

15-145-21584

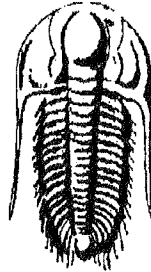
29-22s-15w

IND

CONFIDENTIAL

JUN 2 8 2009

1408



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Terry McLeod

**29 22s 15w Pawnee KS**

**Fox #1-29**

Start Date: 2009.04.06 @ 10:09:27

End Date: 2009.04.06 @ 17:02:42

Job Ticket #: 33891                      DST #: 1

RECEIVED  
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KCC WICHITA

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Murfin Drilling Co.

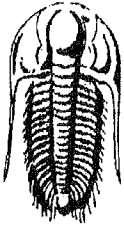
Fox #1-29

29 22s 15w Pawnee KS

DST # 1

Howard

2009.04.06



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Terry McLeod

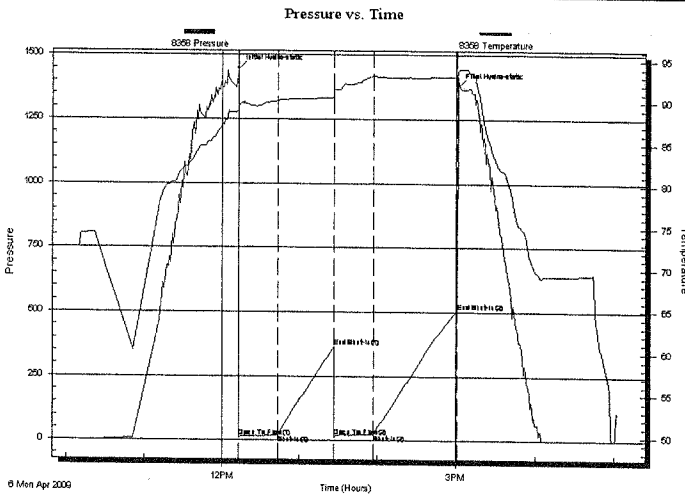
**Fox #1-29**  
**29 22s 15w Pawnee KS**  
Job Ticket: 33891      **DST#: 1**  
Test Start: 2009.04.06 @ 10:09:27

## GENERAL INFORMATION:

Formation: **Howard**  
Deviated: No    Whipstock:                      ft (KB)  
Time Tool Opened: 12:13:12  
Time Test Ended: 17:02:42  
Interval: **2984.00 ft (KB) To 2995.00 ft (KB) (TVD)**  
Total Depth: 2995.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches    Hole Condition: Fair  
Test Type: Conventional Bottom Hole  
Tester: Kevin Taylor  
Unit No: 31  
Reference Elevations: 2008.00 ft (KB)  
2003.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8358      Inside**  
Press@RunDepth: 23.26 psig @ 2985.00 ft (KB)      Capacity: 7000.00 psig  
Start Date: 2009.04.06      End Date: 2009.04.06      Last Calib.: 2009.04.06  
Start Time: 10:09:32      End Time: 17:02:41      Time On Btm: 2009.04.06 @ 12:12:57  
Time Off Btm: 2009.04.06 @ 15:01:27

**TEST COMMENT:** IF Weak Blow Built To 1 1/4" Died In 25 Min  
ISI No Blow  
FF Weak Blow Built To 1" Died In 5 Min  
FSI No Blow



## PRESSURE SUMMARY

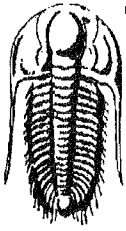
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1445.83	89.00	Initial Hydro-static
1	13.58	89.37	Open To Flow (1)
31	18.71	90.17	Shut-In(1)
74	364.16	90.57	End Shut-In(1)
75	15.48	91.44	Open To Flow (2)
105	23.26	93.12	Shut-In(2)
169	505.25	93.09	End Shut-In(2)
169	1378.77	93.50	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud	0.11

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

JUN 28 2009 **TOOL DIAGRAM**

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Terry McLeod

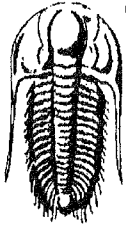
**Fox #1-29** *KBG*  
**29 22s 15w Pawnee KS**  
Job Ticket: 33891 **DST#: 1**  
Test Start: 2009.04.06 @ 10:09:27

**Tool Information**

Drill Pipe:	Length: 2871.00 ft	Diameter: 3.88 inches	Volume: 41.99 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.75 inches	Volume: 0.88 bbl	Weight to Pull Loose: 80000.00 lb
			<b>Total Volume: 42.87 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	2984.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	11.00 ft			
Tool Length:	34.00 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			2966.00	
Hydraulic tool	5.00			2971.00	
Safety Joint	3.00			2974.00	
Packer	5.00			2979.00	23.00 Bottom Of Top Packer
Packer	5.00			2984.00	
Stubb	1.00			2985.00	
Recorder	0.00	8358	Inside	2985.00	
Recorder	0.00	6668	Inside	2985.00	
Perforations	7.00			2992.00	
Bullnose	3.00			2995.00	11.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>34.00</b>				



**TRILOBITE**  
TESTING, INC

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Terry McLeod

**Fox #1-29**  
**29 22s 15w Pawnee KS**  
Job Ticket: 33891      DST#: 1  
Test Start: 2009.04.06 @ 10:09:27

## 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: 94.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.56 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3400.00 ppm			
Filter Cake: 0.02 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	Mud	0.110

