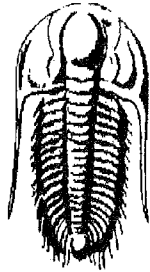


15-135-24373

4-20s-23w



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company**

PO Box 2758  
Wichita KS 67201

ATTN: Kevin Kessler

**4-20s-23w-Ness**

**Minor-Stum #1-4**

Start Date: 2005.09.05 @ 22:21:20

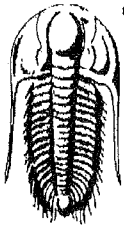
End Date: 2005.09.06 @ 07:37:35

Job Ticket #: 23783                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Mull Drilling Company

**Minor-Stum #1-4**

PO Box 2758  
Wichita KS 67201

**4-20s-23w-Ness**

ATTN: Kevin Kessler

Job Ticket: 23783

DST#: 1

Test Start: 2005.09.05 @ 22:21:20

### GENERAL INFORMATION:

Formation: **Ft. Scott**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:16:20  
 Time Test Ended: 07:37:35

Test Type: Conventional Bottom Hole  
 Tester: Jason McLemore  
 Unit No: 32

Interval: **4230.00 ft (KB) To 4283.00 ft (KB) (TVD)**  
 Total Depth: 4283.00 ft (KB) (TVD)  
 Hole Diameter: 7.80 inches Hole Condition: Good

Reference Elevations: 2258.00 ft (KB)  
 2248.00 ft (CF)  
 KB to GR/CF: 10.00 ft

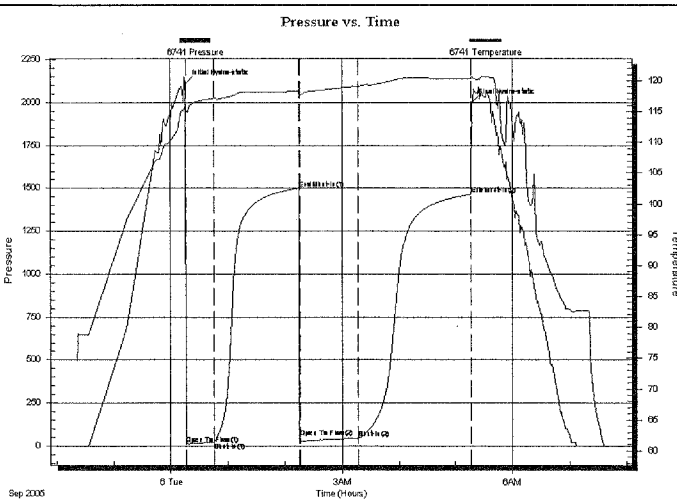
**Serial #: 6741**

**Inside**

Press@RunDepth: 45.41 psig @ 4232.00 ft (KB)  
 Start Date: 2005.09.05 End Date: 2005.09.06  
 Start Time: 22:21:22 End Time: 07:37:35

Capacity: 7000.00 psig  
 Last Calib.: 2005.09.06  
 Time On Btm: 2005.09.06 @ 00:15:50  
 Time Off Btm: 2005.09.06 @ 05:17:35

TEST COMMENT: IFP-Fair Blow ,BOB in 21 Min.  
 IS-Dead  
 FFP-



### PRESSURE SUMMARY

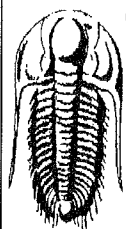
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2111.50	115.62	Initial Hydro-static
1	12.65	115.15	Open To Flow (1)
30	23.27	117.16	Shut-In(1)
120	1499.64	118.28	End Shut-In(1)
120	48.78	117.86	Open To Flow (2)
182	45.41	119.09	Shut-In(2)
301	1465.87	120.35	End Shut-In(2)
302	1996.78	120.57	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
90.00	VSOCM-2%O-98%M	1.26

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Company

**Minor-Stum #1-4**

PO Box 2758  
Wichita KS 67201

**4-20s-23w-Ness**

Job Ticket: 23783

**DST#: 1**

ATTN: Kevin Kessler

Test Start: 2005.09.05 @ 22:21:20

## Tool Information

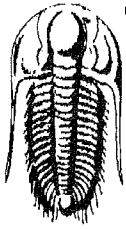
Drill Pipe:	Length: 4217.00 ft	Diameter: 3.80 inches	Volume: 59.15 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 59.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4230.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	53.00 ft			
Tool Length:	74.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4210.00	
Shut In Tool	5.00			4215.00	
Hydraulic tool	5.00			4220.00	
Packer	5.00			4225.00	21.00 Bottom Of Top Packer
Packer	5.00			4230.00	
Stubb	1.00			4231.00	
Perforations	1.00			4232.00	
Recorder	0.00	6741	Inside	4232.00	
Change Over Sub	1.00			4233.00	
Blank Spacing	31.00			4264.00	
Change Over Sub	1.00			4265.00	
Perforations	15.00			4280.00	
Recorder	0.00	13221	Outside	4280.00	
Bullnose	3.00			4283.00	53.00 Bottom Packers & Anchor

