



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

250 N. Water  
STE 300  
Wichita Ks. 67202  
ATTN: Kent Crisler

**Maywen Unit #1-18**

**18 2 29w Decatur Ks**

Job Ticket: 43713

**DST#: 1**

Test Start: 2011.07.18 @ 16:00:00

## GENERAL INFORMATION:

Formation: **LKC-A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:25:30

Time Test Ended: 23:22:00

Test Type: Conventional Bottom Hole

Tester: Chuck Kreuzer Jr.

Unit No: 36

**Interval: 3774.00 ft (KB) To 3834.00 ft (KB) (TVD)**

Reference Elevations: 2815.00 ft (KB)

Total Depth: 3834.00 ft (KB) (TVD)

2810.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6752 Inside**

Press @ Run Depth: 25.00 psig @ 3775.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.07.18

End Date:

2011.07.18

Last Calib.:

2011.07.18

Start Time: 16:00:05

End Time:

23:21:59

Time On Btm:

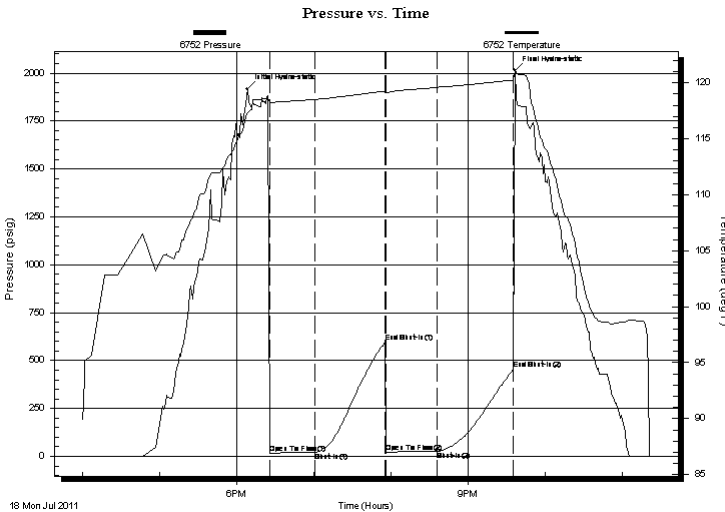
2011.07.18 @ 18:08:30

Time Off Btm:

2011.07.18 @ 21:36:30

**TEST COMMENT:** IF: Weak blow, Died in 5 mins.  
IS: No blow back over 60 mins.  
FF: No blow over 30 mins.  
FS: No blow back over 60 mins.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1917.02	117.31	Initial Hydro-static
17	17.00	118.29	Open To Flow (1)
53	19.94	118.52	Shut-In(1)
107	595.95	119.25	End Shut-In(1)
108	21.50	119.12	Open To Flow (2)
148	25.00	119.60	Shut-In(2)
207	453.68	120.26	End Shut-In(2)
208	2013.85	121.11	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud-100%	0.02

## Gas Rates

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



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ATTN: Kent Crisler

**18 2 29w Decatur Ks**

Job Ticket: 43713      **DST#: 1**

Test Start: 2011.07.18 @ 16:00:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 54.00 sec/qt  
Water Loss: 6.00 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 1400.00 ppm  
Filter Cake: 2.00 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
5.00	mud-100%	0.025

