



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Prepared For: **FIML Natural Resources LLC**

410 17th ST STE 900  
Denver CO 80202-4420

ATTN: Josh Austin

**19-18-31 Scott,KS**

**McKean-Pratt 15D 19 1831**

Start Date: 2011.08.23 @ 01:45:00

End Date: 2011.08.23 @ 08:06:15

Job Ticket #: 43249

DST #: 1

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

**ORIGINAL**

FIML Natural Resources LLC

McKean-Pratt 15D 19 1831

19-18-31 Scott,KS

DST # 1

Kansas City "J"

2011.08.23



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

FIML Natural Resources LLC

**McKean-Pratt 15D 19 1831**

410 17th ST STE 900  
Denver CO 80202-4420

**19-18-31 Scott,KS**

ATTN: Josh Austin

Job Ticket: 43249

**DST#: 1**

Test Start: 2011.08.23 @ 01:45:00

## GENERAL INFORMATION:

Formation: **Kansas City "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:00:00

Time Test Ended: 08:06:15

Interval: **4216.00 ft (KB) To 4230.00 ft (KB) (TVD)**

Total Depth: 4230.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole

Tester: Jace McKinney

Unit No: 28

Reference Elevations: 2985.00 ft (KB)

2973.00 ft (CF)

KB to GR/CF: 12.00 ft

**Serial #: 8675**

**Inside**

Press@RunDepth: 67.79 psig @ 4217.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.08.23

End Date: 2011.08.23

Last Calib.: 2011.08.23

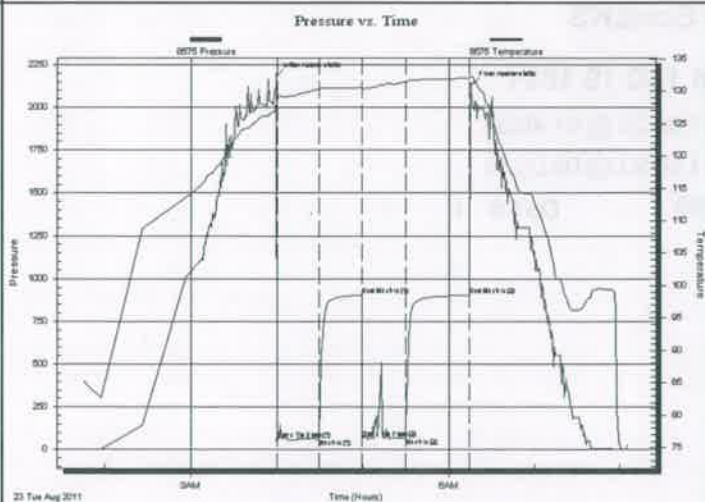
Start Time: 01:45:01

End Time: 08:06:15

Time On Btm: 2011.08.23 @ 03:59:30

Time Off Btm: 2011.08.23 @ 06:15:45

**TEST COMMENT:** Built To A 3" Blow  
No Return Blow  
Very Weak Surface Blow  
No Return Blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2182.51	128.71	Initial Hydro-static
1	58.02	128.57	Open To Flow (1)
31	61.86	130.24	Shut-In(1)
60	903.39	130.55	End Shut-In(1)
61	65.18	129.98	Open To Flow (2)
91	67.79	131.34	Shut-In(2)
135	903.10	131.95	End Shut-In(2)
137	2133.36	132.27	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
95.00	100% Mw with few oil spots	0.47

## Gas Rates

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



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TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

FIML Natural Resources LLC

**McKean-Pratt 15D 19 1831**

410 17th ST STE 900  
Denver CO 80202-4420

**19-18-31 Scott,KS**

Job Ticket: 43249

**DST#: 1**

ATTN: Josh Austin

Test Start: 2011.08.23 @ 01:45:00

## Tool Information

Drill Pipe:	Length: 3831.04 ft	Diameter: 3.80 inches	Volume: 53.74 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 369.50 ft	Diameter: 2.25 inches	Volume: 1.82 bbl	Weight to Pull Loose: 100000.0 lb
			<b>Total Volume: 55.56 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.54 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4216.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	14.00 ft			
Tool Length:	34.00 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			4197.00	
Shut In Tool	5.00			4202.00	
Hydraulic tool	5.00			4207.00	
Packer	5.00			4212.00	20.00 Bottom Of Top Packer
Packer	4.00			4216.00	
Stubb	1.00			4217.00	
Recorder	0.00	8675	Inside	4217.00	
Recorder	0.00	8371	Outside	4217.00	
Perforations	10.00			4227.00	
Change Over Sub	0.00			4227.00	
Drill Pipe	0.00			4227.00	
Change Over Sub	0.00			4227.00	
Bullnose	3.00			4230.00	14.00 Bottom Packers & Anchor

