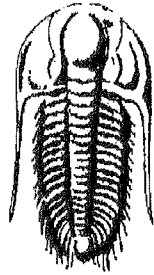


15-077-21635

21-31s-5w

IND



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Prepared For: **Murfin Drlg.Co.Inc.**

250 N.Water ,Ste.300  
Wichita Ks.67202

ATTN: Joe Baker

**21 31 5 Harper Ks.**

**Helen #1-21**

Start Date: 2008.08.19 @ 04:36:35

End Date: 2008.08.19 @ 14:18:50

Job Ticket #: 31689 DST #: 1

**KCC  
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KANSAS CORPORATION COMMISSION

**DEC 12 2008**

CONSERVATION DIVISION  
WICHITA, KS

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Murfin Drlg.Co.Inc.

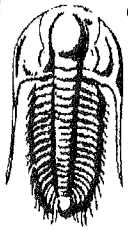
Helen #1-21

21 31 5 Harper Ks.

DST # 1

Swope/Hertha

2008.08.19



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drlg.Co.Inc.  
 250 N.Water ,Ste.300  
 Wichita Ks.67202  
 ATTN: Joe Baker

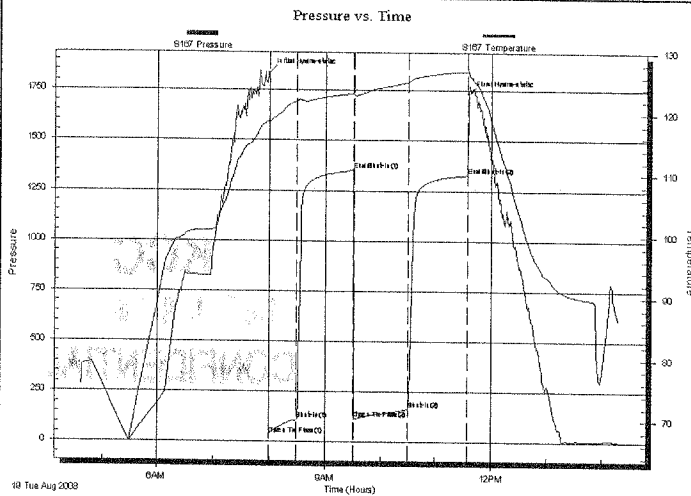
**Helen #1-21**  
**21 31 5 Harper Ks.**  
 Job Ticket: 31689 **DST#: 1**  
 Test Start: 2008.08.19 @ 04:36:35

## GENERAL INFORMATION:

Formation: **Swope/Hertha**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:58:50  
 Time Test Ended: 14:18:50  
 Interval: **3680.00 ft (KB) To 3757.00 ft (KB) (TVD)**  
 Total Depth: 3757.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole  
 Tester: Gary Pevoteaux  
 Unit No: 39  
 Reference Elevations: 1338.00 ft (KB)  
 1327.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 8167** **Inside**  
 Press@RunDepth: 164.30 psig @ 3681.00 ft (KB) Capacity: 7000.00 psig  
 Start Date: 2008.08.19 End Date: 2008.08.19 Last Calib.: 2008.08.19  
 Start Time: 04:36:40 End Time: 14:18:50 Time On Btm: 2008.08.19 @ 07:58:35  
 Time Off Btm: 2008.08.19 @ 11:35:19

TEST COMMENT: IF Fair blow Slow increase to 11"  
 ISI No blow  
 FF Weak to fair blow Slow increase to 7"  
 FSI No blow



## PRESSURE SUMMARY

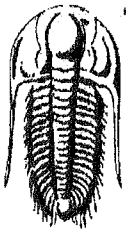
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1835.79	118.96	Initial Hydro-static
1	35.73	118.51	Open To Flow (1)
30	110.81	122.06	Shut-In(1)
91	1354.18	123.36	End Shut-In(1)
92	117.77	123.03	Open To Flow (2)
152	164.30	125.23	Shut-In(2)
217	1328.24	126.94	End Shut-In(2)
217	1732.80	127.05	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (tbb)
180.00	SW /Rw .065 ohms @ 81 deg.	0.89
121.00	SOCWM 3%O 26%W 79%M	1.70
1.00	Clean oil	0.01

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drlg.Co.Inc.

