



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**Wickinson #1-9**

250 N. Water  
Ste. 300  
Wichita, KS 67202  
ATTN: Kevin Davis

**9 1 35**

Job Ticket: 35796

**DST#: 1**

Test Start: 2009.02.21 @ 12:15:00

## GENERAL INFORMATION:

Formation: **LKC-A-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:09:30

Time Test Ended: 18:21:00

Test Type: Conventional Bottom Hole

Tester: Chuck Kreuzer

Unit No: 30

**Interval: 4080.00 ft (KB) To 4151.00 ft (KB) (TVD)**

Reference Elevations: 3142.00 ft (KB)

Total Depth: 4151.00 ft (KB) (TVD)

3137.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8166**

**Inside**

Press@RunDepth: 80.51 psig @ 4083.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2009.02.21

End Date:

2009.02.21

Last Calib.:

2009.02.21

Start Time:

12:15:05

End Time:

18:20:59

Time On Btm:

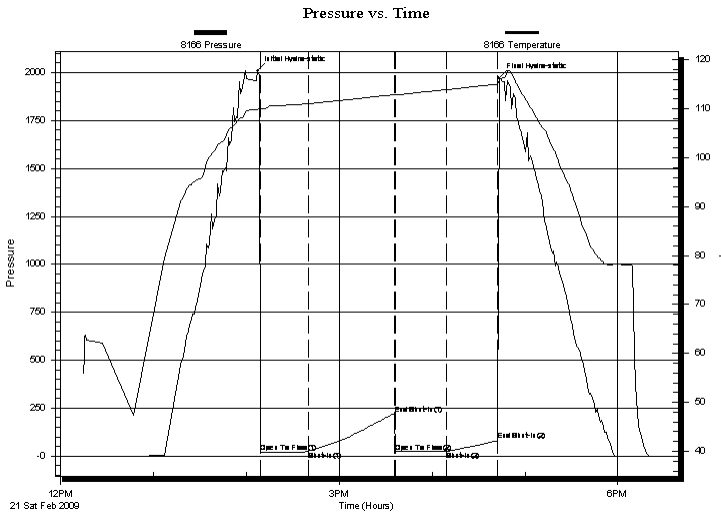
2009.02.21 @ 14:07:30

Time Off Btm:

2009.02.21 @ 16:43:30

**TEST COMMENT:** IF: Weak blow built to 1 1/2 over 30 mins.  
IS: No blow back.  
FF: Weak blow, surface died 15 mins. into final open  
FSI: No blow back.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2009.45	109.83	Initial Hydro-static
2	17.88	109.86	Open To Flow (1)
33	25.77	111.05	Shut-In(1)
88	219.39	112.90	End Shut-In(1)
89	21.55	112.85	Open To Flow (2)
122	24.17	113.92	Shut-In(2)
155	80.51	115.05	End Shut-In(2)
156	1971.43	115.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	mco-80% m20%	0.05
3.00	oil	0.01

## Gas Rates

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



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**9 1 35**

Job Ticket: 35796

**DST#: 1**

Test Start: 2009.02.21 @ 12:15:00

## 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:

ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
10.00	mco-80% m20%o	0.049
3.00	oil	0.015

Total Length: 13.00 ft      Total Volume: 0.064 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