**Total Tool Length: 34.00**



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**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

FIML Natural Resources LLC

McKean-Pratt 15D 19 1831

410 17th ST STE 900  
Denver CO 80202-4420

19-18-31 Scott,KS

Job Ticket: 43249

DST#: 1

ATTN: Josh Austin

Test Start: 2011.08.23 @ 01:45:00

**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: 63.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.18 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 1600.00 ppm			
Filter Cake: 1.00 inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
95.00	100% M with few oil spots	0.467

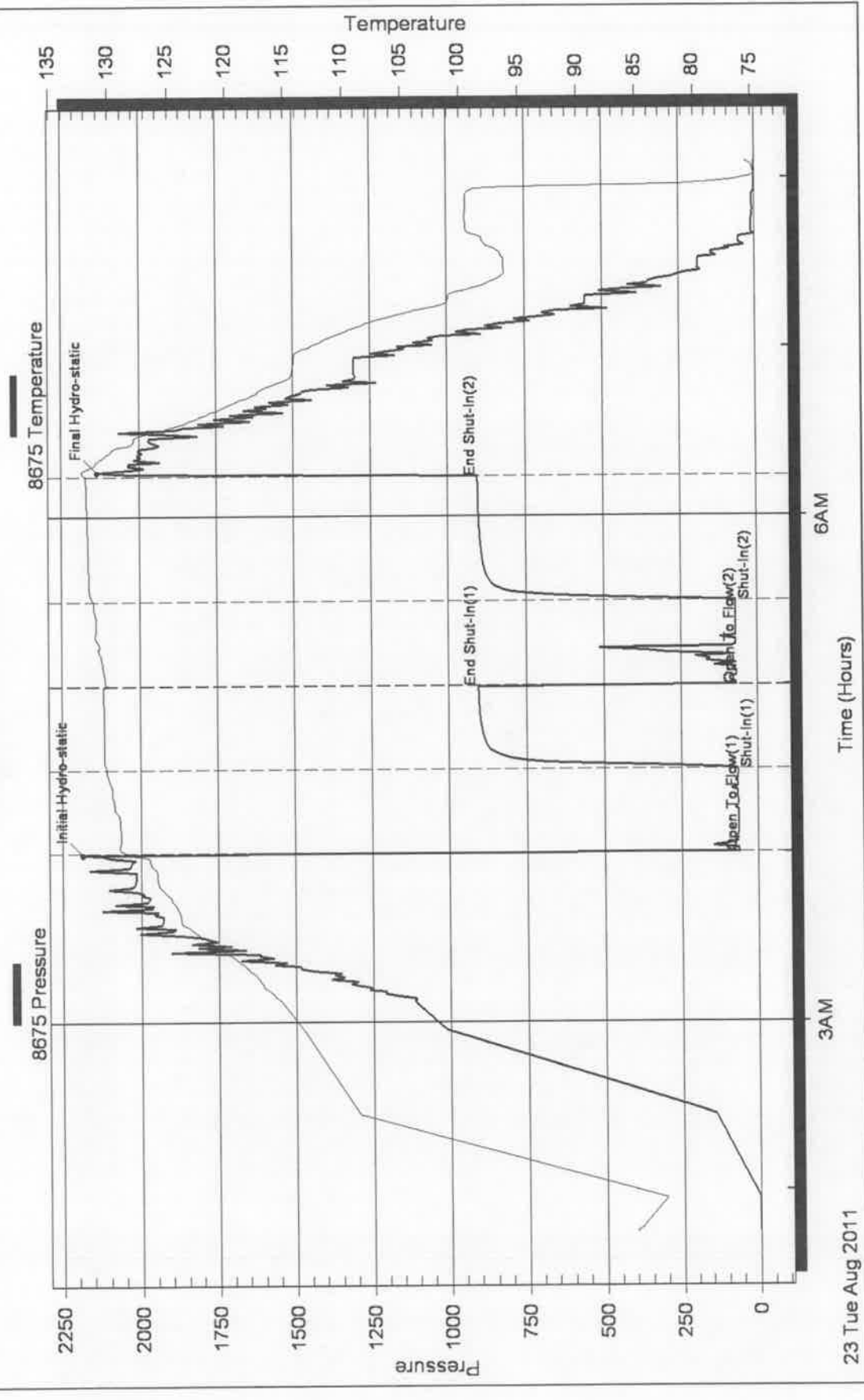
Total Length: 95.00 ft      Total Volume: 0.467 bbl

