



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

DNOC

Alma Herl 1-13

POB 1019
Hays, KS 67601

S13-13s-19w Ellis, KS

Job Ticket: 43116

DST#: 1

ATTN: Marc Downing

Test Start: 2011.04.24 @ 23:21:00

GENERAL INFORMATION:

Formation: LKC 'C,D'

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:00:20

Time Test Ended: 05:55:20

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: 3384.00 ft (KB) To 3428.00 ft (KB) (TVD)

Total Depth: 3428.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2062.00 ft (KB)

2054.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8018

Inside

Press@RunDepth: 104.97 psig @ 3387.00 ft (KB)

Start Date: 2011.04.24

End Date:

2011.04.25

Start Time: 23:21:05

End Time:

05:55:20

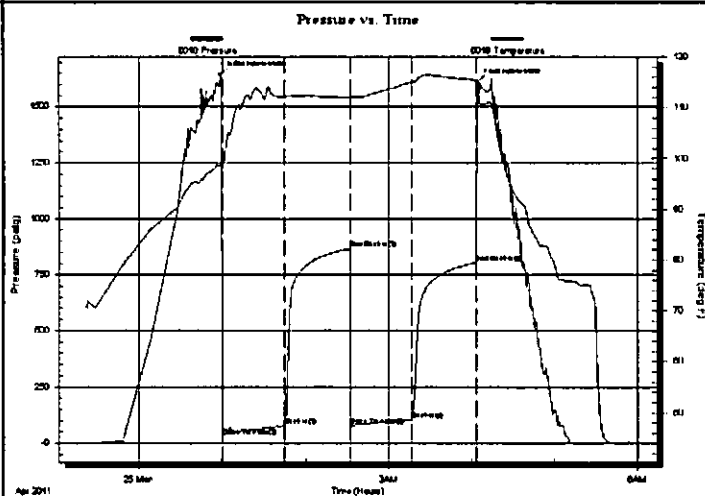
Capacity: 8000.00 psig

Last Calib.: 2011.04.25

Time On Btm: 2011.04.25 @ 00:58:50

Time Off Btm: 2011.04.25 @ 04:04:00

TEST COMMENT: IF: 9" Blow . Tool slid 5 feet.
IS: Weak return died @ 6 min.
FF: 6" Blow .
FSI: 1/2" Return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1643.41	98.67	Initial Hydro-static
2	31.99	98.65	Open To Flow (1)
47	76.19	112.13	Shut-In(1)
94	865.31	111.92	End Shut-In(1)
94	78.27	111.83	Open To Flow (2)
139	104.97	115.02	Shut-In(2)
185	804.41	115.54	End Shut-In(2)
186	1609.29	115.48	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: .230 @ 48 Degrees F = 45000 PPM	0.00
120.00	WCM 10w 90m	1.40
70.00	OSMW 20m 80w	0.98

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Alma Herl 1-13

POB 1019
Hays, KS 67601

S13-13s-19w Ellis, KS

Job Ticket: 43116

DST#: 1

ATTN: Marc Downing

Test Start: 2011.04.24 @ 23:21:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

45000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.60 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	RW: .230 @ 48 Degrees F = 45000 PPM	0.000
120.00	WCM 10w 90m	1.401
70.00	OSMW 20m 80w	0.982