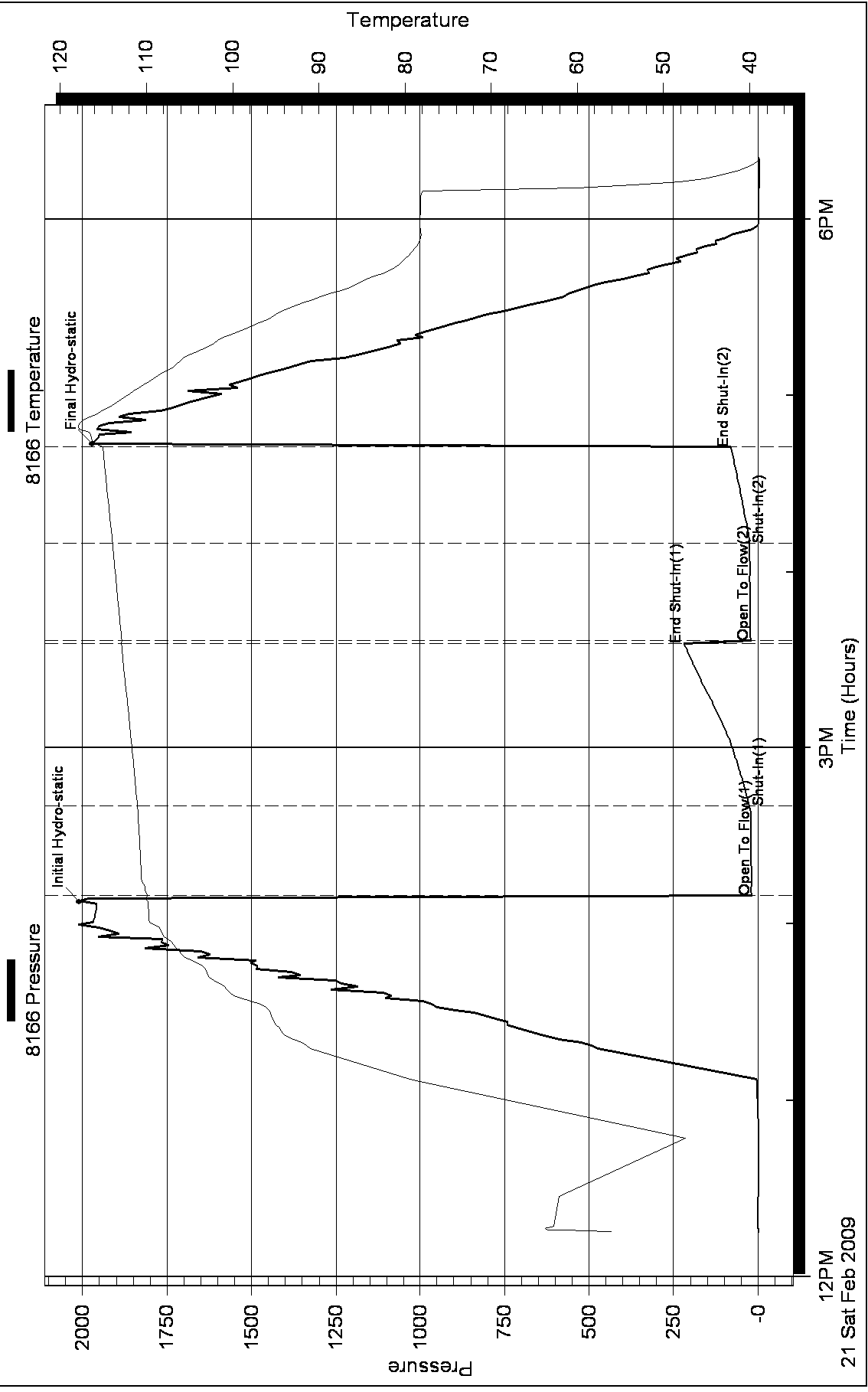
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time





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**Wickinson #1-9**

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Ste. 300  
Wichita, KS 67202  
ATTN: Kevin Davis

**9 1 35**

Job Ticket: 35797

**DST#: 2**

Test Start: 2009.02.22 @ 02:50:00

## GENERAL INFORMATION:

Formation: **LKC-E-G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:55:00

Time Test Ended: 11:41:30

Test Type: Conventional Bottom Hole

Tester: Chuck Kreuzer

Unit No: 30

**Interval: 4150.00 ft (KB) To 4213.00 ft (KB) (TVD)**

Reference Elevations: 3142.00 ft (KB)

Total Depth: 4151.00 ft (KB) (TVD)

3137.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8166**

**Inside**

Press@RunDepth: 306.15 psig @ 4153.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2009.02.22

End Date:

2009.02.22

Last Calib.:

2009.02.22

Start Time:

02:50:05

End Time:

11:41:30

Time On Btm:

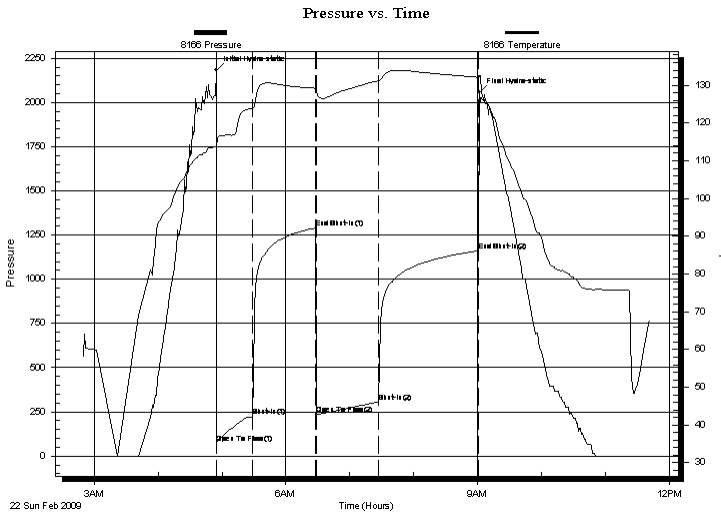
2009.02.22 @ 04:54:30

Time Off Btm:

2009.02.22 @ 09:02:00

**TEST COMMENT:** IF: Strong blow, B.O.B in 5 mins.  
IS: Bled off, fair blow 7 in. over 60 mins.  
FF: Bled off, strong blow B.O.B in 7 mins.  
FS: Bled off, fair blow built to 6 in. over 90 mins.

