



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

FIML Natural Resources

**Griffith #14A**

410 177th Street  
Suite 900  
Denver, CO 80202  
ATTN: Gary Doke/ Jim Musgrote 900

**S30-18-31 Scott, KS**

Job Ticket: 43146 **DST#: 1**

Test Start: 2011.06.22 @ 09:19:00

## GENERAL INFORMATION:

Formation: **LKC 'I'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:27:00

Time Test Ended: 17:02:39

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

**Interval: 4155.00 ft (KB) To 4185.00 ft (KB) (TVD)**

Reference Elevations: 2981.00 ft (KB)

Total Depth: 4185.00 ft (KB) (TVD)

2969.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

**Serial #: 8018**

**Inside**

Press @ Run Depth: 172.33 psig @ 4158.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.06.22 End Date: 2011.06.22

Last Calib.: 2011.06.22

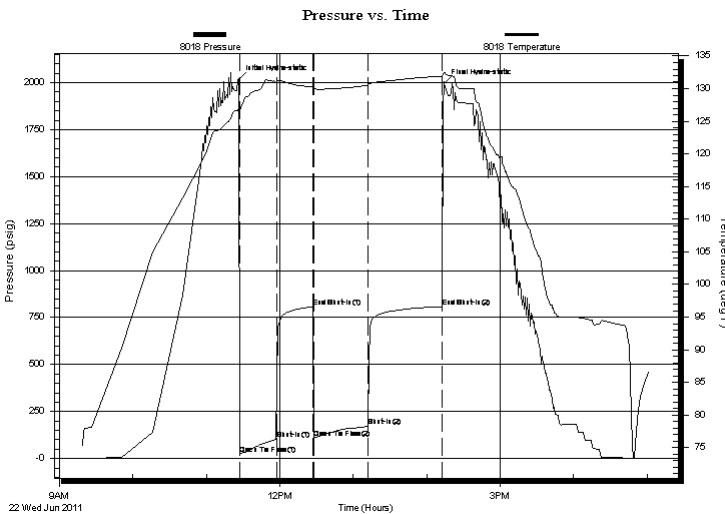
Start Time: 09:19:02 End Time: 17:02:40

Time On Btm: 2011.06.22 @ 11:26:50

Time Off Btm: 2011.06.22 @ 14:14:30

**TEST COMMENT:** IF: B.O.B. @ 26 min.  
IS: 1 1/4" Return, died @ 24 min.  
FF: B.O.B. @ 36 min.  
FS: 2" Return died @ 40 min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2015.77	126.94	Initial Hydro-static
1	22.00	126.06	Open To Flow (1)
31	102.79	130.96	Shut-In(1)
61	807.58	130.29	End Shut-In(1)
61	107.36	129.83	Open To Flow (2)
106	172.33	130.52	Shut-In(2)
166	808.44	131.92	End Shut-In(2)
168	1995.91	132.49	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
186.00	GOCM 15g 10o 75m	0.91
226.00	GO 60g 40o	1.50
0.00	240 Feet GIP	0.00

## Gas Rates

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



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**S30-18-31 Scott, KS**

Job Ticket: 43146

**DST#: 1**

ATTN: Gary Doke/ Jim Musgrote 900

Test Start: 2011.06.22 @ 09:19:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
186.00	GOCM 15g 10o 75m	0.915
226.00	GO 60g 40o	1.500
0.00	240 Feet GIP	0.000