Total Length: 15.00 ft      Total Volume: 0.110 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

DST Test Number: 1

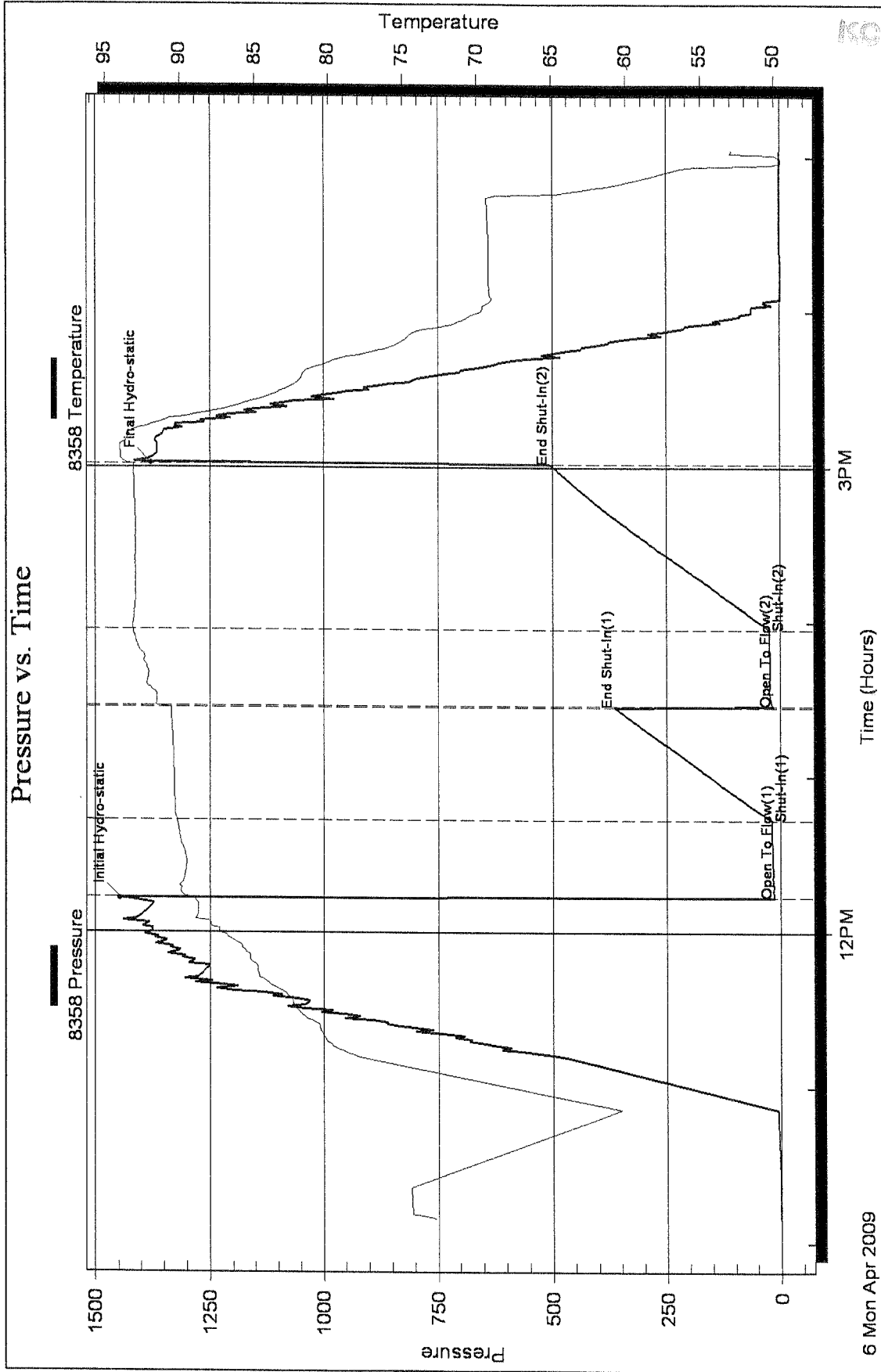
29 22s 15w Pawnee KS

Murfin Drilling Co.

Inside

Serial #: 8358

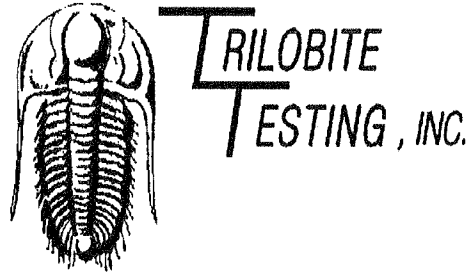
### Pressure vs. Time



CONFIDENTIAL

JUN 23 2009

KCC



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Terry McLeod

**29 22s 15w Pawnee KS**

**Fox #1-29**

Start Date: 2009.04.08 @ 12:27:21

End Date: 2009.04.08 @ 21:19:51

Job Ticket #: 33892                      DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Murfin Drilling Co.