Num Fluid Samples: 0      Num Gas Borrbbs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:

### Pressure vs. Time







**TRILOBITE  
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### DRILL STEM TEST REPORT

Prepared For: **FIML Natural Resources LLC**

410 17th ST STE 900  
Denver CO 80202-4420

ATTN: Josh Austin

**19-18-31 Scott,KS**

**McKean-Pratt 15D 19 1831**

Start Date: 2011.08.23 @ 21:20:00

End Date: 2011.08.24 @ 03:37:15

Job Ticket #: 43250

DST #: 2



Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

FIML Natural Resources LLC

McKean-Pratt 15D 19 1831

19-18-31 Scott,KS

DST # 2

Kansas City "K & L"

2011.08.23



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

FIML Natural Resources LLC

**McKean-Pratt 15D 19 1831**

410 17th ST STE 900  
Denver CO 80202-4420

**19-18-31 Scott,KS**

ATTN: Josh Austin

Job Ticket: 43250

**DST#: 2**

Test Start: 2011.08.23 @ 21:20:00

## GENERAL INFORMATION:

Formation: **Kansas City "K & L"**

Deviated: No Whipstock ft (KB)

Time Tool Opened: 23:44:00

Time Test Ended: 03:37:15

Test Type: Conventional Bottom Hole

Tester: Jace McKinney

Unit No: 28

Interval: **4248.00 ft (KB) To 4300.00 ft (KB) (TVD)**

Total Depth: 4300.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2985.00 ft (KB)

2973.00 ft (CF)

KB to GR/CF: 12.00 ft

## Serial #: 8675

Inside

Press@RunDepth: 67.58 psig @ 4249.00 ft (KB)

Start Date: 2011.08.23

End Date: 2011.08.24

Start Time: 21:20:01

End Time: 03:37:15

Capacity: 8000.00 psig

Last Calib.: 2011.08.24

Time On Btrm: 2011.08.23 @ 23:43:45

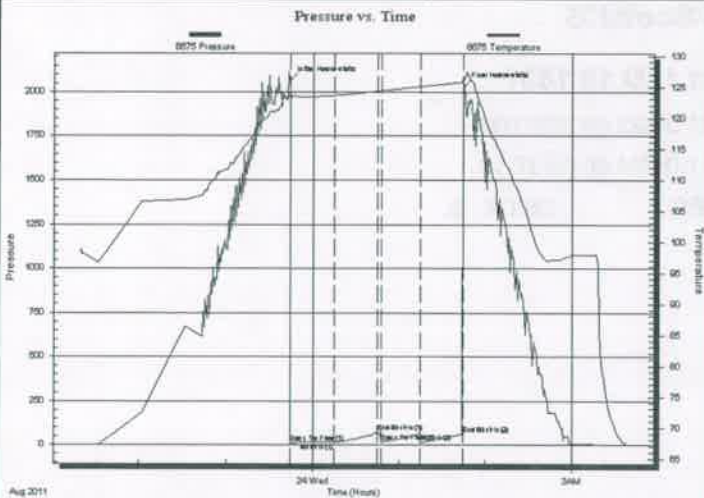
Time Off Btrm: 2011.08.24 @ 01:45:15

TEST COMMENT: Weak Surface Blow Died 12 min.