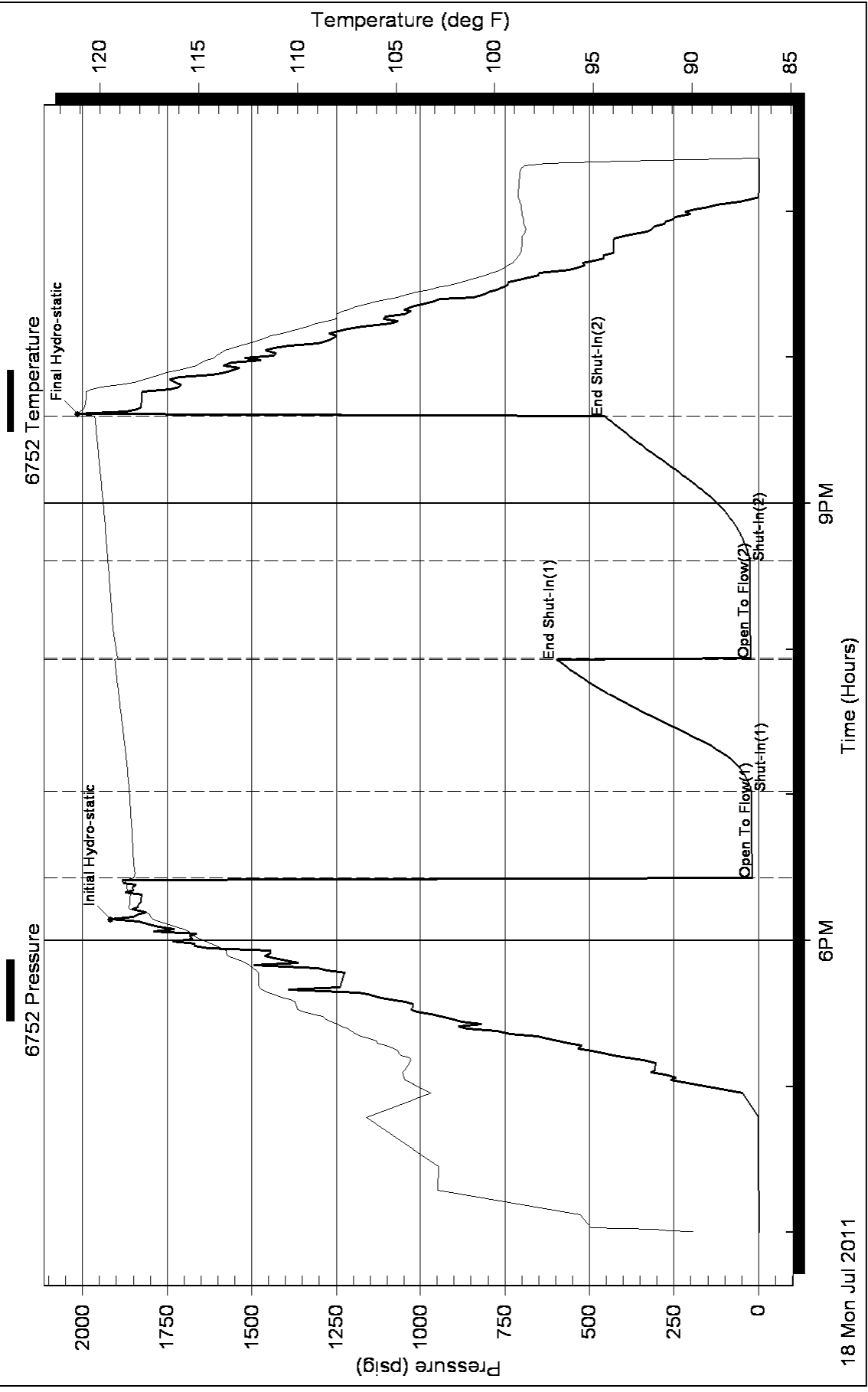
Total Length: 5.00 ft      Total Volume: 0.025 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

# Pressure vs. Time





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ATTN: Kent Crisler

**18 2 29w Decatur Ks**

Job Ticket: 43714 **DST#: 2**

Test Start: 2011.07.19 @ 15:20:00

## GENERAL INFORMATION:

Formation: **LKC-D**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 17:07:30  
 Time Test Ended: 22:03:30  
 Test Type: Conventional Bottom Hole  
 Tester: Chuck Kreuzer Jr.  
 Unit No: 36  
 Interval: **3826.00 ft (KB) To 3870.00 ft (KB) (TVD)**  
 Reference Elevations: 2815.00 ft (KB)  
 Total Depth: 3826.00 ft (KB) (TVD) 2810.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

