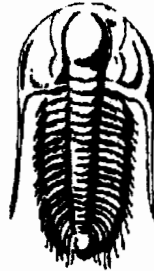


15-137-20475

34-5s-23w

11/11/07



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Prepared For: **Ritchie Exploration Inc**

PO 783188  
Wichita KS 67218-1888

ATTN: Doug Davis

**34 5S 23W Norton KS**

**Wyrill-Circle #1**

Start Date: 2008.02.02 @ 01:52:15

End Date: 2008.02.02 @ 09:00:05

Job Ticket #: 30697                      DST #: 1

**CONFIDENTIAL**

**MAY 21 2008**

**KCC**

Ritchie Exploration Inc

Wyrill-Circle #1

34 5S 23W Norton KS

DST # 1

Oread

2008.02.02

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc

PO 783188  
Wichita 67278-3188

ATTN: Doug Davis

**Wyrill-Circle #1**

**34 5S 23W Norton KS**

Job Ticket: 30697

**DST#: 1**

Test Start: 2008.02.02 @ 01:52:15

## GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:59:35

Time Test Ended: 09:00:05

Interval: **3446.00 ft (KB) To 3510.00 ft (KB) (TVD)**

Total Depth: 3510.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Jake Fahrenbruch

Unit No: 43

Reference Elevations: 2335.00 ft (KB)

2330.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8352** Inside

Press@RunDepth: 441.75 psig @ 3447.00 ft (KB)

Start Date: 2008.02.02

End Date:

2008.02.02

Start Time: 01:52:17

End Time:

09:00:04

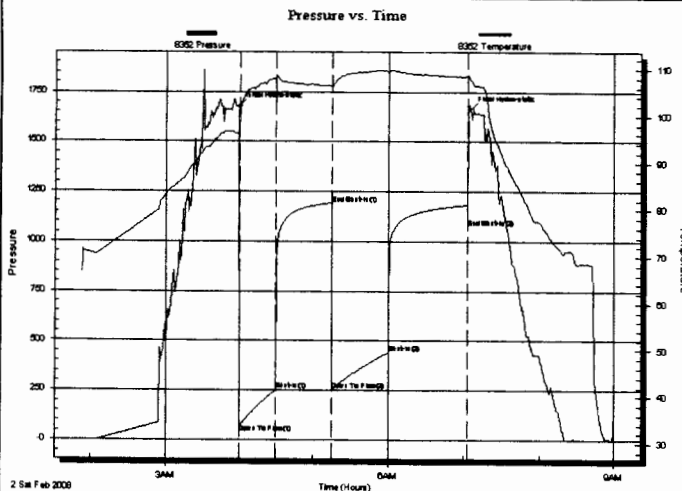
Capacity: 7000.00 psig

Last Calib.: 2008.02.02

Time On Btm: 2008.02.02 @ 03:59:15

Time Off Btm: 2008.02.02 @ 07:04:45

**TEST COMMENT:** IF Strong blow BOB in 5 min  
ISI No blow back  
FF Strong blow BOB in 7.75 min  
FSI No blow back



## PRESSURE SUMMARY

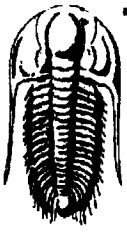
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1677.15	96.35	Initial Hydro-static
1	35.73	95.91	Open To Flow (1)
30	250.15	108.21	Shut-In(1)
76	1186.49	106.54	End Shut-In(1)
76	249.97	106.10	Open To Flow (2)
121	441.75	109.43	Shut-In(2)
184	1070.48	108.43	End Shut-In(2)
186	1659.34	107.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
748.00	100%W	9.35
155.00	McW 30%M 70%W	2.17
5.00	Very Heavy Oil 100%O	0.07
0.00	Chlorides = 83,000 ppm	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration Inc

**Wyrill-Circle #1**

PO 783188  
Wichita 67278-3188

**34 5S 23W Norton KS**

Job Ticket: 30697

**DST#: 1**

ATTN: Doug Davis

Test Start: 2008.02.02 @ 01:52:15

**Tool Information**

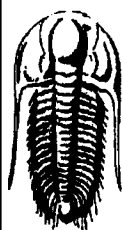
Drill Pipe:	Length: 3311.00 ft	Diameter: 3.80 inches	Volume: 46.44 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 125.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	78000.00 lb
		<b>Total Volume:</b>	<b>47.05 bbl</b>	Tool Chased	0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3446.00 ft			Final	55000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	64.00 ft				
Tool Length:	87.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			3428.00	
Hydraulic tool	5.00			3433.00	
Safety Joint	3.00			3436.00	
Packer	5.00			3441.00	23.00 Bottom Of Top Packer
Packer	5.00			3446.00	
Stubb	1.00			3447.00	
Recorder	0.00	6799	inside	3447.00	
Recorder	0.00	8352	inside	3447.00	
Perforations	27.00			3474.00	
Blank Spacing	33.00			3507.00	
Bullnose	3.00			3510.00	64.00 Bottom Packers & Anchor

**Total Tool Length: 87.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration Inc

**Wyrill-Circle #1**

PO 783188  
Wichita 67278-3188

**34 5S 23W Norton KS**

Job Ticket: 30697      **DST#: 1**

ATTN: Doug Davis

Test Start: 2008.02.02 @ 01:52:15

### 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:	48.00 sec/qt	Cushion Volume:	bbbl		
Water Loss:	7.19 in <sup>3</sup>	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	800.00 ppm				
Filter Cake:	inches				

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
748.00	100%W	9.354
155.00	McW 30%M 70%W	2.174
5.00	Very Heavy Oil 100%O	0.070
0.00	Chlorides = 83,000 ppm	0.000