Total Length: 190.00 ft

Total Volume: 2.383 bbl

Num Fluid Samples: 0

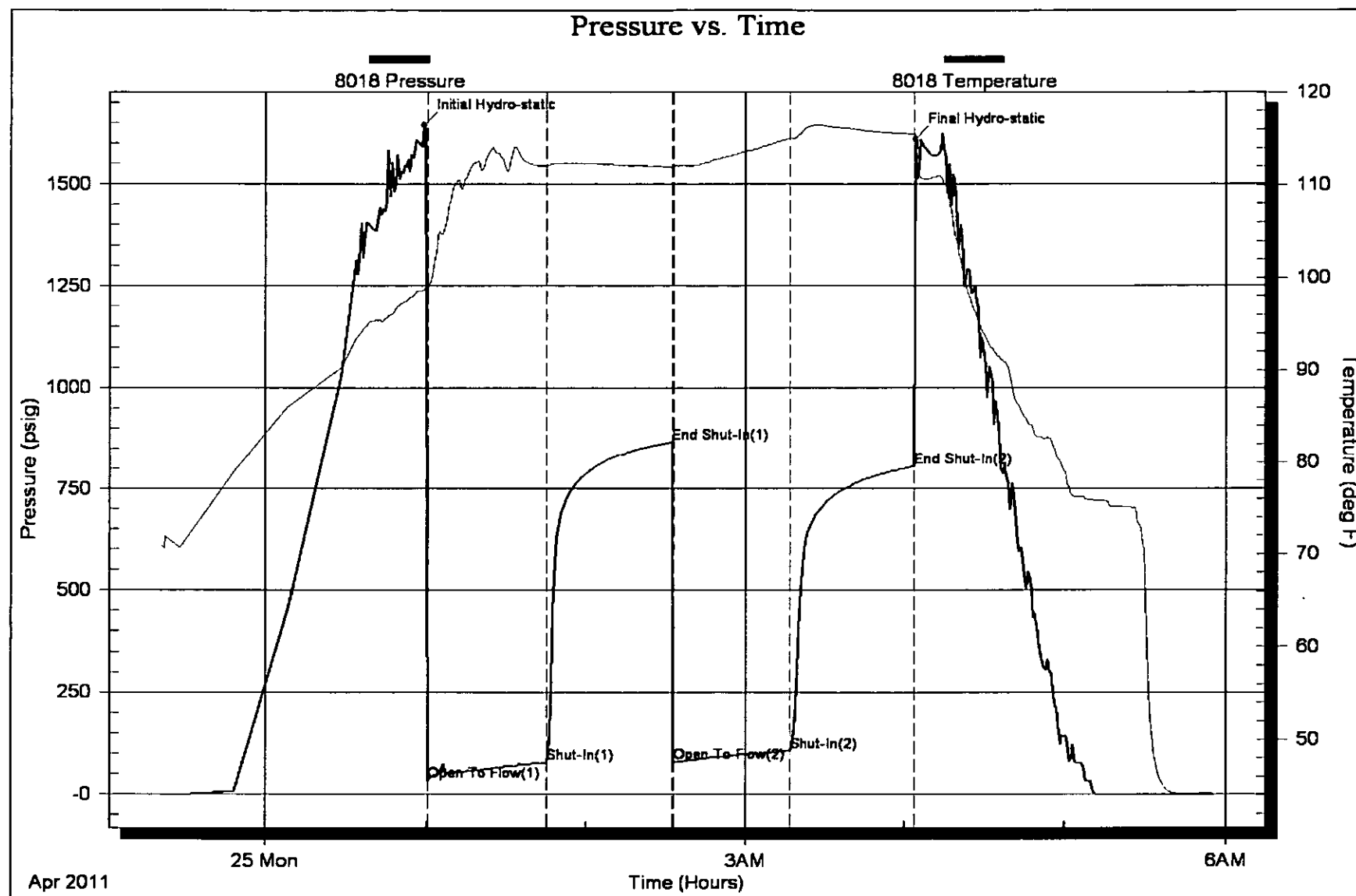
Num Gas Bombs: 0

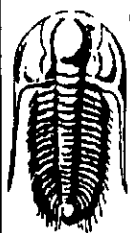
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Downing

Alma Herl 1-13

S13-13s-19w Ellis, KS

Job Ticket: 43117

DST#: 2

Test Start: 2011.04.25 @ 12:07:00

GENERAL INFORMATION:

Formation: **LKC 'E-F'**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 13:23:40

Time Test Ended: 18:14:20

Test Type: **Conventional Bottom Hole**

Tester: **Chuck Smith**

Unit No: **37**

Interval: **3428.00 ft (KB) To 3455.00 ft (KB) (TVD)**

Total Depth: **3455.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2062.00 ft (KB)**

2054.00 ft (CF)

KB to GR/CF: **8.00 ft**

Serial #: **8018**

Inside

Press@RunDepth: **181.46 psig @ 3447.00 ft (KB)**

Start Date: **2011.04.25**

End Date:

2011.04.25

Start Time: **12:07:05**

End Time:

18:14:20

Capacity: **8000.00 psig**

Last Calib.: **2011.04.25**

Time On Btm: **2011.04.25 @ 13:21:50**

Time Off Btm: **2011.04.25 @ 16:29:39**

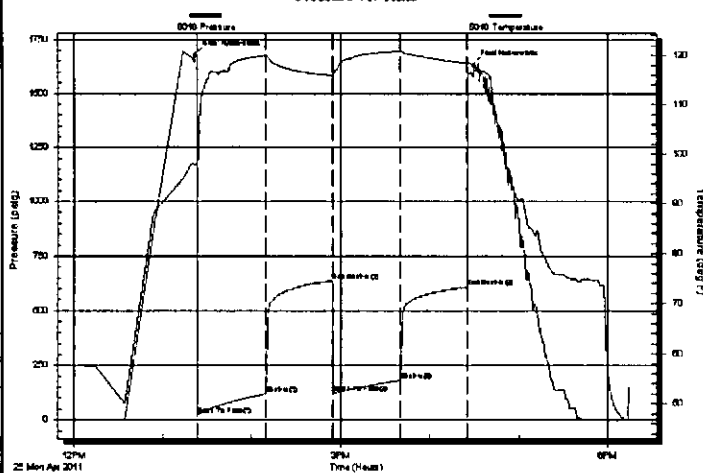
TEST COMMENT: IF: B.O.B. @ 16 min.

