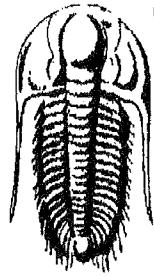


15-109-20821

25-12s-33w

IND



**TRILOBITE  
TESTING, INC.**

### DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling**

250 N Water Suite 300  
Wichita, KS 67202

ATTN: Tom Funk

**25 12 33 Logan KS**

**Gary # 1-25**

Start Date: 2008.10.05 @ 07:13:07

End Date: 2008.10.05 @ 15:04:07

Job Ticket #: 32195                      DST #: 1

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PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Murfin Drilling

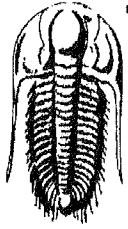
Gary # 1-25

25 12 33 Logan KS

DST # 1

Kansas City 1, J

2008.10.05



**TRILOBITE  
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# DRILL STEM TEST REPORT

Murfin Drilling  
250 N Water Suite 300  
Wichita, KS 67202  
ATTN: Tom Funk

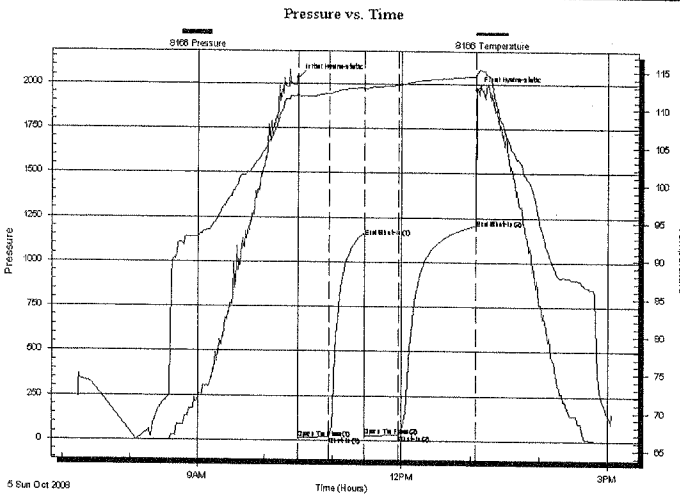
**Gary # 1-25**  
**25 12 33 Logan KS**  
Job Ticket: 32195      **DST#: 1**  
Test Start: 2008.10.05 @ 07:13:07

## GENERAL INFORMATION:

Formation: **Kansas City I, J**  
Deviated: No      Whipstock:      ft (KB)  
Time Tool Opened: 10:29:22  
Time Test Ended: 15:04:07  
Interval: **4227.00 ft (KB) To 4274.00 ft (KB) (TVD)**  
Total Depth: 4292.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches      Hole Condition: Good  
Test Type: Conventional Bottom Hole  
Tester: Kyle Wiley  
Unit No: 30  
Reference Elevations: 3086.00 ft (KB)  
3076.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8166      Inside**  
Press@RunDepth: 32.65 psig @ 4239.00 ft (KB)      Capacity: 7000.00 psig  
Start Date: 2008.10.05      End Date: 2008.10.05      Last Calib.: 2008.10.05  
Start Time: 07:13:12      End Time: 15:04:06      Time On Btm: 2008.10.05 @ 10:29:07  
Time Off Btm: 2008.10.05 @ 13:04:22

TEST COMMENT: IF: 1/4 BLOW died off 20 min  
IS: NO RETURN  
FF: NO BLOW  
FS: NO RETURN



## PRESSURE SUMMARY

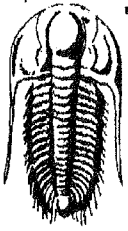
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2032.01	112.13	Initial Hydro-static
1	12.71	111.57	Open To Flow (1)
28	20.99	112.08	Shut-In(1)
58	1142.70	112.87	End Shut-In(1)
59	26.43	112.61	Open To Flow(2)
89	32.65	113.23	Shut-In(2)
155	1196.42	114.46	End Shut-In(2)
156	1968.55	114.70	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	VSlightOCM	0.02

## Gas Rates

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



**TRILOBITE  
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## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling

**Gary # 1-25**

250 N Water Suite 300  
Wichita, KS 67202

**25 12 33 Logan KS**

ATTN: Tom Funk

Job Ticket: 32195

**DST#: 1**

Test Start: 2008.10.05 @ 07:13:07

### Tool Information

Drill Pipe:	Length: 3585.00 ft	Diameter: 3.80 inches	Volume: 50.29 bbl	Tool Weight: 1500.00 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: 637.00 ft	Diameter: 2.25 inches	Volume: 3.13 bbl	Weight to Pull Loose: 100000.0 lb
		<b>Total Volume:</b>	<b>53.42 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 83000.00 lb
Depth to Top Packer:	4227.00 ft			Final 84000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	67.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

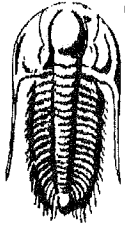
Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4212.00	
Hydraulic tool	5.00			4217.00	
Packer	5.00			4222.00	20.00 Bottom Of Top Packer
Packer	5.00			4227.00	
Stubb	1.00			4228.00	
Perforations	10.00			4238.00	
Change Over Sub	1.00			4239.00	
Recorder	0.00	8166	inside	4239.00	
Recorder	0.00	8356	inside	4239.00	
Blank Spacing	29.00			4268.00	
Change Over Sub	1.00			4269.00	
Perforations	0.00			4269.00	
Bullnose	5.00			4274.00	47.00 Bottom Packers & Anchor

**Total Tool Length: 67.00**

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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling  
250 N Water Suite 300  
Wichita, KS 67202  
ATTN: Tom Funk

**Gary # 1-25**  
**25 12 33 Logan KS**  
Job Ticket: 32195      DST#: 1  
Test Start: 2008.10.05 @ 07:13:07

## 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: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.98 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 2400.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	VSlightOCM	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