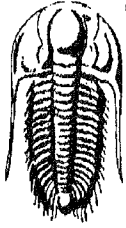
Fox #1-29

29 22s 15w Pawnee KS

DST # 2

LKC "H, I, J"

2009.04.08



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Terry McLeod

**Fox #1-29**  
**29 22s 15w Pawnee KS**  
Job Ticket: 33892      **DST#: 2**  
Test Start: 2009.04.08 @ 12:27:21

## GENERAL INFORMATION:

Formation: **LKC "H, I, J"**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 15:05:21  
Time Test Ended: 21:19:51  
Test Type: Conventional Bottom Hole  
Tester: Kevin Taylor  
Unit No: 31  
Interval: **3660.00 ft (KB) To 3725.00 ft (KB) (TVD)**  
Total Depth: 3725.00 ft (KB) (TVD)  
Reference Elevations: 2008.00 ft (KB)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
2003.00 ft (CF)  
KB to GR/CF: 5.00 ft

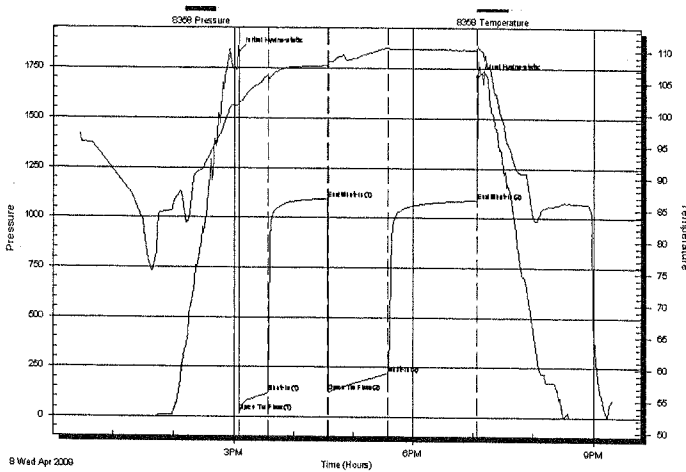
## Serial #: 8358

Inside

Press@RunDepth: 219.62 psig @ 3661.00 ft (KB)      Capacity: 7000.00 psig  
Start Date: 2009.04.08      End Date: 2009.04.08      Last Calib.: 2009.04.08  
Start Time: 12:27:26      End Time: 21:19:51      Time On Btm: 2009.04.08 @ 15:05:06  
Time Off Btm: 2009.04.08 @ 19:04:21

TEST COMMENT: IF Fair Blow BOB 30 Sec  
ISI Bled Off 5 Mn No Blow  
FF Fair Blow Built To 10" In 60 Mn  
FSI Bled Off 5 Mn No Blow

Pressure vs. Time



## PRESSURE SUMMARY

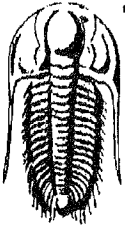
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1833.68	101.69	Initial Hydro-static
1	23.08	101.81	Open To Flow (1)
29	121.13	106.07	Shut-In(1)
89	1094.99	107.69	End Shut-In(1)
89	125.83	108.22	Open To Flow (2)
150	219.62	110.52	Shut-In(2)
239	1088.24	110.19	End Shut-In(2)
240	1708.64	110.77	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
189.00	SMW 10%M 90%W	1.89
126.00	MW 25%M 75%W	1.84
63.00	MW 50%W 50%M	0.92
63.00	SOWCM 5%O 35%W 60%M	0.92

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

CONFIDENTIAL

TOOL DIAGRAM

JUN 28 2009

Murfin Drilling Co.

Fox #1-29

250 N. Water STE 300  
Wichita, KS 67202

29 22s 15w Pawnee KS

Job Ticket: 33892

DST#: 2

ATTN: Terry McLeod

Test Start: 2009.04.08 @ 12:27:21

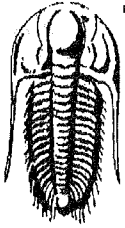
## Tool Information

Drill Pipe:	Length: 3528.00 ft	Diameter: 3.88 inches	Volume: 51.59 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.75 inches	Volume: 0.88 bbl	Weight to Pull Loose: 80000.00 lb
			Total Volume: 52.47 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3660.00 ft			Final 67000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.00 ft			
Tool Length:	88.00 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			3642.00	
Hydraulic tool	5.00			3647.00	
Safety Joint	3.00			3650.00	
Packer	5.00			3655.00	23.00 Bottom Of Top Packer
Packer	5.00			3660.00	
Stubb	1.00			3661.00	
Recorder	0.00	8358	Inside	3661.00	
Recorder	0.00	6668	Inside	3661.00	
Perforations	5.00			3666.00	
Change Over Sub	1.00			3667.00	
Drill Pipe	31.00			3698.00	
Change Over Sub	1.00			3699.00	
Perforations	23.00			3722.00	
Bullnose	3.00			3725.00	65.00 Bottom Packers & Anchor

**Total Tool Length: 88.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Terry McLeod

**Fox #1-29**  
**29 22s 15w Pawnee KS**  
Job Ticket: 33892      **DST#: 2**  
Test Start: 2009.04.08 @ 12:27:21

**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:	21000 ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.95 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7500.00 ppm			
Filter Cake: 0.02 inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
189.00	SMW 10%M 90%W	1.891
126.00	MW 25%M 75%W	1.843
63.00	MW 50%W 50%M	0.921
63.00	SOWCM 5%O 35%W 60%M	0.921

Total Length: 441.00 ft      Total Volume: 5.576 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