IS: Weak surface return died at 5 min.

FF: B.O.B. @ 31 min.

FSI: No return.

Pressure vs. Time



PRESSURE SUMMARY

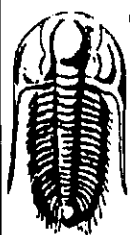
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1683.29	98.00	Initial Hydro-static
2	20.81	97.32	Open To Flow (1)
48	119.89	119.97	Shut-In(1)
93	637.35	115.99	End Shut-In(1)
94	122.85	115.92	Open To Flow (2)
138	181.46	120.76	Shut-In(2)
184	607.53	118.40	End Shut-In(2)
188	1637.19	117.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: .225 @ 50 Degrees F = 45000 PPM	0.00
300.00	MW 10m 90w	3.93
45.00	OSMW 20m 80w	0.63

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC

Alma Herl 1-13

POB 1019
Hays, KS 67601

S13-13s-19w Ellis, KS

Job Ticket: 43117

DST#: 2

ATTN: Marc Downing

Test Start: 2011.04.25 @ 12:07:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

45000 ppm

Viscosity: 70.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	RW: .225 @ 50 Degrees F = 45000 PPM	0.000
300.00	MW 10m 90w	3.926
45.00	OSMW 20m 80w	0.631

Total Length: 345.00 ft

Total Volume: 4.557 bbl

Num Fluid Samples: 0

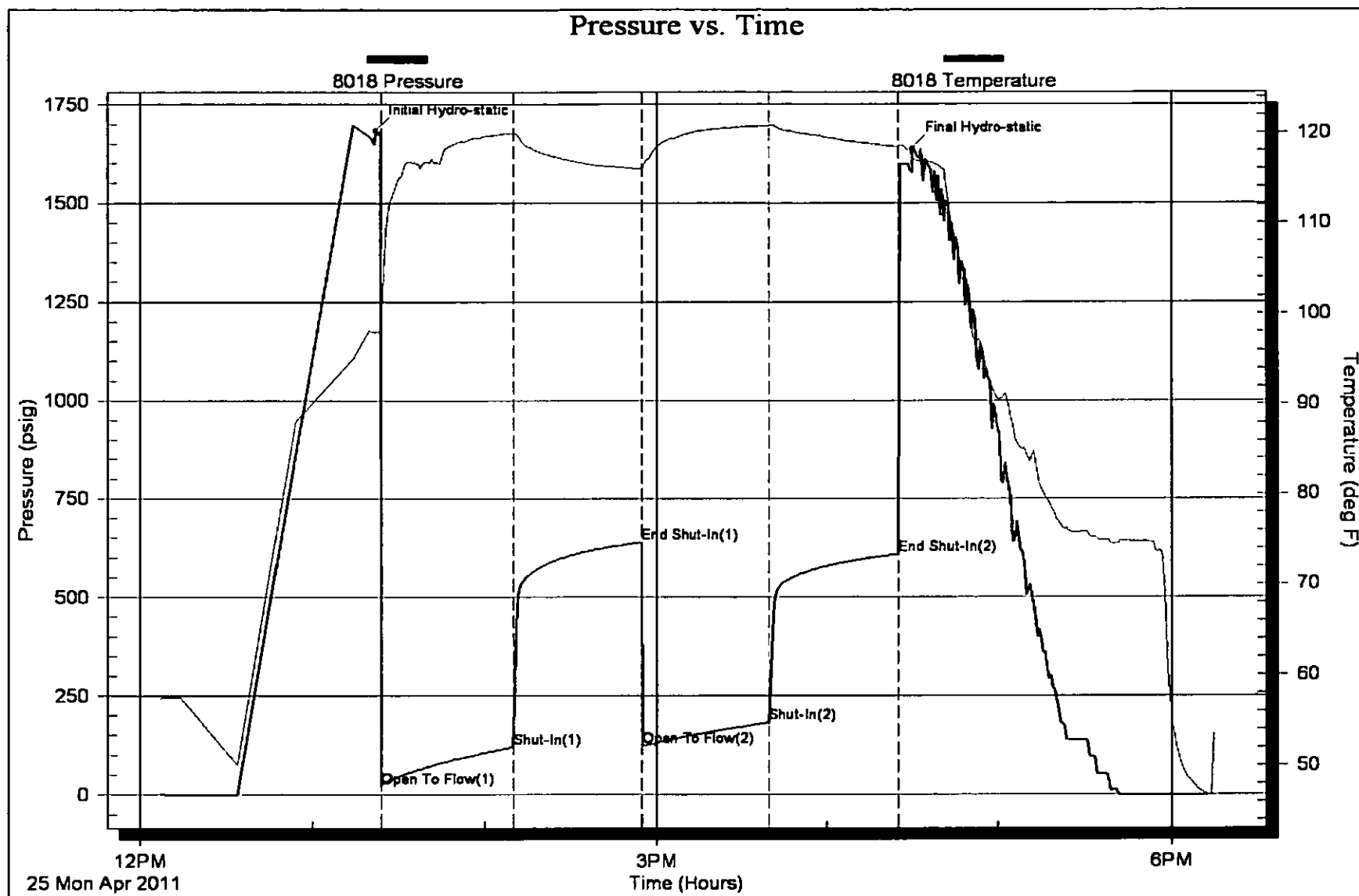
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Downing