DST Test Number: 1

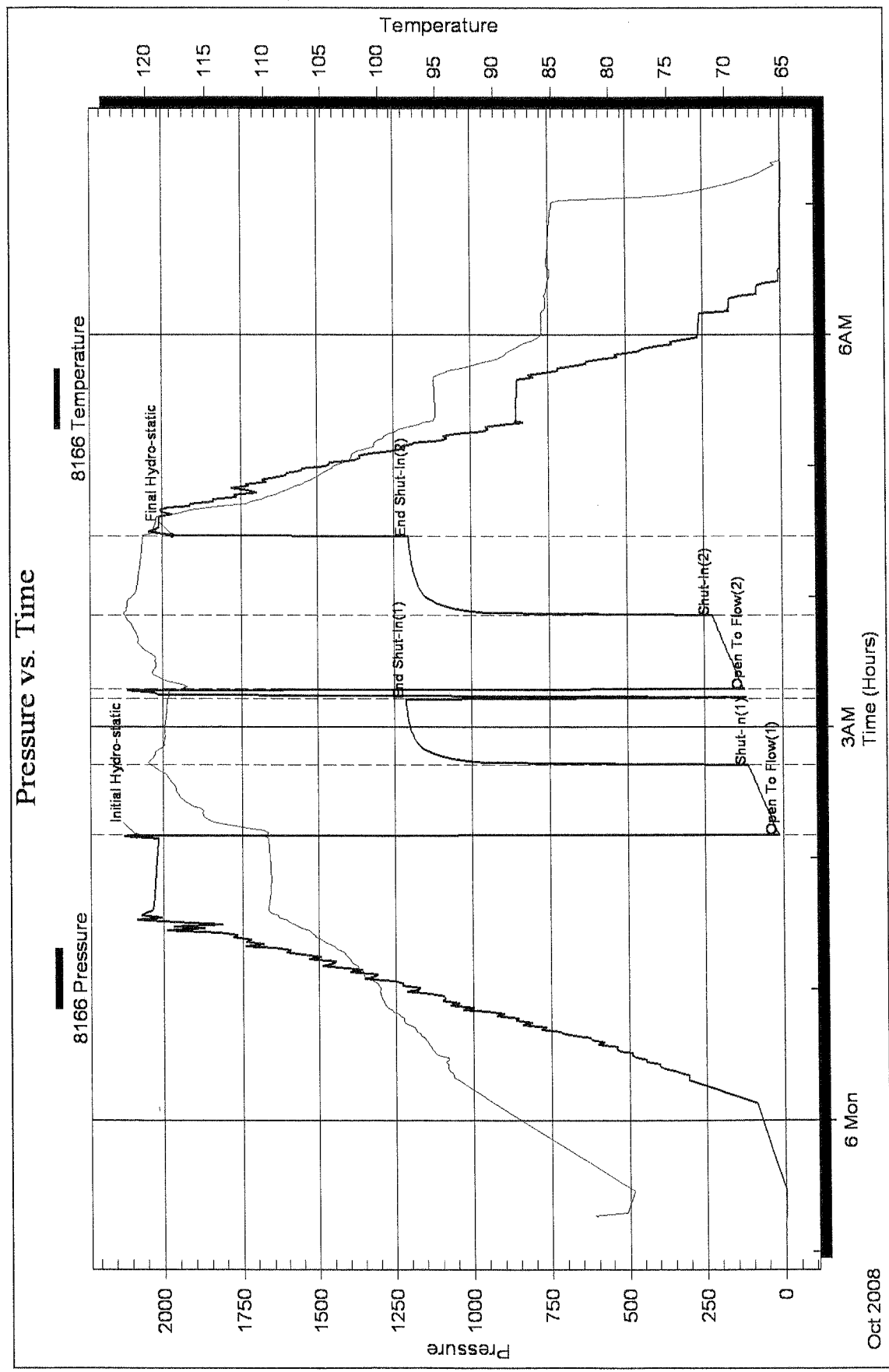
25 12 33 Logan KS

Murfin Drilling

Inside

Serial #: 8166

### Pressure vs. Time



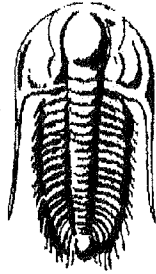
CONSERVATION DIVISION  
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Ref. No: 32195

Trilobite Testing, Inc

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TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling**

250 N Water Suite 300  
Wichita, KS 67202

ATTN: Tom Funk

**25 12 33 Logan KS**

**Gary # 1-25**

Start Date: 2008.10.05 @ 23:15:49

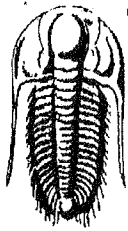
End Date: 2008.10.06 @ 07:20:04

Job Ticket #: 32196                      DST #: 2

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

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**TRILOBITE  
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## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling  
250 N Water Suite 300  
Wichita, KS 67202  
ATTN: Tom Funk

**Gary # 1-25**  
**25 12 33 Logan KS**  
Job Ticket: 32196      **DST#: 2**  
Test Start: 2008.10.05 @ 23:15:49

### Tool Information

Drill Pipe:	Length: 3636.00 ft	Diameter: 3.80 inches	Volume: 51.00 bbl	Tool Weight: 1500.00 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: 637.00 ft	Diameter: 2.25 inches	Volume: 3.13 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 54.13 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 83000.00 lb
Depth to Top Packer:	4272.00 ft			Final 83000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	48.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

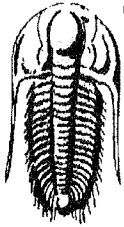
Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4257.00	
Hydraulic tool	5.00			4262.00	
Packer	5.00			4267.00	20.00      Bottom Of Top Packer
Packer	5.00			4272.00	
Stubb	1.00			4273.00	
Recorder	0.00	8166	Inside	4273.00	
Recorder	0.00	8356	Inside	4273.00	
Perforations	24.00			4297.00	
Bullnose	3.00			4300.00	28.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>48.00</b>				

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**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling  
250 N Water Suite 300  
Wichita, KS 67202  
  
ATTN: Tom Funk

**Gary # 1-25**  
**25 12 33 Logan KS**  
Job Ticket: 32196      **DST#: 2**  
Test Start: 2008.10.05 @ 23:15:49

## 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: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.98 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 2400.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
450.00	MCW	2.213

Total Length: 450.00 ft      Total Volume: 2.213 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

