



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling  
250 N. Water  
Ste. 300 Wichita KS.  
67202  
ATTN:

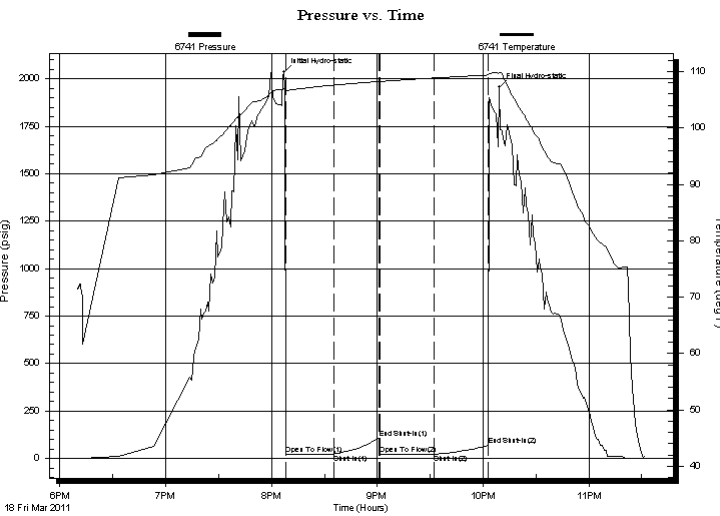
**Ema # 1-5**  
**5 2s 29w Decatur Ks.**  
Job Ticket: 040751 **DST#: 1**  
Test Start: 2011.03.18 @ 18:10:00

## GENERAL INFORMATION:

Formation: **LKC-A**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 20:08:09  
Time Test Ended: 23:31:39  
Test Type: Conventional Bottom Hole  
Tester: Chuck Kreuzer Jr.  
Unit No: 36  
Interval: **3767.00 ft (KB) To 3824.00 ft (KB) (TVD)**  
Reference Elevations: 2975.00 ft (KB)  
Total Depth: 3824.00 ft (KB) (TVD) 2970.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

**Serial #: 6741 Outside**  
Press @ Run Depth: 24.30 psig @ 3768.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2011.03.18 End Date: 2011.03.18 Last Calib.: 2011.03.18  
Start Time: 18:10:01 End Time: 23:31:39 Time On Btm: 2011.03.18 @ 20:07:09  
Time Off Btm: 2011.03.18 @ 22:09:09

**TEST COMMENT:** IF: Weak surface blow died in 8 mins.  
IS: No blow back over 30 mins.  
FF: No blow over 30 mins.  
FS: No blow back over 30 mins.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2033.37	107.03	Initial Hydro-static
1	20.21	106.46	Open To Flow (1)
28	24.45	107.60	Shut-In(1)
54	107.49	108.23	End Shut-In(1)
55	22.63	108.22	Open To Flow (2)
85	24.30	108.86	Shut-In(2)
116	67.46	109.40	End Shut-In(2)
122	1954.72	109.85	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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**FLUID SUMMARY**

Murfin Drilling

**Ema # 1-5**

250 N. Water  
Ste. 300 Wichita KS.  
67202  
ATTN:

**5 2s 29w Decatur Ks.**

Job Ticket: 040751 **DST#: 1**

Test Start: 2011.03.18 @ 18:10:00

## 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: bbl		
Water Loss: 11.49 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1500.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

