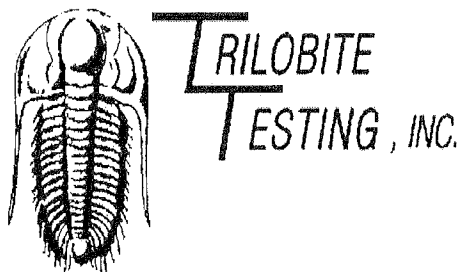


15-185-23186

23-21S-13W

RELEASED
FROM
CONFIDENTIAL



DRILL STEM TEST REPORT

CONFIDENTIAL

Prepared For: Mull Drilling Company, inc.

P.O. box 2758
Wichita, Ks. 67201-2758

ORIGINAL KCC

ATTN: Roger Martin

OCT 01 2003

23-21S-13W CONFIDENTIAL

Hall #1-23

Start Date: 2003.06.13 @ 11:13:33

End Date: 2003.06.13 @ 17:29:48

Job Ticket #: 17868

DST #: 1

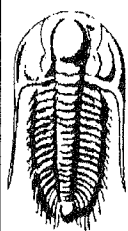
Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

CONFIDENTIAL

ORIGINAL


**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

 P.O. box 2758
 Wichita, Ks. 67201-2758

ATTN: Roger Martin

Hall #1-23

23-21S-13W

Job Ticket: 17868

DST#: 1

Test Start: 2003.06.13 @ 11:13:33

KCC

OCT 01 2003

CONFIDENTIAL

GENERAL INFORMATION:

Formation: Chase--Her.-Winf.

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:17:48

Time Test Ended: 17:29:48

Test Type: Conventional Bottom Hole

Tester: Darren L. Amerine

Unit No: 19

Interval: 1681.00 ft (KB) To 1785.00 ft (KB) (TVD)

Total Depth: 1785.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1876.00 ft (KB)

1869.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 2346

Inside

Press@RunDepth: 153.85 psig @ 1688.00 ft (KB)

Start Date: 2003.06.13

End Date: 2003.06.13

Capacity: 7000.00 psig

Last Calib.: 2003.06.13

Start Time: 11:13:35

End Time: 17:29:48

Time On Btm: 2003.06.13 @ 12:05:33

Time Off Btm: 2003.06.13 @ 15:56:03

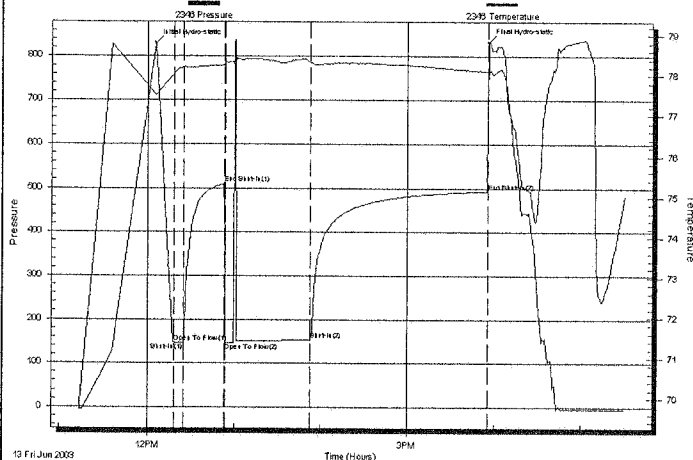
TEST COMMENT: IF: Strong blow b.o.b in 20 sec. slow It died off to 8" in H2O bucket.

ISI: Bled down for 2 mins. no blow back.

FF: Dead blow wait 5 mins. flush tool. weak surface blow built to 2" in H2O bucket.

FSI: Bled do

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	829.95	77.51	Initial Hydro-static
13	147.48	78.04	Open To Flow (1)
20	146.07	78.20	Shut-In (1)
47	509.15	78.26	End Shut-In (1)
48	146.74	78.34	Open To Flow (2)
108	153.85	78.32	Shut-In (2)
230	493.29	78.10	End Shut-In (2)
231	833.61	78.07	Final Hydro-static

Recovery

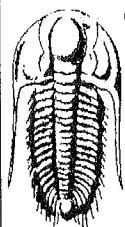
Length (ft)	Description	Volume (bbl)
0.00	186' of gas	0.00
307.00	WCM 60% Mud 40% water	2.11

Gas Rates

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

CONFIDENTIAL

ORIGINAL


**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, Inc.

KCC

Hall #1-23

P.O. box 2758

OCT 01 2003

23-21S-13W

Wichita, Ks. 67201-2758

Job Ticket: 17868

DST#: 1

ATTN: Roger Martin

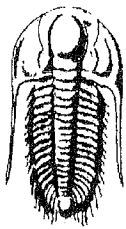
CONFIDENTIAL

Test Start: 2003.06.13 @ 11:13:33

Tool Information

Drill Pipe:	Length: 1420.85 ft	Diameter: 3.80 inches	Volume: 19.93 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: 241.15 ft	Diameter: 2.25 inches	Volume: 1.19 bbl	Weight to Pull Loose: 42000.00 lb
		Total Volume:	21.12 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	2.00 ft			String Weight: Initial 35000.00 lb
Depth to Top Packer:	1681.00 ft			Final 35000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	104.00 ft			
Tool Length:	125.00 ft			
Number of Packers:	2	Diameter:	6.75 inches	
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			1661.00	
S.I. Tool	5.00			1666.00	
HMV	5.00			1671.00	
Packer	5.00			1676.00	21.00 Bottom Of Top Packer
Packer	5.00			1681.00	
Stubb	1.00			1682.00	
Anchor	6.00			1688.00	
Recorder	0.00	2346	Inside	1688.00	
Anchor	34.00			1722.00	
Recorder	0.00	10991		1722.00	
Blank Spacing	61.00			1783.00	
Bullnose	2.00			1785.00	104.00 Bottom Packers & Anchor
Total Tool Length:		125.00			



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17868

DST#: 1

ATTN: Roger Martin

Test Start: 2003.06.13 @ 11:13:33

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:

18000 ppm

Viscosity: 44.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.56 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 0.32 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	186' of gas	0.000
307.00	WCM 60% Mud 40% water	2.110