Total Length: 412.00 ft      Total Volume: 2.415 bbl

Num Fluid Samples: 0

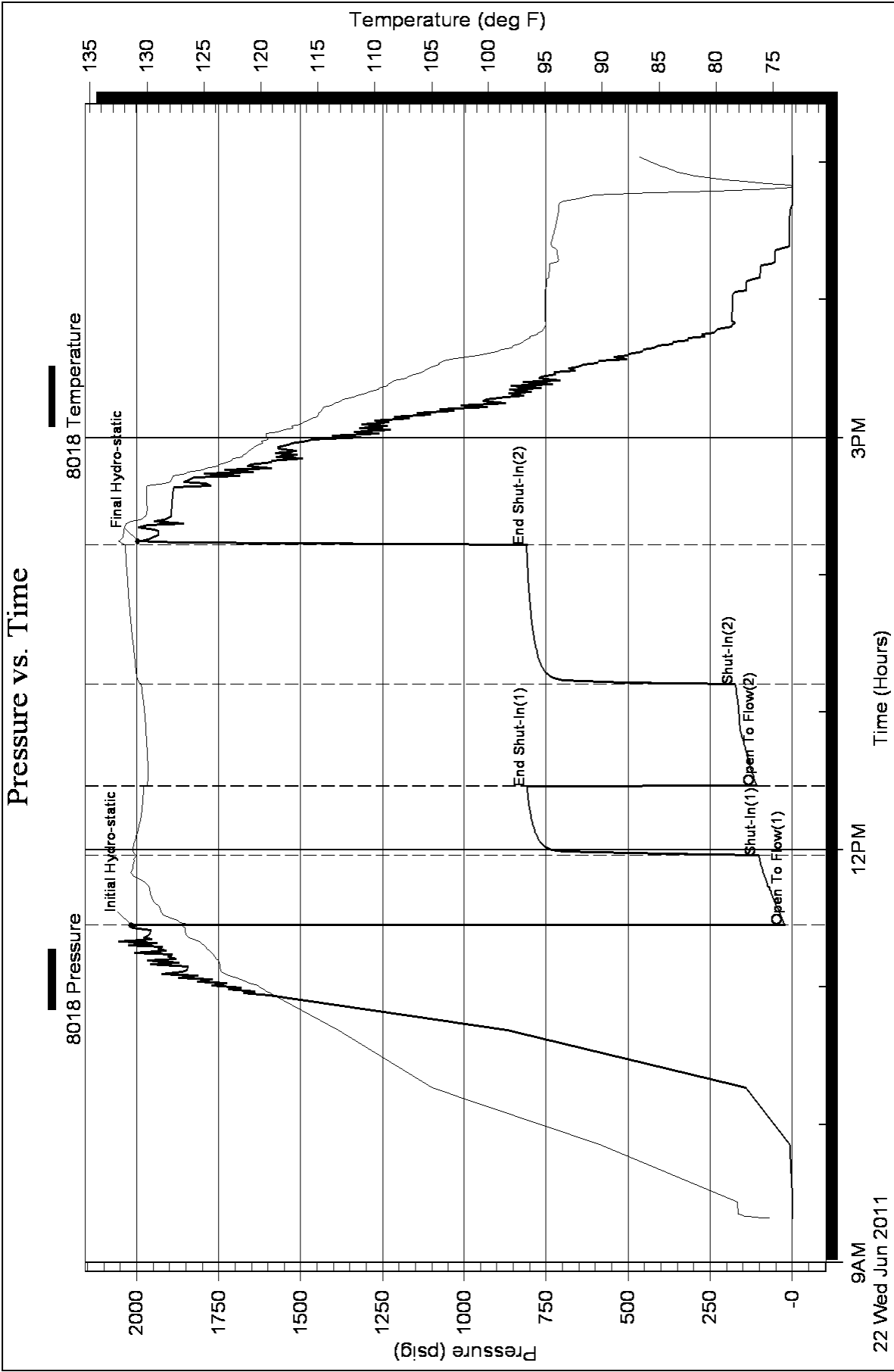
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API:32 @ 80 Degrees F = 30.





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**Griffith #14A**

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ATTN: Gary Doke/ Jim Musgrove 900