JUN 28 2009

DST Test Number: 2

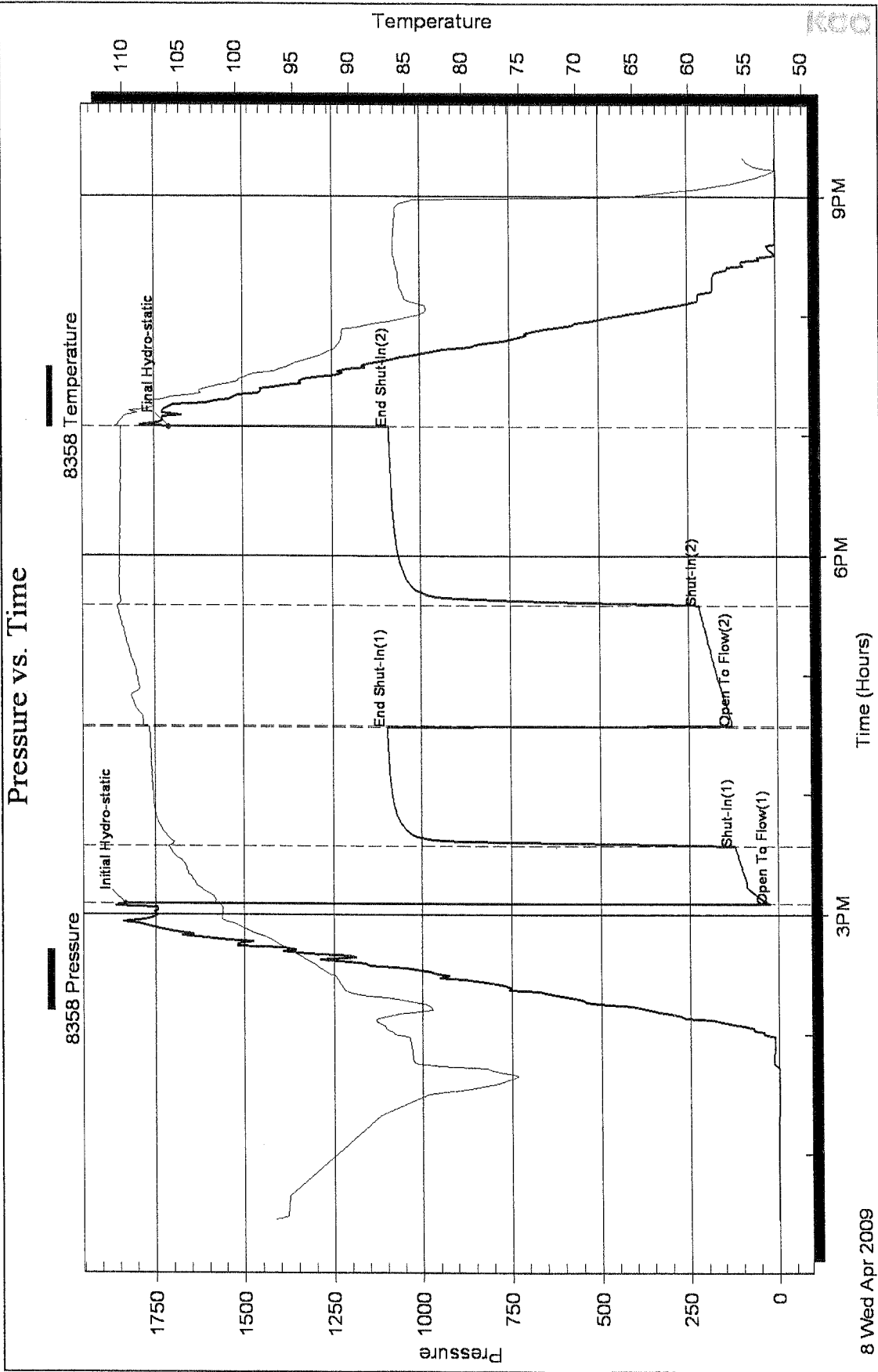
29 22s 15w Pawnee KS

Murfin Drilling Co.

Inside

Serial #: 8358

### Pressure vs. Time



8 Wed Apr 2009

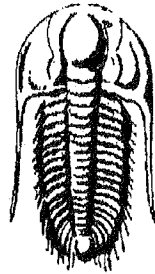
Ref. No: 33892

Trilobite Testing, Inc

CONFIDENTIAL

JUN 28 2009

KCO



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Terry McLeod

**29 22s 15w Pawnee KS**

**Fox #1-29**

Start Date: 2009.04.09 @ 17:11:53

End Date: 2009.04.10 @ 01:03:53

Job Ticket #: 33893                      DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Murfin Drilling Co.

Fox #1-29

29 22s 15w Pawnee KS

DST # 3

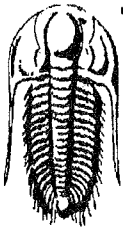
Simpson Sand

2009.04.09



JUN 28 2009

TOOL DIAGRAM



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Terry McLeod

Fox #1-29 **1009**  
**29 22s 15w Pawnee KS**  
Job Ticket: 33893      DST#: 3  
Test Start: 2009.04.09 @ 17:11:53

**Tool Information**

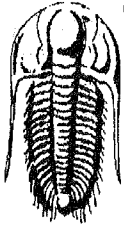
Drill Pipe:	Length: 3807.00 ft	Diameter: 3.88 inches	Volume: 55.67 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.75 inches	Volume: 0.88 bbl	Weight to Pull Loose: 67000.00 lb
			<u>Total Volume: 56.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3935.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	63.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