Total Length: 307.00 ft

Total Volume: 2.110 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

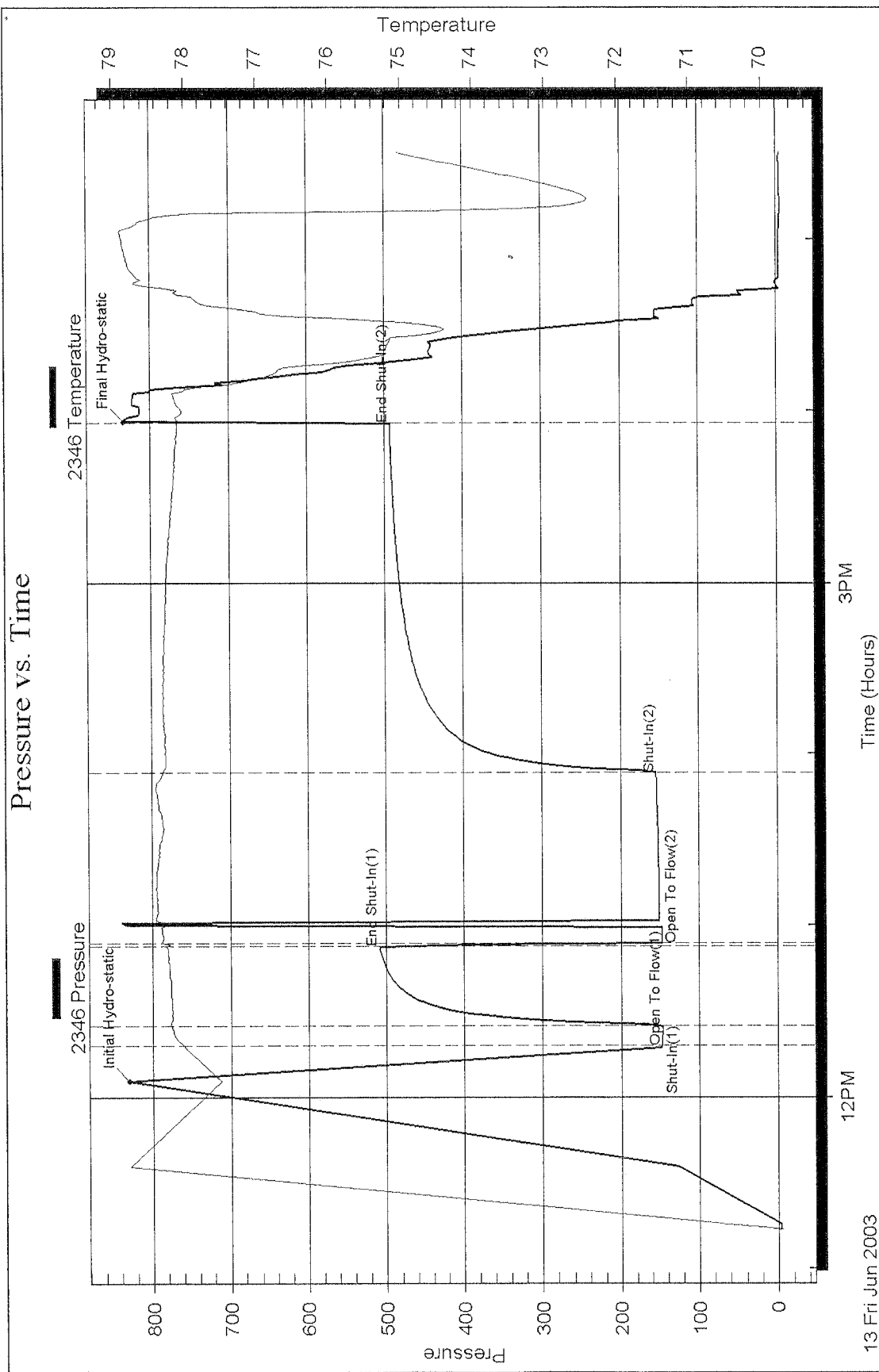
Hall #1-23
23-21S-13W

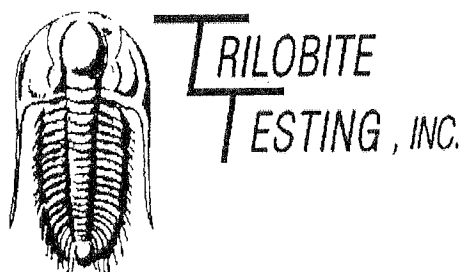
DST Test Number: 1

Serial #: 2346

Inside

Mull Drilling Company, Inc.





DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, inc.**

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

23-21S-13W

Hall #1-23

Start Date: 2003.06.16 @ 22:28:00

End Date: 2003.06.17 @ 06:52:00

Job Ticket #: 17869 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

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Mull Drilling Company, inc.

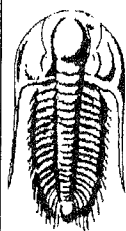
Hall #1-23

23-21S-13W

DST # 2

Lansing "B"

2003.06.16



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company, inc.

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

Hall #1-23

23-21S-13W

Job Ticket: 17869

DST#: 2

Test Start: 2003.06.16 @ 22:28:00

GENERAL INFORMATION:

Formation: **Lansing "B"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:46:45

Time Test Ended: 06:52:00

Test Type: Conventional Bottom Hole

Tester: Darren L. Amerine

Unit No: 19

Interval: **3317.00 ft (KB) To 3350.00 ft (KB) (TVD)**

Total Depth: 3350.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1876.00 ft (KB)

1869.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **2346** Inside

Press@RunDepth: 107.91 psig @ 3319.00 ft (KB)

Start Date: 2003.06.16 End Date: 2003.06.17

Start Time: 22:28:02 End Time: 06:52:00

Capacity: 7000.00 psig

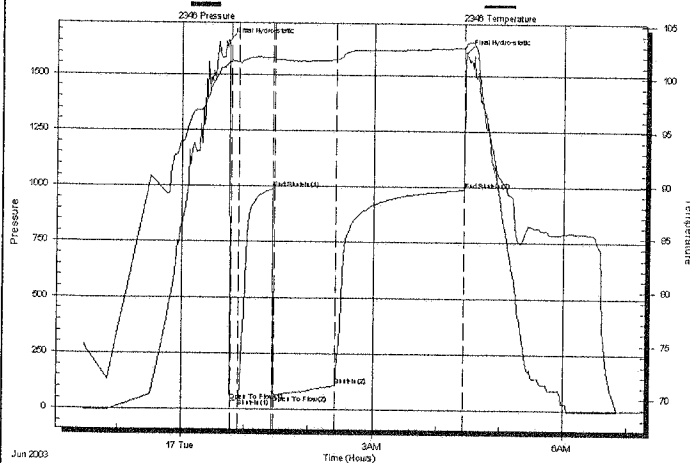
Last Calib.: 2003.06.17

Time On Btm: 2003.06.17 @ 00:44:15

Time Off Btm: 2003.06.17 @ 04:27:30

TEST COMMENT: IF: Strong blow b.o.b in 60 sec.
IS: Bled down for 5 mins. no blow back.
FF: Strong blow b.o.b in 15 sec. GTS in 14 mins. gauge gas.
FS: Bled down for 5 mins. no blow back.

Pressure vs. Time



PRESSURE SUMMARY

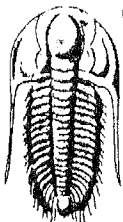
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1647.40	101.38	Initial Hydro-static
3	36.13	101.60	Open To Flow (1)
10	47.56	101.45	Shut-In(1)
42	987.46	101.94	End Shut-In(1)
43	66.65	101.85	Open To Flow (2)
101	107.91	101.76	Shut-In(2)
222	987.70	102.91	End Shut-In(2)
224	1600.26	103.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	2991'gip	0.00
61.00	GCSIMCOIL	0.30
122.00	free oil	0.60
61.00	HGC&HOCM	0.33
61.00	HGCOCM	0.86
10.00	HOCM	0.14

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, Inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17869

DST#: 2

ATTN: Roger Martin

Test Start: 2003.06.16 @ 22:28:00

Tool Information

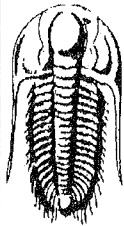
Drill Pipe:	Length: 3065.85 ft	Diameter: 3.80 inches	Volume: 43.01 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 241.15 ft	Diameter: 2.25 inches	Volume: 1.19 bbl	Weight to Pull Loose: 55000.00 lb
		Total Volume: 44.20 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3317.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	33.00 ft			
Tool Length:	54.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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C.O. Sub	1.00			3297.00	
S.I. Tool	5.00			3302.00	
HMV	5.00			3307.00	
Packer	5.00			3312.00	21.00 Bottom Of Top Packer
Packer	5.00			3317.00	
Stubb	1.00			3318.00	
Anchor	1.00			3319.00	
Recorder	0.00	2346	Inside	3319.00	
Anchor	29.00			3348.00	
Recorder	0.00	10991	Outside	3348.00	
Bullnose	2.00			3350.00	33.00 Bottom Packers & Anchor

Total Tool Length: 54.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17869

DST #: 2

ATTN: Roger Martin

Test Start: 2003.06.16 @ 22:28:00

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: 48.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.75 in³

Gas Cushion Type:

Resistivity: 1.50 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	2991'gip	0.000
61.00	GCSIMCOIL	0.300
122.00	free oil	0.600
61.00	HGC&HOCM	0.326
61.00	HGCOCM	0.856
10.00	HOCM	0.140

Total Length: 315.00 ft

Total Volume: 2.222 bbl

Num Fluid Samples: 1

Num Gas Bombs: 0

Serial #:

Laboratory Name: Caraway

Laboratory Location: Liberal Ks

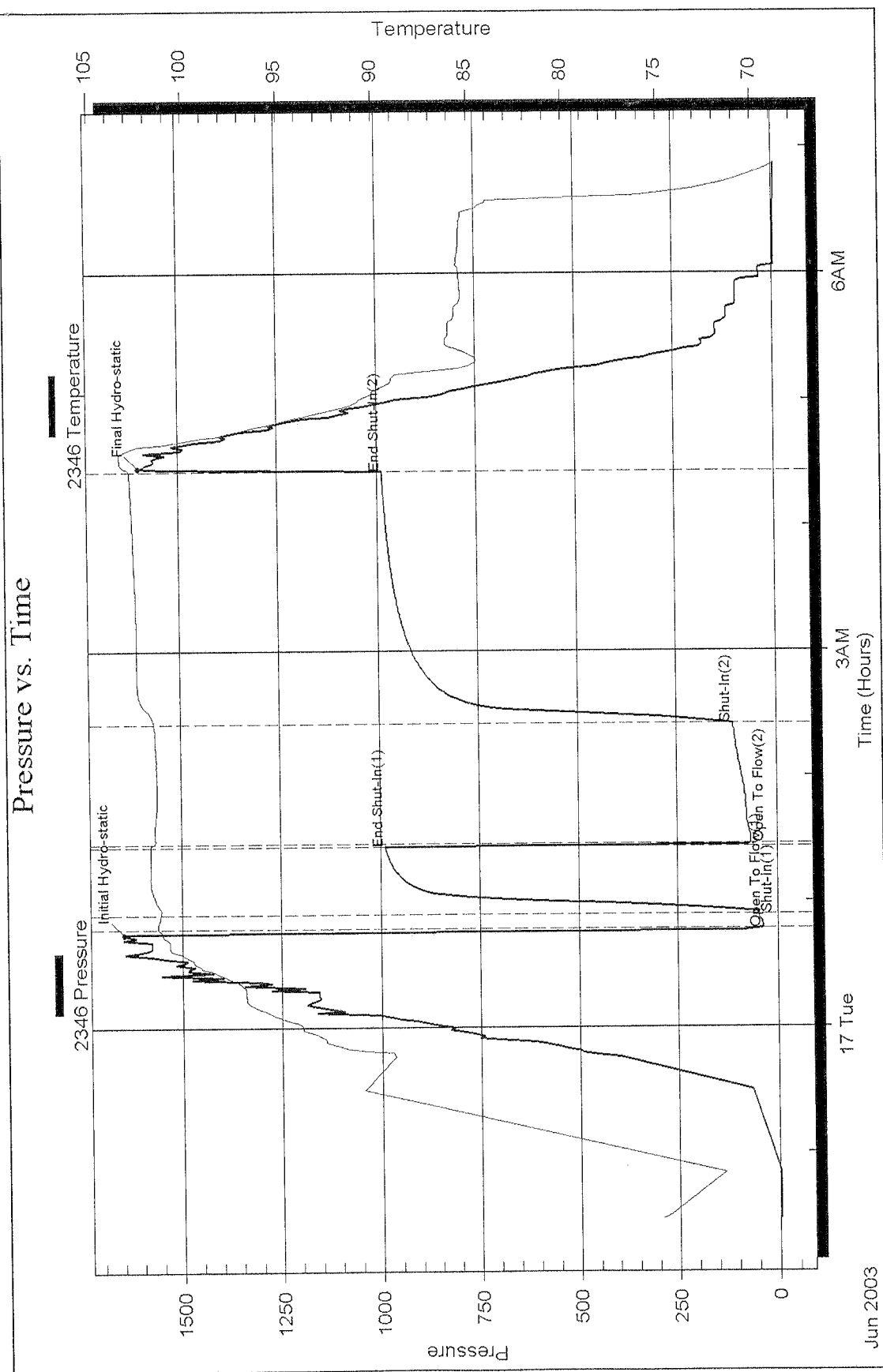
Recovery Comments:

DST Test Number: 2

Mull Drilling Company, inc.

Inside

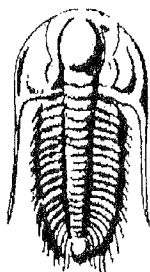
Serial #: 2346



Trilobite Testing, Inc

Ref. No: 17869

Printed: 2003.06.25 @ 10:02:49 Page 5



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, inc.**

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

23-21S-13W

Hall #1-23

Start Date: 2003.06.17 @ 15:09:17

End Date: 2003.06.17 @ 22:20:45

Job Ticket #: 17870

DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

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Mull Drilling Company, inc.

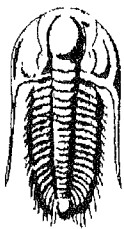
Hall #1-23

23-21S-13W

DST # 3

Lansing (C-D-E-F)

2003.06.17



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company, inc.

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

Hall #1-23

23-21S-13W

Job Ticket: 17870

DST#: 3

Test Start: 2003.06.17 @ 15:09:17

GENERAL INFORMATION:

Formation: **Lansing (C-D-E-F)**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:36:45

Time Test Ended: 22:20:45

Test Type: Conventional Bottom Hole

Tester: Darren L. Amerine

Unit No: 19

Interval: 3350.00 ft (KB) To 3390.00 ft (KB) (TVD)

Total Depth: 3390.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1876.00 ft (KB)

1869.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 2346

Inside

Press@RunDepth: 51.66 psig @ 3355.00 ft (KB)

Start Date: 2003.06.17

End Date:

2003.06.17

Start Time: 15:09:17

End Time:

22:20:45

Capacity: 7000.00 psig

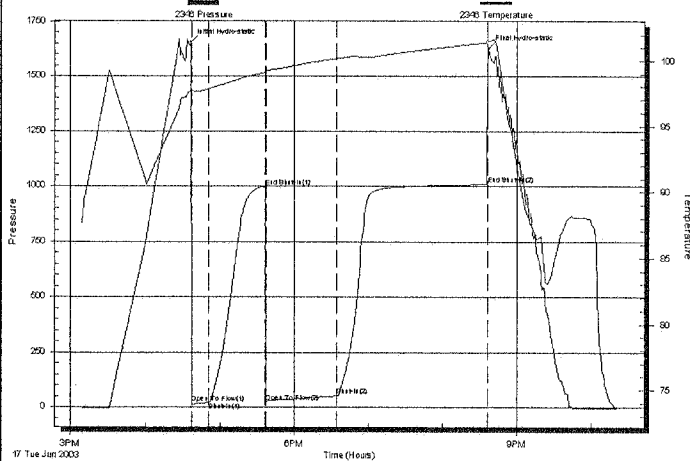
Last Calib.: 1899.12.30

Time On Btm: 2003.06.17 @ 16:36:15

Time Off Btm: 2003.06.17 @ 20:37:45

TEST COMMENT: IF: Fair to strong blow b.o.b in 9 mins.
IS: Bled down for 2 mins. no blow back.
FF: Strong blow b.o.b in 15 sec.
FSI: Bled down for 2 mins. no blow back.

Pressure vs. Time



PRESSURE SUMMARY

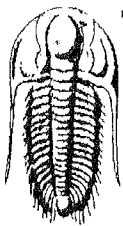
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1654.21	97.66	Initial Hydro-static
1	18.46	97.80	Open To Flow (1)
15	21.79	97.88	Shut-In (1)
60	999.14	99.12	End Shut-In (1)
61	21.83	99.28	Open To Flow (2)
118	51.66	100.20	Shut-In (2)
241	1008.53	101.42	End Shut-In (2)
242	1626.09	101.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	633' of gip	0.00
100.00	HG&HOCM 35% gas 30% oil 35% mud	0.49

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, Inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17870

DST#: 3

ATTN: Roger Martin

Test Start: 2003.06.17 @ 15:09:17

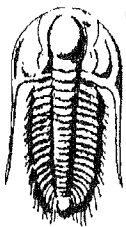
Tool Information

Drill Pipe:	Length: 3096.85 ft	Diameter: 3.80 inches	Volume: 43.44 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: 241.15 ft	Diameter: 2.25 inches	Volume: 1.19 bbl	Weight to Pull Loose: 60000.00 lb
		Total Volume:	44.63 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3350.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	61.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3330.00	
S.I. Tool	5.00			3335.00	
HMV	5.00			3340.00	
Packer	5.00			3345.00	21.00 Bottom Of Top Packer
Packer	5.00			3350.00	
Stubb	1.00			3351.00	
Anchor	4.00			3355.00	
Recorder	0.00	2346	Inside	3355.00	
Anchor	32.00			3387.00	
Recorder	0.00	10991	Outside	3387.00	
Bullnose	3.00			3390.00	40.00 Bottom Packers & Anchor

Total Tool Length: 61.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17870

DST#: 3

ATTN: Roger Martin

Test Start: 2003.06.17 @ 15:09:17

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: 49.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.56 in³

Gas Cushion Type:

Resistivity: 1.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5200.00 ppm

Filter Cake: 0.32 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	633' of gip	0.000
100.00	HG&HOCM 35% gas 30% oil 35% mud	0.492