**S30-18-31 Scott, KS**

Job Ticket: 43147      **DST#: 2**  
Test Start: 2011.06.23 @ 05:48:00

## GENERAL INFORMATION:

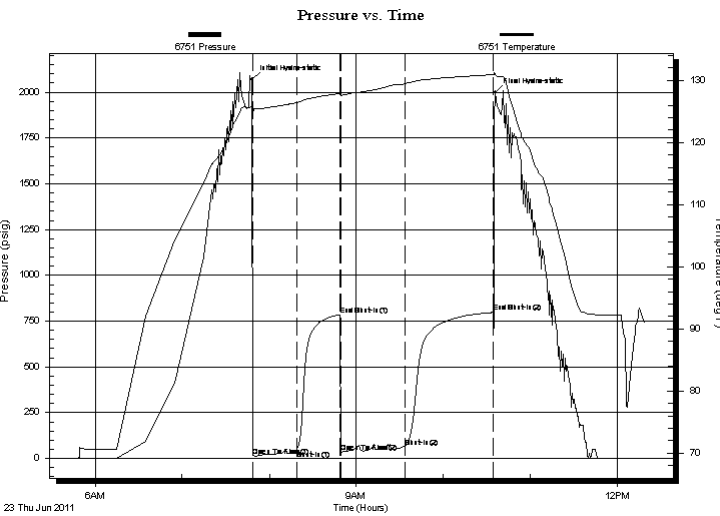
Formation: **LKC 'J'**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:48:30  
 Time Test Ended: 12:18:39  
 Interval: **4192.00 ft (KB) To 4240.00 ft (KB) (TVD)**  
 Total Depth: 4240.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole  
 Tester: Chuck Smith  
 Unit No: 37  
 Reference Elevations: 2981.00 ft (KB)  
 2969.00 ft (CF)  
 KB to GR/CF: 12.00 ft

## Serial #: 6751

**Outside**

Press @ Run Depth: 58.97 psig @ 4195.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2011.06.23      End Date: 2011.06.23      Last Calib.: 2011.06.23  
 Start Time: 05:48:02      End Time: 12:18:40      Time On Btm: 2011.06.23 @ 07:48:20  
 Time Off Btm: 2011.06.23 @ 10:35:50

**TEST COMMENT:** 3" Building blow .  
 No return.  
 1" Blow .  
 No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2070.45	125.91	Initial Hydro-static
1	14.09	124.67	Open To Flow (1)
31	43.42	126.39	Shut-In(1)
60	785.49	127.85	End Shut-In(1)
61	35.18	127.51	Open To Flow (2)
106	58.97	129.47	Shut-In(2)
166	797.40	130.91	End Shut-In(2)
168	1999.64	131.09	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM 10o 90m	0.30
45.00	O 100o	0.22

## Gas Rates

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



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**S30-18-31 Scott, KS**

ATTN: Gary Doke/ Jim Musgrove 900

Job Ticket: 43147

**DST#: 2**

Test Start: 2011.06.23 @ 05:48:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 70.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	OCM 10o 90m	0.295
45.00	O 100o	0.221

Total Length: 105.00 ft      Total Volume: 0.516 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

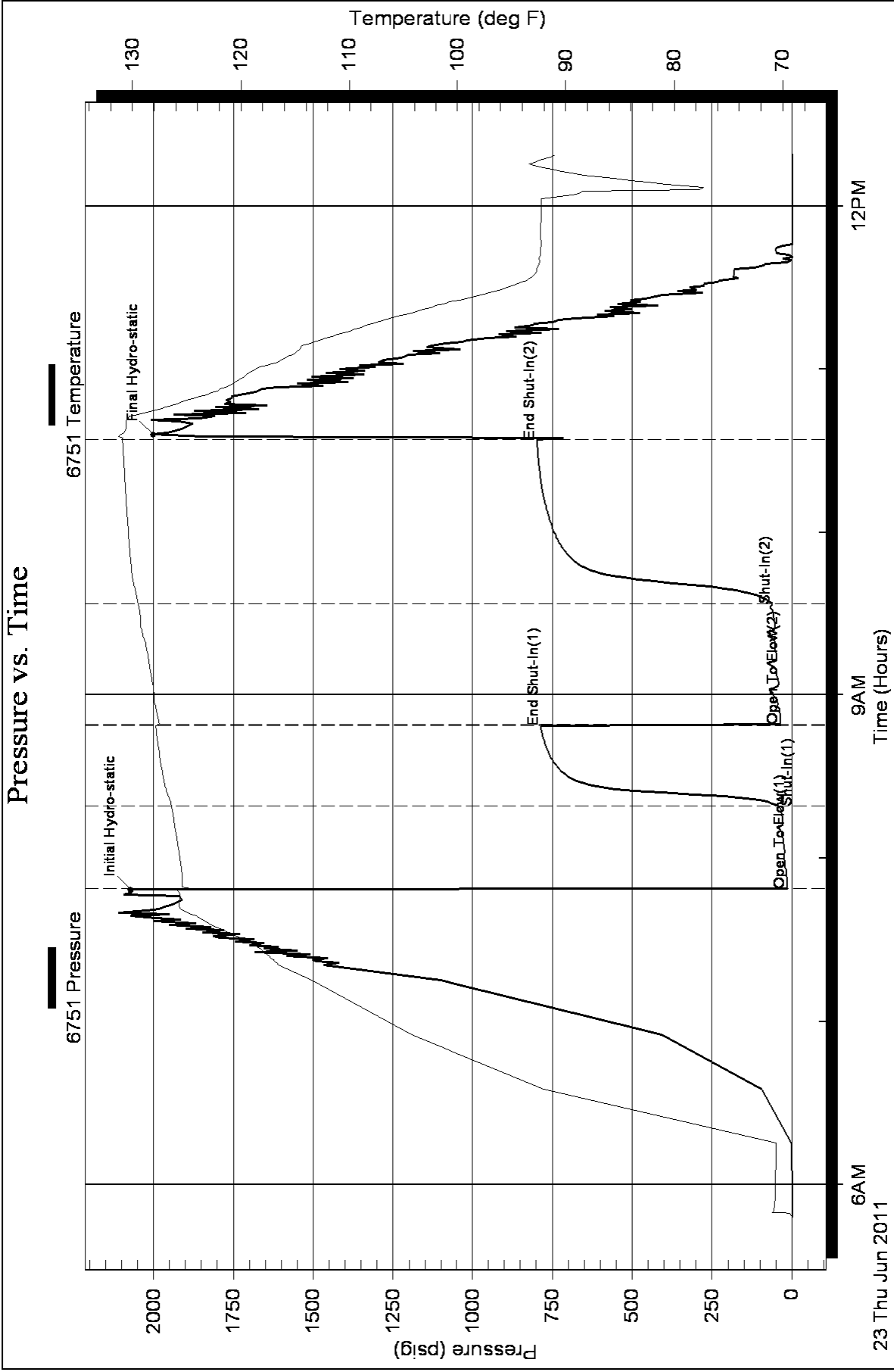
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API:35 @ 90 Degrees F = 32.