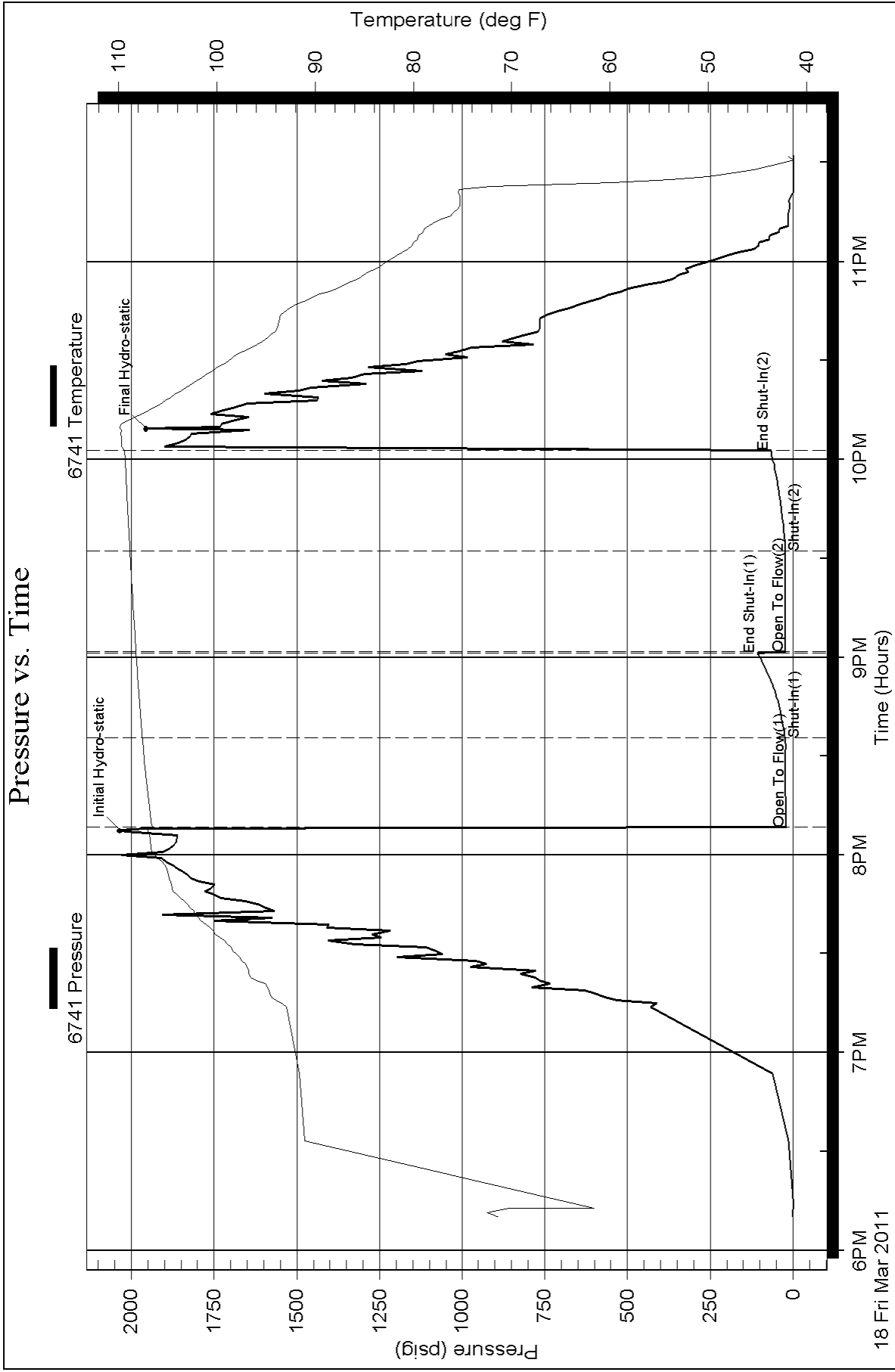
Length ft	Description	Volume bbl
10.00	mud w ith oil specs	0.049

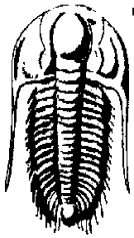
Total Length: 10.00 ft Total Volume: 0.049 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:





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## DRILL STEM TEST REPORT

Murfin Drilling  
250 N. Water  
Ste. 300 Wichita KS.  
67202  
ATTN:

**Ema # 1-5**  
**5 2s 29w Decatur Ks.**  
Job Ticket: 040752      **DST#: 2**  
Test Start: 2011.03.19 @ 10:20:00

### GENERAL INFORMATION:

Formation: **LKC-D-G**  
Deviated: No Whipstock:                                  ft (KB)  
Time Tool Opened: 12:13:00  
Time Test Ended: 14:01:30  
**Interval: 3808.00 ft (KB) To 3900.00 ft (KB) (TVD)**  
Total Depth: 3900.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good

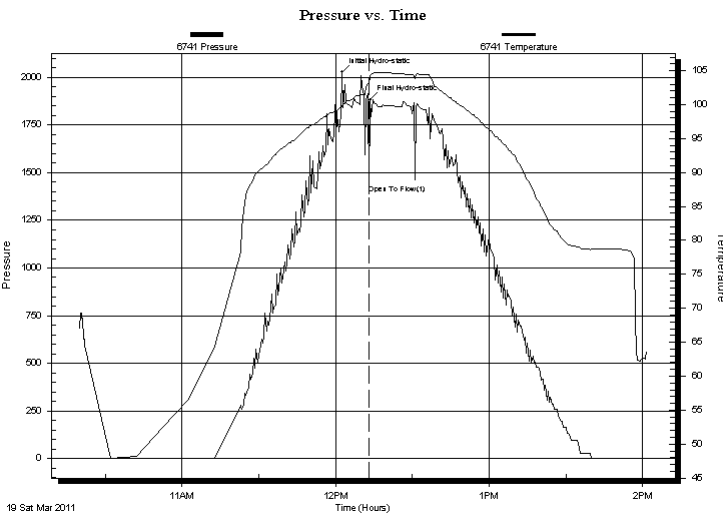
Test Type: Conventional Bottom Hole  
Tester: Chuck Kreuzer Jr.  
Unit No: 36  
Reference Elevations: 2975.00 ft (KB)  
2970.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 6741      Outside**

Press @ Run Depth:                                  psig @      3809.00 ft (KB)  
Start Date: 2011.03.19      End Date: 2011.03.19  
Start Time: 10:20:01      End Time: 14:01:30

Capacity: 8000.00 psig  
Last Calib.: 2011.03.19  
Time On Btm: 2011.03.19 @ 12:02:30  
Time Off Btm: 2011.03.19 @ 12:13:30

TEST COMMENT: \_\_\_\_ Packers didn't hold \_\_\_\_



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2026.64	99.68	Initial Hydro-static
11	1388.01	103.08	Open To Flow (1)
11	1883.04	104.10	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
180.00	mud	0.89