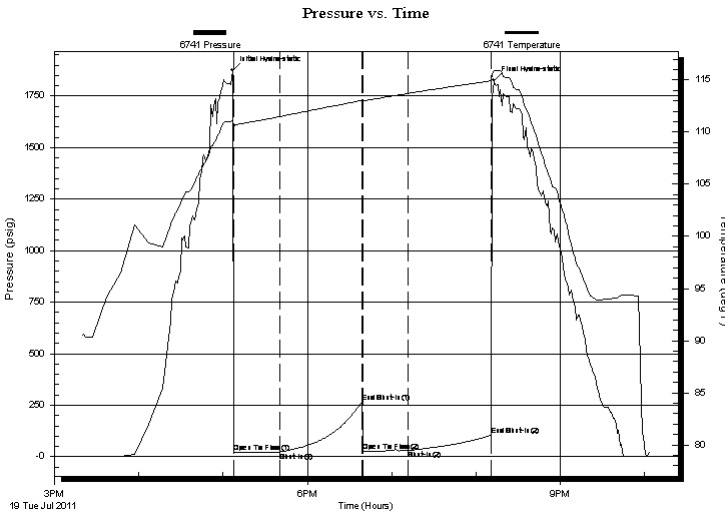
## Serial #: 6741

**Outside**

Press @ Run Depth: 30.44 psig @ 3827.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2011.07.19 End Date: 2011.07.19 Last Calib.: 2011.07.19  
 Start Time: 15:20:05 End Time: 22:03:29 Time On Btm: 2011.07.19 @ 17:06:30  
 Time Off Btm: 2011.07.19 @ 20:12:30

**TEST COMMENT:** IF: Weak blow, Died in 5 mins.  
 IS: No blow back over 60 mins.  
 FF: No blow over 30 mins.  
 FS: No blow back over 60 mins.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1874.67	111.06	Initial Hydro-static
1	19.52	110.42	Open To Flow (1)
34	23.50	111.49	Shut-In(1)
92	264.66	113.03	End Shut-In(1)
93	26.89	112.97	Open To Flow (2)
125	30.44	113.71	Shut-In(2)
185	105.02	114.92	End Shut-In(2)
186	1827.08	115.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud w ith oil specs	0.05

## Gas Rates

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



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Wichita Ks. 67202  
ATTN: Kent Crisler

**18 2 29w Decatur Ks**

Job Ticket: 43714      **DST#: 2**  
Test Start: 2011.07.19 @ 15:20:00

**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: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1400.00 ppm			
Filter Cake: 2.00 inches			

**Recovery Information**

Recovery Table

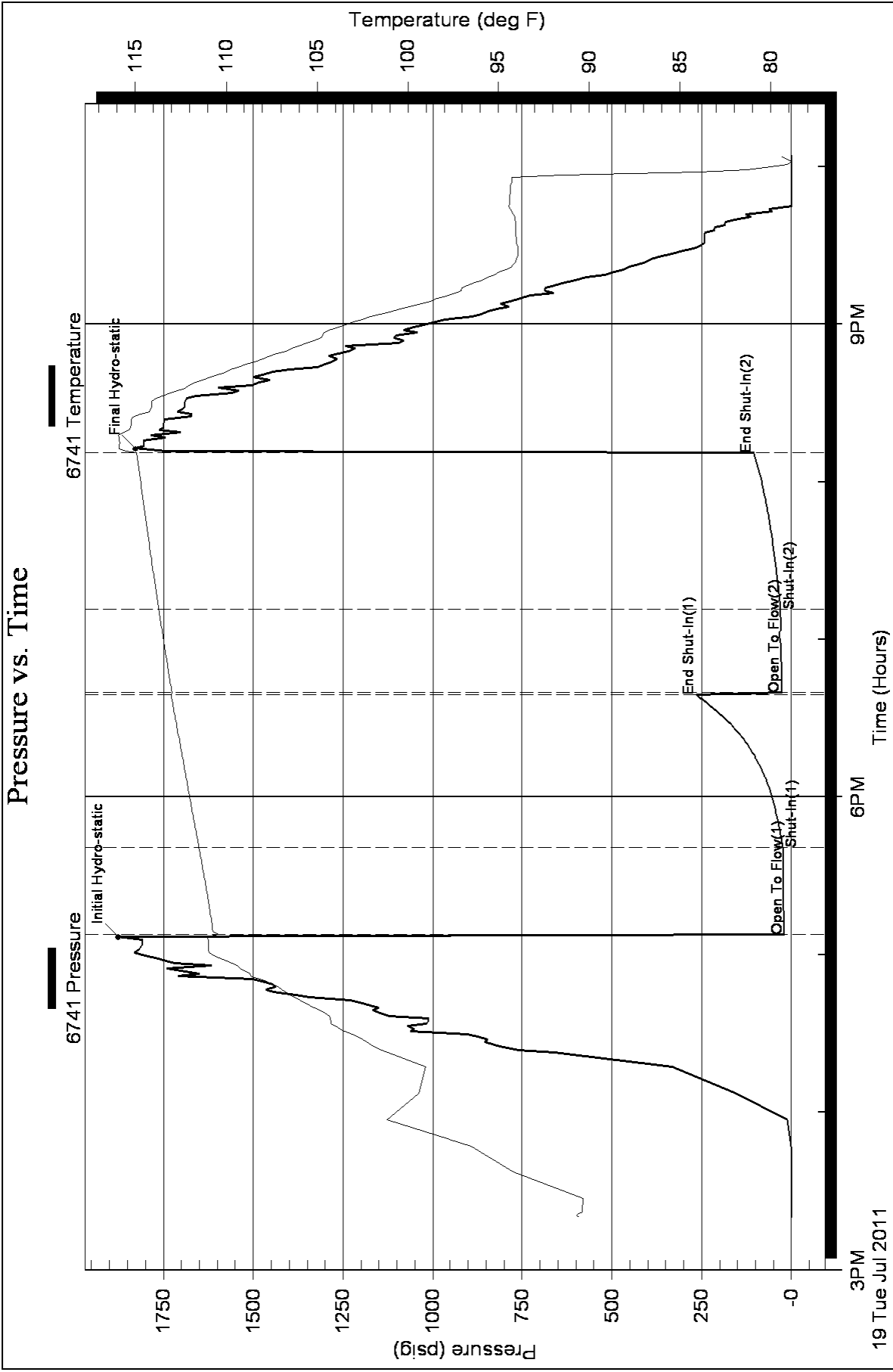
Length ft	Description	Volume bbl
10.00	mud w ith oil specs	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:





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Wichita Ks. 67202  
ATTN: Kent Crisler

**18 2 29w Decatur Ks**

Job Ticket: 43715 **DST#: 3**

Test Start: 2011.07.20 @ 06:20:00

## GENERAL INFORMATION:

Formation: **LKC-G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:22:30

Time Test Ended: 13:05:00

Test Type: Conventional Bottom Hole

Tester: Chuck Kreuzer Jr.

Unit No: 36

**Interval: 3865.00 ft (KB) To 3920.00 ft (KB) (TVD)**

Reference Elevations: 2815.00 ft (KB)

Total Depth: 3920.00 ft (KB) (TVD)

2810.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6741 Outside**

Press @ Run Depth: 22.41 psig @ 3866.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.07.20 End Date: 2011.07.20

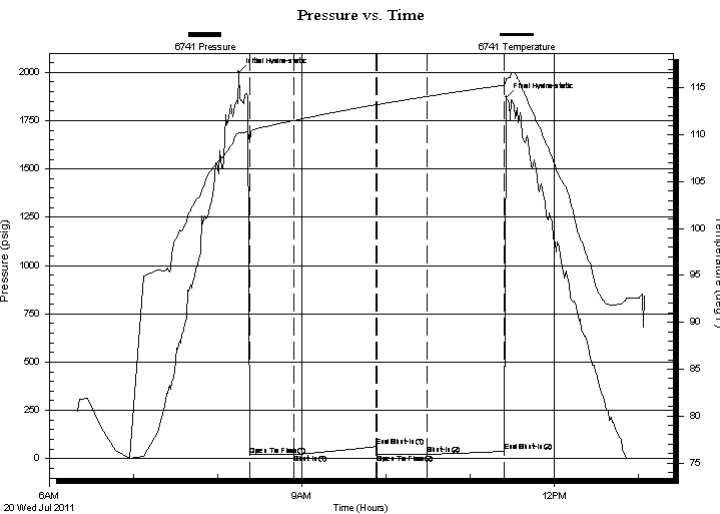
Last Calib.: 2011.07.20

Start Time: 06:20:05 End Time: 13:04:59

Time On Btm: 2011.07.20 @ 08:15:00

Time Off Btm: 2011.07.20 @ 11:26:00

**TEST COMMENT:** IF: Weak blow, Died in 15 mins.  
IS: No blow back over 60 mins.  
FF: No blow over 30 mins.  
FS: No blow back over 60 mins.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1999.79	110.22	Initial Hydro-static
8	20.03	109.31	Open To Flow (1)
40	21.68	111.52	Shut-In(1)
98	62.97	113.21	End Shut-In(1)
99	22.09	113.21	Open To Flow (2)
135	22.41	114.10	Shut-In(2)
190	37.45	115.28	End Shut-In(2)
191	1869.87	115.98	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud	0.02

## Gas Rates

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



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**18 2 29w Decatur Ks**

Job Ticket: 43715      **DST#: 3**  
Test Start: 2011.07.20 @ 06:20:00

**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: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1200.00 ppm			
Filter Cake: 2.00 inches			