### Pressure vs. Time





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410 177th Street  
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ATTN: Gary Doke/ Jim Musgrove 900

**S30-18-31 Scott, KS**

Job Ticket: 43148 **DST#: 3**

Test Start: 2011.06.24 @ 03:34:00

## GENERAL INFORMATION:

Formation: **LKC 'K-L'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:03:40

Time Test Ended: 09:45:30

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

**Interval: 4238.00 ft (KB) To 4320.00 ft (KB) (TVD)**

Reference Elevations: 2981.00 ft (KB)

Total Depth: 4320.00 ft (KB) (TVD)

2969.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

**Serial #: 6751 Outside**

Press @ Run Depth: 26.17 psig @ 4241.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.06.24 End Date: 2011.06.24

Last Calib.: 2011.06.24

Start Time: 03:34:02 End Time: 09:45:30

Time On Btm: 2011.06.24 @ 06:02:10

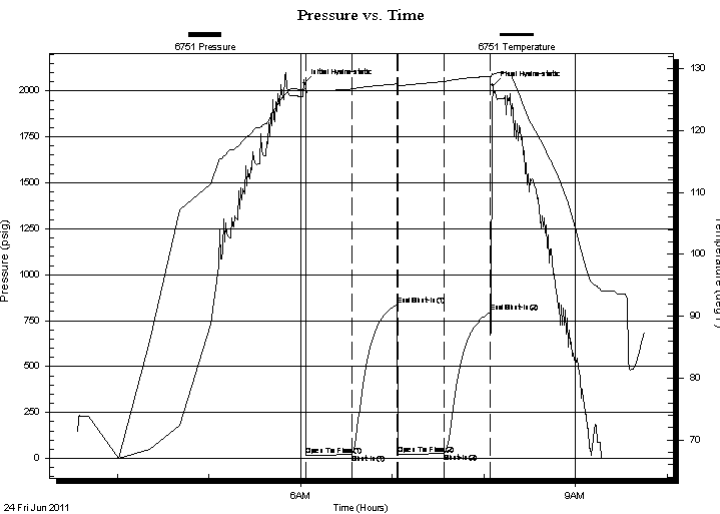
Time Off Btm: 2011.06.24 @ 08:05:39

**TEST COMMENT:** IF: Surface blow died @ 6 min.

IS: No return.