Total Length: 100.00 ft

Total Volume: 0.492 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

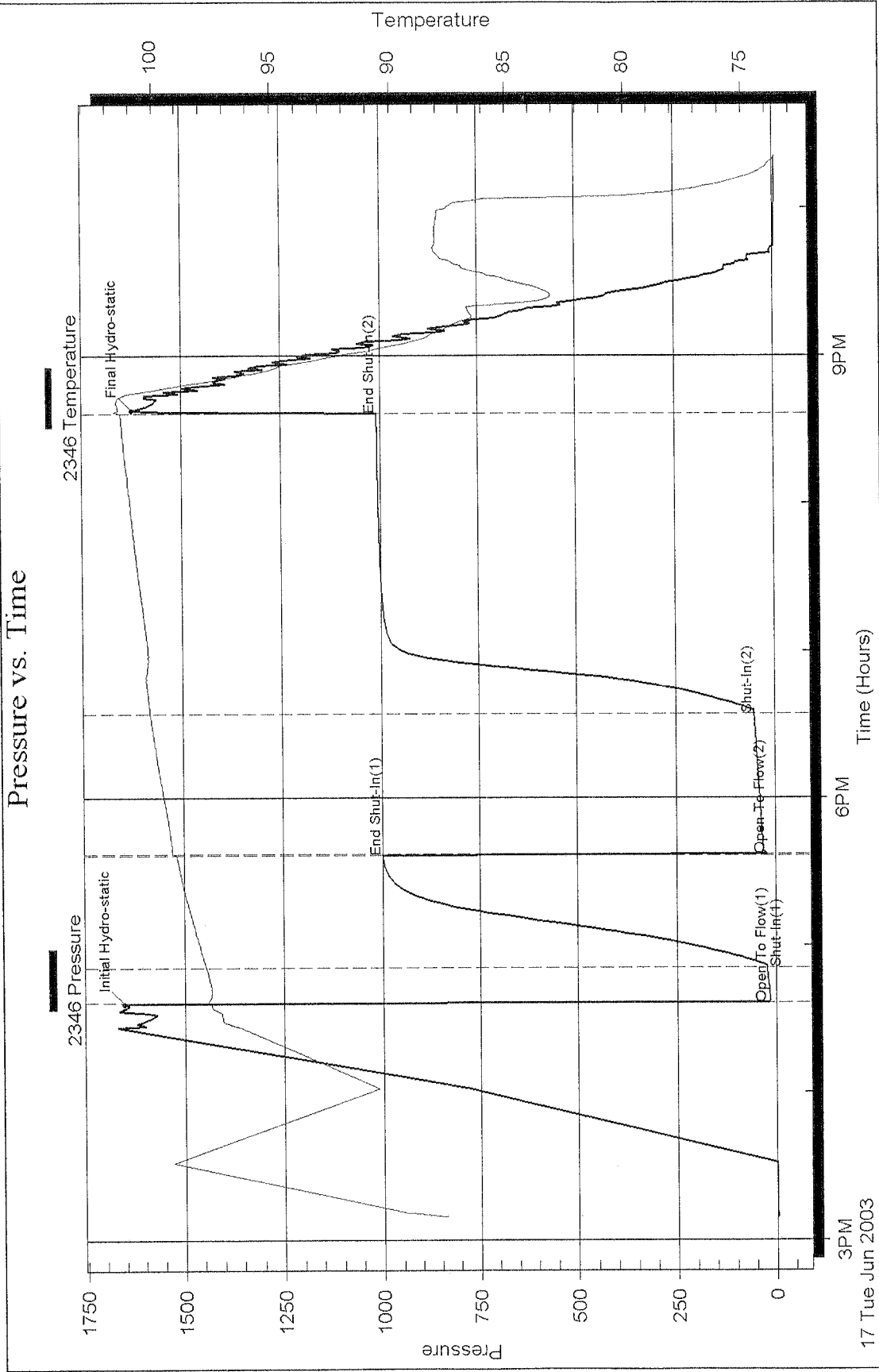
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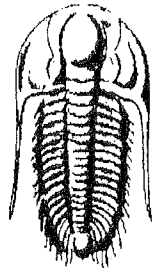
Hall #123
23-21S-13W

DST Test Number: 3

Serial #: 2346 Inside Mull Drilling Company, Inc.

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, inc.**

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

23-21S-13W

Hall #1-23

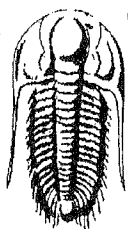
Start Date: 2003.06.18 @ 08:26:50

End Date: 2003.06.18 @ 13:33:20

Job Ticket #: 17871 DST #: 4

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KCC WICHITA

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, Inc.

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

Hall #1-23

23-21S-13W

Job Ticket: 17871

DST#: 4

Test Start: 2003.06.18 @ 08:26:50

GENERAL INFORMATION:

Formation: **Lansing**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:56:20

Time Test Ended: 13:33:20

Test Type: Conventional Bottom Hole

Tester: Darren L. Amerine

Unit No: 19

Interval: 3427.00 ft (KB) To 3446.00 ft (KB) (TVD)

Total Depth: 3446.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1876.00 ft (KB)

1869.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 2346

Inside

Press@RunDepth: 15.20 psig @ 3429.00 ft (KB)

Start Date: 2003.06.18 End Date: 2003.06.18

Start Time: 08:26:52 End Time: 13:33:20

Capacity: 7000.00 psig

Last Calib.: 2003.06.18

Time On Btm: 2003.06.18 @ 09:55:20

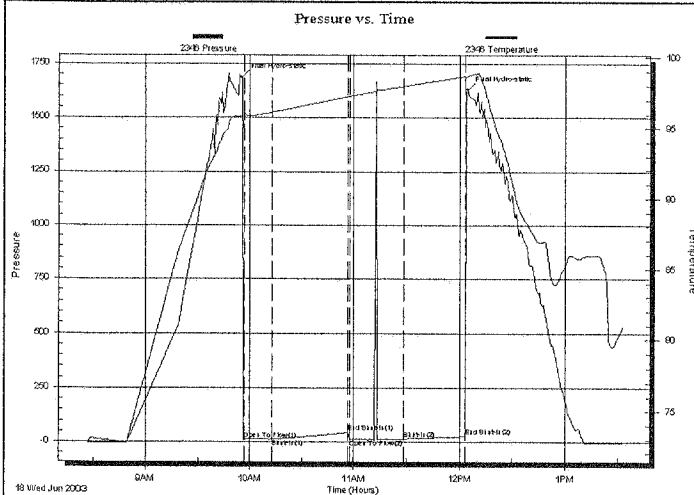
Time Off Btm: 2003.06.18 @ 12:04:50

TEST COMMENT: IF: Tool surged and blow died.

IS: No blow back.

FF: No blow wait 10 mins. flush tool surged and died.

FS: No blow back.



PRESSURE SUMMARY

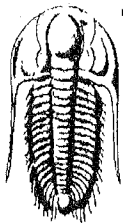
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1684.99	95.91	Initial Hydro-static
1	11.54	96.02	Open To Flow (1)
18	12.28	96.12	Shut-In(1)
62	44.00	97.23	End Shut-In(1)
63	12.92	97.26	Open To Flow (2)
93	15.20	97.97	Shut-In(2)
129	26.12	98.67	End Shut-In(2)
130	1630.36	98.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	SGCM 94% mud 6% gas	0.10
0.00	trace of oil @ Tool	0.00

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, Inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17871

DST#: 4

ATTN: Roger Martin

Test Start: 2003.06.18 @ 08:26:50

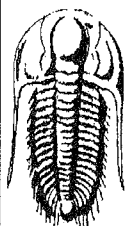
Tool Information

Drill Pipe:	Length: 3190.85 ft	Diameter: 3.80 inches	Volume: 44.76 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: 241.15 ft	Diameter: 2.25 inches	Volume: 1.19 bbl	Weight to Pull Loose: 55000.00 lb
		Total Volume: 45.95 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3427.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.00 ft			
Tool Length:	40.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			3407.00	
S.I. Tool	5.00			3412.00	
HMV	5.00			3417.00	
Packer	5.00			3422.00	21.00 Bottom Of Top Packer
Packer	5.00			3427.00	
Stubb	2.00			3429.00	
Recorder	0.00	2346	Inside	3429.00	
Anchor	15.00			3444.00	
Recorder	0.00	10991	Outside	3444.00	
Bullnose	2.00			3446.00	19.00 Bottom Packers & Anchor
Total Tool Length:	40.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17871