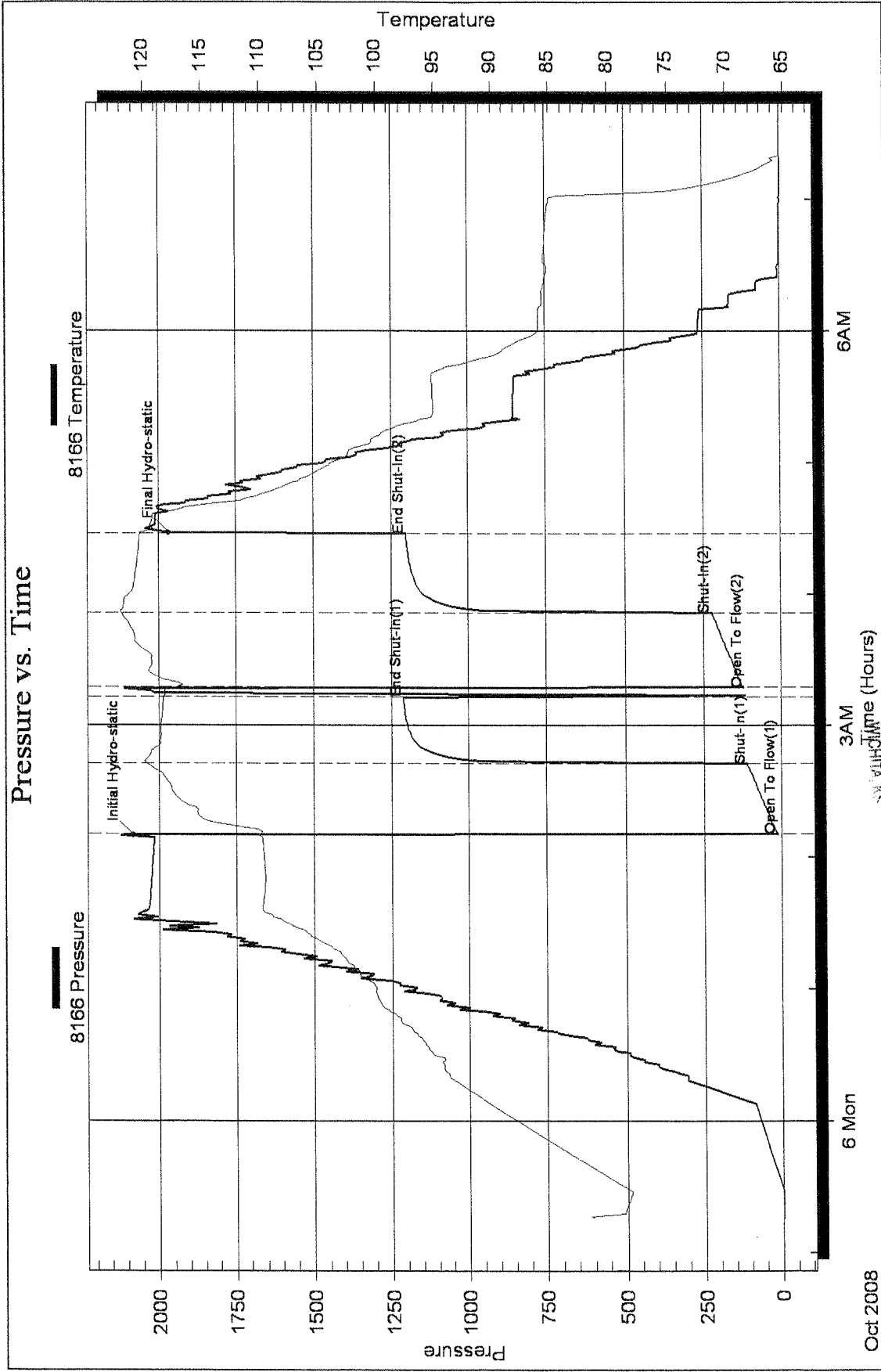
Serial #: 8166

Inside

Murfin Drilling

25 12 33 Logan KS

DST Test Number: 2

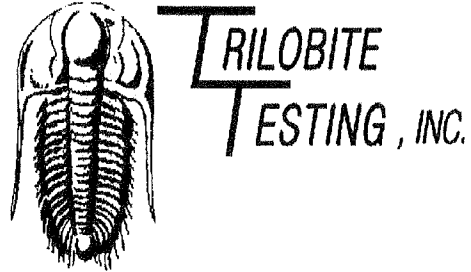


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Ref. No: 32196

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## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling**

250 N Water Suite 300  
Wichita, KS 67202

ATTN: Tom Funk

**25 12 33 Logan KS**

**Gary # 1-25**

Start Date: 2008.10.07 @ 07:13:07

End Date: 2008.10.07 @ 16:39:17

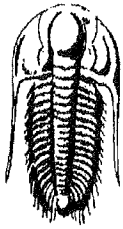
Job Ticket #: 33427                      DST #: 3

Trilobite Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

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**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling

Gary # 1-25

250 N Water Suite 300  
Wichita, KS 67202

25 12 33 Logan KS

ATTN: Tom Funk

Job Ticket: 33427

DST#: 3

Test Start: 2008.10.07 @ 07:13:07

## GENERAL INFORMATION:

Formation: **Johnson zone**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:05:07