**Length (ft)    Serial No.    Position    Depth (ft)    Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3917.00	
Hydraulic tool	5.00			3922.00	
Safety Joint	3.00			3925.00	
Packer	5.00			3930.00	23.00      Bottom Of Top Packer
Packer	5.00			3935.00	
Stubb	1.00			3936.00	
Recorder	0.00	8358	Inside	3936.00	
Recorder	0.00	6668	Inside	3936.00	
Perforations	36.00			3972.00	
Bullnose	3.00			3975.00	40.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>63.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**Fox #1-29**

250 N. Water STE 300  
Wichita, KS 67202

**29 22s 15w Pawnee KS**

Job Ticket: 33893

**DST#: 3**

ATTN: Terry McLeod

Test Start: 2009.04.09 @ 17:11:53

## 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: 94.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.55 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3400.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
15.00	Mud	0.110

Total Length: 15.00 ft

Total Volume: 0.110 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

JUN 28 2009

1300

DST Test Number: 3

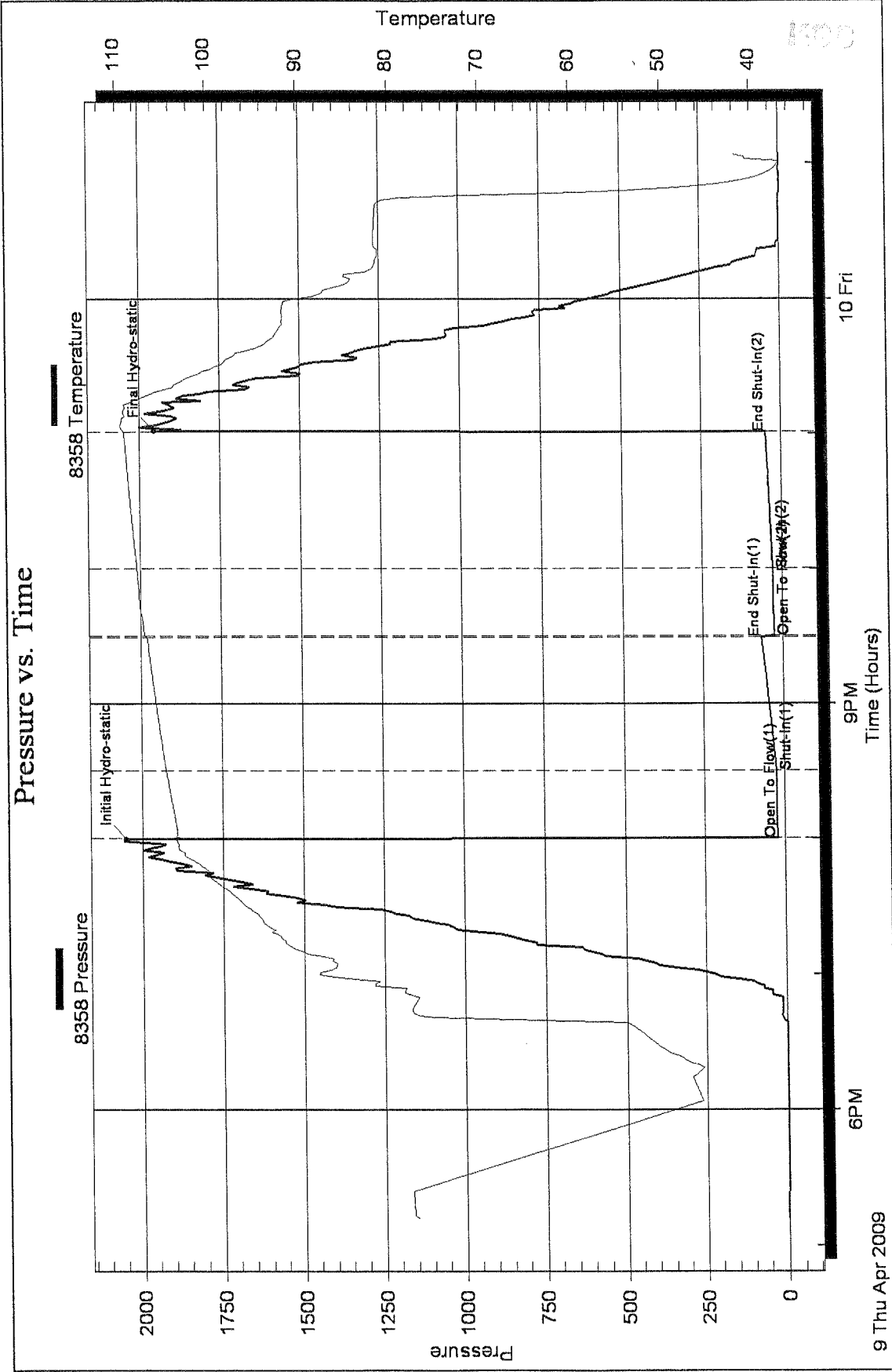
29 22s 15w Pawnee KS

Murfin Drilling Co.