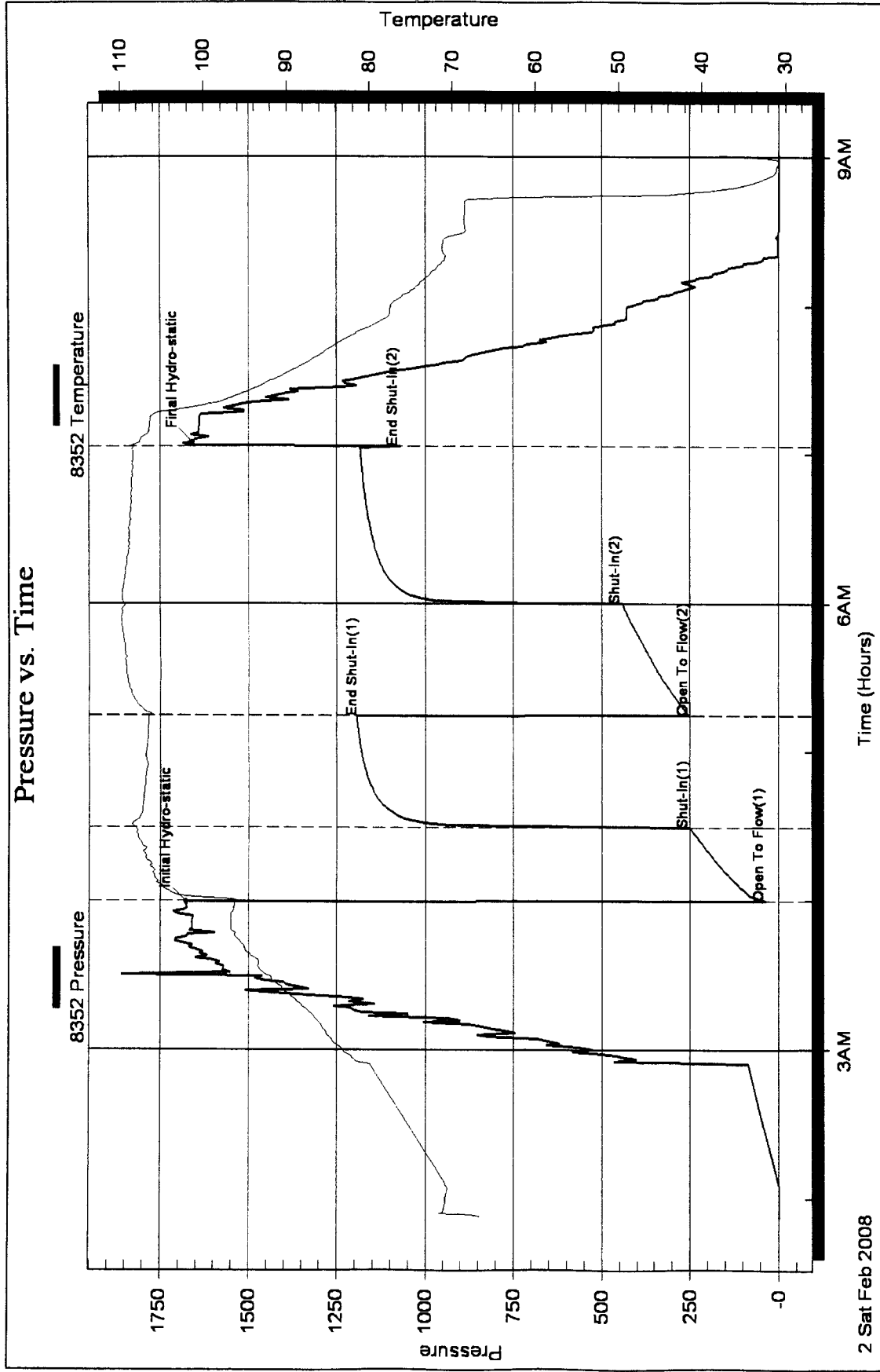
Total Length: 908.00 ft      Total Volume: 11.598 bbl

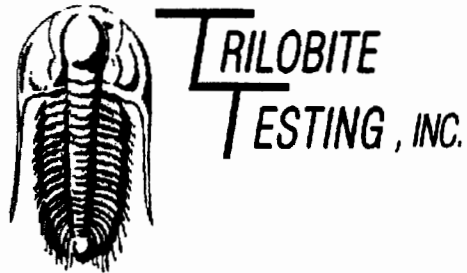
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:

### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc**

PO 783188  
Wichita 67278-3188

ATTN: Doug Davis

**34 5S 23W Norton KS**

**Wyrill-Circle #1**

Start Date: 2008.02.02 @ 14:51:21

End Date: 2008.02.03 @ 05:04:51

Job Ticket #: 30698                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Ritchie Exploration Inc

Wyrill-Circle #1

34 5S 23W Norton KS

DST # 2

Toronto - Lansing "A"

2008.02.02



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc

PO 783188  
Wichita 67278-3188

ATTN: Doug Davis

**Wyrill-Circle #1**

**34 5S 23W Norton KS**

Job Ticket: 30698

**DST#: 2**

Test Start: 2008.02.02 @ 14:51:21

## GENERAL INFORMATION:

Formation: **Toronto - Lansing "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:51:23

Time Test Ended: 05:04:51

Test Type: Conventional Bottom Hole

Tester: Jake Fahrenbruch

Unit No: 43

Interval: **3486.00 ft (KB) To 3538.00 ft (KB) (TVD)**

Total Depth: 3538.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2335.00 ft (KB)

2330.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8352**

**Inside**

Press@RunDepth: 160.22 psig @ 3487.00 ft (KB)

Start Date: 2008.02.02

End Date:

2008.02.03

Start Time: 14:51:23

End Time:

05:04:51

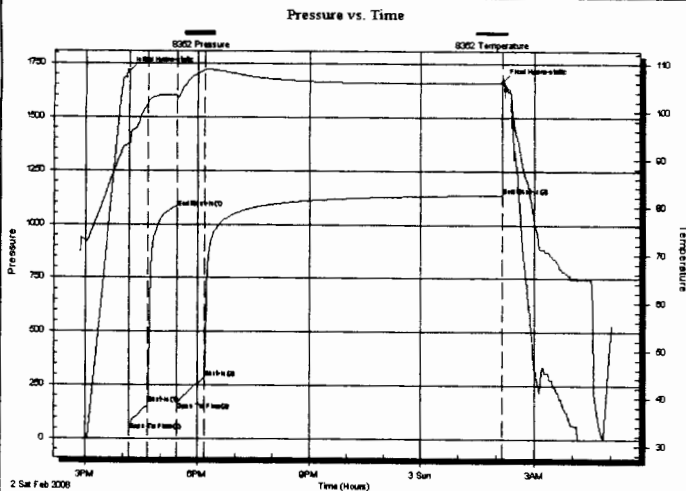
Capacity: 7000.00 psig

Last Calib.: 2008.02.03

Time On Btmr: 2008.02.02 @ 16:09:31

Time Off Btmr: 2008.02.03 @ 02:08:51

**TEST COMMENT:** IF Strong blow BOB in 5.5 min  
ISI Bled off blow back @ BOB in 29 min  
FF Strong blow BOB in 5.5 min  
FSI Bled off blow back @ BOB in 30 min



## PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1714.19	93.00	Initial Hydro-static
1	34.96	92.49	Open To Flow (1)
31	160.22	101.84	Shut-In(1)
77	1075.78	103.47	End Shut-In(1)
77	169.40	103.31	Open To Flow (2)
121	282.84	108.66	Shut-In(2)
599	1137.89	106.02	End Shut-In(2)
600	1662.15	106.24	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	GOOM 10%G 40%O 50%M	0.22
77.00	100%O	0.38
107.00	GOOM 10%G 20%O 70%M	1.47
468.00	100%O	6.56
0.00	Corrected gravity = 31	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration Inc

**Wyrill-Circle #1**

PO 783188  
Wichita 67278-3188

**34 5S 23W Norton KS**

Job Ticket: 30698      **DST#: 2**

ATTN: Doug Davis

Test Start: 2008.02.02 @ 14:51:21

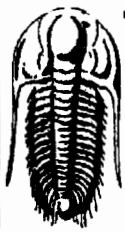
### Tool Information

Drill Pipe:	Length: 3342.00 ft	Diameter: 3.80 inches	Volume: 46.88 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 125.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 75000.00 lb
			<b>Total Volume: 47.49 bbl</b>	Tool Chased 2.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3486.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	75.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