## PRESSURE SUMMARY



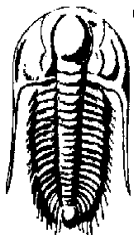
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2181.80	113.77	Initial Hydro-static
1	75.06	114.12	Open To Flow (1)
34	223.67	123.97	Shut-In(1)
93	1289.99	129.24	End Shut-In(1)
94	235.92	128.45	Open To Flow (2)
152	306.15	131.17	Shut-In(2)
246	1160.97	132.14	End Shut-In(2)
248	2056.76	132.55	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
186.00	gmco-20%g30%m50%o	0.91
620.00	go-20%g80%o	5.42
763.00	gas in pipe	10.70

## Gas Rates

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



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Ste. 300  
Wichita, KS 67202  
ATTN: Kevin Davis

**9 1 35**

Job Ticket: 35797

**DST#: 2**

Test Start: 2009.02.22 @ 02:50:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 46.00 sec/qt  
Water Loss: 6.38 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 700.00 ppm  
Filter Cake: 2.00 inches

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

Oil API: 31 deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	gmco-20%g30%m50%o	0.915
620.00	go-20%g80%o	5.418
763.00	gas in pipe	10.703

Total Length: 1569.00 ft      Total Volume: 17.036 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

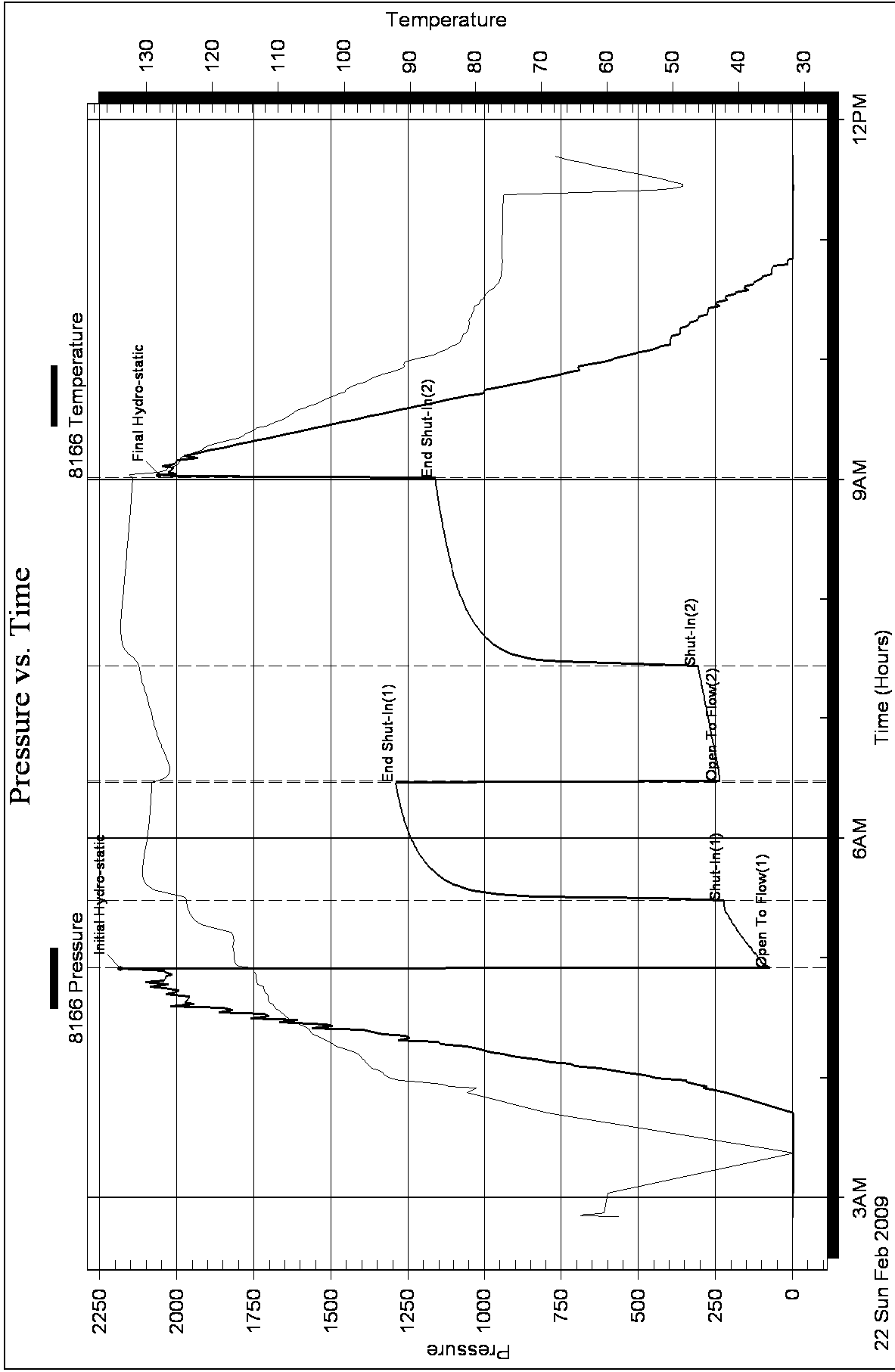
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time