**Total Tool Length: 74.00**



**TRILOBITE**  
TESTING, INC.

## DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company

Minor-Stum #1-4

PO Box 2758  
Wichita KS 67201

4-20s-23w-Ness

Job Ticket: 23783

DST#: 1

ATTN: Kevin Kessler

Test Start: 2005.09.05 @ 22:21:20

### 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: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	VSOCM-2%O-98%M	1.262

Total Length: 90.00 ft

Total Volume: 1.262 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

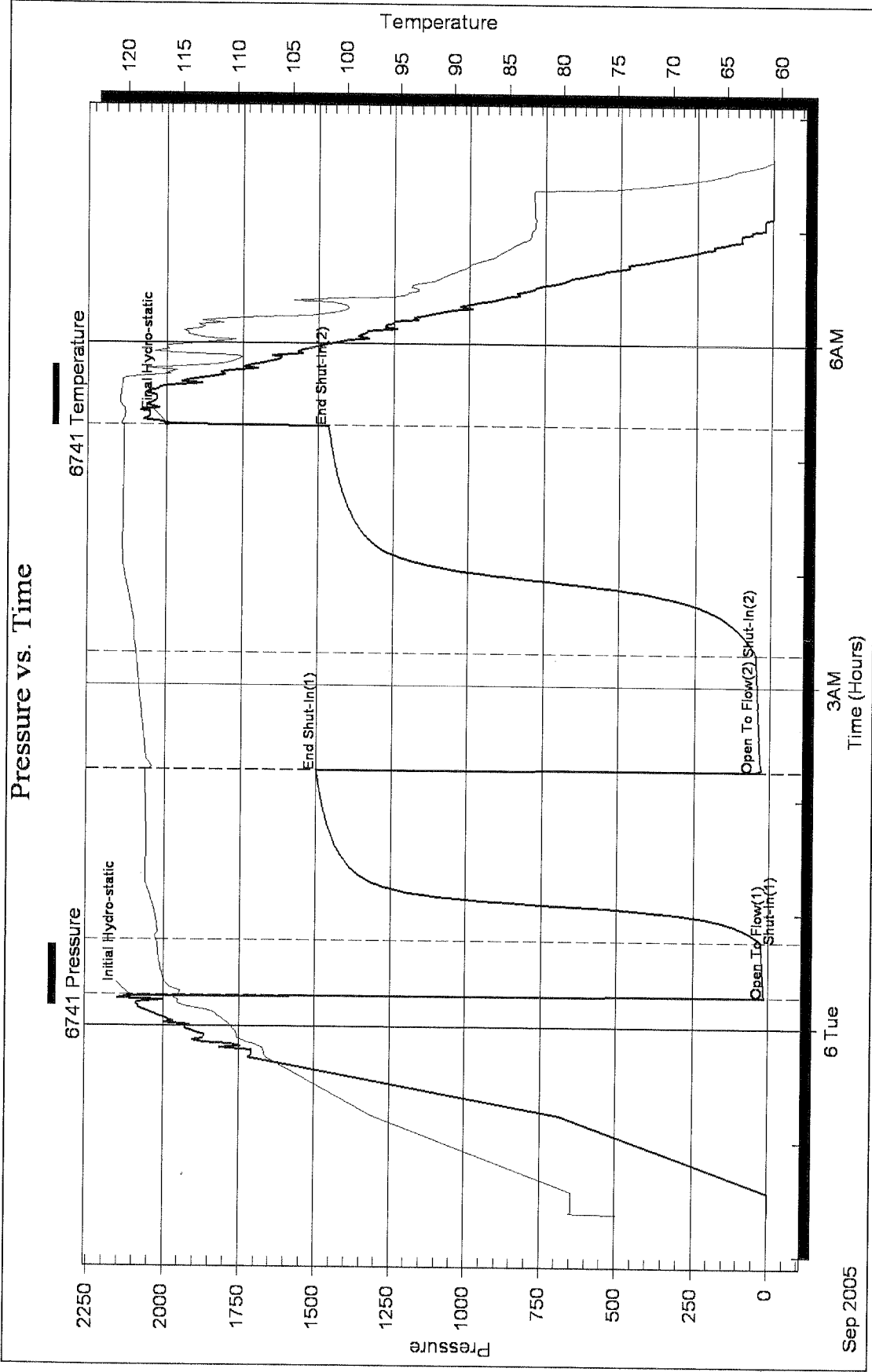
Serial #: 6741

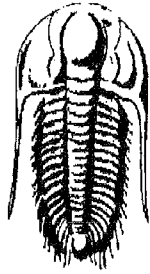
Inside

Mull Drilling Company

4-20s-23w-Ness

DST Test Number: 1





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company**

PO Box 2758  
Wichita KS 67201

ATTN: Kevin Kessler

**4-20s-23w-Ness**

**Minor-Stum #1-4**

Start Date: 2005.09.06 @ 18:48:16

End Date: 2005.09.07 @ 06:27:46

Job Ticket #: 23784                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Mull Drilling Company