Alma Herl 1-13

S13-13s-19w Ellis, KS

Job Ticket: 041815

DST#: 3

Test Start: 2011.04.26 @ 04:26:05

GENERAL INFORMATION:

Formation: LKC "H, J"

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:13:00

Time Test Ended: 09:33:39

Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 39

Interval: 3481.00 ft (KB) To 3548.00 ft (KB) (TVD)

Total Depth: 3548.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2062.00 ft (KB)

2054.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8352 Outside

Press@RunDepth: 32.54 psig @ 3485.00 ft (KB)

Start Date: 2011.04.26

End Date:

2011.04.26

Start Time: 04:26:05

End Time:

09:33:40

Capacity: 8000.00 psig

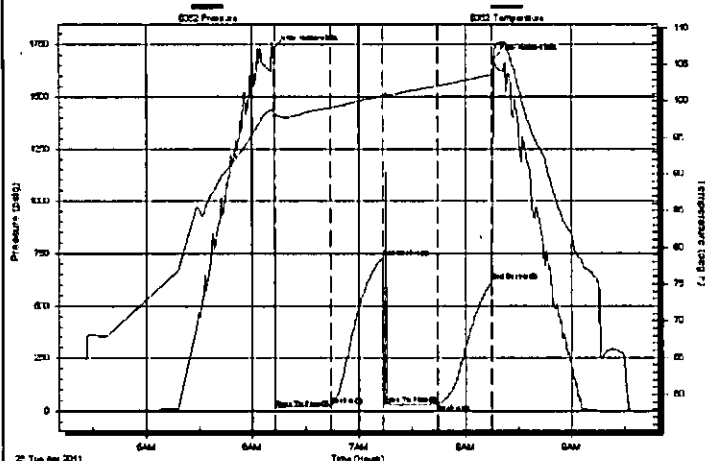
Last Calib.: 2011.04.26

Time On Btm: 2011.04.26 @ 06:12:10

Time Off Btm: 2011.04.26 @ 08:16:00

TEST COMMENT: IF:(30min) Blow died in 15 min.
IS:(30min) No Return
FF:(30min) No Blow, Flushed, Surge, No Blow
FS:(30min) No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1730.25	98.75	Initial Hydro-static
1	14.83	97.91	Open To Flow (1)
32	27.13	99.10	Shut-In(1)
62	729.69	100.69	End Shut-In(1)
62	32.03	100.37	Open To Flow (2)
93	32.54	102.09	Shut-In(2)
123	615.82	103.59	End Shut-In(2)
124	1682.51	105.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w /slight oil specks in tool	0.05

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (MMcf/d)
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DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC

Alma Herl 1-13

POB 1019
Hays, KS 67601

S13-13s-19w Ellis, KS

Job Ticket: 041815

DST#: 3

ATTN: Marc Downing

Test Start: 2011.04.26 @ 04:26:05

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud w /slight oil specks in tool	0.049

