



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

Kuhlman D 2-35

250 N. Water STE 300
Wichita, KS 67202

35 12s 32w

Job Ticket: 040593

DST#: 1

ATTN: Bob Stolzle

Test Start: 2011.03.15 @ 05:02:00

GENERAL INFORMATION:

Formation: **LKC D+E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:54:00

Time Test Ended: 12:48:15

Test Type: Conventional Bottom Hole

Tester: Bradley Walter

Unit No: 40

Interval: 4059.00 ft (KB) To 4100.00 ft (KB) (TVD)

Reference Elevations: 2998.00 ft (KB)

Total Depth: 4100.00 ft (KB) (TVD)

2987.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8360 Outside

Press @ Run Depth: 320.83 psig @ 4060.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.03.15

End Date:

2011.03.15

Last Calib.:

2011.03.15

Start Time:

05:02:05

End Time:

12:48:14

Time On Btm:

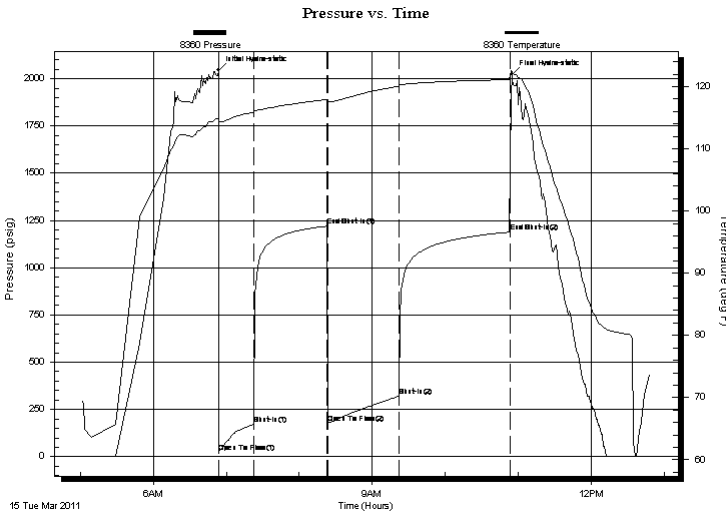
2011.03.15 @ 06:53:45

Time Off Btm:

2011.03.15 @ 10:54:30

TEST COMMENT: IF:BOB @ 16 minutes.
IS: 3 1/2 inch blow reced to 1 inch.
FF: BOB @ 16 minutes.
FS: No return blow .

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2043.96	114.95	Initial Hydro-static
1	25.39	114.19	Open To Flow (1)
29	172.53	115.87	Shut-In(1)
90	1219.80	117.94	End Shut-In(1)
90	177.23	117.56	Open To Flow (2)
149	320.83	120.08	Shut-In(2)
240	1188.71	121.13	End Shut-In(2)
241	2024.06	122.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100% m (heavy)	0.10
630.00	mcw 5% m 95% w	6.83

Gas Rates

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



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35 12s 32w

Job Ticket: 040593

DST#: 1

ATTN: Bob Stolzle

Test Start: 2011.03.15 @ 05:02:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

82000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

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
20.00	mud 100%m (heavy)	0.098
630.00	mcw 5%m 95%w	6.833

Total Length: 650.00 ft Total Volume: 6.931 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