DST#: 4

ATTN: Roger Martin

Test Start: 2003.06.18 @ 08:26:50

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.58 in³

Gas Cushion Type:

Resistivity: 1.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.32 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	SGCM 94% mud 6% gas	0.098
0.00	trace of oil @ Tool	0.000

Total Length: 20.00 ft

Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

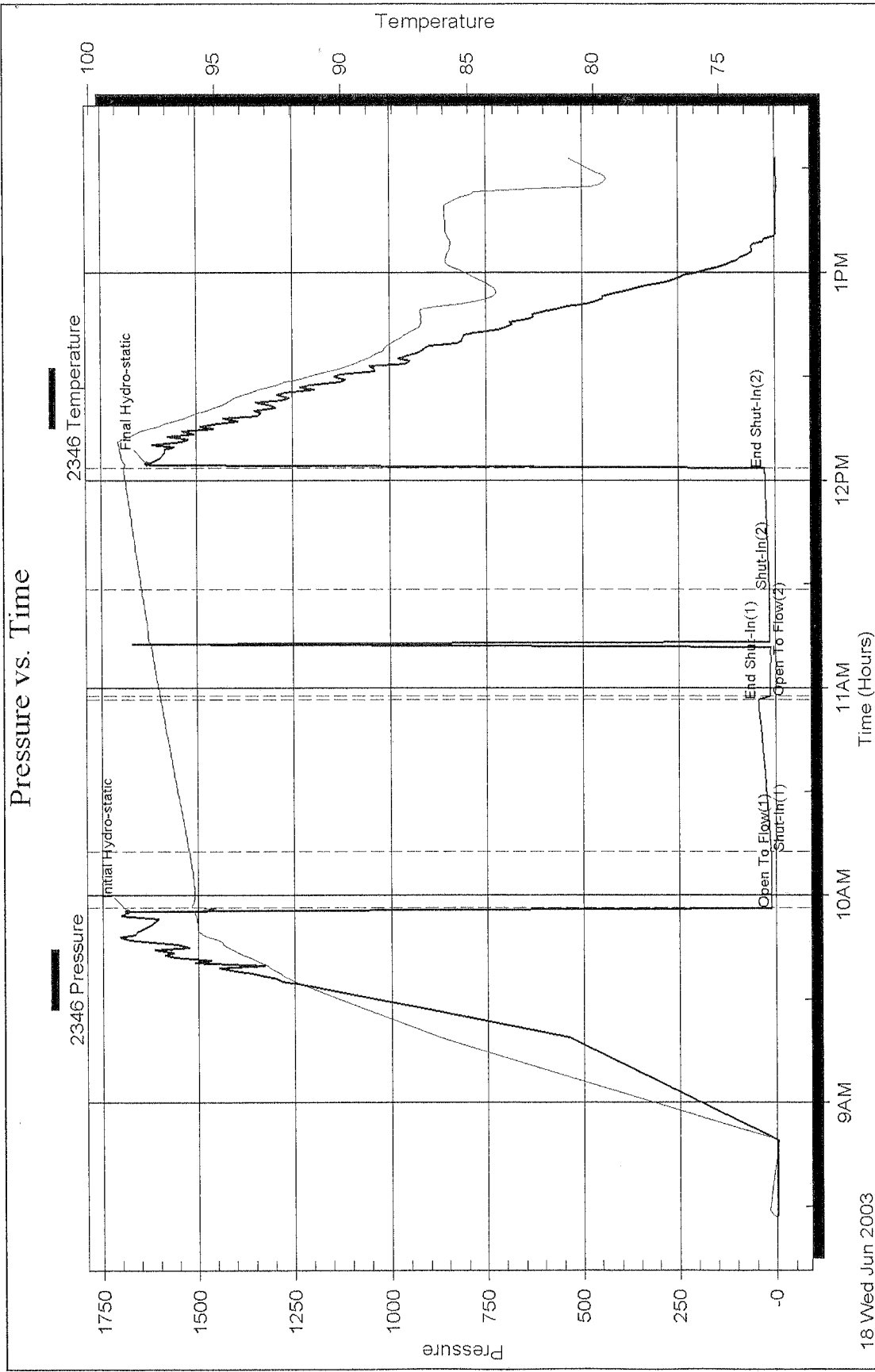
Laboratory Location:

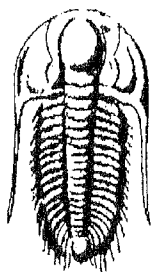
Recovery Comments:

Well #1-23
23-21S-13W

DST Test Number: 4

Serial #: 2346 Inside Mull Drilling Company, Inc.





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, inc.**

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

23-21S-13W

Hall #1-23

Start Date: 2003.06.18 @ 20:20:50

End Date: 2003.06.19 @ 12:37:35

Job Ticket #: 17081

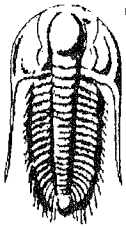
DST #: 5

RECEIVED
OCT 02 2003
KCC WICHITA

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, Inc.

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

Hall #1-23

23-21S-13W

Job Ticket: 17081

DST#: 5

Test Start: 2003.06.18 @ 20:20:50

GENERAL INFORMATION:

Formation: **Lansing "I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:38:35

Time Test Ended: 12:37:35

Test Type: Conventional Bottom Hole

Tester: Wenrich

Unit No: 24

Interval: **3444.00 ft (KB) To 3467.00 ft (KB) (TVD)**

Total Depth: 34567.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1876.00 ft (KB)

1869.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **3310** Inside

Press@RunDepth: 436.21 psig @ 3445.00 ft (KB)

Start Date: 2003.06.18

End Date: 2003.06.19

Start Time: 20:20:55

End Time: 12:37:35

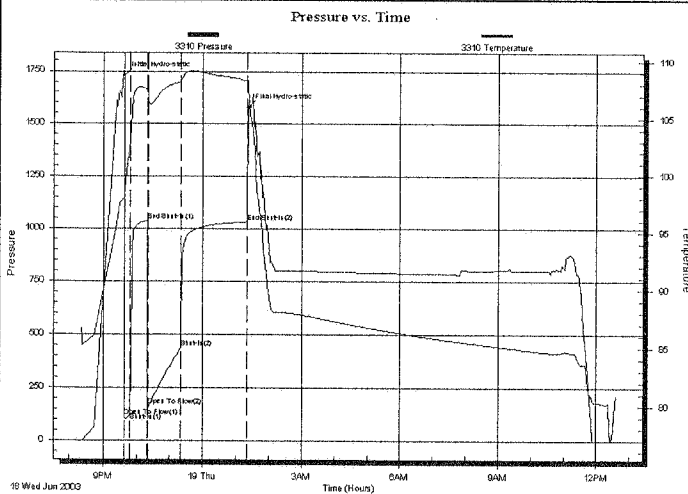
Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Time On Btm: 2003.06.18 @ 21:37:20

Time Off Btm: 2003.06.19 @ 01:21:35

TEST COMMENT: IF: Strong blow .BOB immediately .GTS in 9 mins.
IS: Weak blow .1/4"-3 1/2" in bucket.
FF: Strong blow .BOB immediately .(see gas report)
FS: Strong blow .BOB in 14 mins.