### Gas Rates

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



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# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling  
250 N. Water  
Ste. 300 Wichita KS.  
67202  
ATTN:

**Ema # 1-5**  
**5 2s 29w Decatur Ks.**  
Job Ticket: 040752      **DST#: 2**  
Test Start: 2011.03.19 @ 10:20:00

### Mud and Cushion Information

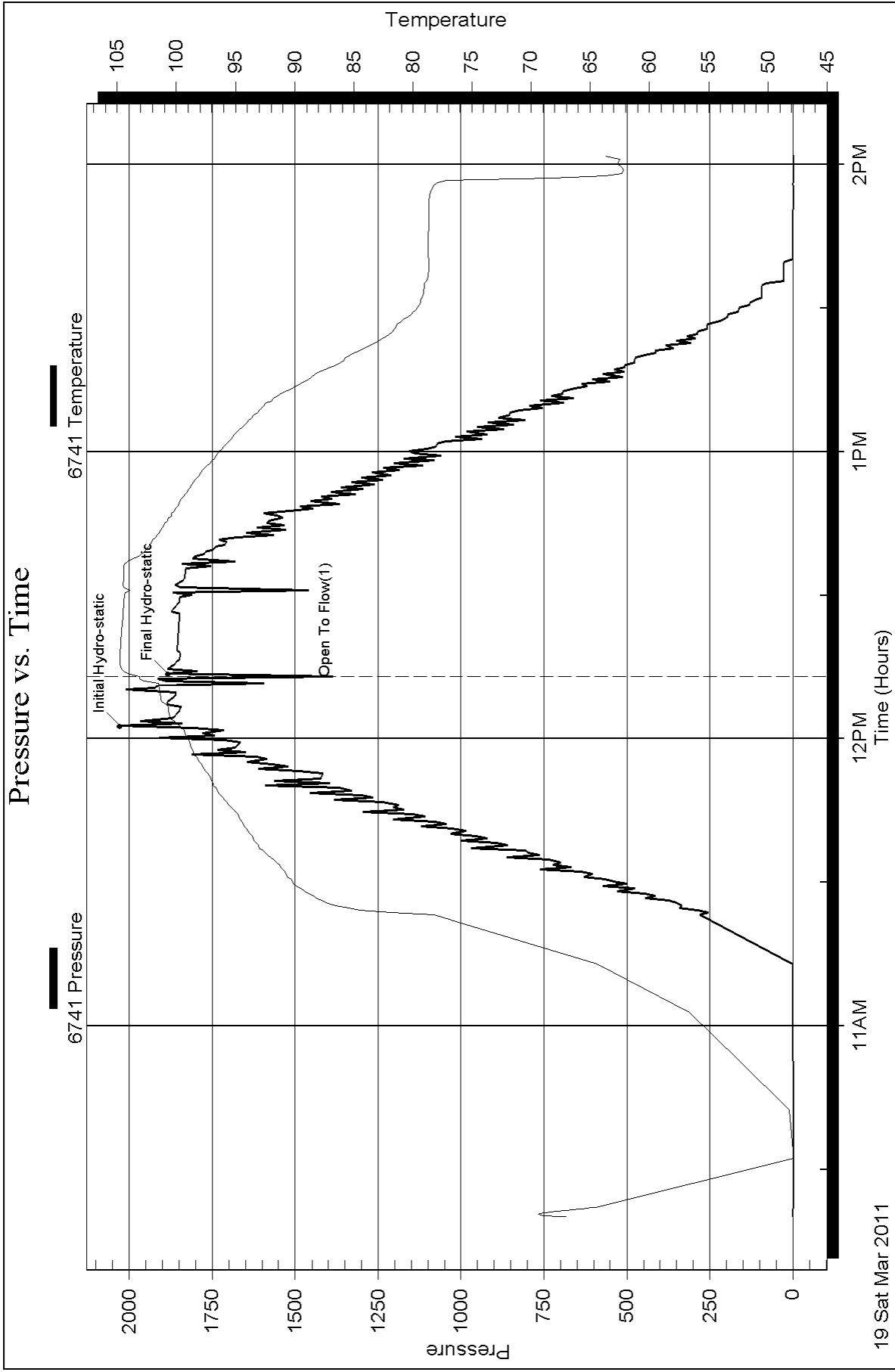
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.60 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1500.00 ppm			
Filter Cake: 2.00 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	mud	0.885

Total Length: 180.00 ft      Total Volume: 0.885 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:





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 250 N. Water  
 Ste. 300 Wichita KS.  
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 ATTN:

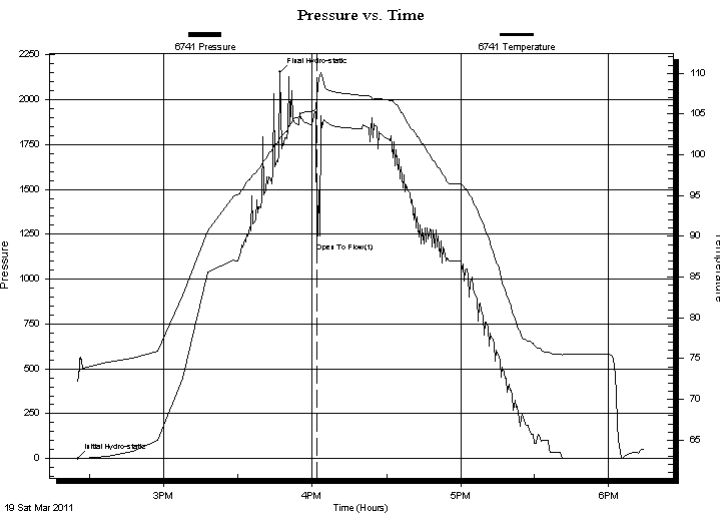
**Ema # 1-5**  
**5 2s 29w Decatur Ks.**  
 Job Ticket: 040753 **DST#: 3**  
 Test Start: 2011.03.19 @ 14:25:00

## GENERAL INFORMATION:

Formation: **LKC-D-G**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:02:00  
 Time Test Ended: 18:14:30  
**Interval: 3804.00 ft (KB) To 3900.00 ft (KB) (TVD)**  
 Total Depth: 3900.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole  
 Tester: Chuck Kreuzer Jr.  
 Unit No: 36  
 Reference Elevations: 2975.00 ft (KB)  
 2970.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6741 Outside**  
 Press @ RunDepth: psig @ 3805.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2011.03.19 End Date: 2011.03.19 Last Calib.: 2011.03.19  
 Start Time: 14:25:01 End Time: 18:14:30 Time On Btm: 2011.03.19 @ 14:25:01  
 Time Off Btm: 2011.03.19 @ 15:47:00

TEST COMMENT: \_\_\_ Packers Didnt hold \_\_\_



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	-1.08	72.24	Initial Hydro-static
82	2152.28	102.14	Final Hydro-static
97	1153.18	107.18	Open To Flow (1)

## Recovery

Length (ft)	Description	Volume (bbl)

## Gas Rates

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



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**FLUID SUMMARY**

Murfin Drilling

**Ema # 1-5**

250 N. Water  
Ste. 300 Wichita KS.  
67202  
ATTN:

**5 2s 29w Decatur Ks.**

Job Ticket: 040753      **DST#: 3**

Test Start: 2011.03.19 @ 14:25:00

## 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: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.60 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1500.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl

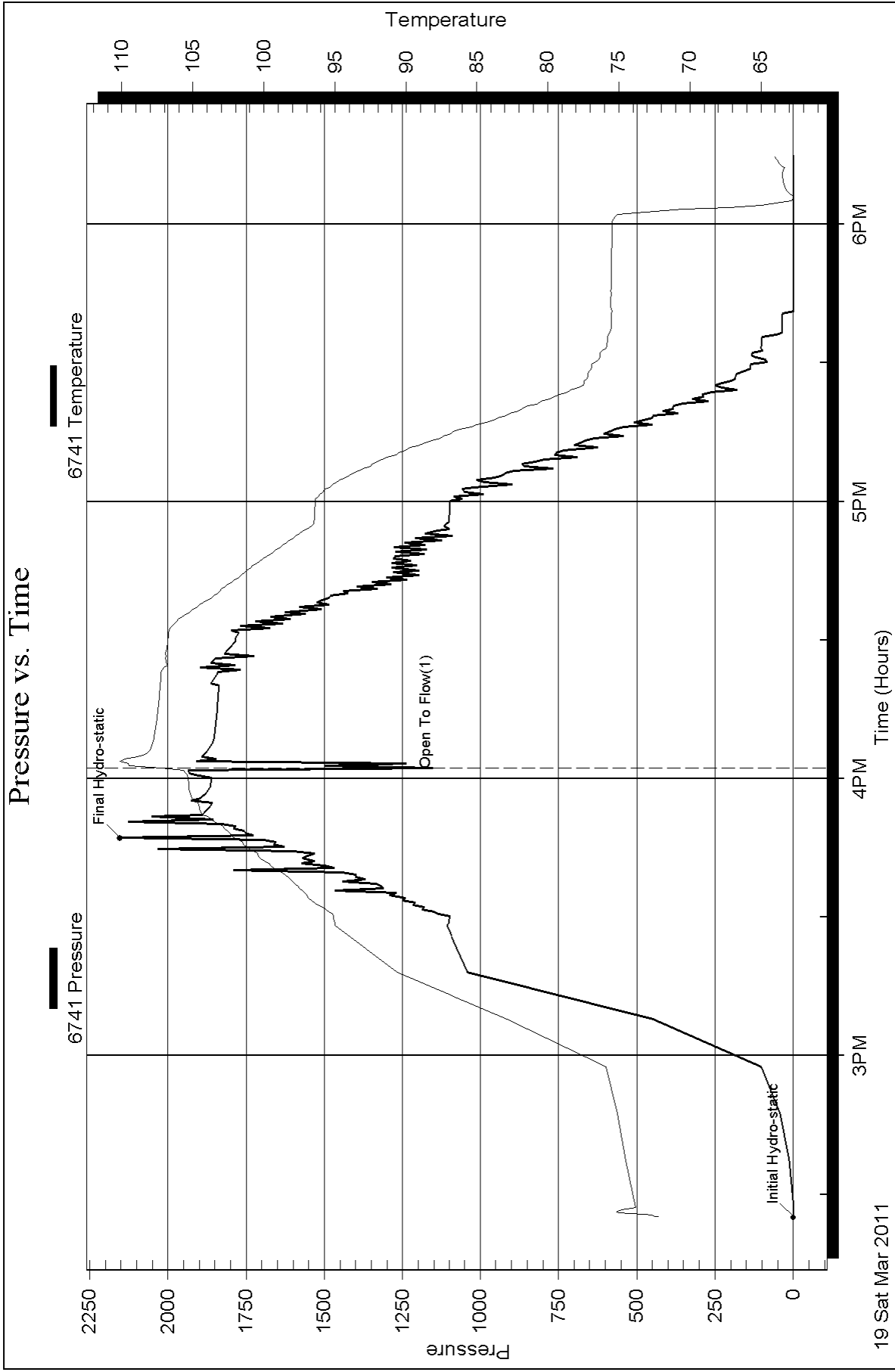
Total Length:                      ft      Total Volume:                      bbl