### Tool Comments:

The reason for the extended final shut in period is that the torque converter on the draw works motor failed and the rig could not pull tool off bottom.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3468.00	
Hydraulic tool	5.00			3473.00	
Safety Joint	3.00			3476.00	
Packer	5.00			3481.00	23.00      Bottom Of Top Packer
Packer	5.00			3486.00	
Stubb	1.00			3487.00	
Recorder	0.00	6799	Inside	3487.00	
Recorder	0.00	8352	Inside	3487.00	
Perforations	15.00			3502.00	
Blank Spacing	33.00			3535.00	
Bullnose	3.00			3538.00	52.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>75.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration Inc

**Wyrill-Circle #1**

PO 783188  
Wichita 67278-3188

**34 5S 23W Norton KS**

Job Ticket: 30698      **DST#: 2**

ATTN: Doug Davis

Test Start: 2008.02.02 @ 14:51:21

## 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: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1500.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	GCOM 10%G 40%O 50%M	0.221
77.00	100%O	0.379
107.00	GCOM 10%G 20%O 70%M	1.474
468.00	100%O	6.565
0.00	Corrected gravity = 31	0.000

Total Length: 697.00 ft      Total Volume: 8.639 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

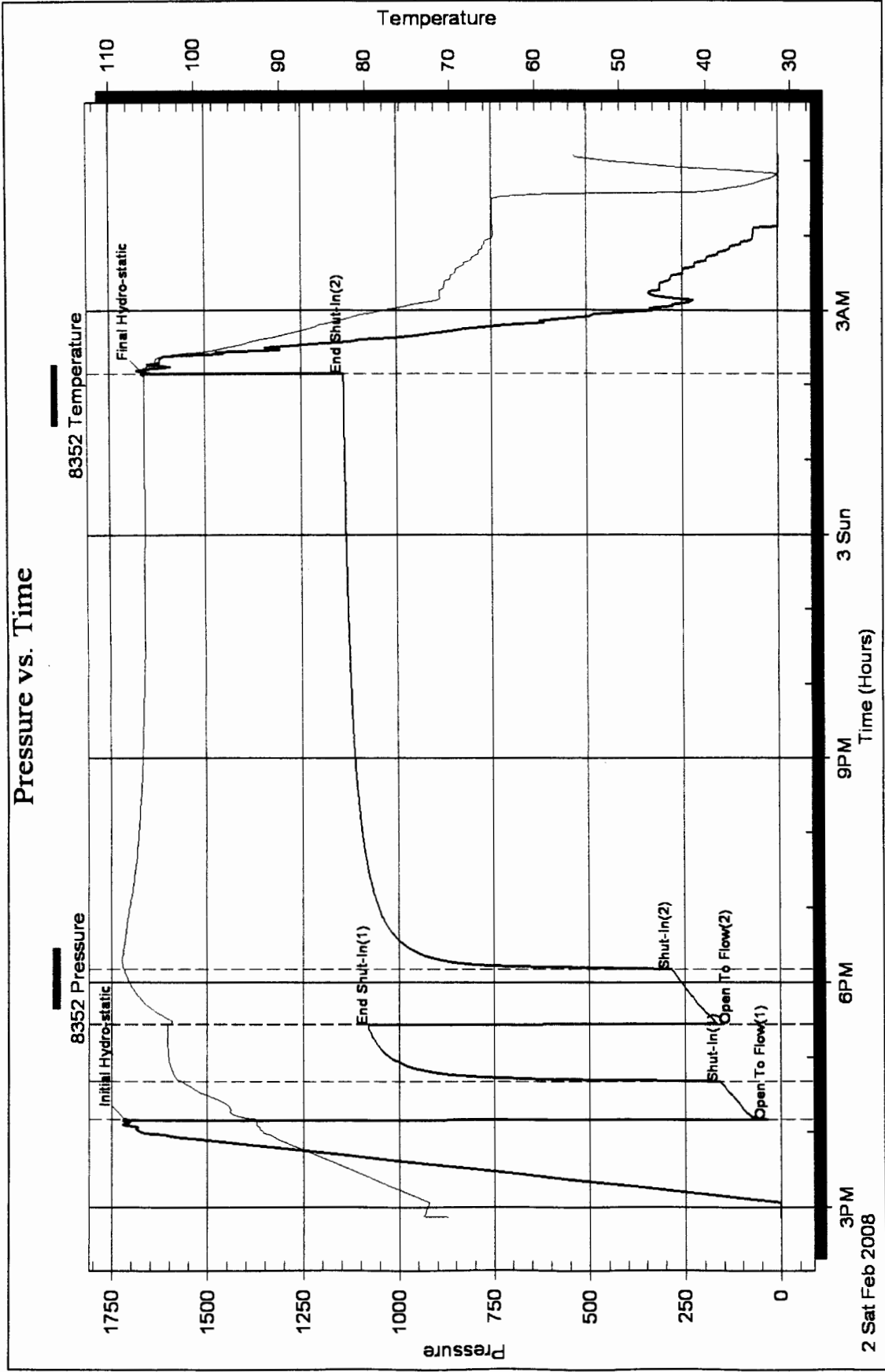
Serial #: 8352

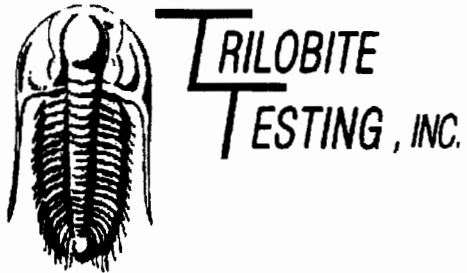
Inside Ritchie Exploration Inc

34 5S 23W Norton KS

DST Test Number: 2

### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc**

PO 783188  
Wichita 67278-3188

ATTN: Doug Davis

**34 5S 23W Norton KS**

**Wyrill-Circle #1**

Start Date: 2008.02.03 @ 10:58:14

End Date: 2008.02.03 @ 17:34:14

Job Ticket #: 30699                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Ritchie Exploration Inc

Wyrill-Circle #1

34 5S 23W Norton KS

DST # 3

Lansing "C"Y

2008.02.03



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc  
PO 783188  
Wichita 67278-3188  
ATTN: Doug Davis

**Wyrill-Circle #1**  
**34 5S 23W Norton KS**  
Job Ticket: 30699      **DST#: 3**  
Test Start: 2008.02.03 @ 10:58:14

## GENERAL INFORMATION:

Formation: **Lansing "C"**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 12:30:54  
Time Test Ended: 17:34:14  
  
Interval: **3549.00 ft (KB) To 3570.00 ft (KB) (TVD)**  
Total Depth: 3570.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole  
Tester: Jake Fahrenbruch  
Unit No: 43  
  