PRESSURE SUMMARY

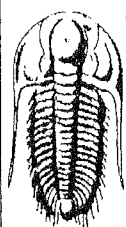
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1731.23	98.12	Initial Hydro-static
2	114.40	98.79	Open To Flow (1)
12	130.88	103.33	Shut-In(1)
42	1036.27	107.51	End Shut-In(1)
43	164.18	107.17	Open To Flow (2)
103	436.21	108.18	Shut-In(2)
224	1035.77	108.25	End Shut-In(2)
225	1578.09	108.29	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GMCO 40%g 25%m 35%o	0.30
1620.00	100% Oil	20.99

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	-10.40	6.35
Last Gas Rate	0.25	-12.40	3.17
Max. Gas Rate	0.25	-8.40	9.52



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17081

DST#: 5

ATTN: Roger Martin

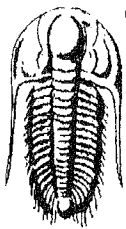
Test Start: 2003.06.18 @ 20:20:50

Tool Information

Drill Pipe:	Length: 3184.00 ft	Diameter: 3.80 inches	Volume: 44.66 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: 250.00 ft	Diameter: 2.25 inches	Volume: 1.23 bbl	Weight to Pull Loose:	60000.00 lb
		Total Volume:	45.89 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3444.00 ft			Final	55000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	23.00 ft				
Tool Length:	43.00 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			3425.00	
Shut In Tool	5.00			3430.00	
Hydraulic tool	5.00			3435.00	
Packer	4.00			3439.00	20.00 Bottom Of Top Packer
Packer	5.00			3444.00	
Stubb	1.00			3445.00	
Recorder	0.00	3310	Inside	3445.00	
Perforations	20.00			3465.00	
Recorder	0.00	10242	Outside	3465.00	
Bullnose	2.00			3467.00	23.00 Bottom Packers & Anchor
Total Tool Length:	43.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17081

DST#: 5

ATTN: Roger Martin

Test Start: 2003.06.18 @ 20:20:50

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.56 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	GMCO 40%g 25%m 35%o	0.295
1620.00	100% Oil	20.994

Total Length: 1680.00 ft

Total Volume: 21.289 bbl

Num Fluid Samples: 0

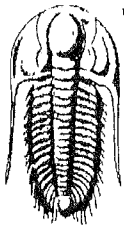
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

GAS RATES

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17081

DST#: 5

ATTN: Roger Martin

Test Start: 2003.06.18 @ 20:20:50

Gas Rates Information

Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m³/d)
2	5	0.25	-10.40	6.35
2	10	0.25	-8.40	9.52
2	15	0.25	-8.40	9.52
2	20	0.25	-10.40	6.35
2	25	0.25	-12.40	3.17

Well #1-23

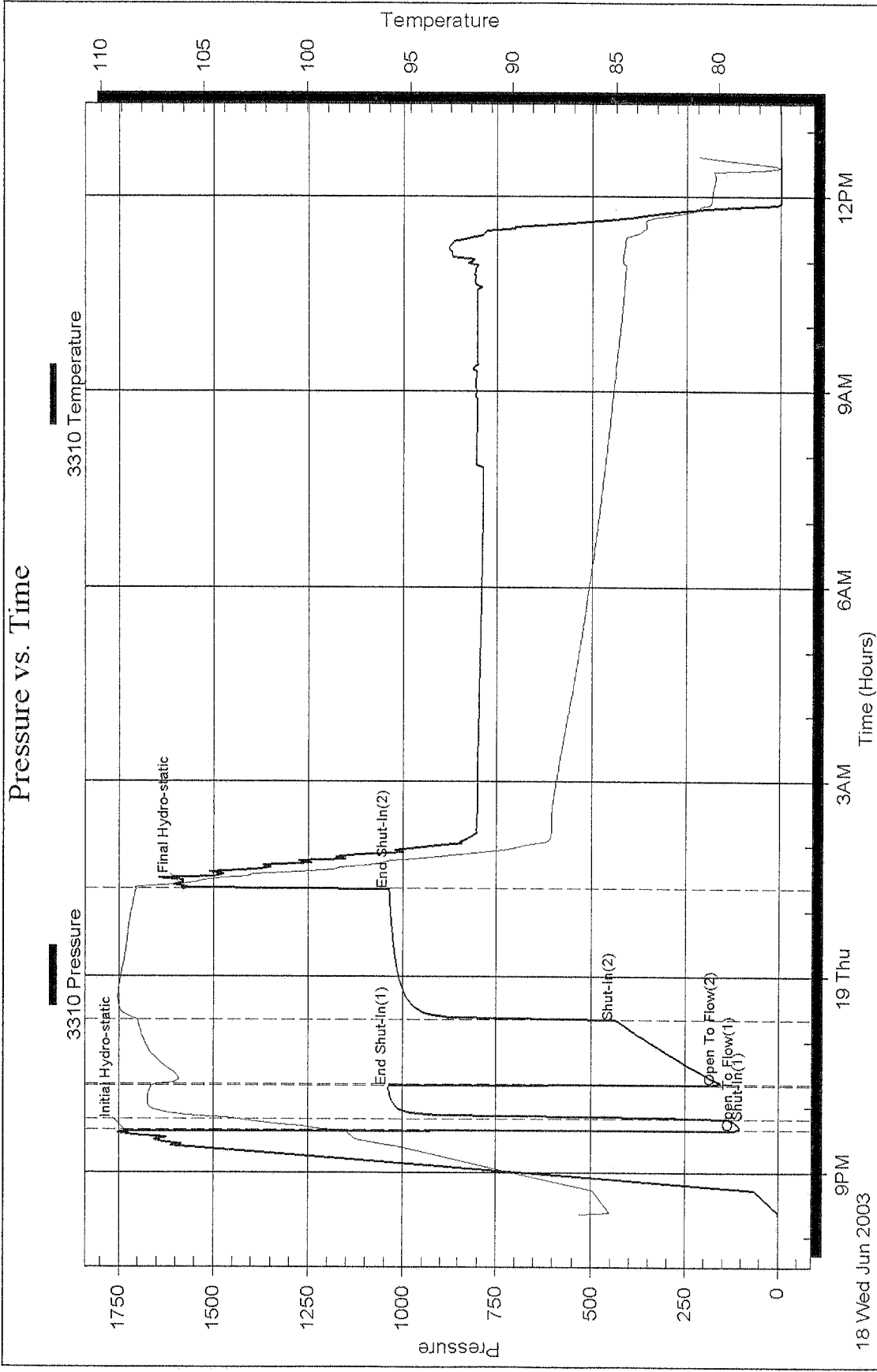
23-21S-13W

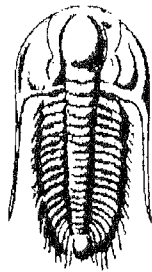
Serial #: 3310

Inside

Mull Drilling Company, Inc.

DST Test Number: 5





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, inc.**

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

23-21S-13W

Hall #1-23

Start Date: 2003.06.19 @ 19:27:10

End Date: 2003.06.20 @ 03:08:10

Job Ticket #: 17082 DST #: 6

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

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OCT 02 2003

KCC WICHITA

Mull Drilling Company, inc.

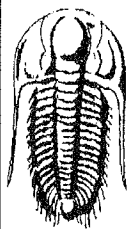
Hall #1-23

23-21S-13W

DST # 6

Lansing "J"

2003.06.19



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

Hall #1-23

23-21S-13W

Job Ticket: 17082

DST#: 6

Test Start: 2003.06.19 @ 19:27:10

GENERAL INFORMATION:

Formation: **Lansing "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:54:25

Time Test Ended: 03:08:10

Test Type: Conventional Bottom Hole

Tester: Wenrich

Unit No: 24

Interval: **3464.00 ft (KB) To 3487.00 ft (KB) (TVD)**

Total Depth: 3487.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1876.00 ft (KB)

1869.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 3310

Inside

Press@RunDepth: 88.88 psig @ 3465.00 ft (KB)

Start Date: 2003.06.19

End Date: 2003.06.20

Start Time: 19:27:15

End Time: 03:08:09

Capacity: 7000.00 psig

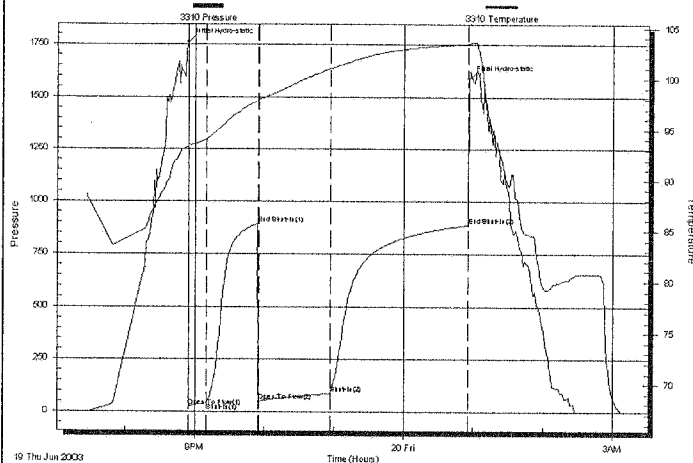
Last Calib.: 1899.12.30

Time On Btm: 2003.06.19 @ 20:53:55

Time Off Btm: 2003.06.20 @ 00:56:10

TEST COMMENT: IF: Strong blow .BOB in 10 mins.
IS: No blow .
FF: Strong blow .BOB in 15 mins.
FS: No blow .