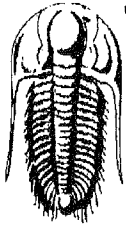
Minor-Stum #1-4

4-20s-23w-Ness

DST # 2

Cherokee

2005.09.06



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Mull Drilling Company

**Minor-Stum #1-4**

PO Box 2758  
Wichita KS 67201

**4-20s-23w-Ness**

ATTN: Kevin Kessler

Job Ticket: 23784

**DST#: 2**

Test Start: 2005.09.06 @ 18:48:16

### GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:34:01

Time Test Ended: 06:27:46

Test Type: Conventional Bottom Hole

Tester: Jason McLemore

Unit No: 32

Interval: **4273.00 ft (KB) To 4351.00 ft (KB) (TVD)**

Reference Elevations: 2258.00 ft (KB)

Total Depth: 4351.00 ft (KB) (TVD)

2248.00 ft (CF)

Hole Diameter: 7.80 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 6741**

**Inside**

Press@RunDepth: 847.94 psig @ 4277.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2005.09.06

End Date: 2005.09.07

Last Calib.: 2005.09.07

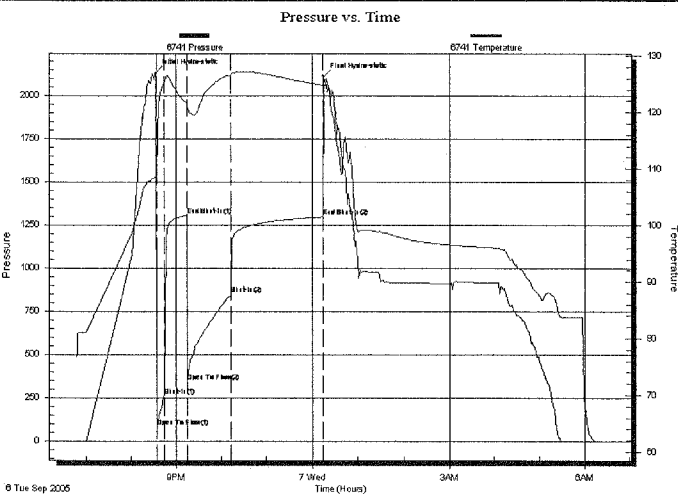
Start Time: 18:48:18

End Time: 06:27:46

Time On Btm: 2005.09.06 @ 20:33:31

Time Off Btm: 2005.09.07 @ 00:14:46

**TEST COMMENT:** IFP-Strong Blow ,BOB in 2 Min.  
IS-Blow back Built to 1-1/2"  
FFP-Strong Blow ,BOB in 2 Min.  
FSI-Blow back Built to 1"



### PRESSURE SUMMARY

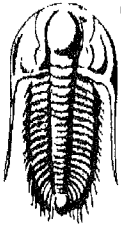
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2131.20	108.65	Initial Hydro-static
1	85.63	108.21	Open To Flow (1)
11	264.11	125.05	Shut-In(1)
41	1306.33	121.55	End Shut-In(1)
42	345.20	121.00	Open To Flow (2)
100	847.94	126.62	Shut-In(2)
221	1297.07	124.79	End Shut-In(2)
222	2111.95	124.74	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
2100.00	VSMCO-1%M-99%Oil	29.46

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company

Minor-Stum #1-4

PO Box 2758  
Wichita KS 67201

4-20s-23w-Ness

Job Ticket: 23784

DST#: 2

ATTN: Kevin Kessler

Test Start: 2005.09.06 @ 18:48:16

### Tool Information

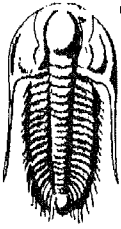
Drill Pipe:	Length: 4278.00 ft	Diameter: 3.80 inches	Volume: 60.01 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 60.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4273.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	102.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4248.00	
Shut In Tool	5.00			4253.00	
Hydraulic tool	5.00			4258.00	
Jars	5.00			4263.00	
Packer	5.00			4268.00	26.00 Bottom Of Top Packer
Packer	5.00			4273.00	
Stubb	1.00			4274.00	
Perforations	3.00			4277.00	
Recorder	0.00	6741	Inside	4277.00	
Change Over Sub	1.00			4278.00	
Blank Spacing	62.00			4340.00	
Change Over Sub	1.00			4341.00	
Perforations	5.00			4346.00	
Recorder	0.00	13221	Outside	4346.00	
Bullnose	3.00			4349.00	76.00 Bottom Packers & Anchor

**Total Tool Length: 102.00**



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drilling Company

**Minor-Stum #1-4**

PO Box 2758  
Wichita KS 67201

**4-20s-23w-Ness**

Job Ticket: 23784

**DST#: 2**

ATTN: Kevin Kessler

Test Start: 2005.09.06 @ 18:48:16

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2100.00	VSMCO-1%M-99%Oil	29.457

Total Length: 2100.00 ft      Total Volume: 29.457 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6741

Inside

Mull Drilling Company

4-20s-23w-Ness

DST Test Number: 2

### Pressure vs. Time