Inside

Serial #: 8358

### Pressure vs. Time



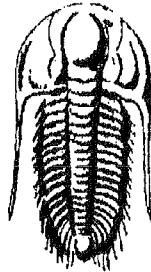
Ref. No: 33893

Trilobite Testing, Inc

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JUN 23 2009

12:53



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Terry McLeod

**29 22s 15w Pawnee KS**

**Fox #1-29**

Start Date: 2009.04.10 @ 08:22:01

End Date: 2009.04.10 @ 12:53:46

Job Ticket #: 33893                      DST #: 4

Trilobite Testing, Inc

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

Murfin Drilling Co.

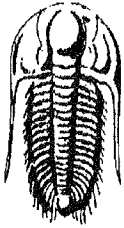
Fox #1-29

29 22s 15w Pawnee KS

DST # 4

Arbuckle

2009.04.10



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Terry McLeod

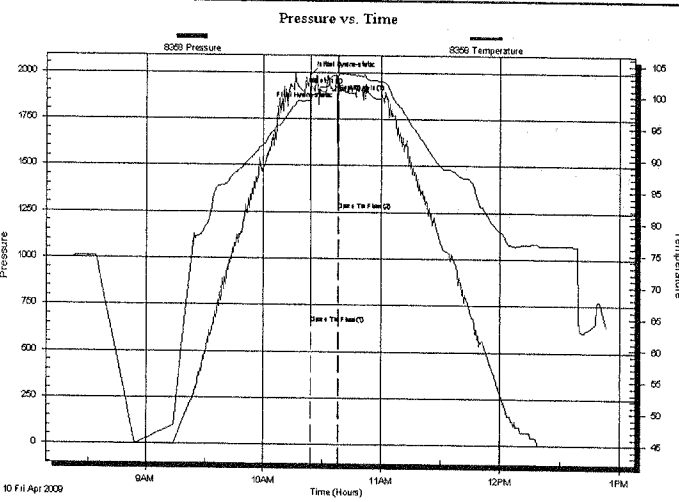
**Fox #1-29**  
**29 22s 15w Pawnee KS**  
Job Ticket: 33893      **DST#: 4**  
Test Start: 2009.04.10 @ 08:22:01

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No      Whipstock:      ft (KB)  
Time Tool Opened: 10:24:16  
Time Test Ended: 12:53:46  
Interval: **3934.00 ft (KB) To 3985.00 ft (KB) (TVD)**  
Total Depth: 3985.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches      Hole Condition: Fair  
Test Type: Conventional Bottom Hole  
Tester: Kevin Taylor  
Unit No: 31  
Reference Elevations: 2008.00 ft (KB)  
2003.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8358      Inside**  
Press@RunDepth: 1933.60 psig @ 3935.00 ft (KB)      Capacity: 7000.00 psig  
Start Date: 2009.04.10      End Date: 2009.04.10      Last Calib.: 2009.04.10  
Start Time: 08:22:06      End Time: 12:53:45      Time On Btm: 2009.04.10 @ 10:24:01  
Time Off Btm: 2009.04.10 @ 10:38:31

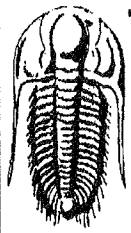
**TEST COMMENT:** Packer Failer. Slid tool 8' open tool before on bottom. Picked up tool tried to reset tool, tool slid 2' opened tool before on bottom. Picked up tool tried to reset packers 2 more times. Mis-Run



PRESSURE SUMMARY			
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1983.97	99.32	Initial Hydro-static
1	646.30	98.34	Open To Flow (1)
1	1933.60	99.63	Shut-In(1)
14	1257.27	102.26	Open To Flow (2)
14	1885.42	103.07	Shut-In(2)
15	1944.48	103.34	End Shut-In(1)
15	1938.66	103.44	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
240.00	Mud	2.64

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

JUN 28 2009 **TOOL DIAGRAM**

Murfin Drilling Co.

**Fox #1-29** **K09**

250 N. Water STE 300  
Wichita, KS 67202

**29 22s 15w Pawnee KS**

Job Ticket: 33893

**DST#: 4**

ATTN: Terry McLeod

Test Start: 2009.04.10 @ 08:22:01

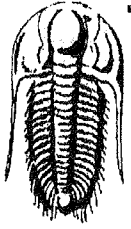
**Tool Information**

Drill Pipe:	Length: 3838.00 ft	Diameter: 3.88 inches	Volume: 56.13 bbl	Tool Weight:	2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.75 inches	Volume: 0.88 bbl	Weight to Pull Loose:	64000.00 lb
		Total Volume: 57.01 bbl		Tool Chased	8.00 ft
Drill Pipe Above KB:	47.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	3934.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	51.00 ft				
Tool Length:	74.00 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			3916.00	
Hydraulic tool	5.00			3921.00	
Safety Joint	3.00			3924.00	
Packer	5.00			3929.00	23.00 Bottom Of Top Packer
Packer	5.00			3934.00	
Stubb	1.00			3935.00	
Recorder	0.00	8358	Inside	3935.00	
Recorder	0.00	6668	Inside	3935.00	
Perforations	5.00			3940.00	
Change Over Sub	1.00			3941.00	
Drill Pipe	31.00			3972.00	
Change Over Sub	1.00			3973.00	
Perforations	9.00			3982.00	
Bullnose	3.00			3985.00	51.00 Bottom Packers & Anchor

**Total Tool Length: 74.00**



**TRILOBITE**  
TESTING, INC

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Terry McLeod

**Fox #1-29**  
**29 22s 15w Pawnee KS**  
Job Ticket: 33893      **DST#: 4**  
Test Start: 2009.04.10 @ 08:22:01

## 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: 10.57 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 9500.00 ppm			
Filter Cake: 0.02 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
240.00	Mud	2.636