No Return Blow

No Blow

No Return Blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2067.20	124.01	Initial Hydro-static
1	14.64	122.71	Open To Flow (1)
31	14.11	123.61	Shut-In(1)
61	73.59	124.32	End Shut-In(1)
64	16.89	124.35	Open To Flow (2)
91	67.58	125.08	Shut-In(2)
121	63.90	125.81	End Shut-In(2)
122	2033.26	126.40	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	100%M	0.00

## Gas Rates

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





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

TOOL DIAGRAM

FIML Natural Resources LLC

McKean-Pratt 15D 19 1831

410 17th ST STE 900  
Denver CO 80202-4420

19-18-31 Scott,KS

Job Ticket: 43250

DST#: 2

ATTN: Josh Austin

Test Start: 2011.08.23 @ 21:20:00

## Tool Information

Drill Pipe:	Length: 3876.53 ft	Diameter: 3.80 inches	Volume: 54.38 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 369.50 ft	Diameter: 2.25 inches	Volume: 1.82 bbl	Weight to Pull Loose:	92000.00 lb
			<b>Total Volume: 56.20 bbl</b>	Tool Chased:	0.00 ft
Drill Pipe Above KB:	18.03 ft			String Weight: Initial	72000.00 lb
Depth to Top Packer:	4248.00 ft			Final	72000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	52.00 ft				
Tool Length:	72.00 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			4229.00	
Shut In Tool	5.00			4234.00	
Hydraulic tool	5.00			4239.00	
Packer	5.00			4244.00	20.00 Bottom Of Top Packer
Packer	4.00			4248.00	
Stubb	1.00			4249.00	
Recorder	0.00	8675	Inside	4249.00	
Recorder	0.00	8371	Outside	4249.00	
Perforations	15.00			4264.00	
Change Over Sub	1.00			4265.00	
Drill Pipe	31.00			4296.00	
Change Over Sub	1.00			4297.00	
Bullnose	3.00			4300.00	52.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>72.00</b>				



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

FIML Natural Resources LLC

**McKean-Pratt 15D 19 1831**

410 17th ST STE 900  
Denver CO 80202-4420

**19-18-31 Scott,KS**

Job Ticket: 43250

**DST#: 2**

ATTN: Josh Austin

Test Start: 2011.08.23 @ 21:20:00

## 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:	63.00 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:	1600.00 ppm				
Filter Cake:	1.00 inches				