Reference Elevations: 2335.00 ft (KB)  
2330.00 ft (CF)  
KB to GR/CF: 5.00 ft

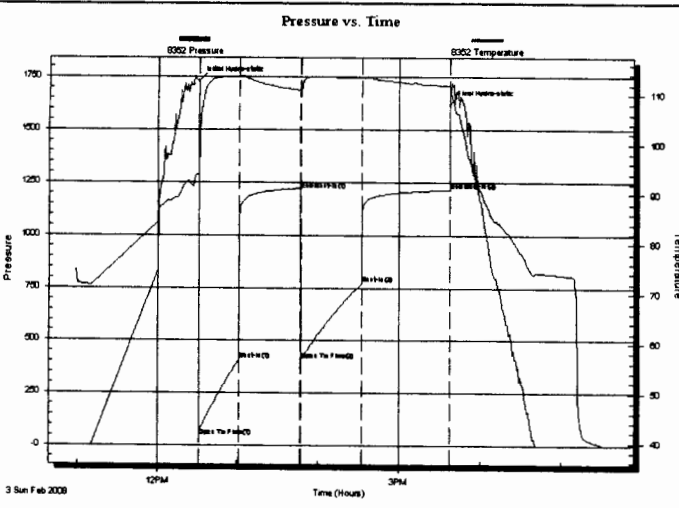
## Serial #: 8352

Inside

Press@RunDepth: 769.44 psig @ 3550.00 ft (KB)  
Start Date: 2008.02.03      End Date: 2008.02.03  
Start Time: 10:58:16      End Time: 17:34:14

Capacity: 7000.00 psig  
Last Calib.: 2008.02.03  
Time On Btm: 2008.02.03 @ 12:30:44  
Time Off Btm: 2008.02.03 @ 15:37:33

TEST COMMENT: IF Strong blow BOB 3.5 min.  
ISI Bled off blow back @ .5"  
FF Strong blow BOB 3 min.  
FSI Bled off no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1732.01	93.96	Initial Hydro-static
1	42.88	93.03	Open To Flow (1)
30	404.66	113.69	Shut-In(1)
76	1213.70	110.92	End Shut-In(1)
77	407.63	110.70	Open To Flow (2)
121	769.44	113.38	Shut-In(2)
187	1213.59	111.81	End Shut-In(2)
187	1621.90	112.11	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1555.00	SW 100%W	20.67
185.00	MCW 20%M 80%W	2.60
0.00	Chlorides = 68,000 ppm	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Ritchie Exploration Inc

**Wyrill-Circle #1**

PO 783188  
Wichita 67278-3188

**34 5S 23W Norton KS**

ATTN: Doug Davis

Job Ticket: 30699

**DST#: 3**

Test Start: 2008.02.03 @ 10:58:14

**Tool Information**

Drill Pipe:	Length: 3407.00 ft	Diameter: 3.80 inches	Volume: 47.79 bbl	Tool Weight: 2800.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 125.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 75000.00 lb
			<b>Total Volume: 48.40 bbl</b>	Tool Chased 2.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3549.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	21.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3531.00	
Hydraulic tool	5.00			3536.00	
Safety Joint	3.00			3539.00	
Packer	5.00			3544.00	23.00 Bottom Of Top Packer
Packer	5.00			3549.00	
Stubb	1.00			3550.00	
Recorder	0.00	6799	Inside	3550.00	
Recorder	0.00	8352	Inside	3550.00	
Perforations	17.00			3567.00	
Bullnose	3.00			3570.00	21.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>44.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration Inc

**Wyrill-Circle #1**

PO 783188  
Wichita 67278-3188

**34 5S 23W Norton KS**

Job Ticket: 30699      **DST#: 3**

ATTN: Doug Davis

Test Start: 2008.02.03 @ 10:58:14

### 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: 65.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1555.00	SW 100%W	20.674
185.00	MCW 20%M 80%W	2.595
0.00	Chlorides = 68,000 ppm	0.000

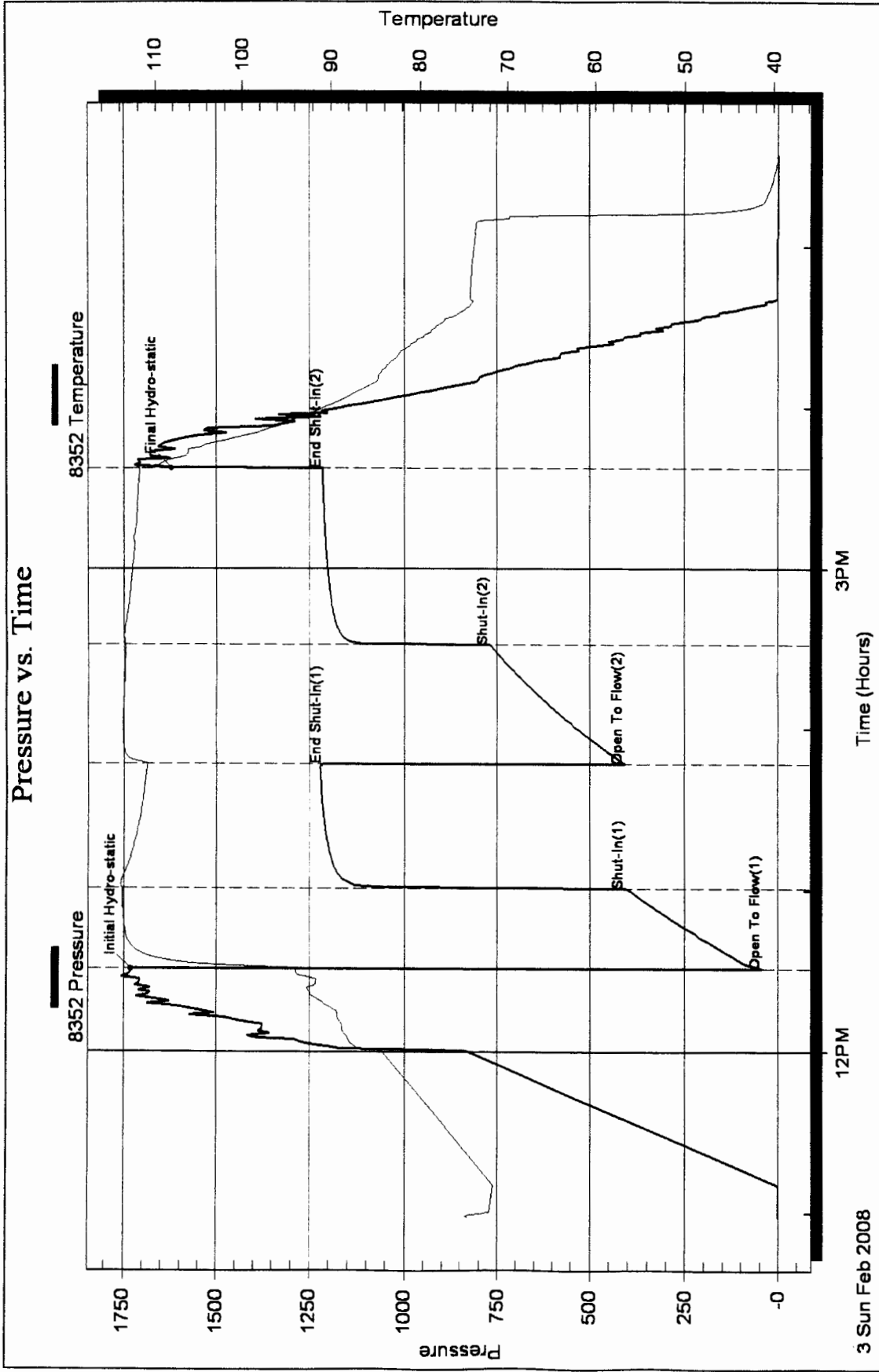
Total Length: 1740.00 ft      Total Volume: 23.269 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