Total Length: 10.00 ft

Total Volume: 0.049 bbl

Num Fluid Samples: 0

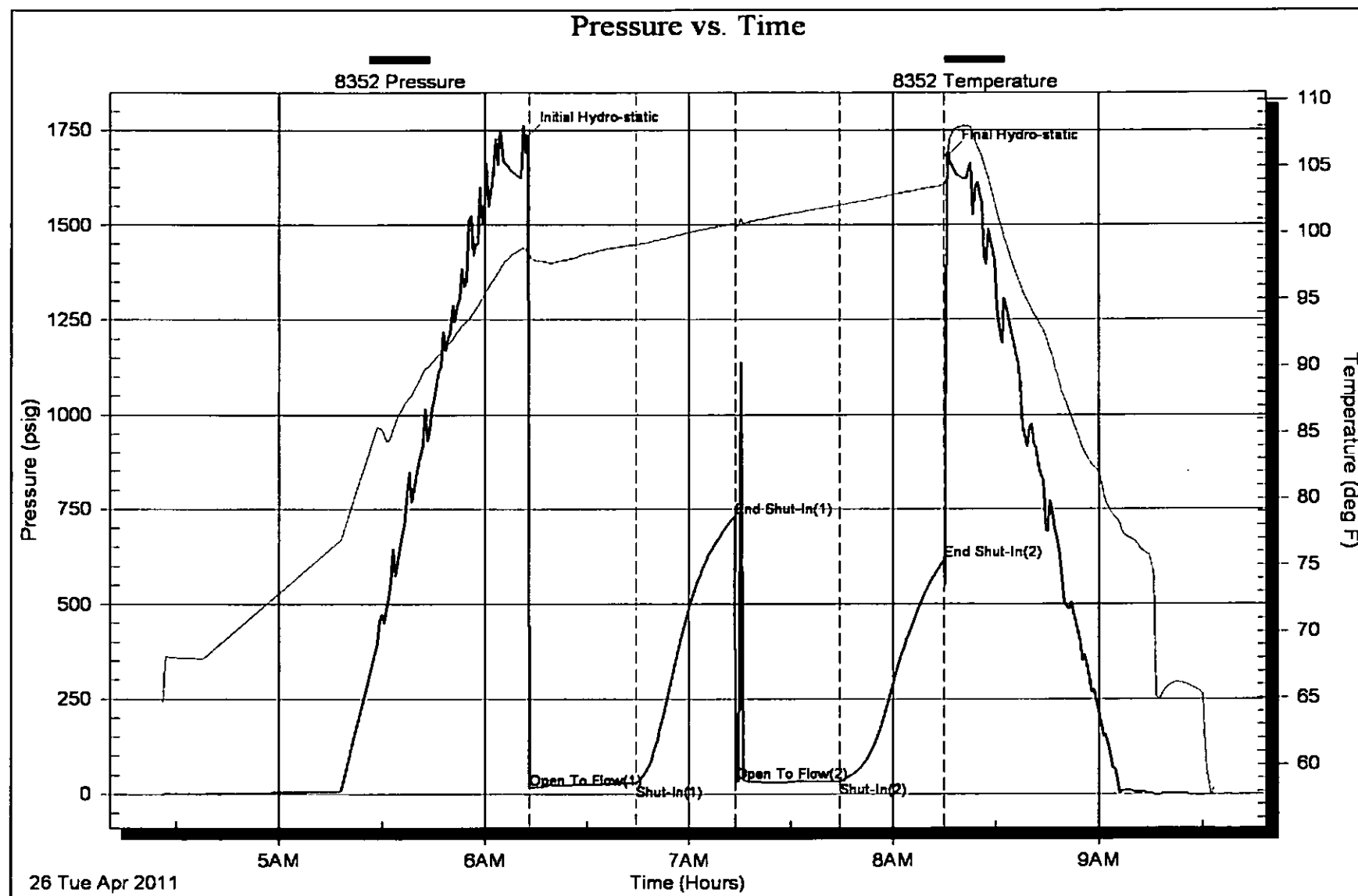
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





TRILOBITE
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DRILL STEM TEST REPORT

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Downing

Alma Herl 1-13

13-13s-19w Ellis, KS

Job Ticket: 041816

DST#: 4

Test Start: 2011.04.26 @ 21:10:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 22:56:50

Time Test Ended: 02:27:39

Test Type: **Conventional Bottom Hole**

Tester: **Andy Carreira**

Unit No: **39**

Interval: **3666.00 ft (KB) To 3684.00 ft (KB) (TVD)**

Total Depth: **3684.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2062.00 ft (KB)**

2054.00 ft (CF)

KB to GR/CF: **8.00 ft**

Serial #: **8352** **Outside**

Press@RunDepth: **15.90 psig @ 3667.00 ft (KB)**

Start Date: **2011.04.26**

End Date:

2011.04.27

Start Time: **21:10:05**

End Time:

02:27:40

Capacity: **8000.00 psig**

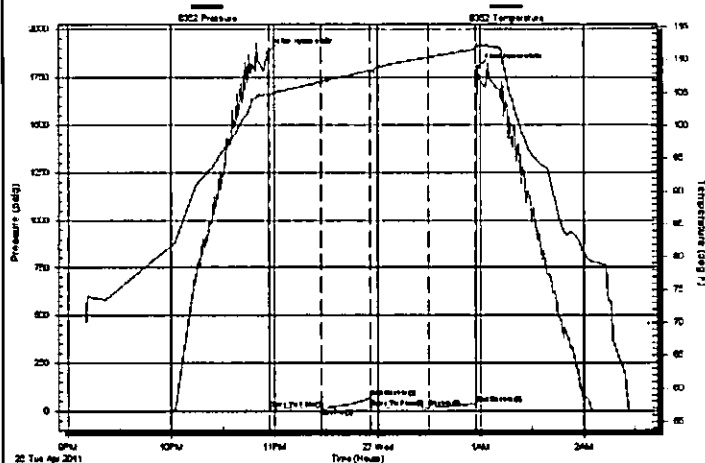
Last Calib.: **2011.04.27**

Time On Btm: **2011.04.26 @ 22:56:20**

Time Off Btm: **2011.04.27 @ 00:58:50**

TEST COMMENT: IF:(30min) Blow died in 5 min.
IS:(30min) No Return
FF:(30min) No blow, Flushed, Surge, No blow
FS: No Return