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	100%M	0.005

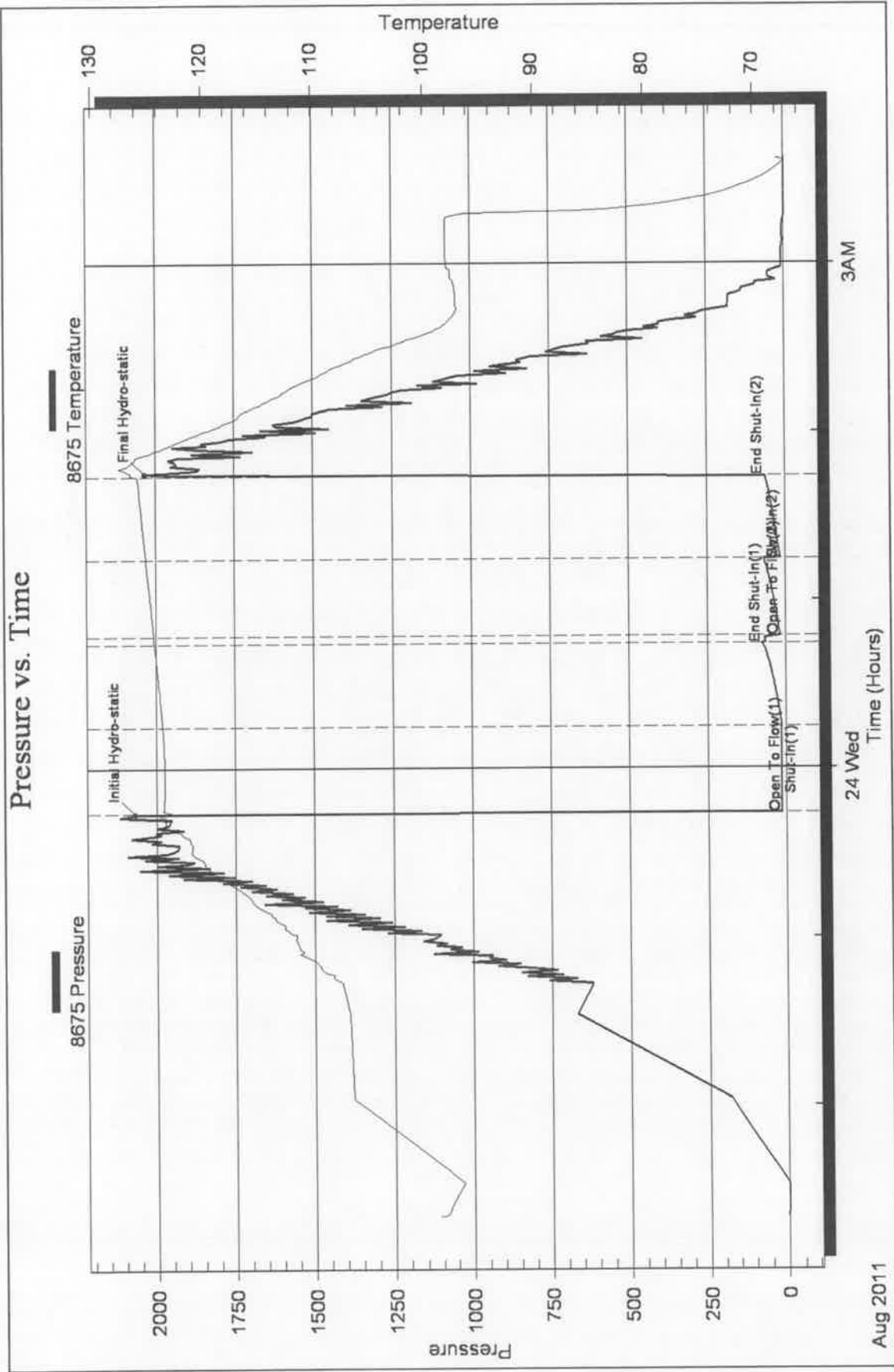
Total Length: 1.00 ft      Total Volume: 0.005 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:

### Pressure vs. Time







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### DRILL STEM TEST REPORT

Prepared For: **FIML Natural Resources LLC**

410 17th ST STE 900  
Denver CO 80202-4420

ATTN: Josh Austin

**19-18-31 Scott,KS**

**McKean-Pratt 15D 19 1831**

Start Date: 2011.08.24 @ 15:50:00

End Date: 2011.08.24 @ 22:43:15

Job Ticket #: 042127      DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

FIML Natural Resources LLC

McKean-Pratt 15D 19 1831

19-18-31 Scott,KS

DST # 3

Marmaton "B-C"

2011.08.24



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# DRILL STEM TEST REPORT

FIML Natural Resources LLC

**McKean-Pratt 15D 19 1831**

410 17th ST STE 900  
Denver CO 80202-4420

**19-18-31 Scott,KS**

Job Ticket: 042127

**DST#: 3**

ATTN: Josh Austin

Test Start: 2011.08.24 @ 15:50:00

## GENERAL INFORMATION:

Formation: **Marmaton "B-C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:12:00

Time Test Ended: 22:43:15

Test Type: Conventional Bottom Hole

Tester: Jace McKinney

Unit No: 28

Interval: **4345.00 ft (KB) To 4396.00 ft (KB) (TVD)**

Total Depth: 4396.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2985.00 ft (KB)

2973.00 ft (CF)

KB to GR/CF: 12.00 ft

## Serial #: 8675

Inside

Press@RunDepth: 60.73 psig @ 4346.00 ft (KB)