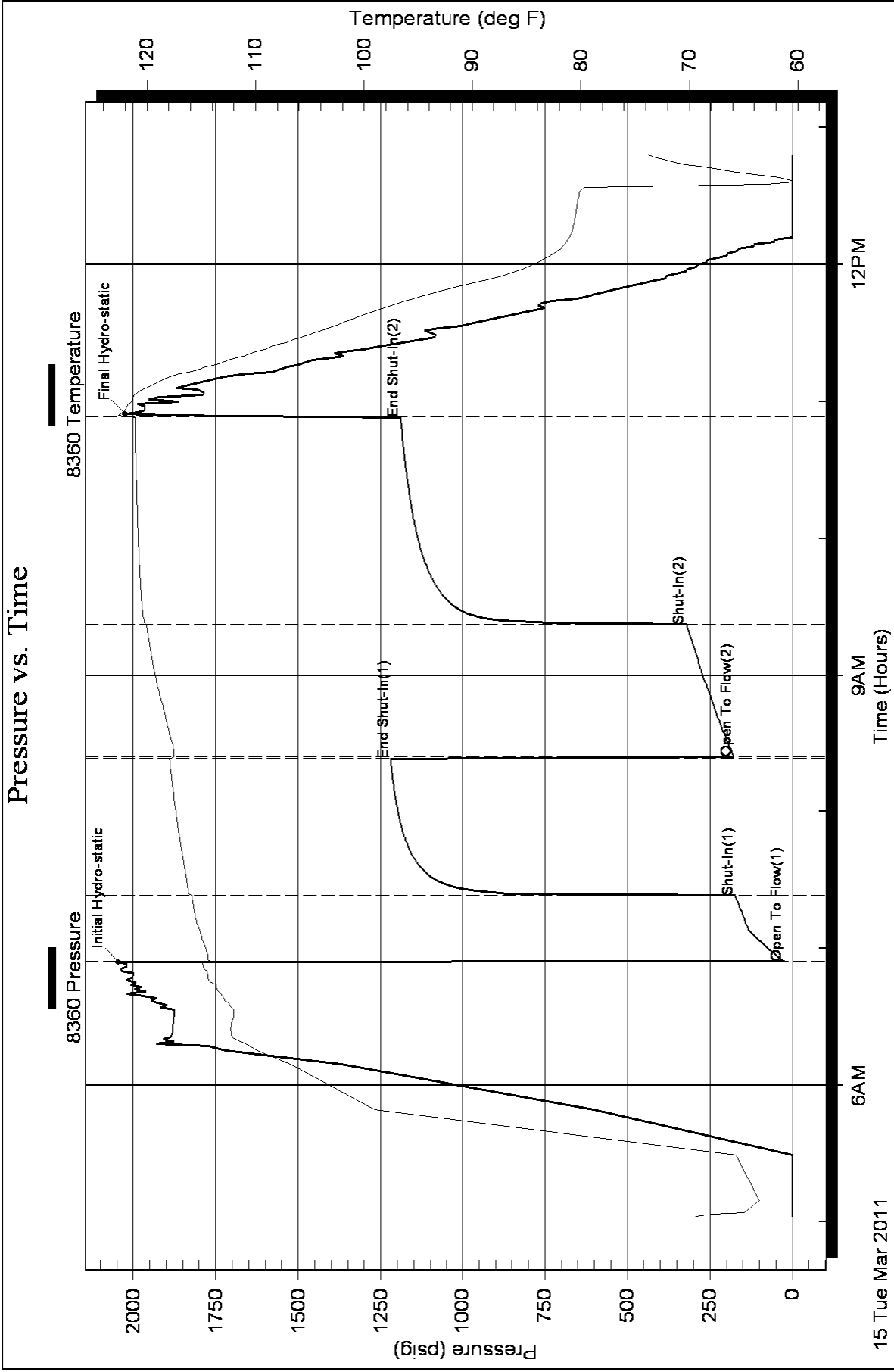
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .090 @ 72.5 F = 82000 ppm

Pressure vs. Time





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DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
250 N. Water STE 300
Wichita, KS 67202
ATTN: Bob Stolzle

Kuhlman D 2-35
35 12s 32w
Job Ticket: 040598 **DST#: 2**
Test Start: 2011.03.15 @ 23:52:00

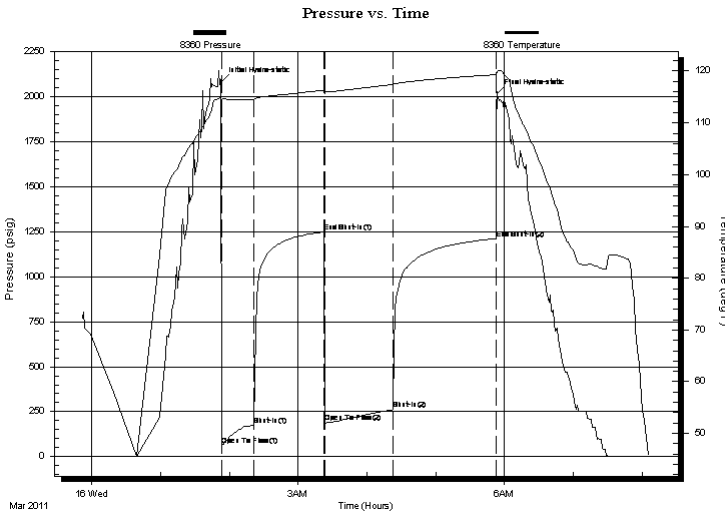
GENERAL INFORMATION:

Formation: **LKC " F G H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:53:15
Time Test Ended: 08:07:00
Interval: **4096.00 ft (KB) To 4195.00 ft (KB) (TVD)**
Total Depth: 4100.00 ft (KB) (TVD)
Hole Diameter: 7.85 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole
Tester: Bradley Walter
Unit No: 40
Reference Elevations: 2998.00 ft (KB)
2987.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8360 Outside
Press @ Run Depth: 262.46 psig @ 4097.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2011.03.15 End Date: 2011.03.16 Last Calib.: 2011.03.16
Start Time: 23:52:05 End Time: 08:06:59 Time On Btm: 2011.03.16 @ 01:53:00
Time Off Btm: 2011.03.16 @ 05:54:00

TEST COMMENT: IF: BOB 20 minutes.
IS: No return blow .
FF: BOB 27 minutes.
FS: No return blow .

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2085.02	115.09	Initial Hydro-static
1	60.52	113.99	Open To Flow (1)
29	176.46	114.55	Shut-In(1)
90	1249.58	116.31	End Shut-In(1)
90	189.58	115.63	Open To Flow (2)
150	262.46	117.40	Shut-In(2)
240	1212.27	119.30	End Shut-In(2)
241	2018.03	119.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100% m (heavy/ oil spots)	0.10
228.00	mcw 15% m 85% w	1.19
176.00	ow cm 5% o 30% w 65% m	2.47
60.00	go 20% g 80% o	0.84
0.00	80ft GIP	0.00

Gas Rates

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



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FLUID SUMMARY

Murfin Drilling Co. Inc.

Kuhlman D 2-35

250 N. Water STE 300
Wichita, KS 67202

35 12s 32w

Job Ticket: 040598

DST#: 2

ATTN: Bob Stolzle

Test Start: 2011.03.15 @ 23:52:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

62000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.40 in³

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 bbbl
20.00	mud 100%m (heavy/ oil spots)	0.098
228.00	mcw 15%m 85%w	1.194
176.00	ow cm 5%o 30%w 65%m	2.469
60.00	go 20%g 80%o	0.842
0.00	80ft GIP	0.000