Total Length: 240.00 ft      Total Volume: 2.636 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

JUN 28 2009

DST Test Number: 4

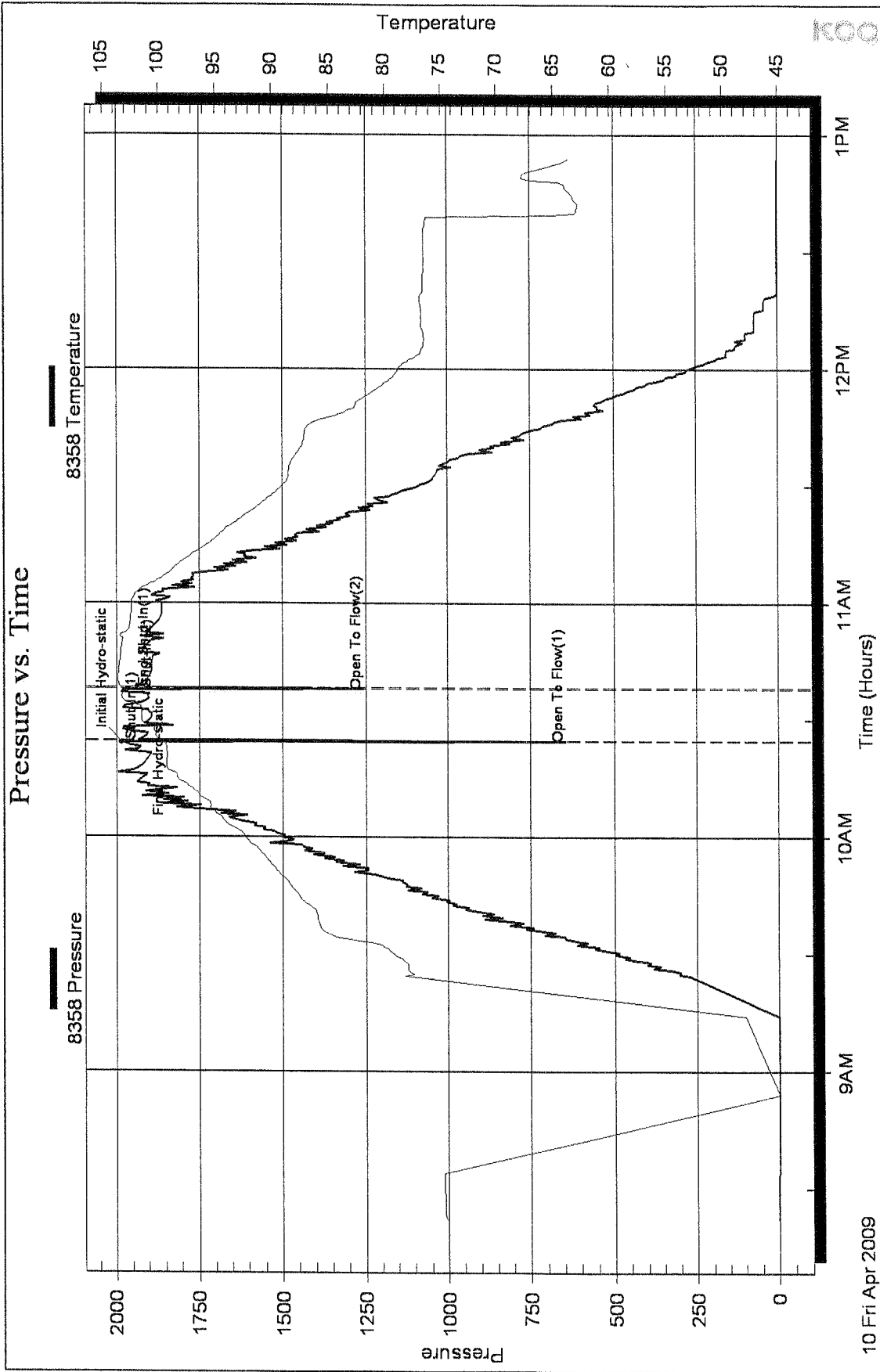
29 22s 15w Pawnee KS

Murfin Drilling Co.

Inside

Serial #: 8358

### Pressure vs. Time



Ref. No: 33893

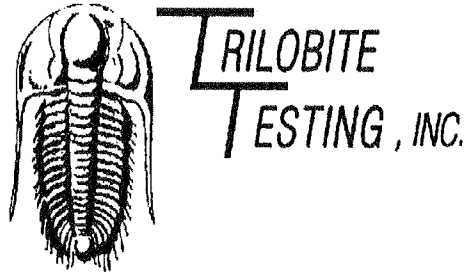
Trilobite Testing, Inc

10 Fri Apr 2009

CONFIDENTIAL

JUN 28 2009

KSD



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Terry McLeod

**29 22s 15w Pawnee KS**

**Fox #1-29**

Start Date: 2009.04.10 @ 20:27:34

End Date: 2009.04.11 @ 04:28:49

Job Ticket #: 33895                      DST #: 5

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Murfin Drilling Co.