Start Date: 2011.08.24

End Date: 2011.08.24

Start Time: 15:50:01

End Time: 22:43:15

Capacity: 8000.00 psig

Last Calib.: 2011.08.24

Time On Btrr: 2011.08.24 @ 18:11:45

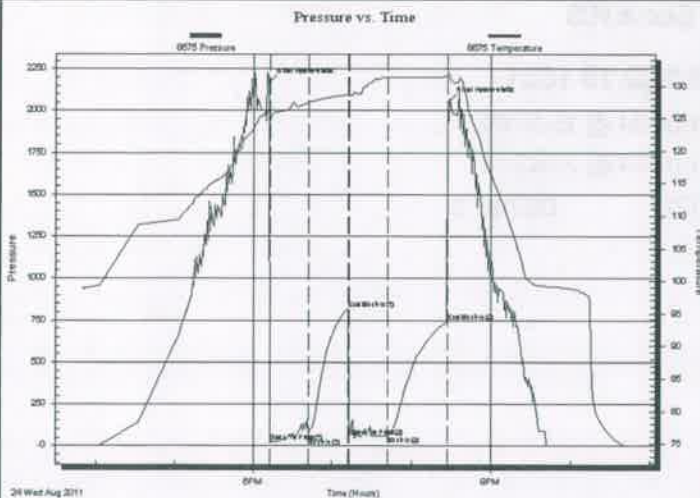
Time Off Btrr: 2011.08.24 @ 20:29:00

TEST COMMENT: Built to 2 1/4 " blow died to 2" blow

No return blow

No blow

No return blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2169.57	126.01	Initial Hydro-static
1	27.47	124.51	Open To Flow (1)
31	48.66	127.38	Shut-In(1)
61	815.28	128.61	End Shut-In(1)
61	53.20	128.50	Open To Flow (2)
91	60.73	131.23	Shut-In(2)
136	740.25	131.37	End Shut-In(2)
138	2061.34	131.63	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Oil	0.00
92.00	ocw m 5%O 5%W 90%M	0.45

## Gas Rates

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



**TRILOBITE  
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# DRILL STEM TEST REPORT

TOOL DIAGRAM

FIML Natural Resources LLC

McKean-Pratt 15D 19 1831

410 17th ST STE 900  
Denver CO 80202-4420

19-18-31 Scott,KS

Job Ticket: 042127

DST#: 3

ATTN: Josh Austin

Test Start: 2011.08.24 @ 15:50:00

## Tool Information

Drill Pipe: Length: 3990.57 ft Diameter: 3.80 inches Volume: 55.98 bbl  
 Heavy Wt. Pipe: Length: 0.00 ft Diameter: 0.00 inches Volume: 0.00 bbl  
 Drill Collar: Length: 369.50 ft Diameter: 2.25 inches Volume: 1.82 bbl  
 Total Volume: 57.80 bbl

Drill Pipe Above KB: 35.07 ft  
 Depth to Top Packer: 4345.00 ft  
 Depth to Bottom Packer: ft  
 Interval between Packers: 51.00 ft  
 Tool Length: 71.00 ft  
 Number of Packers: 2 Diameter: 6.75 inches

Tool Weight: 1500.00 lb  
 Weight set on Packer: 20000.00 lb  
 Weight to Pull Loose: 90000.00 lb  
 Tool Chased 0.00 ft  
 String Weight: Initial 76000.00 lb  
 Final 76000.00 lb

Tool Comments:

## Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4326.00	
Shut In Tool	5.00			4331.00	
Hydraulic tool	5.00			4336.00	
Packer	5.00			4341.00	20.00 Bottom Of Top Packer
Packer	4.00			4345.00	
Stubb	1.00			4346.00	
Recorder	0.00	8675	Inside	4346.00	
Recorder	0.00	8371	Outside	4346.00	
Perforations	14.00			4360.00	
Change Over Sub	1.00			4361.00	
Drill Pipe	31.00			4392.00	
Change Over Sub	1.00			4393.00	
Bullnose	3.00			4396.00	51.00 Bottom Packers & Anchor

**Total Tool Length: 71.00**



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**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

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410 17th ST STE 900  
Denver CO 80202-4420

**19-18-31 Scott,KS**

Job Ticket: 042127

**DST#: 3**

ATTN: Josh Austin

Test Start: 2011.08.24 @ 15:50:00

**Mud and Cushion Information**

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 54.00 sec/qt  
Water Loss: 7.19 in<sup>3</sup>  
Resistivity: 0.00 ohm.m  
Salinity: 1100.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
1.00	Oil	0.005
92.00	ocw m 5%O 5%W 90%M	0.452