**Recovery Information**

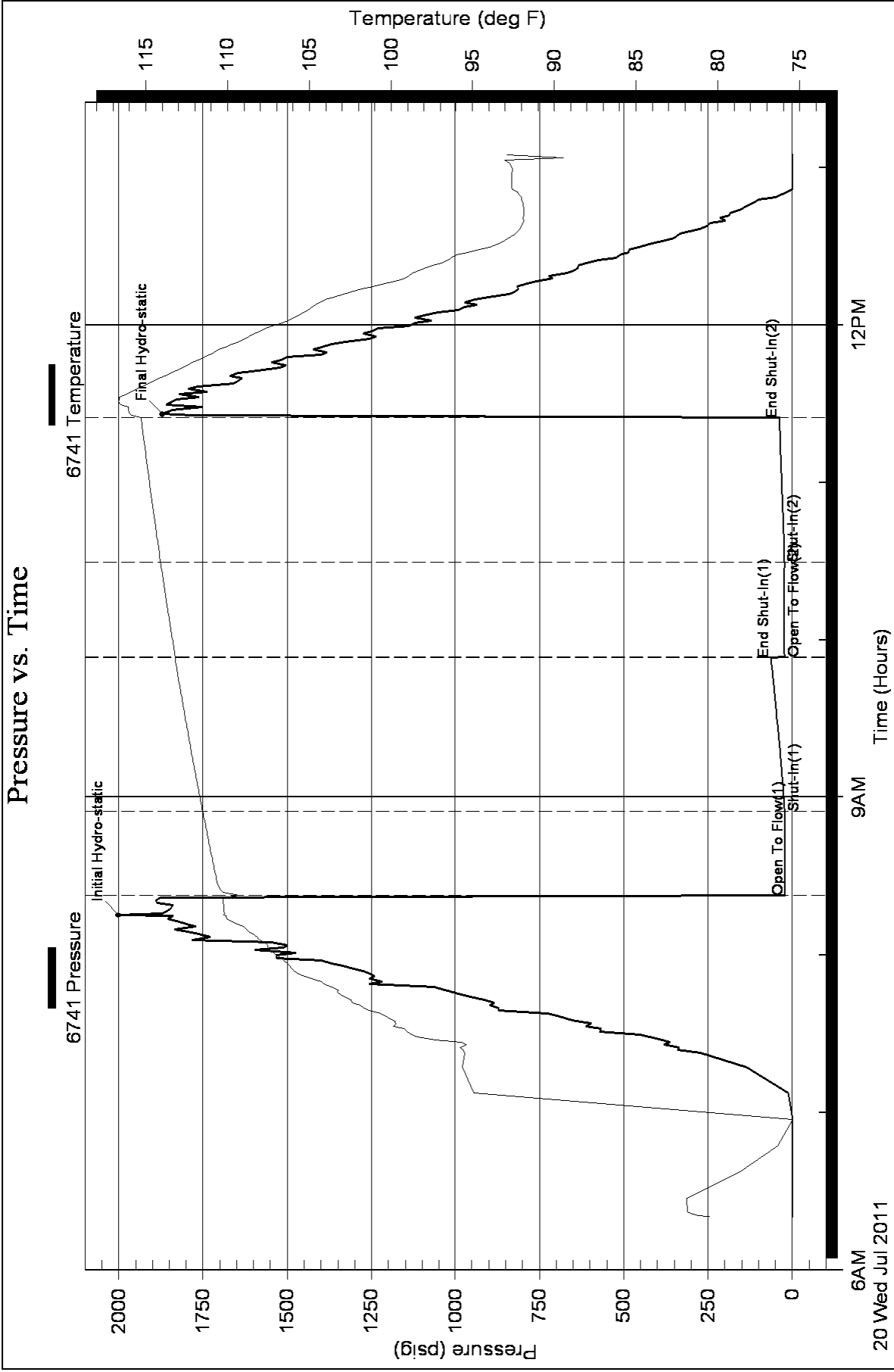
Recovery Table

Length ft	Description	Volume bbl
5.00	mud	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:



### Pressure vs. Time





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**18 2 29w Decatur Ks**

Job Ticket: 43716 **DST#: 4**

Test Start: 2011.07.20 @ 22:50:00

## GENERAL INFORMATION:

Formation: **LKC- H,I,J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:04:30

Time Test Ended: 07:16:00

Test Type: Conventional Bottom Hole

Tester: Chuck Kreuzer Jr.

Unit No: 36

**Interval: 3915.00 ft (KB) To 3988.00 ft (KB) (TVD)**

Reference Elevations: 2815.00 ft (KB)

Total Depth: 3988.00 ft (KB) (TVD)

2810.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6741 Outside**

Press @ Run Depth: 272.47 psig @ 3916.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.07.20 End Date: 2011.07.21

Last Calib.: 2011.07.21

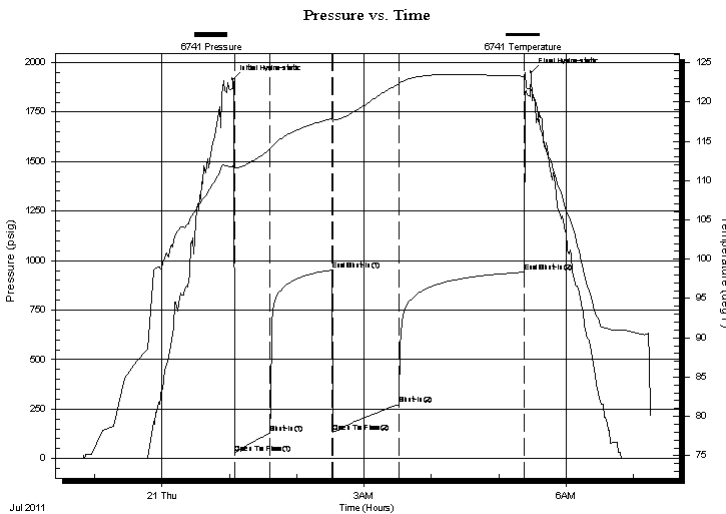
Start Time: 22:50:05 End Time: 07:15:59

Time On Btm: 2011.07.21 @ 01:03:00

Time Off Btm: 2011.07.21 @ 05:29:00

**TEST COMMENT:** IF: Weak blow, Built to 6 1/2 in. over 30 mins.  
IS: No blow back over 60 mins.  
FF: Weak blow, Built to 1 1/2 in over 60 mins.  
FS: No blow back over 90 mins.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1916.27	111.82	Initial Hydro-static
2	26.07	111.61	Open To Flow (1)
33	128.16	114.02	Shut-In(1)
89	952.66	117.88	End Shut-In(1)
90	133.14	117.52	Open To Flow (2)
149	272.47	122.30	Shut-In(2)
260	941.78	123.28	End Shut-In(2)
266	1950.70	121.62	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
300.00	water-100%	1.48
180.00	mcw -40% m60%w	0.89
60.00	mud-100%	0.30

## Gas Rates

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



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Job Ticket: 43716      **DST#: 4**  
Test Start: 2011.07.20 @ 22:50:00

## 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:	2100 ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.15 ohm.m	Gas Cushion Pressure: psig		
Salinity: 1200.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	water-100%	1.475
180.00	mcw -40% m60%w	0.885
60.00	mud-100%	0.295

Total Length: 540.00 ft      Total Volume: 2.655 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

### Pressure vs. Time