Pressure vs. Time



PRESSURE SUMMARY

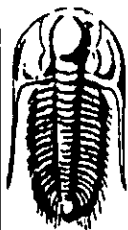
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1879.32	104.85	Initial Hydro-static
1	12.82	103.79	Open To Flow (1)
31	13.93	106.77	Shut-In(1)
60	68.86	108.49	End Shut-In(1)
60	14.46	108.47	Open To Flow (2)
94	15.90	110.45	Shut-In(2)
121	37.90	111.68	End Shut-In(2)
123	1800.48	112.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud w / oil specks in tool	0.01

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (MMc/d)
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TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC

Alma Herl 1-13

POB 1019
Hays, KS 67601

13-13s-19w Ellis, KS

Job Ticket: 041816

DST#: 4

ATTN: Marc Downing

Test Start: 2011.04.26 @ 21:10:05

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud w / oil specks in tool	0.010

Total Length: 2.00 ft

Total Volume: 0.010 bbl

Num Fluid Samples: 0

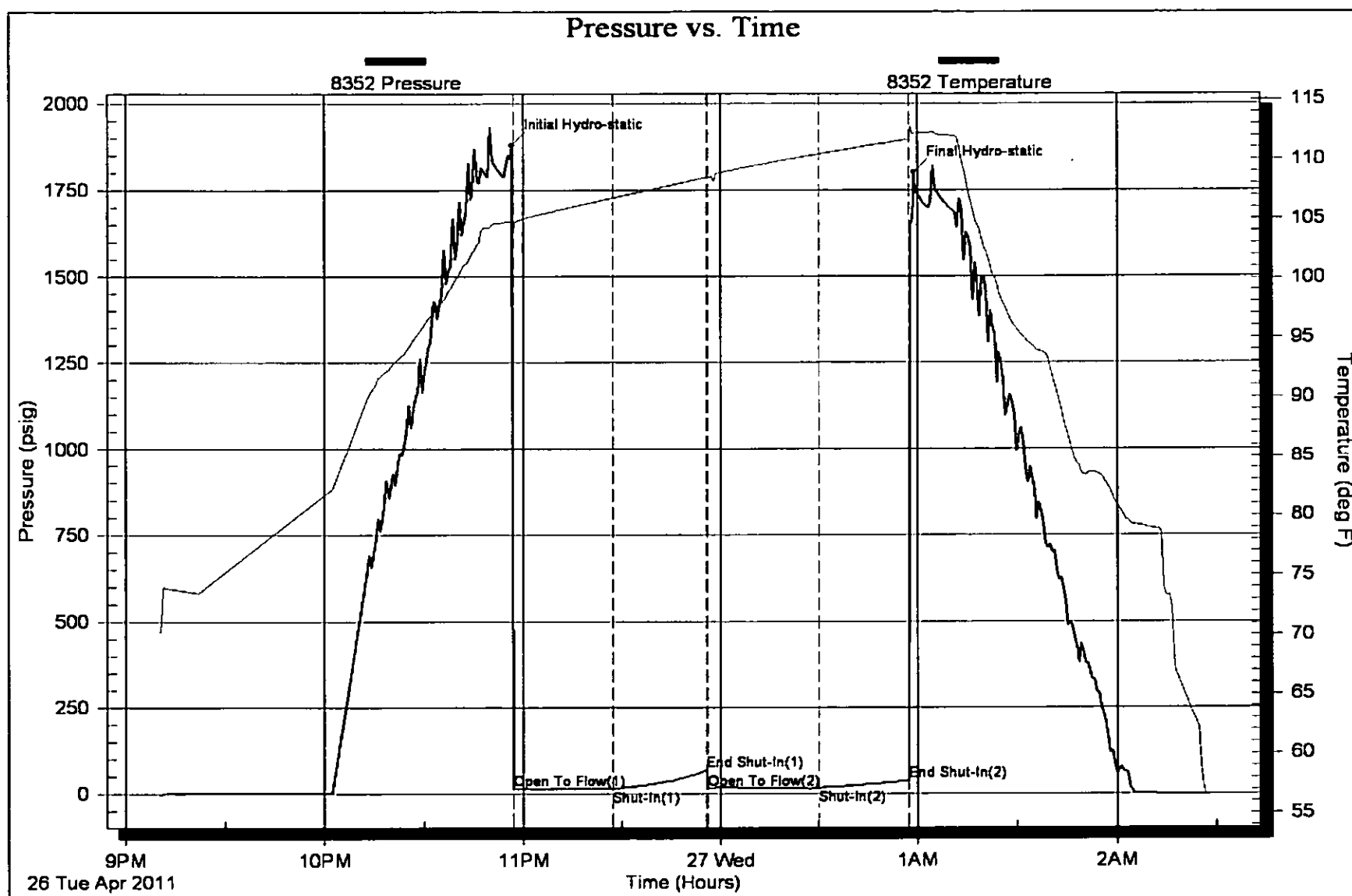
Num Gas Bombs: 0

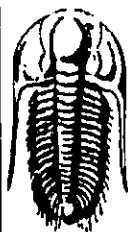
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Downing