FF: No blow.

FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2042.05	126.64	Initial Hydro-static
2	15.18	125.83	Open To Flow (1)
32	20.52	126.71	Shut-In(1)
62	836.78	127.55	End Shut-In(1)
62	23.16	126.97	Open To Flow (2)
92	26.17	127.92	Shut-In(2)
122	796.72	128.79	End Shut-In(2)
124	2030.95	129.13	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	OSM 100m	0.15

## Gas Rates

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



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**S30-18-31 Scott, KS**

Job Ticket: 43148

**DST#: 3**

ATTN: Gary Doke/ Jim Musgrote 900

Test Start: 2011.06.24 @ 03:34:00

## 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: 52.00 sec/qt

Cushion Volume: bbl

Water Loss: 7.20 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 3200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	OSM 100m	0.148

Total Length: 30.00 ft      Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

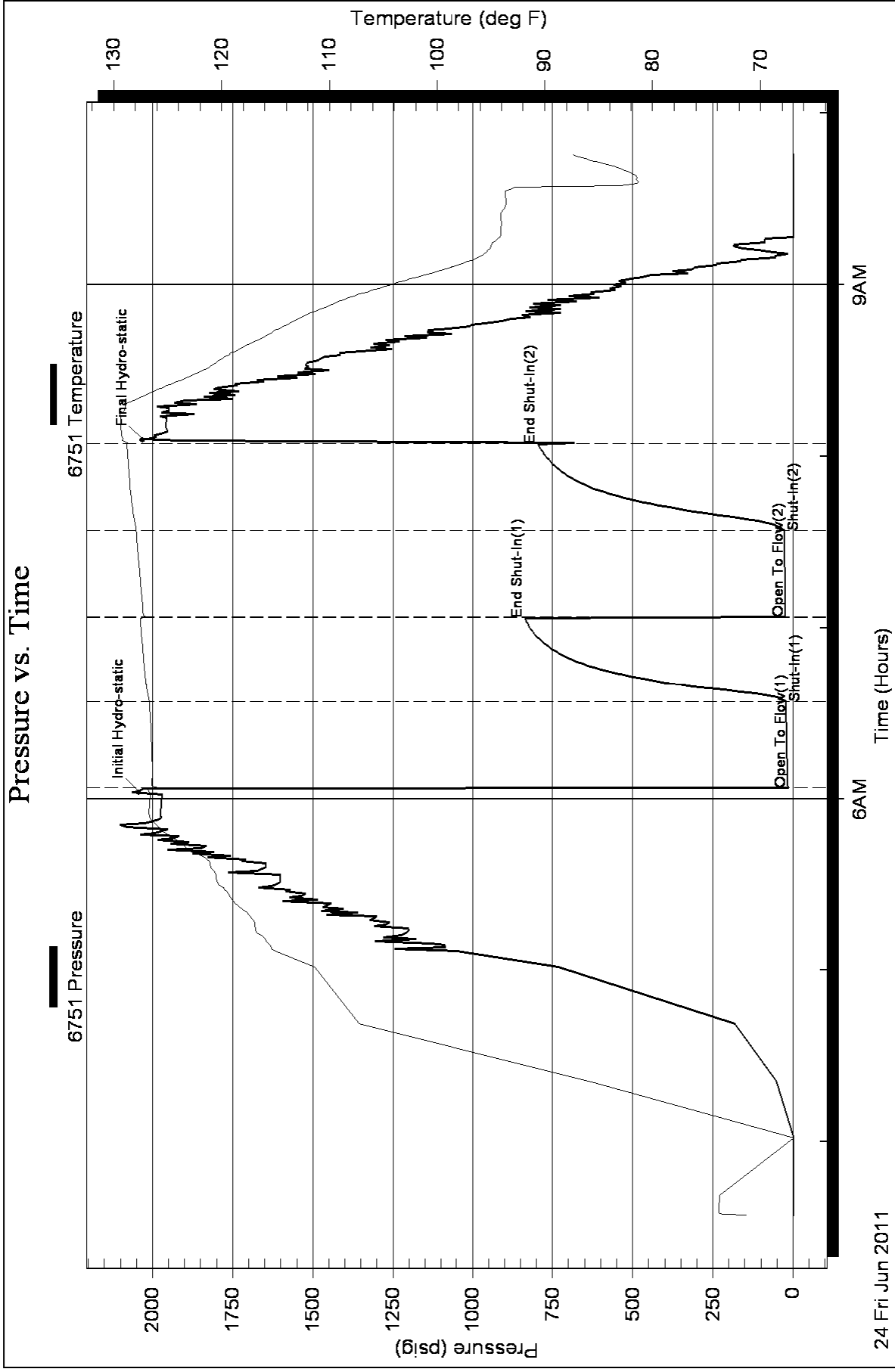
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