Total Length: 93.00 ft      Total Volume: 0.457 bbl

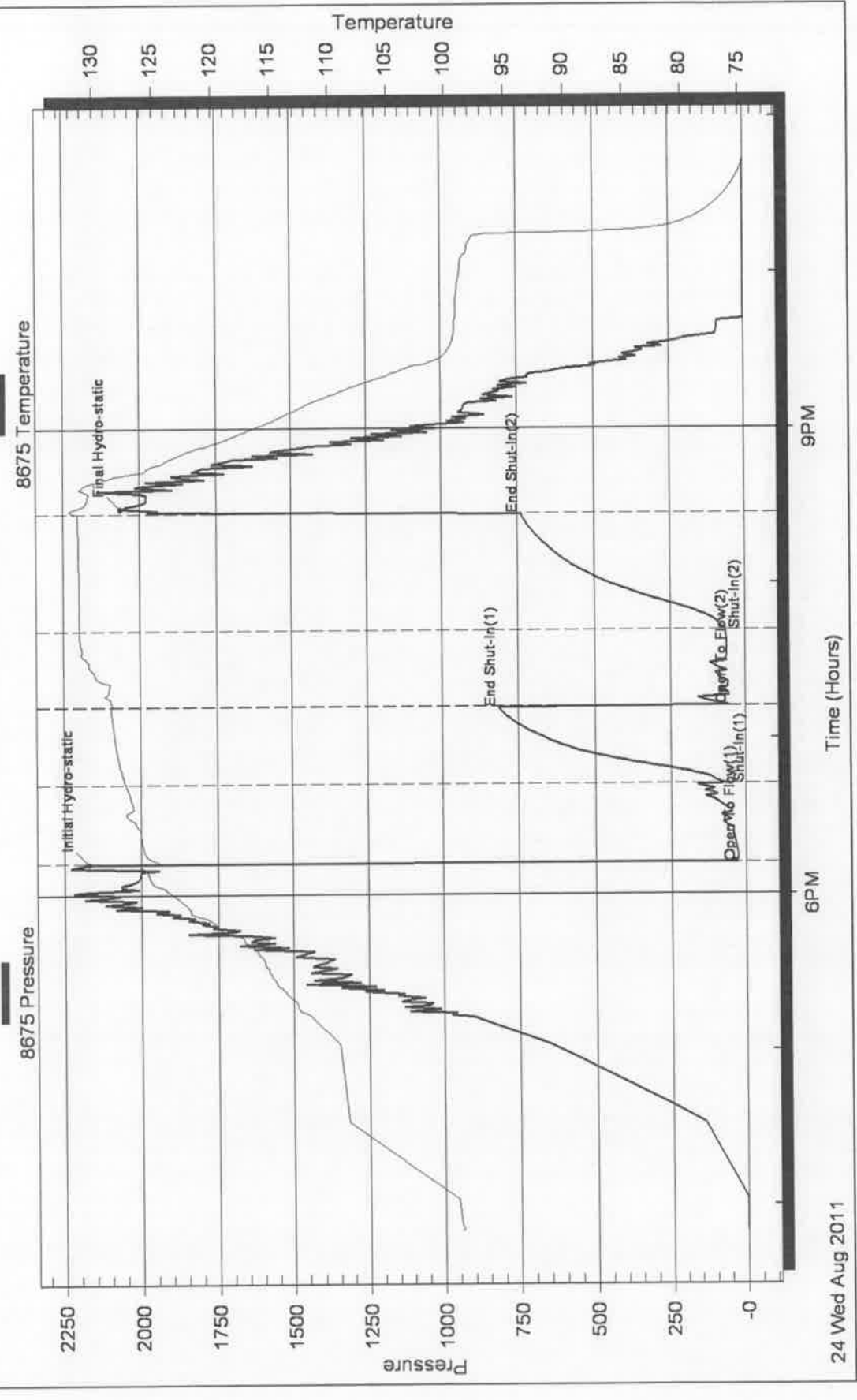
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:



# Pressure vs. Time



24 Wed Aug 2011