Total Length: 484.00 ft Total Volume: 4.603 bbl

Num Fluid Samples: 0

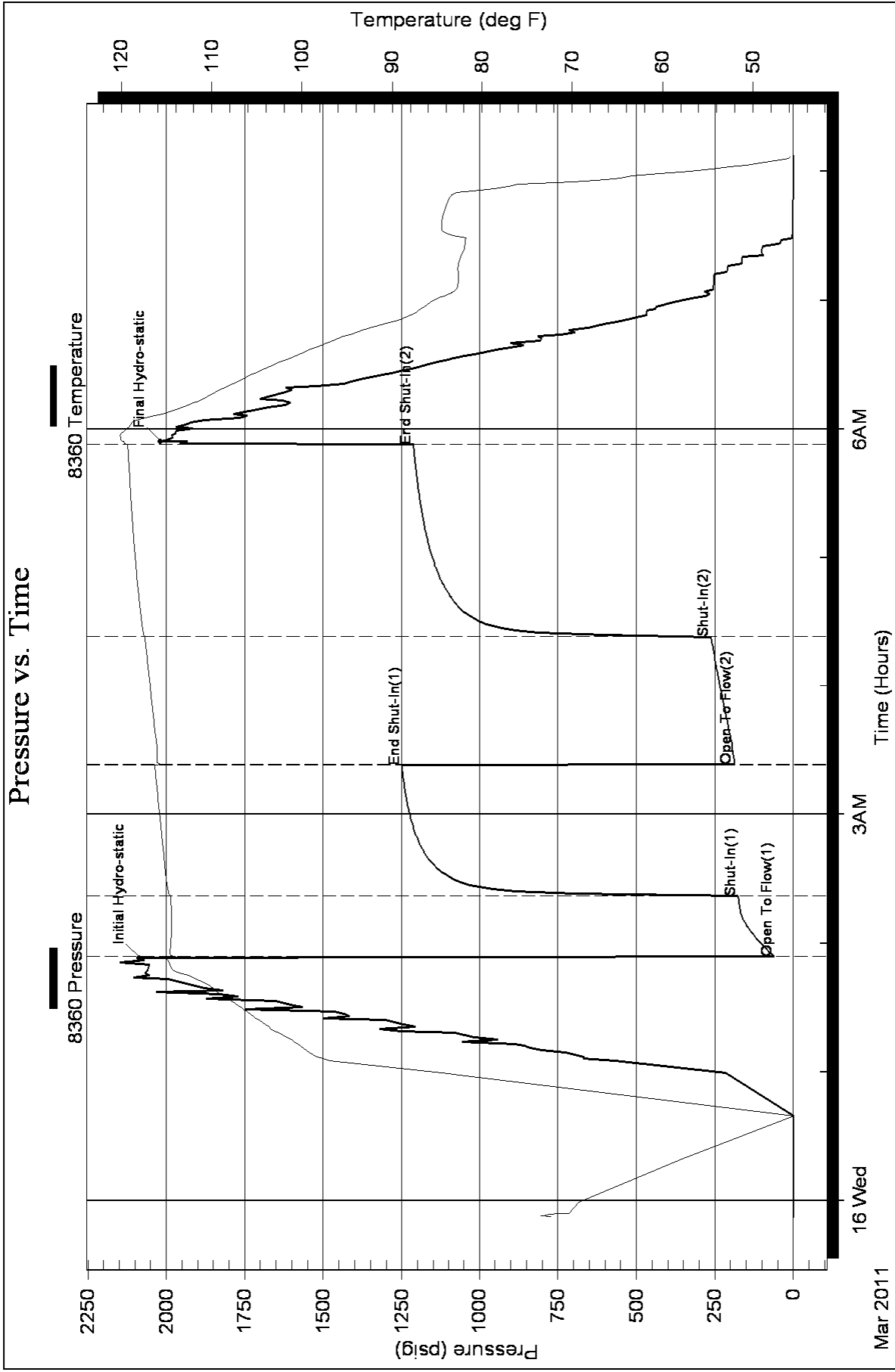
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .142@ 62 F = 62000 ppm





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Kuhlman D 2-35

250 N. Water STE 300
Wichita, KS 67202

35 12s 32w

Job Ticket: 040597

DST#: 3

ATTN: Bob Stolzle

Test Start: 2011.03.16 @ 17:26:00

GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:06:15

Time Test Ended: 01:13:45

Test Type: Conventional Bottom Hole

Tester: Bradley Walter

Unit No: 40

Interval: 4215.00 ft (KB) To 4245.00 ft (KB) (TVD)

Reference Elevations: 2998.00 ft (KB)

Total Depth: 4100.00 ft (KB) (TVD)

2987.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8360 Outside

Press @ Run Depth: 113.88 psig @ 4216.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.03.16

End Date:

2011.03.17

Last Calib.:

2011.03.17

Start Time:

17:26:05

End Time:

01:13:44

Time On Btm:

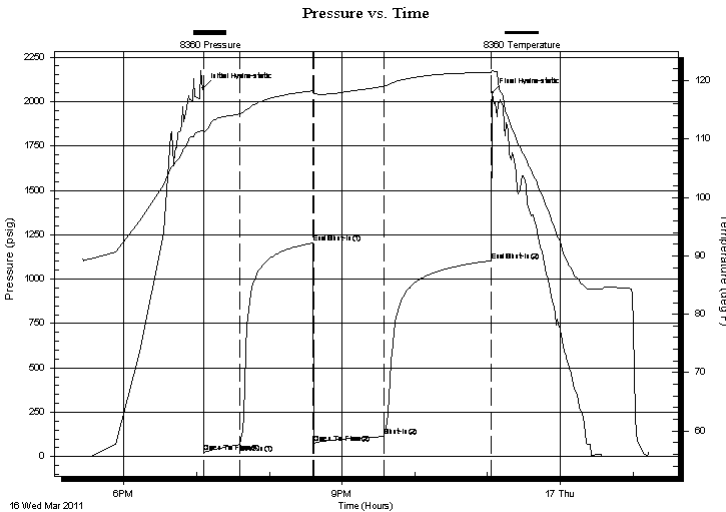
2011.03.16 @ 19:05:45

Time Off Btm:

2011.03.16 @ 23:04:00

TEST COMMENT: IF: BOB @ 14 minutes.
IS: No return blow.
FF: BOB @ 15 minutes.
FS: No return blow.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2077.41	111.66	Initial Hydro-static
1	23.46	111.06	Open To Flow (1)
30	68.22	114.35	Shut-In(1)
91	1203.37	118.25	End Shut-In(1)
92	77.41	117.87	Open To Flow (2)
149	113.88	119.08	Shut-In(2)
237	1103.37	121.40	End Shut-In(2)
239	2048.71	121.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	gocm 10%g 30%o 60%m	0.44
165.00	gmco 30%g 5%m 65%o	0.95

Gas Rates

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



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35 12s 32w

Job Ticket: 040597

DST#: 3

ATTN: Bob Stolzle

Test Start: 2011.03.16 @ 17:26:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.40 in³

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
90.00	gocm 10%g 30%o 60%m	0.443
165.00	gmco 30%g 5%m 65%o	0.948

Total Length: 255.00 ft

Total Volume: 1.391 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

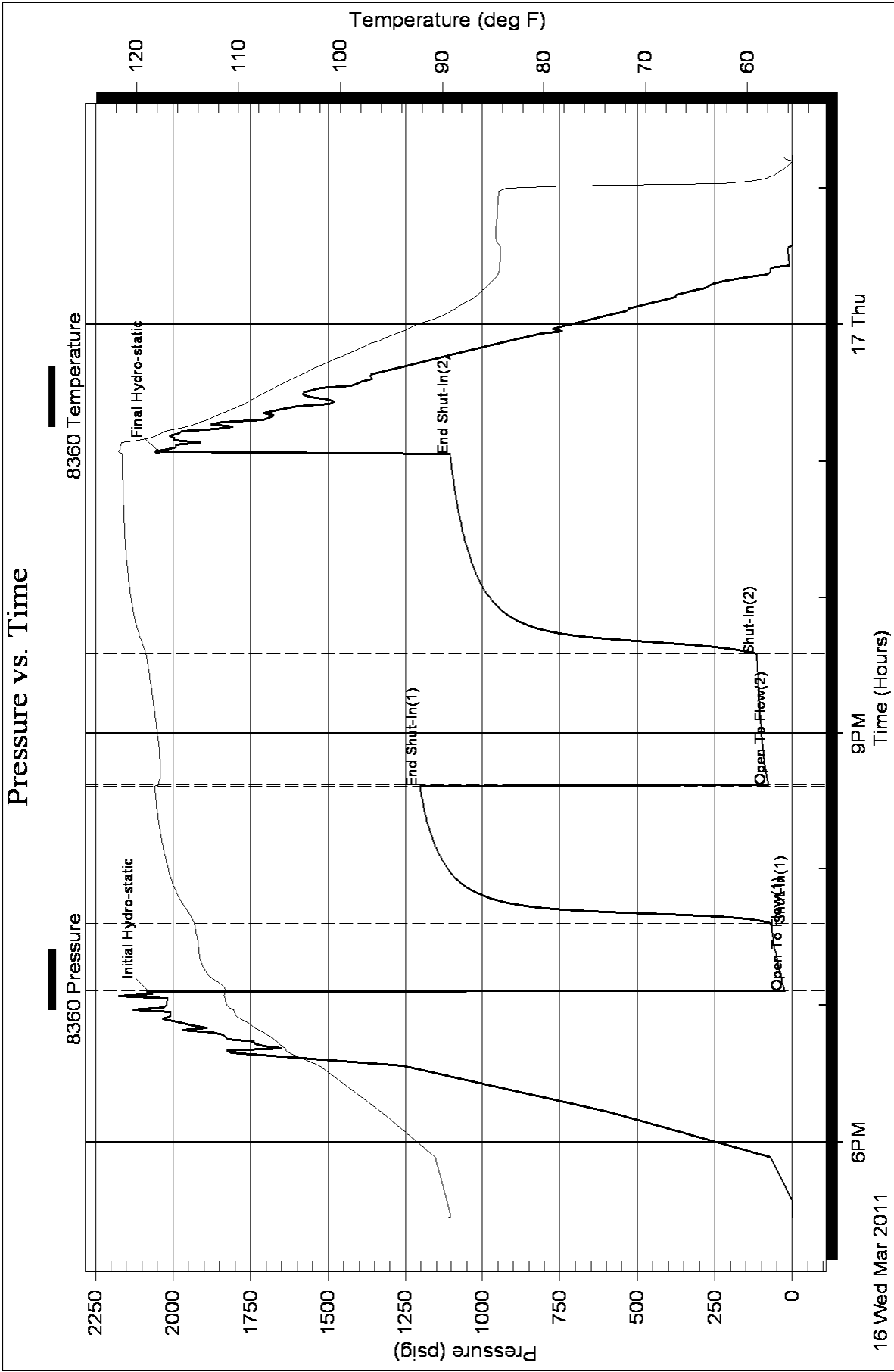
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