Alma Herl 1-13

13-13s-19w Ellis, KS

Job Ticket: 041817

DST#: 5

Test Start: 2011.04.27 @ 15:38:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 17:40:00

Time Test Ended: 20:18:29

Test Type: **Conventional Straddle**

Tester: **Andy Carreira**

Unit No: **39**

Interval: **3674.00 ft (KB) To 3720.00 ft (KB) (TVD)**

Total Depth: **3754.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2062.00 ft (KB)**

2054.00 ft (CF)

KB to GR/CF: **8.00 ft**

Serial #: **8352** **Outside**

Press@RunDepth: **36.56 psig @ 3681.00 ft (KB)**

Start Date: **2011.04.27**

End Date:

2011.04.27

Start Time: **15:38:05**

End Time:

20:18:29

Capacity: **8000.00 psig**

Last Calib.: **2011.04.27**

Time On Btm: **2011.04.27 @ 17:39:00**

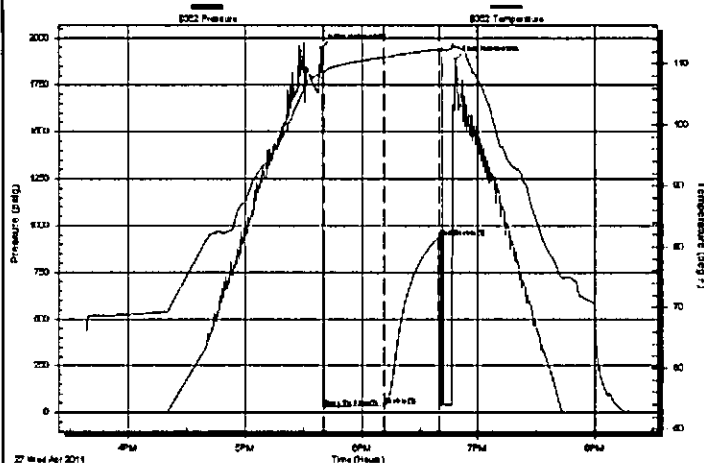
Time Off Btm: **2011.04.27 @ 18:48:40**

TEST COMMENT: IF:(30min) Blow died in 6 min.

IS:(30min) No Return

FF: No Blow ,Flushed,Surge,No Blow . Pulled Tool

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1948.37	108.72	Initial Hydro-static
1	25.79	107.99	Open To Flow (1)
33	36.56	111.08	Shut-In(1)
61	938.98	112.39	End Shut-In(1)
70	1886.99	112.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	SGMw /oil specks in tool	0.10

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (MMc/d)
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**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Downing

Alma Herl 1-13

13-13s-19w Ellis, KS

Job Ticket: 041817

DST#: 5

Test Start: 2011.04.27 @ 15:38:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 17:40:00

Time Test Ended: 20:18:29

Test Type: **Conventional Straddle**

Tester: **Andy Carreira**

Unit No: **39**

Interval: **3674.00 ft (KB) To 3720.00 ft (KB) (TVD)**

Total Depth: **3754.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2062.00 ft (KB)**

2054.00 ft (CF)

KB to GR/CF: **8.00 ft**

Serial #: **8650**

Below (Straddle)

Press@RunDepth: **psig @ 3725.00 ft (KB)**

Start Date: **2011.04.27**

End Date:

2011.04.27

Capacity: **8000.00 psig**

Last Calib.:

2011.04.27

Start Time: **15:38:05**

End Time:

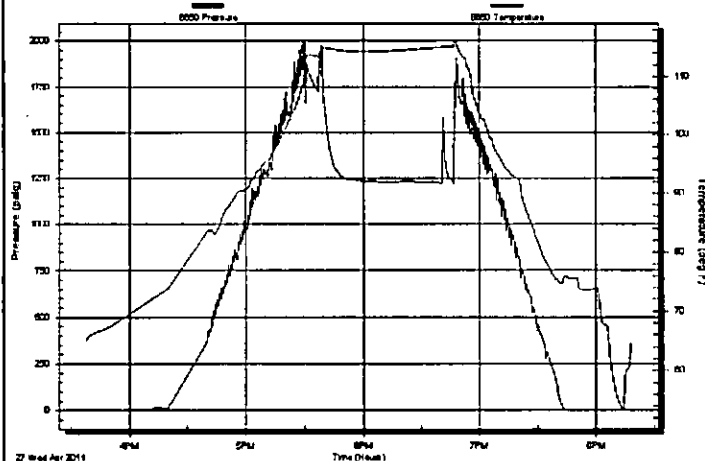
20:17:50

Time On Btm

Time Off Btm

TEST COMMENT: IF:(30min) Blow died in 6 min.
IS:(30min) No Return
FF: No Blow ,Flushed, Surge, No Blow . Pulled Tool