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ATTN: Kevin Davis

**9 1 35**

Job Ticket: 35798

**DST#: 3**

Test Start: 2009.02.22 @ 23:20:00

## GENERAL INFORMATION:

Formation: **LKC-H-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:13:00

Time Test Ended: 07:18:00

Test Type: Conventional Bottom Hole

Tester: Chuck Kreuzer

Unit No: 30

**Interval: 4218.00 ft (KB) To 4300.00 ft (KB) (TVD)**

Reference Elevations: 3142.00 ft (KB)

Total Depth: 4151.00 ft (KB) (TVD)

3137.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8166**

**Inside**

Press@RunDepth: 56.13 psig @ 4221.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2009.02.22

End Date:

2009.02.23

Last Calib.:

2009.02.23

Start Time:

23:20:05

End Time:

07:17:59

Time On Btm:

2009.02.23 @ 01:12:00

Time Off Btm:

2009.02.23 @ 05:16:29

## TEST COMMENT:

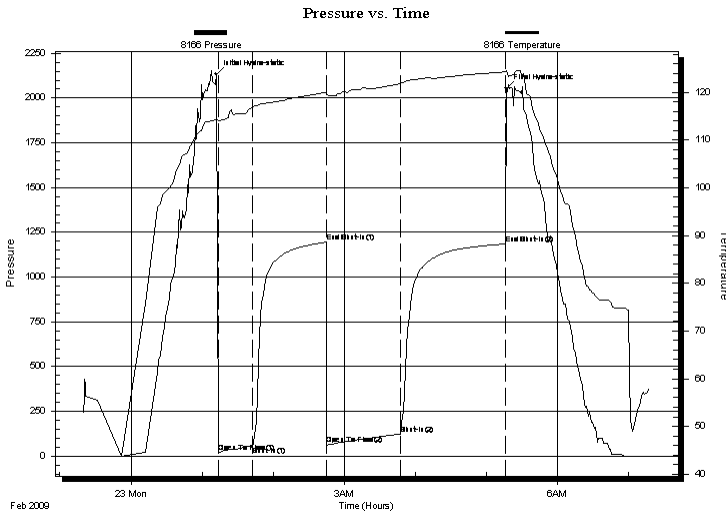
IF: Weak surface blow, built to 3 in. over 30 mins.

IS: Bled off, Weak surface blow after 15 mins. Never built passed surface.

FF: Weak blow built to 3 in. over 50 mins.

IS: Bled off, Weak surfac

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2132.86	114.24	Initial Hydro-static
2	20.65	114.01	Open To Flow (1)
31	56.13	116.98	Shut-In(1)
93	1194.81	120.02	End Shut-In(1)
93	66.33	119.48	Open To Flow (2)
155	123.94	121.95	Shut-In(2)
244	1185.52	124.29	End Shut-In(2)
245	2054.74	124.59	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
124.00	ghocm-10%g40%o50%m	0.61
62.00	gmco-10%g60%o30%m	0.30
62.00	go-10%g90%o	0.30

## Gas Rates

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



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Test Start: 2009.02.22 @ 23:20:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	ghocm-10%g40%o50%m	0.610
62.00	gmco-10%g60%o30%m	0.305
62.00	go-10%g90%o	0.305

Total Length: 248.00 ft

Total Volume: 1.220 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



# Pressure vs. Time