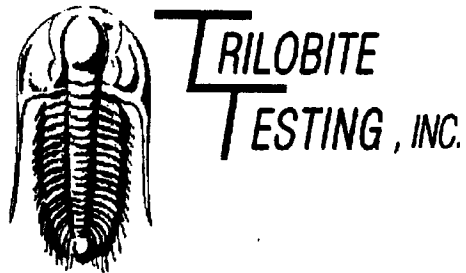
# Pressure vs. Time



3 Sun Feb 2008

12PM

3PM



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc**

PO 783188  
Wichita 67278-3188

ATTN: Doug Davis

**34 5S 23W Norton KS**

**Wyrill-Circle #1**

Start Date: 2008.02.04 @ 01:17:27

End Date: 2008.02.04 @ 08:14:27

Job Ticket #: 30700                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Ritchie Exploration Inc

Wyrill-Circle #1

34 5S 23W Norton KS

DST # 4

Lansing "G"

2008.02.04



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc

PO 783188  
Wichita 67278-3188

ATTN: Doug Davis

**Wyrill-Circle #1**

**34 5S 23W Norton KS**

Job Ticket: 30700

DST#: 4

Test Start: 2008.02.04 @ 01:17:27

## GENERAL INFORMATION:

Formation: **Lansing "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:56:57

Time Test Ended: 08:14:27

Test Type: Conventional Bottom Hole

Tester: Jake Fahrenbruch

Unit No: 43

Interval: **3601.00 ft (KB) To 3615.00 ft (KB) (TVD)**

Total Depth: 3615.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2335.00 ft (KB)

2330.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8352**

**Inside**

Press@RunDepth: 739.67 psig @ 3602.00 ft (KB)

Start Date: 2008.02.04

End Date:

2008.02.04

Start Time: 01:17:29

End Time:

08:14:27

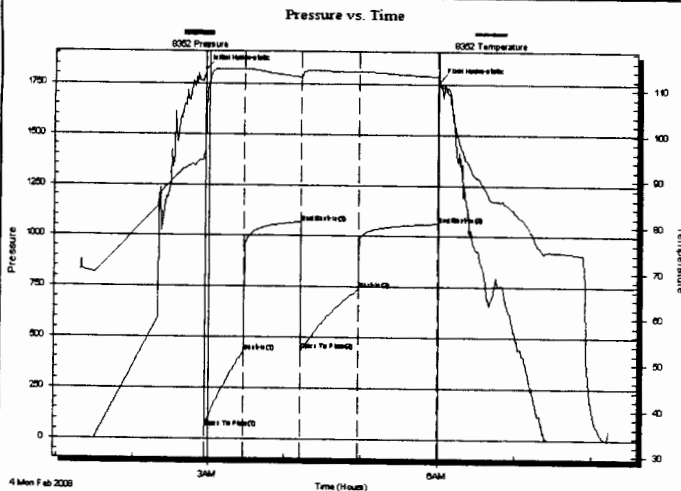
Capacity: 7000.00 psig

Last Calib.: 2008.02.04

Time On Btm: 2008.02.04 @ 02:56:47

Time Off Btm: 2008.02.04 @ 06:00:36

**TEST COMMENT:** IF Strong blow BOB in 3 min  
ISI Bled off blow back built to 3" in bucket  
FF Strong blow BOB in 3.5 min.  
FSI Bled off no blow back



## PRESSURE SUMMARY

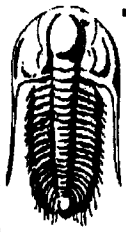
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1820.92	96.52	Initial Hydro-static
1	50.48	96.10	Open To Flow (1)
31	428.15	114.34	Shut-in(1)
76	1063.94	112.77	End Shut-in(1)
77	435.95	112.54	Open To Flow (2)
121	739.67	113.95	Shut-in(2)
183	1060.76	113.03	End Shut-in(2)
184	1765.74	111.93	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1613.00	100%W	21.49
15.00	100%O 34 gravity (corrected)	0.21
0.00	Chlorides = 89,000 ppm	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration Inc

**Wyrill-Circle #1**

PO 783188  
Wichita 67278-3188

**34 5S 23W Norton KS**

Job Ticket: 30700

**DST#: 4**

ATTN: Doug Davis

Test Start: 2008.02.04 @ 01:17:27

### Tool Information

Drill Pipe:	Length: 3469.00 ft	Diameter: 3.80 inches	Volume: 48.66 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 125.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 80000.00 lb
		<b>Total Volume:</b>	<b>49.27 bbl</b>	Tool Chased 2.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3601.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	14.00 ft			
Tool Length:	37.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3583.00	
Hydraulic tool	5.00			3588.00	
Safety Joint	3.00			3591.00	
Packer	5.00			3596.00	23.00 Bottom Of Top Packer
Packer	5.00			3601.00	
Stubb	1.00			3602.00	
Recorder	0.00	6799	Inside	3602.00	
Recorder	0.00	8352	Inside	3602.00	
Perforations	10.00			3612.00	
Bullnose	3.00			3615.00	14.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>37.00</b>				



**TRILOBITE**  
TESTING, INC

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration Inc

**Wyrill-Circle #1**

PO 783188  
Wichita 67278-3188

**34 5S 23W Norton KS**

Job Ticket: 30700      **DST#: 4**

ATTN: Doug Davis

Test Start: 2008.02.04 @ 01:17:27

### 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: 65.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: inches			