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**S30-18-31 Scott, KS**

Job Ticket: 43149 **DST#: 4**

Test Start: 2011.06.24 @ 23:15:00

## GENERAL INFORMATION:

Formation: **Marmaton, Altamont**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:46:40

Time Test Ended: 09:11:00

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

**Interval: 4305.00 ft (KB) To 4390.00 ft (KB) (TVD)**

Reference Elevations: 2981.00 ft (KB)

Total Depth: 4390.00 ft (KB) (TVD)

2969.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

**Serial #: 8018 Inside**

Press @ Run Depth: 862.36 psig @ 4308.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.06.24

End Date:

2011.06.25

Last Calib.: 2011.06.25

Start Time: 23:15:02

End Time:

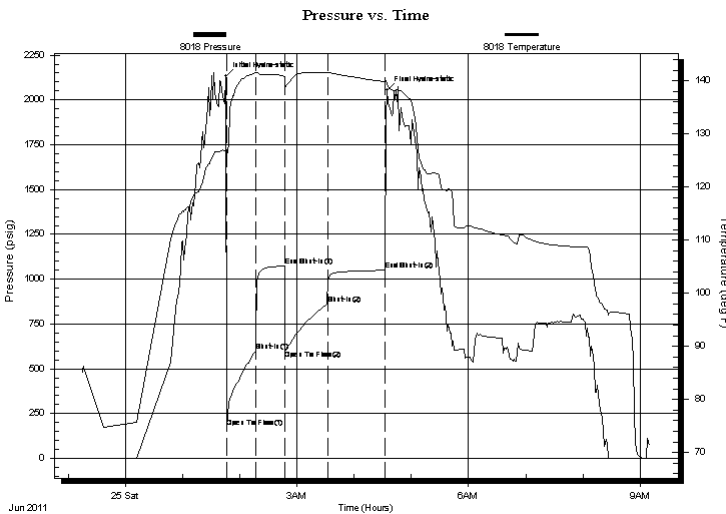
09:11:00

Time On Btm: 2011.06.25 @ 01:45:30

Time Off Btm: 2011.06.25 @ 04:34:39

**TEST COMMENT:** IF: B.O.B. @ 2 1/2 min.  
IS: No return.  
FF: B.O.B. @ 3 1/2 min.  
FS: 5" Return died @ 40 min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2132.38	126.88	Initial Hydro-static
2	172.12	125.87	Open To Flow (1)
32	601.14	141.44	Shut-In(1)
62	1073.19	140.78	End Shut-In(1)
62	603.91	140.14	Open To Flow (2)
107	862.36	141.48	Shut-In(2)
167	1049.81	139.83	End Shut-In(2)
170	2053.72	139.58	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: .240 @ 71 Degrees F = 28000 PPM	0.00
93.00	OCMW 10o 30m 60w	0.46
1520.00	GMWCO 30g 5m 15w 50o Emulsified	19.52
380.00	GWCO 50g 20w 30o Emulsified	5.56
60.00	GO 70g 30o Emulsion	0.88

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**S30-18-31 Scott, KS**

ATTN: Gary Doke/ Jim Musgrote 900

Job Ticket: 43149

**DST#: 4**

Test Start: 2011.06.24 @ 23:15:00

## 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:

28000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.20 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
0.00	RW: .240 @ 71 Degrees F = 28000 PPM	0.000
93.00	OCMW 10o 30m 60w	0.457
1520.00	GMWCO 30g 5m 15w 50o Emulsified	19.521
380.00	GWCO 50g 20w 30o Emulsified	5.557
60.00	GO 70g 30o Emulsion	0.877

Total Length: 2053.00 ft

Total Volume: 26.412 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