**Helen #1-21**

250 N.Water ,Ste.300  
Wichita Ks.67202

**21 31 5 Harper Ks.**

Job Ticket: 31689

**DST#: 1**

ATTN: Joe Baker

Test Start: 2008.08.19 @ 04:36:35

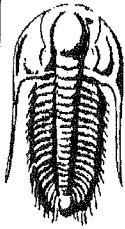
### Tool Information

Drill Pipe:	Length: 3485.00 ft	Diameter: 3.80 inches	Volume: 48.89 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 61000.00 lb
			<u>Total Volume: 49.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3680.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	77.00 ft			
Tool Length:	100.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3658.00	
Shut In Tool	5.00			3663.00	
Hydraulic tool	5.00			3668.00	
Safety Joint	3.00			3671.00	
Packer	4.00			3675.00	23.00 Bottom Of Top Packer
Packer	5.00			3680.00	
Stubb	1.00			3681.00	
Recorder	0.00	8167	Inside	3681.00	
Recorder	0.00	8357	Inside	3681.00	
Perforations	6.00			3687.00	
Change Over Sub	1.00			3688.00	
Blank Spacing	63.00			3751.00	
Change Over Sub	1.00			3752.00	
Bullnose	5.00			3757.00	77.00 Bottom Packers & Anchor

**Total Tool Length: 100.00**



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Murfin Drlg.Co.Inc.

**Helen #1-21**

250 N.Water ,Ste.300  
Wichita Ks.67202

**21 31 5 Harper Ks.**

Job Ticket: 31689

**DST#: 1**

ATTN: Joe Baker

Test Start: 2008.08.19 @ 04:36:35

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 52.00 sec/qt

Water Loss: 8.78 in<sup>3</sup>

Resistivity: 0.00 ohm.m

Salinity: 5000.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

deg API

Water Salinity: 119000 ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	SW /Rw .065 ohms @ 81 deg.	0.885
121.00	SOCWM 3%O 26%W 79%M	1.697
1.00	Clean oil	0.014