### Recovery Information

Recovery Table

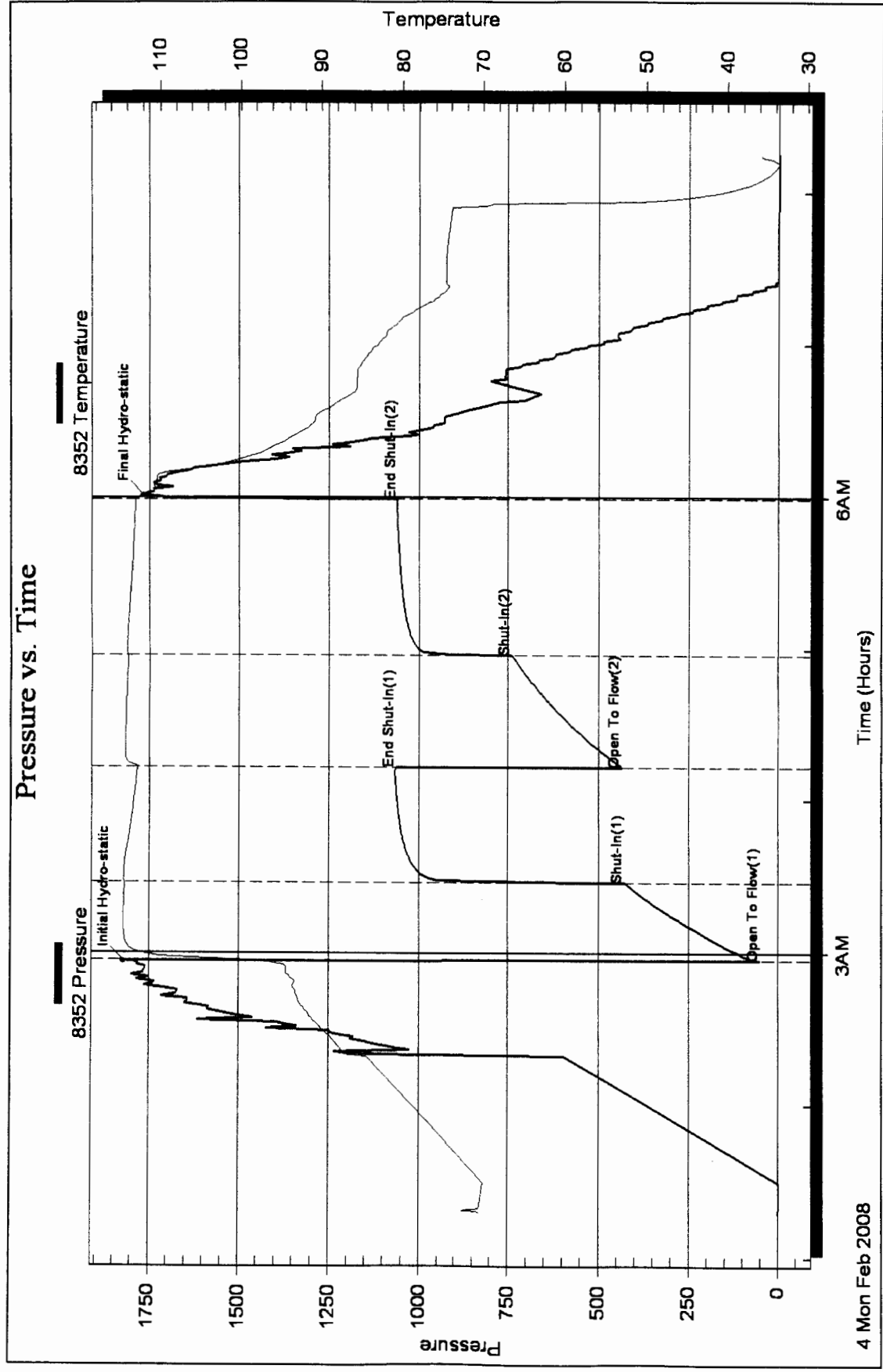
Length ft	Description	Volume bbl
1613.00	100%W	21.487
15.00	100%O 34 gravity (corrected)	0.210
0.00	Chlorides = 89,000 ppm	0.000

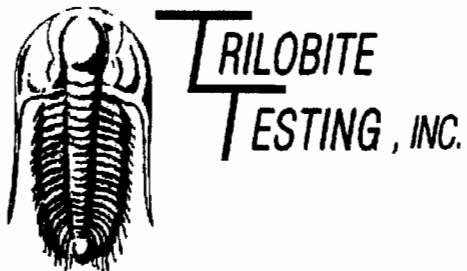
Total Length: 1628.00 ft      Total Volume: 21.697 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc**

PO 783188  
Wichita 67278-3188

ATTN: Doug Davis

**34 5S 23W Norton KS**

**Wyrill-Circle #1**

Start Date: 2008.02.04 @ 17:00:06

End Date: 2008.02.04 @ 23:42:45

Job Ticket #: 31576                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc  
PO 783188  
Wichita 67278-3188  
ATTN: Doug Davis

**Wyrill-Circle #1**  
**34 5S 23W Norton KS**  
Job Ticket: 31576      **DST#: 5**  
Test Start: 2008.02.04 @ 17:00:06

**GENERAL INFORMATION:**

Formation: **Lansing "H-J"**  
Deviated: **No Whipstock:**      ft (KB)  
Time Tool Opened: 18:21:26  
Time Test Ended: 23:42:45  
  
Interval: **3630.00 ft (KB) To 3684.00 ft (KB) (TVD)**  
Total Depth: **3684.00 ft (KB) (TVD)**  
Hole Diameter: **7.88 inches** Hole Condition: **Good**

Test Type: **Conventional Bottom Hole**  
Tester: **Jake Fahrenbruch**  
Unit No: **43**  
  
Reference Elevations:      **2335.00 ft (KB)**  
   **2330.00 ft (CF)**  
KB to GR/CF:      **5.00 ft**

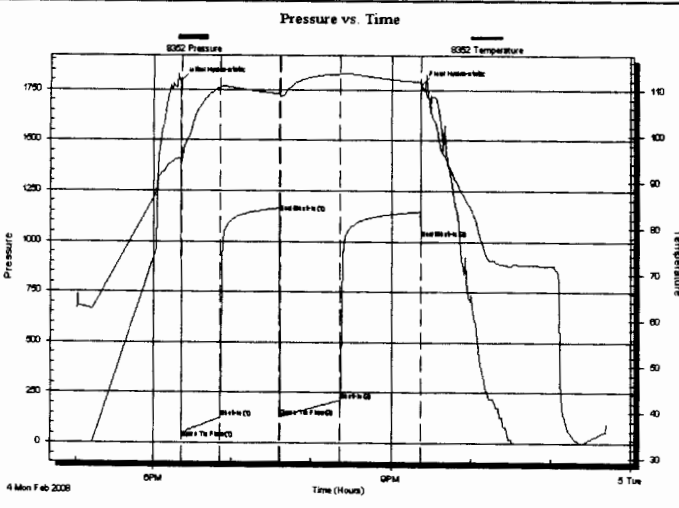
**Serial #: 8352**

**Inside**

Press@RunDepth: **212.29 psig @ 3631.00 ft (KB)**  
Start Date: **2008.02.04**      End Date:      **2008.02.04**  
Start Time: **17:00:08**      End Time:      **23:42:46**

Capacity:      **7000.00 psig**  
Last Calib.:      **2008.02.05**  
Time On Btrn: **2008.02.04 @ 18:21:16**  
Time Off Btrn: **2008.02.04 @ 21:22:36**

**TEST COMMENT:** IF Fair blow BOB 10.5 min  
                                 ISI Bled off 1.5" blow back  
                                 FF Fair blow BOB 17 min  
                                 FSI Bled off 2" blow back



**PRESSURE SUMMARY**

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1792.18	95.15	Initial Hydro-static
1	21.08	94.53	Open To Flow (1)
31	124.06	110.65	Shut-In(1)
76	1139.63	109.13	End Shut-in(1)
76	129.33	108.67	Open To Flow (2)
121	212.29	113.48	Shut-In(2)
181	1017.31	111.74	End Shut-In(2)
182	1777.72	110.62	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
184.00	Water 100%w	1.44
110.00	SOCMW 5%o 40%m 55%w	1.54
45.00	SG&OC WCM 5%G 5%O 20%W 70%M	0.63
114.00	100%O	1.60
0.00	295' GIP, 31.5 corrected gravity	0.00
0.00	85,000 ppm chl	0.00

