  Accessibility 150  
 Sub Total 1536.40 MP/DST Disc't

Approved By [Signature] Our Representative Chuck Smith

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.