Total Length: 302.00 ft

Total Volume: 2.596 bbl

Num Fluid Samples: 0

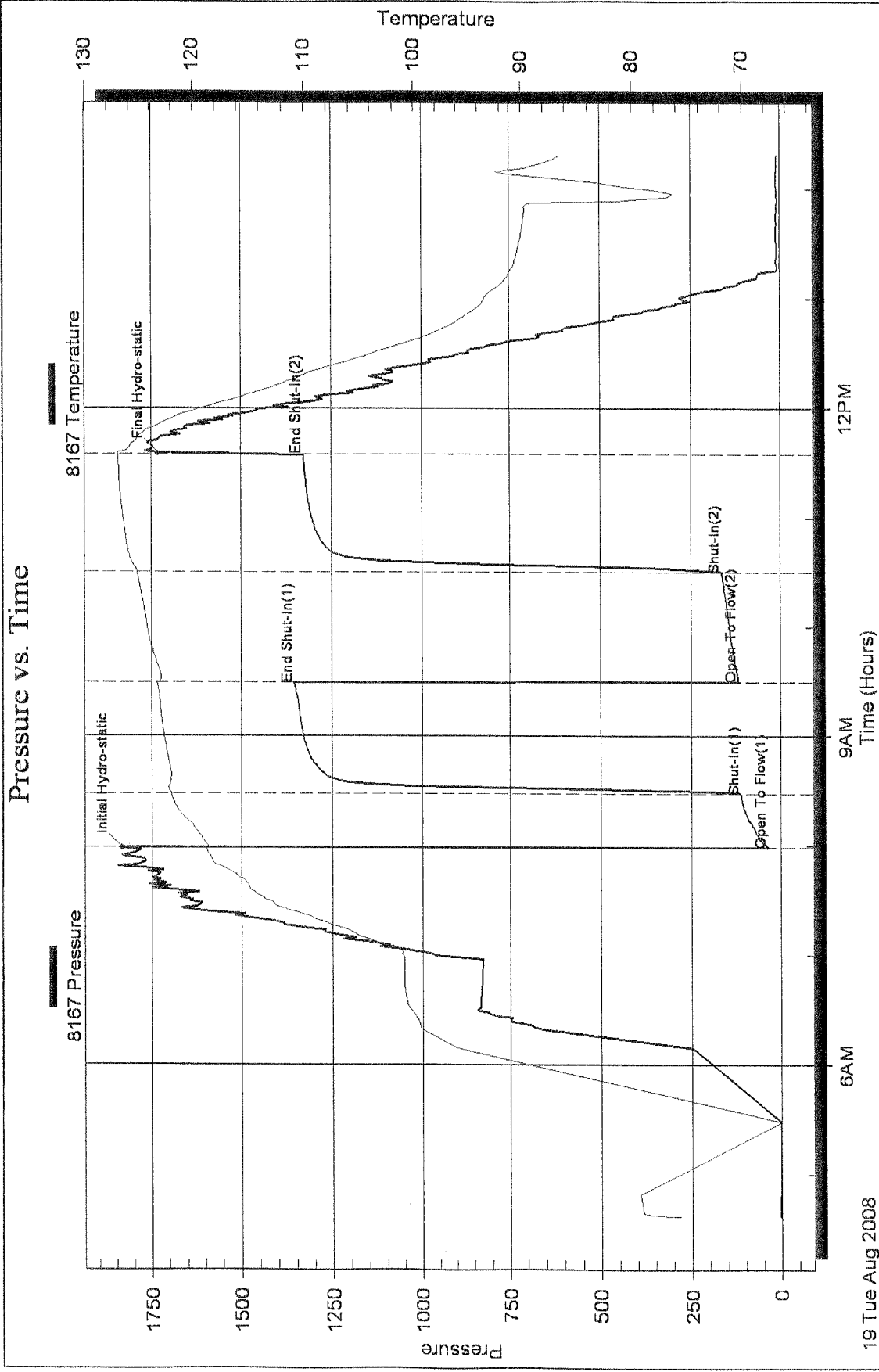
Num Gas Bombs: 0

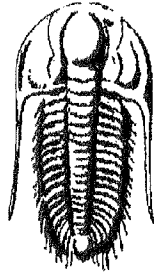
Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Murfin Drlg.Co.Inc.**

250 N.Water ,Ste.300  
Wichita Ks.67202

ATTN: Joe Baker

**21 31 5 Harper Ks.**

**Helen #1-21**

Start Date: 2008.08.21 @ 16:47:35

End Date: 2008.08.22 @ 02:31:35

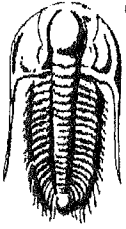
Job Ticket #: 33170                      DST #: 2

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

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CONSERVATION DIVISION  
WICHITA, KS



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drlg.Co.Inc.  
 250 N.Water ,Ste.300  
 Wichita Ks.67202  
 ATTN: Joe Baker

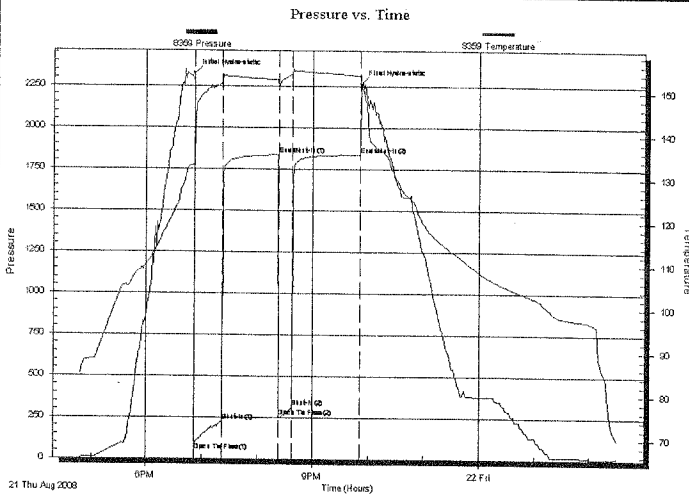
**Helen #1-21**  
**21 31 5 Harper Ks.**  
 Job Ticket: 33170      **DST#: 2**  
 Test Start: 2008.08.21 @ 16:47:35