Pressure vs. Time



PRESSURE SUMMARY

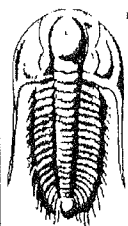
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1759.29	93.36	Initial Hydro-static
1	22.27	93.52	Open To Flow (1)
16	41.56	94.08	Shut-In (1)
60	892.93	97.81	End Shut-In (1)
61	49.05	98.00	Open To Flow (2)
123	88.88	100.97	Shut-In (2)
242	886.53	103.41	End Shut-In (2)
243	1585.64	103.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
145.00	GO&WCM 17% G 17% O 18% W 48% M 0.71	

Gas Rates

Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17082

DST#: 6

ATTN: Roger Martin

Test Start: 2003.06.19 @ 19:27:10

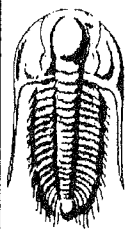
Tool Information

Drill Pipe:	Length: 3207.00 ft	Diameter: 3.80 inches	Volume: 44.99 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: 20000.00 lb
Drill Collar:	Length: 250.00 ft	Diameter: 2.25 inches	Volume: 1.23 bbl	Weight to Pull Loose: 60000.00 lb
		Total Volume: 46.22 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3464.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	43.00 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			3445.00	
Shut In Tool	5.00			3450.00	
Hydraulic tool	5.00			3455.00	
Packer	4.00			3459.00	20.00 Bottom Of Top Packer
Packer	5.00			3464.00	
Stubb	1.00			3465.00	
Recorder	0.00	3310	Inside	3465.00	
Perforations	20.00			3485.00	
Recorder	0.00	10242	Outside	3485.00	
Bullnose	2.00			3487.00	23.00 Bottom Packers & Anchor
Total Tool Length:	43.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17082

DST#: 6

ATTN: Roger Martin

Test Start: 2003.06.19 @ 19:27:10

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 49.00 sec/qt

Water Loss: 12.37 in³

Resistivity: 0.00 ohm.m

Salinity: 10000.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
145.00	GO&WCM 17% G 17% O 18% W 48% M	0.713

Total Length: 145.00 ft

Total Volume: 0.713 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Hall #1-23
23-21S-13W

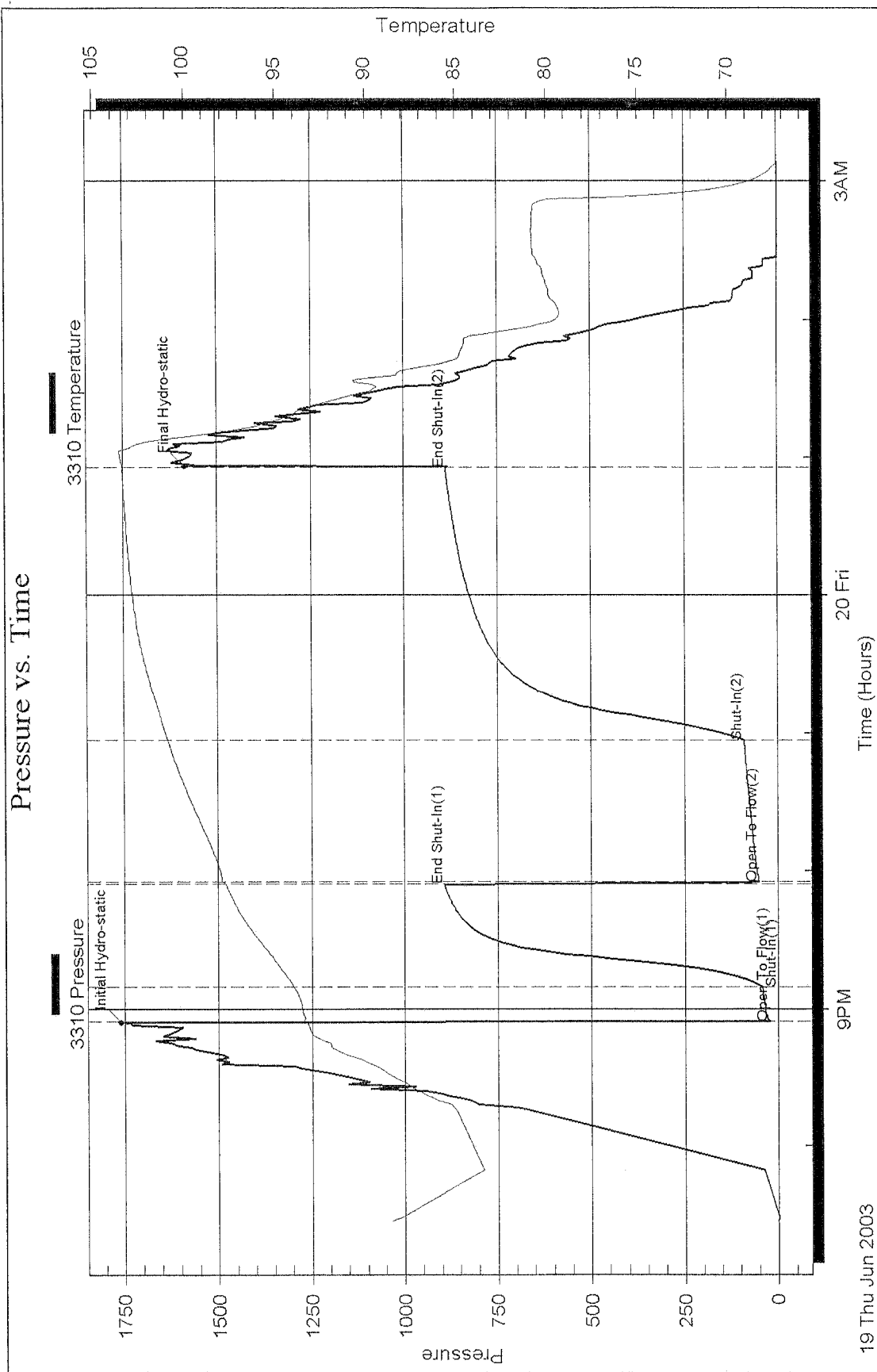
DST Test Number: 6

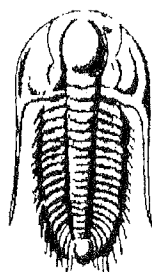
Serial #: 3310

Inside

Mull Drilling Company, Inc.

Pressure vs. Time





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, inc.**

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

23-21S-13W

Hall #1-23

Start Date: 2003.06.20 @ 11:48:00

End Date: 2003.06.20 @ 18:54:00

Job Ticket #: 17083

DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

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KCC WICHITA

Mull Drilling Company, Inc.

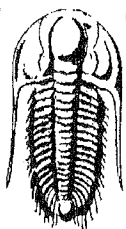
Hall #1-23

23-21S-13W

DST # 7

Lansing K&L

2003.06.20



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mull Drilling Company, inc.

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

Hall #1-23

23-21S-13W

Job Ticket: 17083

DST#: 7

Test Start: 2003.06.20 @ 11:48:00

GENERAL INFORMATION:

Formation: **Lansing K&L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:05:00

Time Test Ended: 18:54:00

Test Type: Conventional Bottom Hole

Tester: Wenrich

Unit No: 24

Interval: **3487.00 ft (KB) To 3531.00 ft (KB) (TVD)**

Total Depth: 33531.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1876.00 ft (KB)

1869.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **3310** Inside

Press@RunDepth: 51.47 psig @ 3488.00 ft (KB)

Start Date: 2003.06.20

End Date: 2003.06.20

Start Time: 11:48:05

End Time: 18:53:59

Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Time On Btm: 2003.06.20 @ 13:04:15

Time Off Btm: 2003.06.20 @ 17:06:45

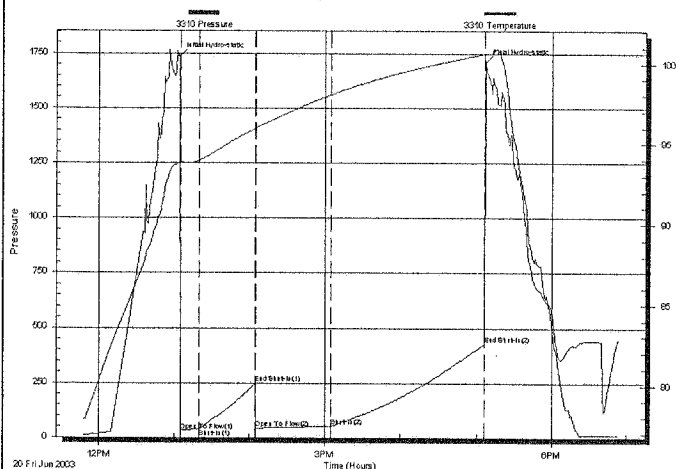
TEST COMMENT: IF: Weak blow .1/4"-5 1/2" in bucket.