Time Test Ended: 16:39:17

Test Type: Conventional Bottom Hole

Tester: Chuck Kreutzer

Unit No: 30

Interval: **4585.00 ft (KB) To 4635.00 ft (KB) (TVD)**

Total Depth: 4635.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3086.00 ft (KB)

3076.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: **8356**

Inside

Press@RunDepth: 610.87 psig @ 4600.00 ft (KB)

Start Date: 2008.10.07

End Date:

2008.10.07

Capacity: 7000.00 psig

Last Calib.: 2008.10.07

Start Time: 07:13:12

End Time:

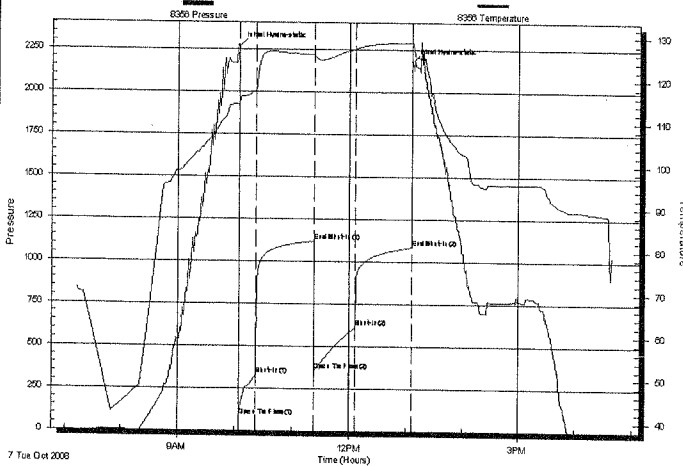
16:39:16

Time On Btm: 2008.10.07 @ 10:04:47

Time Off Btm: 2008.10.07 @ 13:06:27

TEST COMMENT: IF: BOB @ 1 min.  
IS: BOB @ 20 min.  
FF: BOB @ 1 min.  
FSI: BOB @ 30 min.

Pressure vs. Time



## PRESSURE SUMMARY

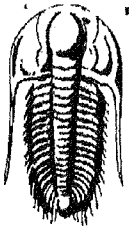
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2267.23	114.36	Initial Hydro-static
1	84.75	113.99	Open To Flow (1)
18	329.39	117.76	Shut-In(1)
79	1117.56	125.95	End Shut-In(1)
79	358.73	125.72	Open To Flow (2)
122	610.87	127.22	Shut-In(2)
182	1082.10	128.77	End Shut-In(2)
182	2174.57	129.23	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	GMCO 15%G %5M 80%O	0.89
1453.00	GMCO 10%G 15%M 75%O	16.22
95.00	GO 20%G 80%O	1.33
15.00	G) 30%G 70%O	0.21
0.00	2380 Feet GIP	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling  
250 N Water Suite 300  
Wichita, KS 67202  
ATTN: Tom Funk

**Gary # 1-25**  
**25 12 33 Logan KS**  
Job Ticket: 33427      **DST#: 3**  
Test Start: 2008.10.07 @ 07:13:07

**Tool Information**

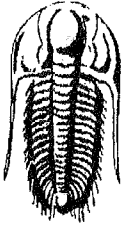
Drill Pipe:	Length: 3936.00 ft	Diameter: 3.80 inches	Volume: 55.21 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 637.00 ft	Diameter: 2.25 inches	Volume: 3.13 bbl	Weight to Pull Loose: 110000.0 lb
			<u>Total Volume: 58.34 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 85000.00 lb
Depth to Top Packer:	4585.00 ft			Final 94000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	70.00 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			4570.00	
Hydraulic tool	5.00			4575.00	
Packer	5.00			4580.00	20.00      Bottom Of Top Packer
Packer	5.00			4585.00	
Stubb	1.00			4586.00	
Perforations	13.00			4599.00	
Change Over Sub	1.00			4600.00	
Recorder	0.00	8166	Inside	4600.00	
Recorder	0.00	8356	Inside	4600.00	
Blank Spacing	29.00			4629.00	
Change Over Sub	1.00			4630.00	
Perforations	0.00			4630.00	
Bullnose	5.00			4635.00	50.00      Bottom Packers & Anchor

**Total Tool Length: 70.00**

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**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Murfin Drilling