## GENERAL INFORMATION:

Formation: **Simpson**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 18:52:20  
 Time Test Ended: 02:31:35  
 Interval: **4632.00 ft (KB) To 4640.00 ft (KB) (TVD)**  
 Total Depth: 4640.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole  
 Tester: Travy Cushenbery  
 Unit No: 30  
 Reference Elevations: 1338.00 ft (KB)  
 1327.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 8359**      **Inside**  
 Press@RunDepth: 311.05 psig @ 4632.00 ft (KB)      Capacity: 7000.00 psig  
 Start Date: 2008.08.21      End Date: 2008.08.22      Last Calib.: 2008.08.22  
 Start Time: 16:47:40      End Time: 02:31:35      Time On Btm: 2008.08.21 @ 18:52:05  
 Time Off Btm: 2008.08.21 @ 21:51:49

**TEST COMMENT:** IF Strong blow BOB in 1 1/2 mins GTS in 15 mins TSTM  
 ISI Bled off Strong blow back BOB in 2 mins  
 FF Strong blow BOB immediately. GTS TSTM  
 FSI Bled off Strong blow back BOB in 2 mins 45 secs



## PRESSURE SUMMARY

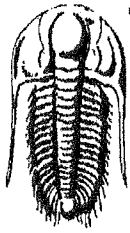
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2325.20	133.24	Initial Hydro-static
1	42.81	132.06	Open To Flow (1)
30	227.90	152.24	Shut-In(1)
91	1835.13	152.82	End Shut-In(1)
91	257.04	151.13	Open To Flow(2)
106	311.05	153.96	Shut-In(2)
180	1836.63	153.80	End Shut-In(2)
180	2264.65	153.96	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
362.00	G. O. 20%G 80%O	2.91
120.00	G. W. M. cut Oil 10%G 70%O 10%W 10%M	1.68
238.00	G.M.W. 10%G 80%W 10%M	3.34

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drlg.Co.Inc.  
250 N.Water ,Ste.300  
Wichita Ks.67202  
  
ATTN: Joe Baker

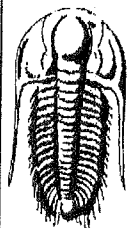
**Helen #1-21**  
**21 31 5 Harper Ks.**  
Job Ticket: 33170      **DST#: 2**  
Test Start: 2008.08.21 @ 16:47:35

### Tool Information

Drill Pipe:	Length: 4376.00 ft	Diameter: 3.80 inches	Volume: 61.38 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: 20000.00 lb
Drill Collar:	Length: 238.00 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose: 68000.00 lb
			Total Volume: 62.55 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4632.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	8.00 ft			
Tool Length:	31.00 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			4614.00	
Hydraulic tool	5.00			4619.00	
Safety Joint	3.00			4622.00	
Packer	5.00			4627.00	23.00      Bottom Of Top Packer
Packer	5.00			4632.00	
Recorder	0.00	8359	Inside	4632.00	
Recorder	0.00	8354	Inside	4632.00	
Perforations	5.00			4637.00	
Bullnose	3.00			4640.00	8.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>31.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drlg.Co.Inc.

**Helen #1-21**

250 N.Water ,Ste.300  
Wichita Ks.67202

**21 31 5 Harper Ks.**

Job Ticket: 33170

**DST#: 2**

ATTN: Joe Baker

Test Start: 2008.08.21 @ 16:47:35

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

41 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

180000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.04 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 0.20 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
362.00	G. O. 20%G 80%O	2.910
120.00	G. W. M. cut Oil 10%G 70%O 10%W 10%M	1.683
238.00	G.M.W. 10%G 80%W 10%M	3.339

Total Length: 720.00 ft

Total Volume: 7.932 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8359

Inside

Murfin Drig.Co.Inc.

21 31 5 Harper Ks.

DST Test Number: 2

### Pressure vs. Time