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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Recovery

Length (ft)	Description	Volume (bbl)
20.00	SGMw /oil specks in tool	0.10

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (MMcf/d)
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TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC

Alma Herl 1-13

POB 1019
Hays, KS 67601

13-13s-19w Ellis, KS

Job Ticket: 041817

DST#: 5

ATTN: Marc Dow ning

Test Start: 2011.04.27 @ 15:38:05

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	SGMw /oil specks in tool	0.098

Total Length: 20.00 ft

Total Volume: 0.098 bbl

Num Fluid Samples: 0

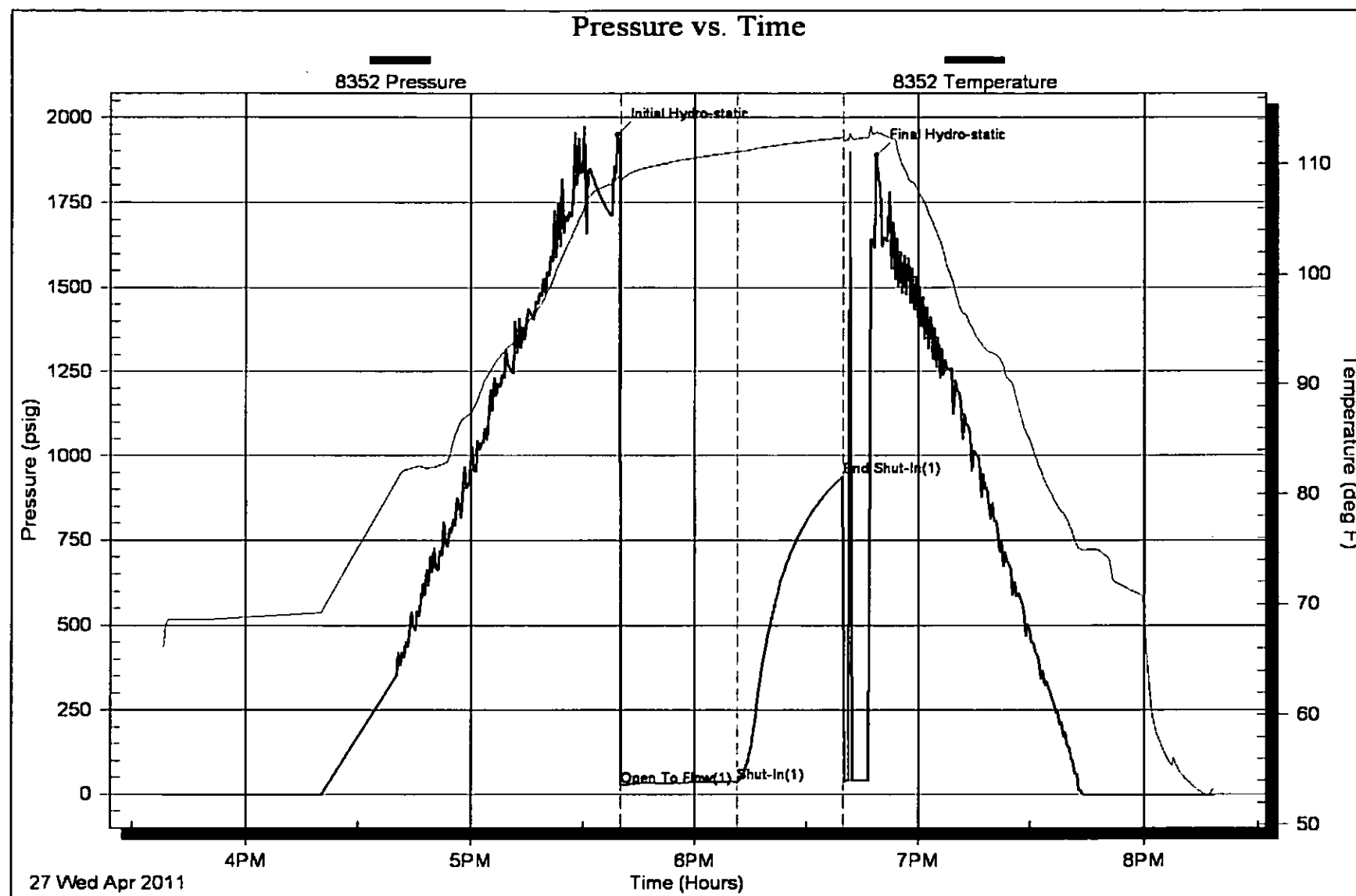
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



Serial #: 8650

Below (Strand)

13-13s-19w Ellis, KS

DST Test Number: 5