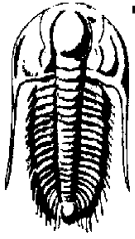
Num Fluid Samples: 0                      Num Gas Bombs:      0                      Serial #:

Laboratory Name:                      Laboratory Location:

Recovery Comments:







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Murfin Drilling  
250 N. Water  
Ste. 300 Wichita KS.  
67202  
ATTN:

**Ema # 1-5**

**5 2s 29w Decatur Ks.**

Job Ticket: 040754      **DST#: 4**

Test Start: 2011.03.20 @ 00:10:00

## GENERAL INFORMATION:

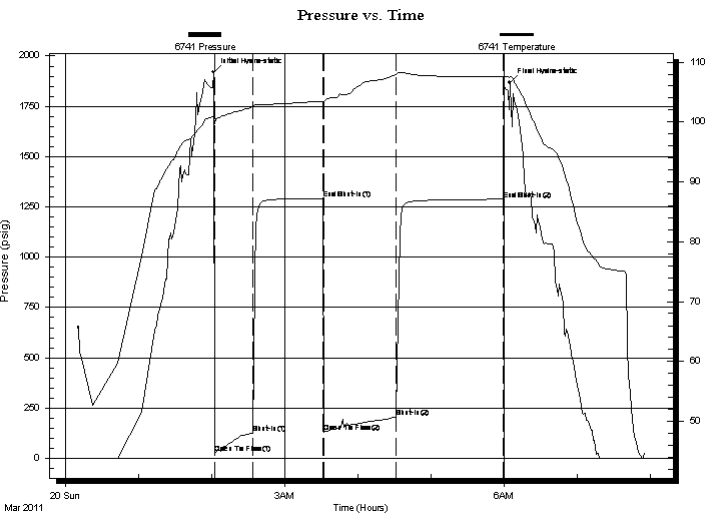
Formation: **LKC-D-G**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole  
 Time Tool Opened: 02:02:30  
 Tester: Chuck Kreuzer Jr.  
 Time Test Ended: 07:56:00  
 Unit No: 36  
 Interval: **3765.00 ft (KB) To 3900.00 ft (KB) (TVD)**  
 Reference Elevations: 2975.00 ft (KB)  
 Total Depth: 3900.00 ft (KB) (TVD)  
 2970.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 KB to GR/CF: 5.00 ft

## Serial #: 6741

**Outside**

Press @RunDepth: 205.74 psig @ 3766.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2011.03.20      End Date: 2011.03.20      Last Calib.: 2011.03.20  
 Start Time: 00:10:01      End Time: 07:56:00      Time On Btm: 2011.03.20 @ 02:01:30  
 Time Off Btm: 2011.03.20 @ 06:05:00

**TEST COMMENT:** IF: Weak blow built to 4 in. over 30 mins.  
 IS: No blow back over 60 mins.  
 FF: Weak blow built to 7 in. over 60 mins.  
 FS: No blow back over 90 mins.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1918.69	100.85	Initial Hydro-static
1	27.06	99.80	Open To Flow (1)
32	126.40	102.57	Shut-In(1)
90	1292.23	103.48	End Shut-In(1)
91	132.07	103.40	Open To Flow (2)
150	205.74	107.93	Shut-In(2)
238	1288.10	107.59	End Shut-In(2)
244	1868.31	107.57	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	mud w ith oil specs	0.30
300.00	mud	3.12

## Gas Rates

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



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Murfin Drilling  
250 N. Water  
Ste. 300 Wichita KS.  
67202  
ATTN:

**Ema # 1-5**  
**5 2s 29w Decatur Ks.**  
Job Ticket: 040754      **DST#: 4**  
Test Start: 2011.03.20 @ 00:10:00

**Mud and Cushion Information**

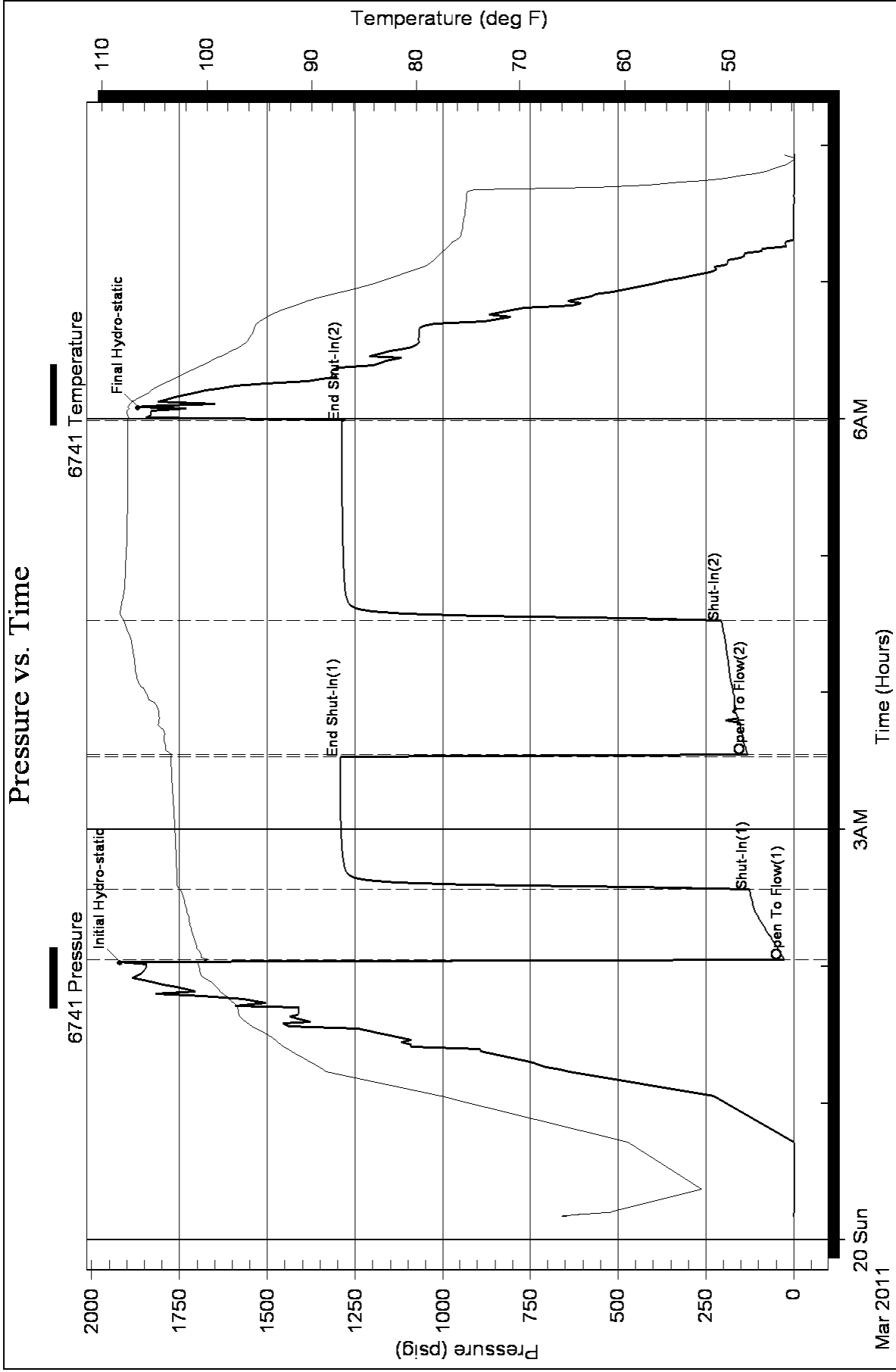
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.60 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1500.00 ppm			
Filter Cake: 2.00 inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
60.00	mud w ith oil specs	0.295
300.00	mud	3.115

Total Length: 360.00 ft      Total Volume: 3.410 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:





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Murfin Drilling  
250 N. Water  
Ste. 300 Wichita KS.  
67202  
ATTN:

**Ema # 1-5**  
**5 2s 29w Decatur Ks.**  
Job Ticket: 040755 **DST#: 5**  
Test Start: 2011.03.20 @ 17:55:00

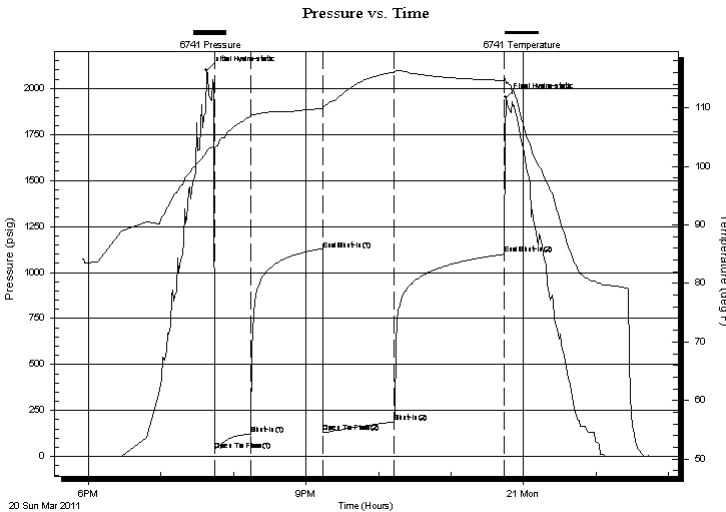
## GENERAL INFORMATION:

Formation: **LKC-H-J**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 19:44:00  
Time Test Ended: 01:44:30  
Interval: **3898.00 ft (KB) To 3972.00 ft (KB) (TVD)**  
Total Depth: 3972.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole  
Tester: Chuck Kreuzer Jr.  
Unit No: 36  
Reference Elevations: 2975.00 ft (KB)  
2970.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 6741 Outside**  
Press @ Run Depth: 188.50 psig @ 3899.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2011.03.20 End Date: 2011.03.21 Last Calib.: 2011.03.21  
Start Time: 17:55:01 End Time: 01:44:30 Time On Btm: 2011.03.20 @ 19:37:30  
Time Off Btm: 2011.03.20 @ 23:45:30

**TEST COMMENT:** IF: Weak blow , Built to 6 in. over 30 mins.  
IS: No blow back over 60 mins.  
FF: Weak blow after 15 mins. Built to 6 in. over 60 mins.  
FS: No blow back over 90 mins.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2098.01	102.60	Initial Hydro-static
7	31.16	103.09	Open To Flow (1)
37	121.83	108.57	Shut-In(1)
96	1121.25	109.94	End Shut-In(1)
97	129.76	109.92	Open To Flow (2)
156	188.50	116.13	Shut-In(2)
247	1098.74	114.68	End Shut-In(2)
248	1950.90	114.08	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	mcw -30%m70%w	0.89
62.00	w cm-30%w 70%m	0.87
62.00	mud-100%m	0.87
62.00	mud w ith 2ft. free oil	0.87

## Gas Rates

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



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**FLUID SUMMARY**

Murfin Drilling  
250 N. Water  
Ste. 300 Wichita KS.  
67202  
ATTN:

**Ema # 1-5**  
**5 2s 29w Decatur Ks.**  
Job Ticket: 040755      **DST#: 5**  
Test Start: 2011.03.20 @ 17:55:00

## 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:	21000 ppm
Viscosity: 72.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.20 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.40 ohm.m	Gas Cushion Pressure: psig		
Salinity: 1500.00 ppm			
Filter Cake: 2.00 inches			

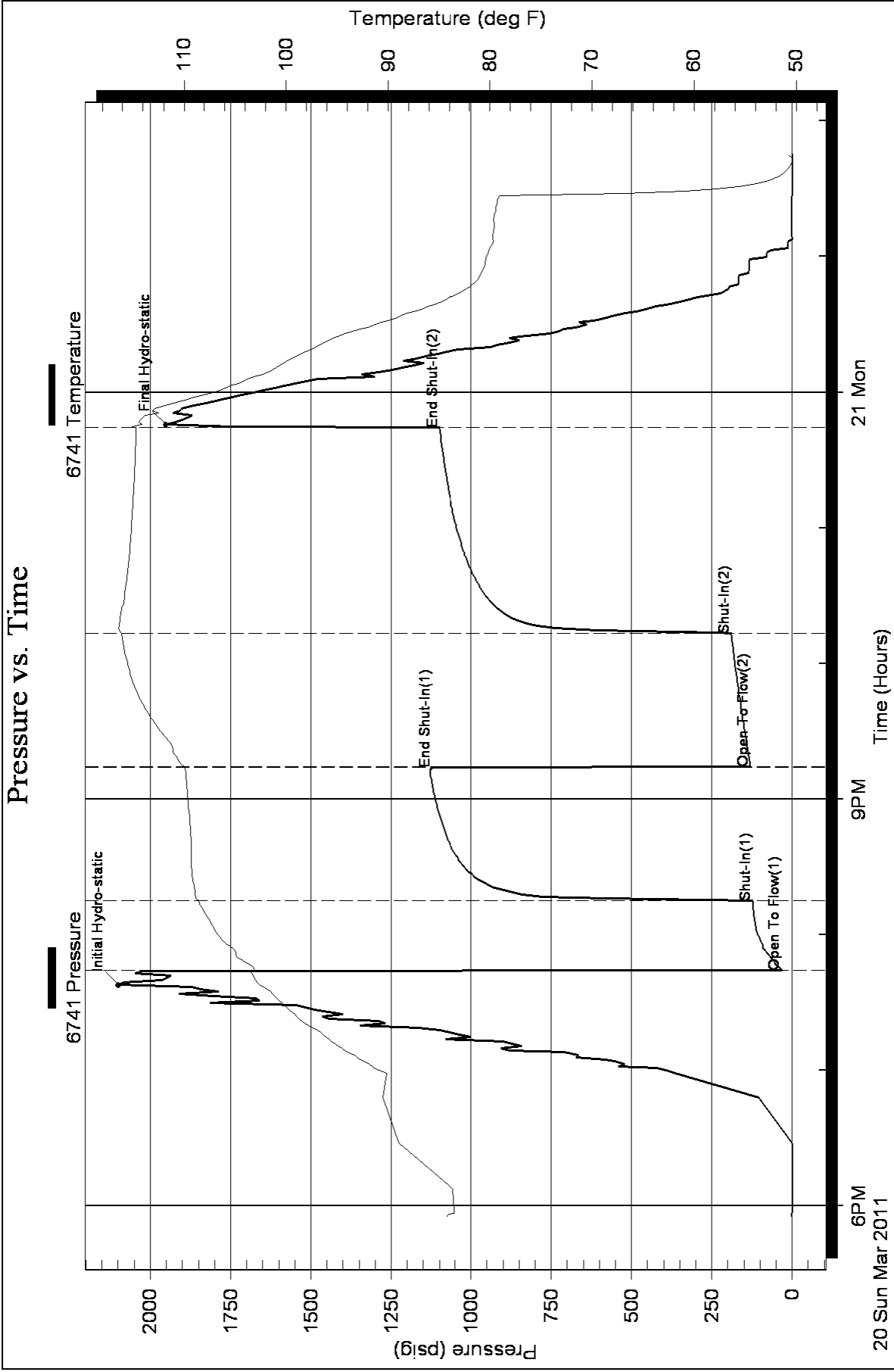
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	mcw -30%m70%w	0.885
62.00	w cm-30%w 70%m	0.870
62.00	mud-100%m	0.870
62.00	mud w ith 2ft. free oil	0.870