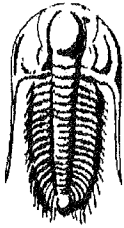
Fox #1-29

29 22s 15w Pawnee KS

DST # 5

Arbuckle

2009.04.10



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Terry McLeod

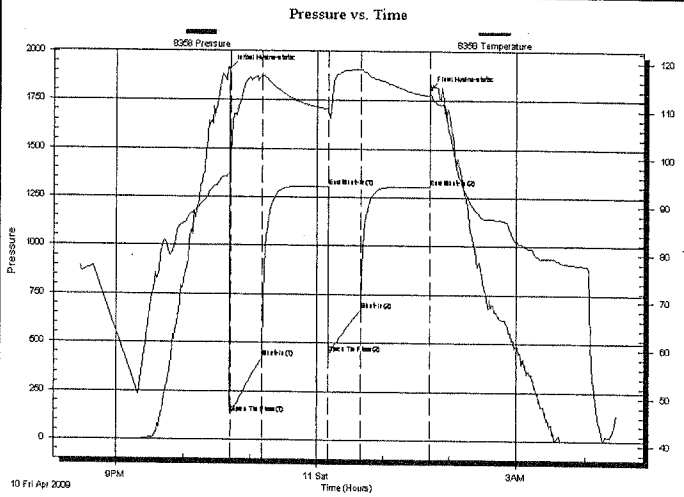
**Fox #1-29**  
**29 22s 15w Pawnee KS**  
Job Ticket: 33895      **DST#: 5**  
Test Start: 2009.04.10 @ 20:27:34

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 22:42:04  
Time Test Ended: 04:28:49  
Interval: **3912.00 ft (KB) To 3985.00 ft (KB) (TVD)**  
Total Depth: 3985.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole  
Tester: Kevin Taylor  
Unit No: 31  
Reference Elevations: 2008.00 ft (KB)  
2003.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8358**      **Inside**  
Press@RunDepth: 670.32 psig @ 3913.00 ft (KB)      Capacity: 7000.00 psig  
Start Date: 2009.04.10      End Date: 2009.04.11      Last Calib.: 2009.04.11  
Start Time: 20:27:39      End Time: 04:28:48      Time On Btm: 2009.04.10 @ 22:41:19  
Time Off Btm: 2009.04.11 @ 01:42:49

**TEST COMMENT:** IF Strong Blow BOB 2 Mn  
ISI Bled Off 5 Mn No Blow  
FF Strong Blow BOB 3 Mn  
FSI Bled Off 5 Mn No Blow



## PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1911.14	96.59	Initial Hydro-static
1	136.47	95.79	Open To Flow (1)
30	421.75	117.32	Shut-In(1)
89	1307.03	110.28	End Shut-In(1)
89	449.52	110.12	Open To Flow (2)
119	670.32	118.68	Shut-In(2)
182	1307.22	113.10	End Shut-In(2)
182	1805.83	113.67	Final Hydro-static

## Recovery

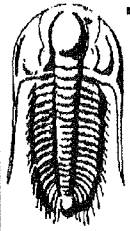
Length (ft)	Description	Volume (bbl)
1260.00	MW 10%M 90%W TR G	17.55
315.00	MW 35%M 65%W TR G	4.61
10.00	VSOCMW 3%O 57%W 40%M TR G	0.15

## Gas Rates

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

JUN 28 2009

TOOL DIAGRAM



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Terry McLeod

**Fox #1-29**  
**29 22s 15w Pawnee KS**  
Job Ticket: 33895      **DST#: 5**  
Test Start: 2009.04.10 @ 20:27:34

**Tool Information**

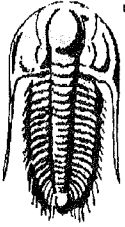
Drill Pipe:	Length: 3777.00 ft	Diameter: 3.88 inches	Volume: 55.24 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.75 inches	Volume: 0.88 bbl	Weight to Pull Loose: 84000.00 lb
			<u>Total Volume: 56.12 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3912.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	73.00 ft			
Tool Length:	96.00 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			3894.00	
Hydraulic tool	5.00			3899.00	
Safety Joint	3.00			3902.00	
Packer	5.00			3907.00	23.00 Bottom Of Top Packer
Packer	5.00			3912.00	
Stubb	1.00			3913.00	
Recorder	0.00	8358	Inside	3913.00	
Recorder	0.00	6668	Inside	3913.00	
Perforations	5.00			3918.00	
Change Over Sub	1.00			3919.00	
Drill Pipe	31.00			3950.00	
Change Over Sub	1.00			3951.00	
Perforations	31.00			3982.00	
Bullnose	3.00			3985.00	73.00 Bottom Packers & Anchor

**Total Tool Length: 96.00**



**TRILOBITE**  
TESTING, INC

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Terry McLeod

**Fox #1-29**  
**29 22s 15w Pawnee KS**  
Job Ticket: 33895      **DST#: 5**  
Test Start: 2009.04.10 @ 20:27:34

**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:	125000 ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.17 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7600.00 ppm			
Filter Cake: 0.02 inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
1260.00	MW 10%M 90%W TR G	17.553
315.00	MW 35%M 65%W TR G	4.607
10.00	VSOCMW 3%O 57%W 40%M TR G	0.146

Total Length: 1585.00 ft      Total Volume: 22.306 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

DST Test Number: 5

29 22s 15w Pawnee KS

Murfin Drilling Co.

Inside

Serial #: 8358

### Pressure vs. Time