**Gas Rates**

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration Inc

**Wyrill-Circle #1**

PO 783188  
Wichita 67278-3188

**34 5S 23W Norton KS**

Job Ticket: 31576

**DST#: 5**

ATTN: Doug Davis

Test Start: 2008.02.04 @ 17:00:06

### Tool Information

Drill Pipe:	Length: 3500.00 ft	Diameter: 3.80 inches	Volume: 49.10 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 125.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 70000.00 lb
		Total Volume: 49.71 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	3630.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	77.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3612.00	
Hydraulic tool	5.00			3617.00	
Safety Joint	3.00			3620.00	
Packer	5.00			3625.00	23.00 Bottom Of Top Packer
Packer	5.00			3630.00	
Stubb	1.00			3631.00	
Recorder	0.00	6799	Inside	3631.00	
Recorder	0.00	8352	Inside	3631.00	
Perforations	17.00			3648.00	
Blank Spacing	33.00			3681.00	
Bullnose	3.00			3684.00	54.00 Bottom Packers & Anchor

**Total Tool Length: 77.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Ritchie Exploration Inc

**Wyrill-Circle #1**

PO 783188  
Wichita 67278-3188

**34 5S 23W Norton KS**

Job Ticket: 31576

**DST#: 5**

ATTN: Doug Davis

Test Start: 2008.02.04 @ 17:00:06

**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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
184.00	Water 100%w	1.442
110.00	SOCMW 5%o 40%m 55%w	1.543
45.00	SG&OC WCM 5%G 5%O 20%W 70%M	0.631
114.00	100%O	1.599
0.00	295' GIP, 31.5 corrected gravity	0.000
0.00	85,000 ppm chl	0.000

Total Length: 453.00 ft

Total Volume: 5.215 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

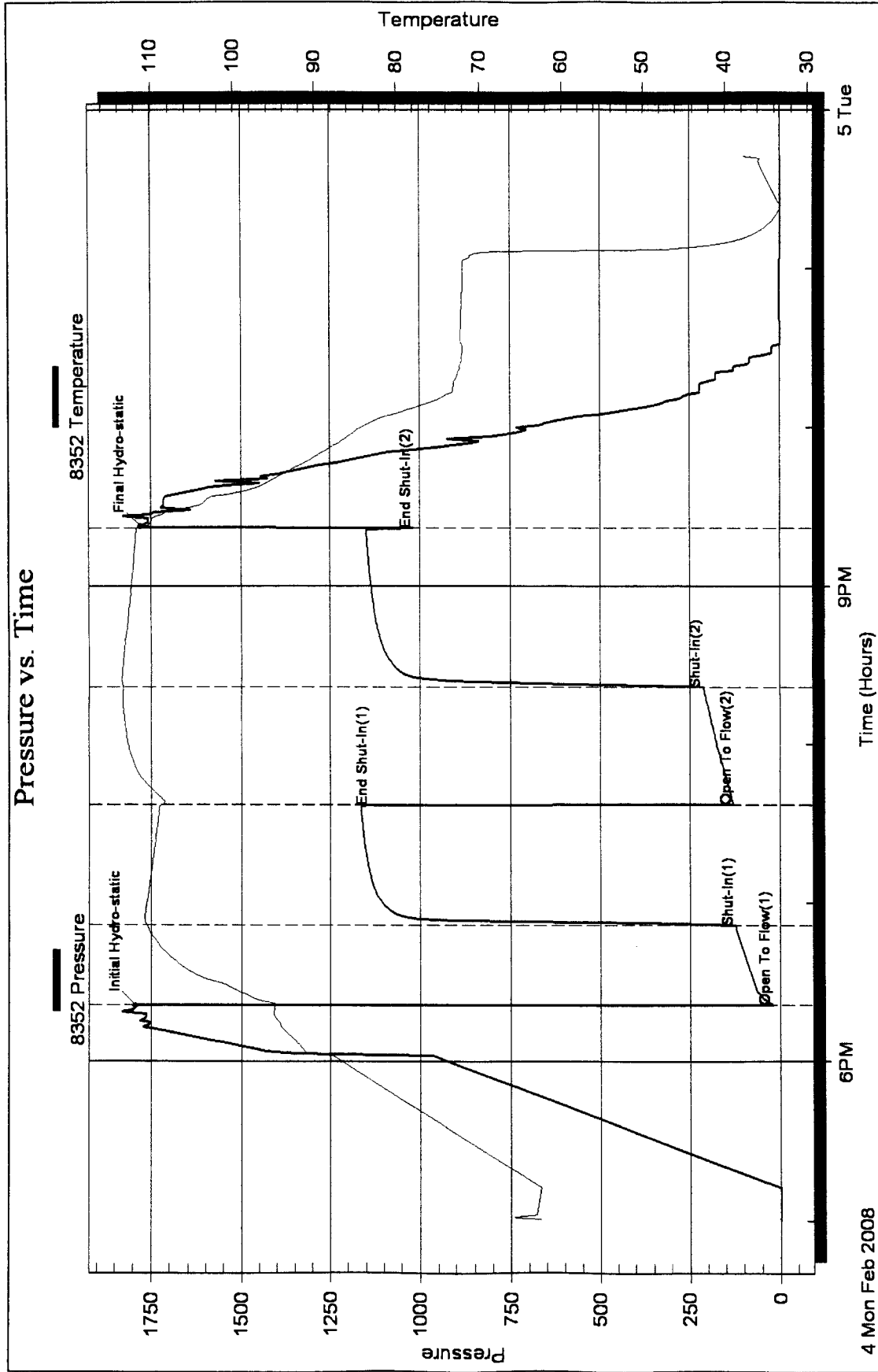
Serial #:

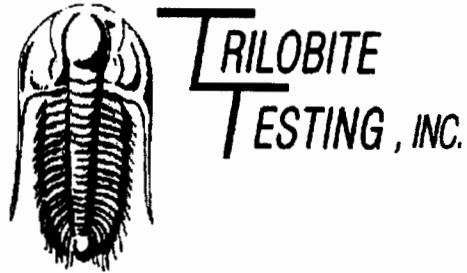
Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc**

PO 783188  
Wichita 67278-3188

ATTN: Doug Davis

**34 5S 23W Norton KS**

**Wyrill-Circle #1**

Start Date: 2008.02.05 @ 05:25:00

End Date: 2008.02.05 @ 11:09:30

Job Ticket #: 31577                      DST #: 6

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc

PO 783188  
Wichita 67278-3188

ATTN: Doug Davis

**Wyrill-Circle #1**

**34 5S 23W Norton KS**

Job Ticket: 31577

**DST#: 6**

Test Start: 2008.02.05 @ 05:25:00

## GENERAL INFORMATION:

Formation: **Lansing "K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:21:30

Time Test Ended: 11:09:30

Test Type: Conventional Bottom Hole

Tester: Jake Fahrenbruch

Unit No: 43

Interval: **3684.00 ft (KB) To 3700.00 ft (KB) (TVD)**

Total Depth: 3700.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2335.00 ft (KB)

2330.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8352 Inside**

Press@RunDepth: 13.50 psig @ 3685.00 ft (KB)

Start Date: 2008.02.05

End Date:

2008.02.05

Capacity: 7000.00 psig

Last Calib.: 2008.02.05

Start Time: 05:25:02

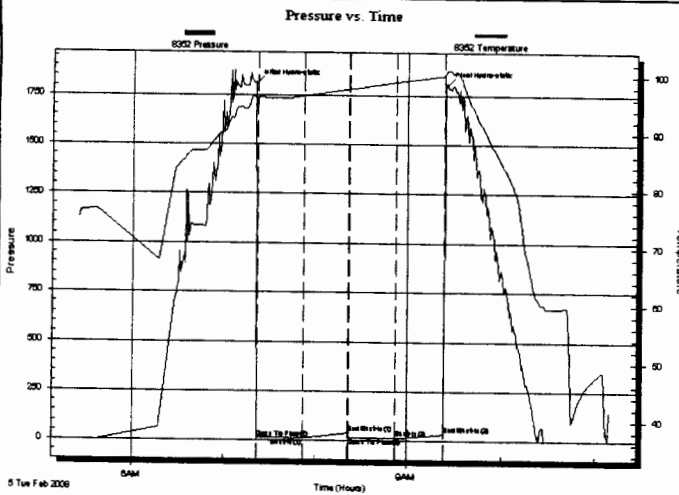
End Time:

11:09:30

Time On Btrn: 2008.02.05 @ 07:20:40

Time Off Btrn: 2008.02.05 @ 09:25:20

**TEST COMMENT:** IF Weak .25" blow died after 15 min  
ISI No blow  
FF No blow  
FSI No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1808.46	96.23	Initial Hydro-static
1	12.40	95.86	Open To Flow (1)
32	12.36	96.47	Shut-In(1)
61	40.45	97.72	End Shut-In(1)
62	13.53	97.71	Open To Flow (2)
92	13.50	98.93	Shut-In(2)
123	33.28	100.07	End Shut-In(2)
125	1801.38	100.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	OCM 15%O 85%M (estimated)	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration Inc

**Wyrill-Circle #1**

PO 783188  
Wichita 67278-3188

**34 5S 23W Norton KS**

Job Ticket: 31577

**DST#: 6**

ATTN: Doug Davis

Test Start: 2008.02.05 @ 05:25:00

### Tool Information

Drill Pipe:	Length: 3562.00 ft	Diameter: 3.80 inches	Volume: 49.97 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 125.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 80000.00 lb
		Total Volume: 50.58 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3684.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	39.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3666.00	
Hydraulic tool	5.00			3671.00	
Safety Joint	3.00			3674.00	
Packer	5.00			3679.00	23.00 Bottom Of Top Packer
Packer	5.00			3684.00	
Stubb	1.00			3685.00	
Recorder	0.00	6799	Inside	3685.00	
Recorder	0.00	8352	Inside	3685.00	
Perforations	12.00			3697.00	
Bullnose	3.00			3700.00	16.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>39.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration Inc

**Wyrill-Circle #1**

PO 783188  
Wichita 67278-3188

**34 5S 23W Norton KS**

Job Ticket: 31577      **DST#: 6**

ATTN: Doug Davis

Test Start: 2008.02.05 @ 05:25:00

## 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: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.80 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2100.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	OCM 15%O 85%M (estimated)	0.005

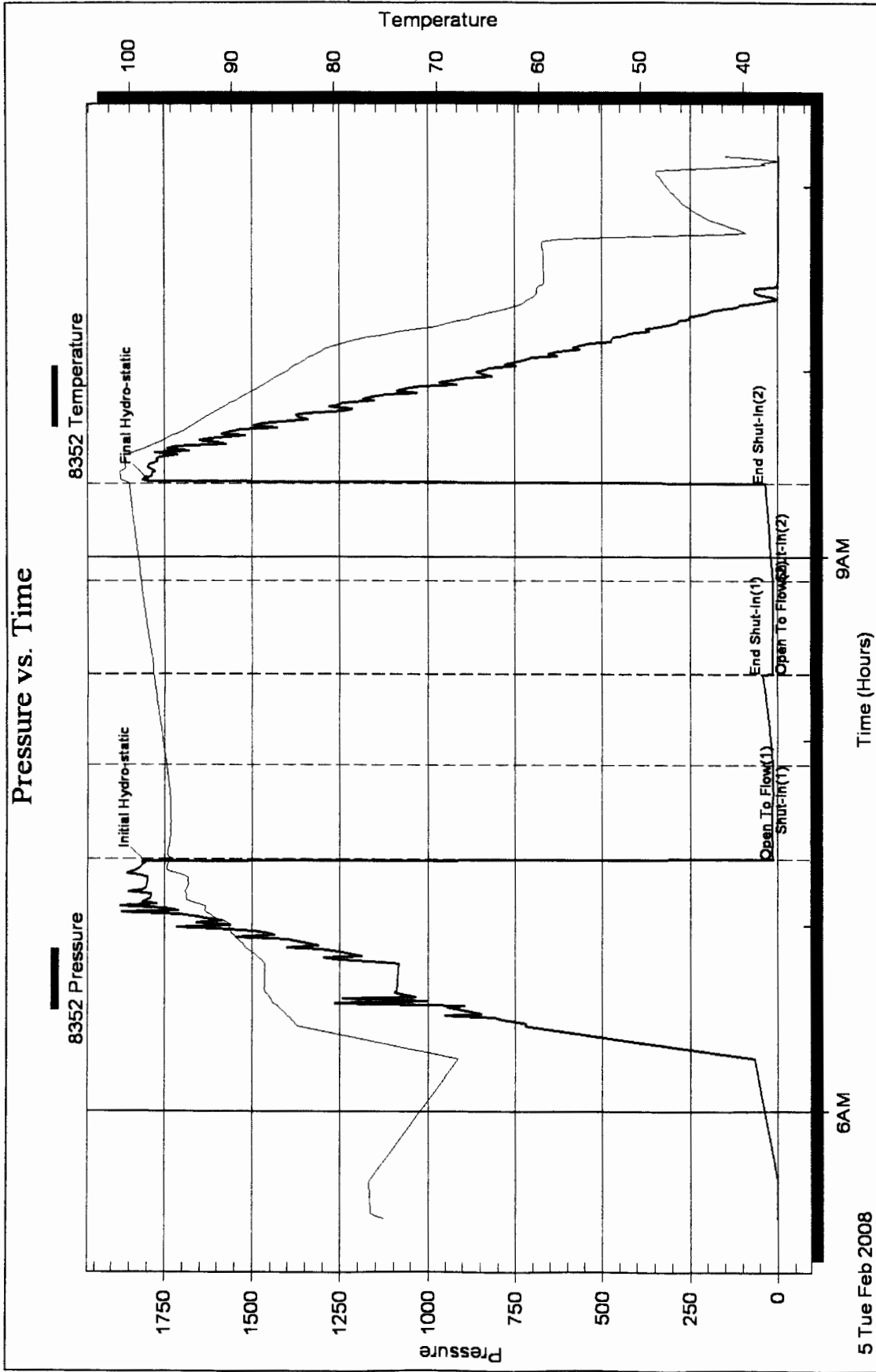
Total Length: 1.00 ft      Total Volume: 0.005 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

### Pressure vs. Time



5 Tue Feb 2008 6AM

9AM