Total Length: 366.00 ft      Total Volume: 3.495 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

### Pressure vs. Time





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250 N. Water  
Ste. 300 Wichita KS.  
67202  
ATTN:

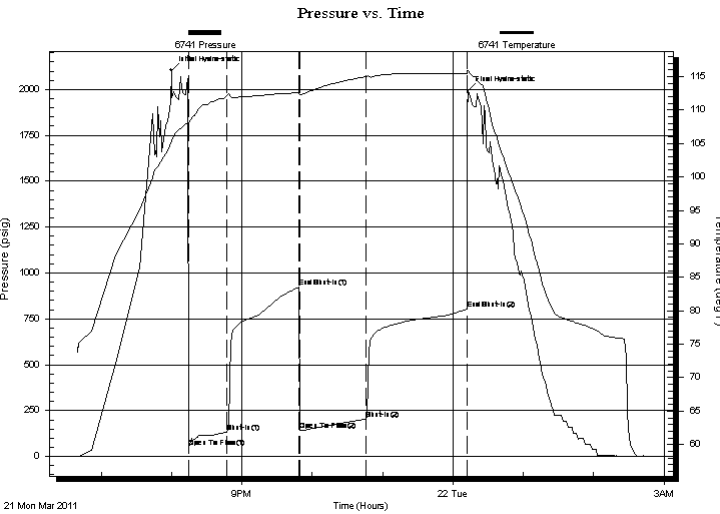
**Ema # 1-5**  
**5 2s 29w Decatur Ks.**  
Job Ticket: 040756 **DST#: 6**  
Test Start: 2011.03.21 @ 18:40:00

## GENERAL INFORMATION:

Formation: **LKC-K**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 20:14:30  
Time Test Ended: 02:44:00  
Test Type: Conventional Bottom Hole  
Tester: Chuck Kreuzer Jr.  
Unit No: 36  
Interval: **3968.00 ft (KB) To 4080.00 ft (KB) (TVD)**  
Reference Elevations: 2975.00 ft (KB)  
Total Depth: 4080.00 ft (KB) (TVD) 2970.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

**Serial #: 6741 Outside**  
Press @ Run Depth: 203.06 psig @ 3974.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2011.03.21 End Date: 2011.03.22 Last Calib.: 2011.03.22  
Start Time: 18:40:01 End Time: 02:44:00 Time On Btm: 2011.03.21 @ 20:00:00  
Time Off Btm: 2011.03.22 @ 00:13:00

**TEST COMMENT:** IF: Fair blow , Built to B.O.B in 19 mins.  
IS: Weak blow back after 20 mins. Died after 30 mins.  
FF: Fair blow , Built to B.O.B in 22 mins.  
FS: Weak blow back after 5 mins. Built to 1/4 in. over 30



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2103.99	105.30	Initial Hydro-static
15	50.25	108.07	Open To Flow (1)
48	134.43	112.20	Shut-In(1)
109	923.35	112.57	End Shut-In(1)
110	144.00	112.22	Open To Flow (2)
166	203.06	114.99	Shut-In(2)
252	802.83	115.46	End Shut-In(2)
253	1991.34	115.88	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	gsocw m-10%g10%o30%w 50%m	0.59
184.00	ghocw m-10%g38%o2%w 50%m	2.03
154.00	go-15%g85%o	2.16
0.00	330-gas in pipe	0.00

## Gas Rates

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





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# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling  
250 N. Water  
Ste. 300 Wichita KS.  
67202  
ATTN:

**Ema # 1-5**  
**5 2s 29w Decatur Ks.**  
Job Ticket: 040756      **DST#: 6**  
Test Start: 2011.03.21 @ 18:40:00

### 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: 10.49 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1500.00 ppm			
Filter Cake: 2.00 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	gsocw m-10%g10%o30%w 50%m	0.590
184.00	ghocw m-10%g38%o2%w 50%m	2.034
154.00	go-15%g85%o	2.160
0.00	330-gas in pipe	0.000

Total Length: 458.00 ft      Total Volume: 4.784 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