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35 12s 32w

Job Ticket: 040598

DST#: 4

ATTN: Bob Stolzle

Test Start: 2011.03.18 @ 09:10:30

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:55:15

Time Test Ended: 17:54:45

Test Type: Conventional Bottom Hole

Tester: Bradley Walter

Unit No: 40

Interval: 4555.00 ft (KB) To 4595.00 ft (KB) (TVD)

Reference Elevations: 2998.00 ft (KB)

Total Depth: 4595.00 ft (KB) (TVD)

2987.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8360 Outside

Press @ Run Depth: 585.33 psig @ 4556.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.03.18

End Date:

2011.03.18

Last Calib.:

2011.03.18

Start Time: 09:10:35

End Time:

17:54:45

Time On Btm:

2011.03.18 @ 10:55:00

Time Off Btm:

2011.03.18 @ 14:27:00

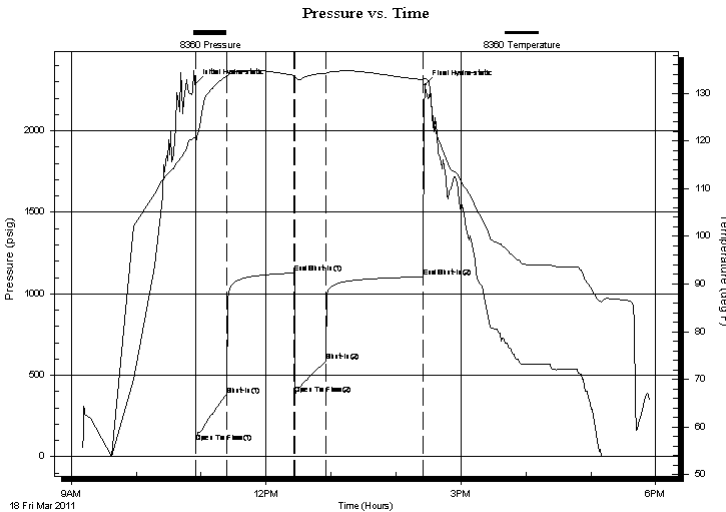
TEST COMMENT: IF BOB @ 2 1/4 minutes.

ISI: BOB @ 11 minutes.

FF: BOB @ 3 minutes.

FSI BOB @ 16 minutes.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2288.96	120.79	Initial Hydro-static
1	90.11	119.44	Open To Flow (1)
29	378.72	133.47	Shut-In(1)
91	1127.66	133.72	End Shut-In(1)
92	386.44	133.46	Open To Flow (2)
120	585.33	134.19	Shut-In(2)
211	1104.32	132.82	End Shut-In(2)
212	2281.87	133.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1550.00	go 40%g 60%o	19.56
0.00	1426 GIP	0.00

Gas Rates

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



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35 12s 32w

Job Ticket: 040598

DST#: 4

ATTN: Bob Stolzle

Test Start: 2011.03.18 @ 09:10:30

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.00 in³

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 bbf
1550.00	go 40%g 60%o	19.556
0.00	1426 GIP	0.000

Total Length: 1550.00 ft Total Volume: 19.556 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Dropped Bar after 8 stands, circulated until mud, 10 bbf's on truck.

Pressure vs. Time