**Gary # 1-25**

250 N Water Suite 300  
Wichita, KS 67202

**25 12 33 Logan KS**

Job Ticket: 33427

**DST#: 3**

ATTN: Tom Funk

Test Start: 2008.10.07 @ 07:13:07

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

27 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
180.00	GMCO 15%G %5M 80%O	0.885
1453.00	GMCO 10%G 15%M 75%O	16.219
95.00	GO 20%G 80%O	1.333
15.00	G) 30%G 70%O	0.210
0.00	2380 Feet GIP	0.000

Total Length: 1743.00 ft      Total Volume: 18.647 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

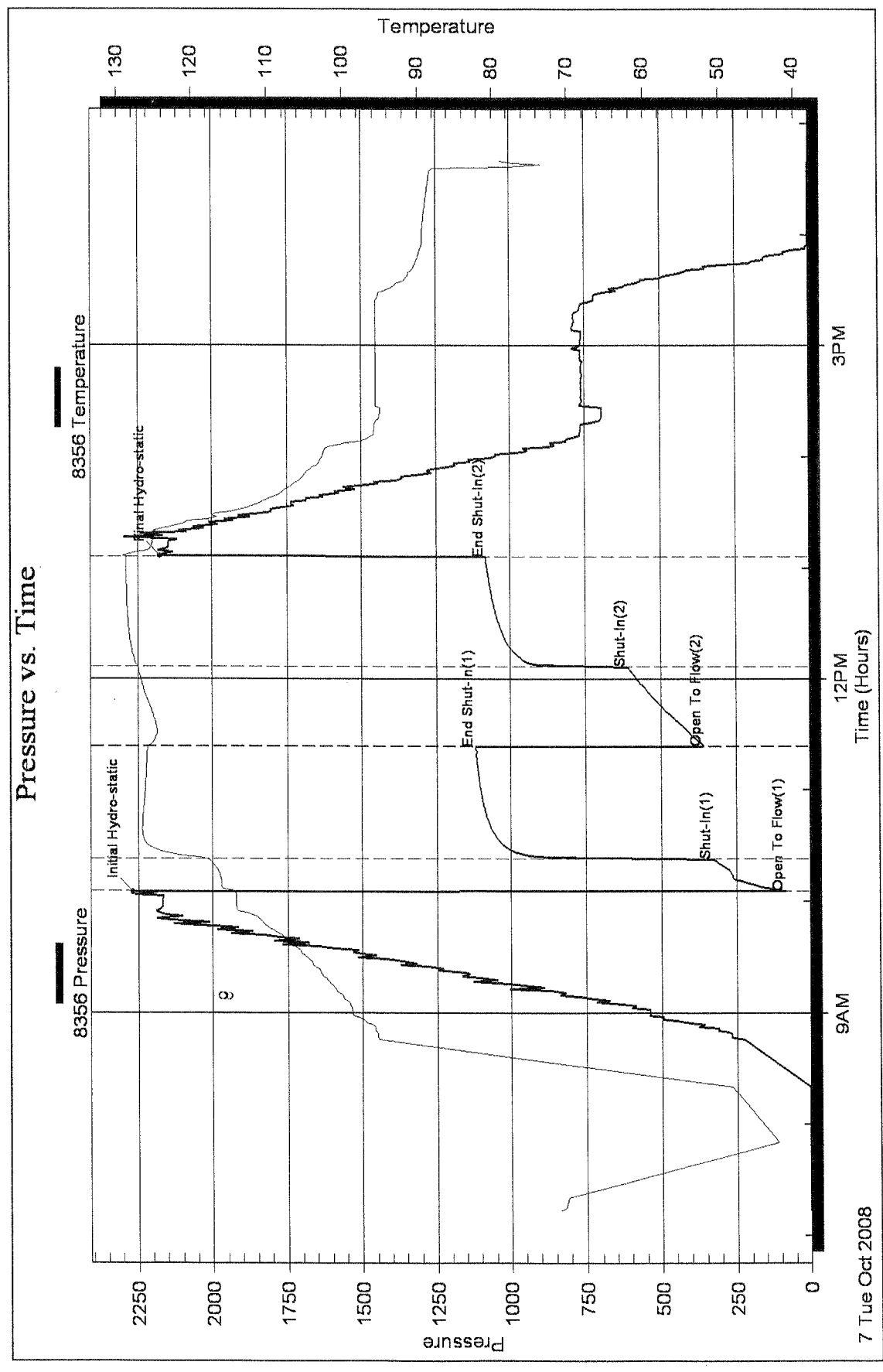
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API 29 @ 80 Degrees F = 27

# Pressure vs. Time



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