IS: No blow.

FF: Strong blow .BOB in 26 mins.

FS: No blow.

Pressure vs. Time



PRESSURE SUMMARY

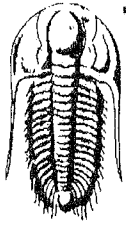
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1735.94	93.86	Initial Hydro-static
1	28.42	94.03	Open To Flow (1)
16	38.41	93.96	Shut-In (1)
61	247.48	95.96	End Shut-In (1)
62	41.10	96.05	Open To Flow (2)
121	51.47	98.07	Shut-In (2)
242	427.02	100.62	End Shut-In (2)
243	1710.01	100.61	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	MCGO 20%g 60%o 20%m	0.30

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17083

DST#: 7

ATTN: Roger Martin

Test Start: 2003.06.20 @ 11:48:00

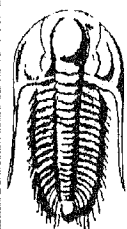
Tool Information

Drill Pipe:	Length: 3248.00 ft	Diameter: 3.80 inches	Volume: 45.56 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: 250.00 ft	Diameter: 2.25 inches	Volume: 1.23 bbl	Weight to Pull Loose:	60000.00 lb
		Total Volume:	46.79 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	3487.00 ft			Final	53000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	44.00 ft				
Tool Length:	64.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3468.00	
Shut In Tool	5.00			3473.00	
Hydraulic tool	5.00			3478.00	
Packer	4.00			3482.00	20.00 Bottom Of Top Packer
Packer	5.00			3487.00	
Stubb	1.00			3488.00	
Recorder	0.00	3310	Inside	3488.00	
Perforations	5.00			3493.00	
Change Over Sub	1.00			3494.00	
Blank Spacing	30.00			3524.00	
Change Over Sub	0.00			3524.00	
Perforations	5.00			3529.00	
Recorder	0.00	10242	Outside	3529.00	
Bullnose	2.00			3531.00	44.00 Bottom Packers & Anchor

Total Tool Length: 64.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17083

DST#: 7

ATTN: Roger Martin

Test Start: 2003.06.20 @ 11:48:00

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: 56.00 sec/qt

Cushion Volume:

bbl

Water Loss: 10.37 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 11000.00 ppm

Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	MCGO 20%g 60%o 20%m	0.305

Total Length: 62.00 ft

Total Volume: 0.305 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

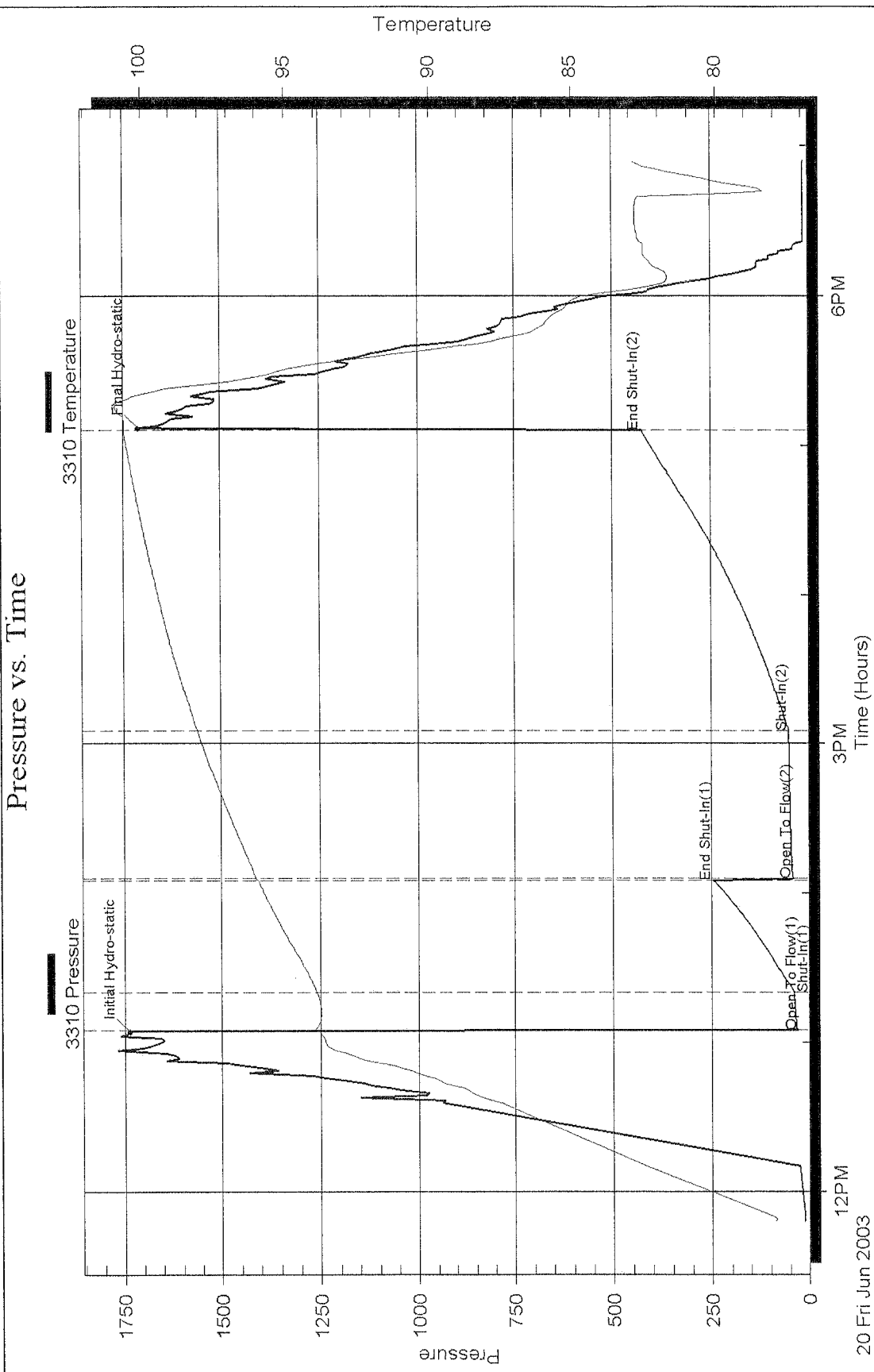
Recovery Comments:

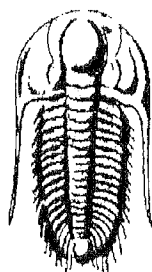
Well #1-23
23-21S-13W

DST Test Number: 7

Serial #: 3310 Inside Mull Drilling Company, Inc.

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, inc.**

P.O.box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

23-21S-13W

Hall #1-23

Start Date: 2003.06.21 @ 09:02:09

End Date: 2003.06.21 @ 16:37:54

Job Ticket #: 17084 DST #: 8

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OCT 02 2003
KCC WICHITA

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



Mull Drilling Company, inc.

P.O.box 2758
Wichita,Ks.67201-2758

ATTN: Roger Martin

Hall #1-23

23-21S-13W

Job Ticket: 17084

DST#: 8

Test Start: 2003.06.21 @ 09:02:09

Formation: Arbuckle

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:28:39

Time Test Ended: 16:37:54

Test Type: Conventional Bottom Hole

Tester: Wenrich

Unit No: 24

Interval: 3589.00 ft (KB) To 3662.00 ft (KB) (TVD)

Total Depth: 3662.00 ft (KB) (TVD)

Hole Diameter: 7.88 inchesHole Condition: Fair

Reference Elevations: 1876.00 ft (KB)

1869.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 3310 Inside

Press@RunDepth: 83.87 psig @ 3590.00 ft (KB)

Start Date: 2003.06.21

End Date:

2003.06.21

Start Time: 09:02:14

End Time:

16:37:53

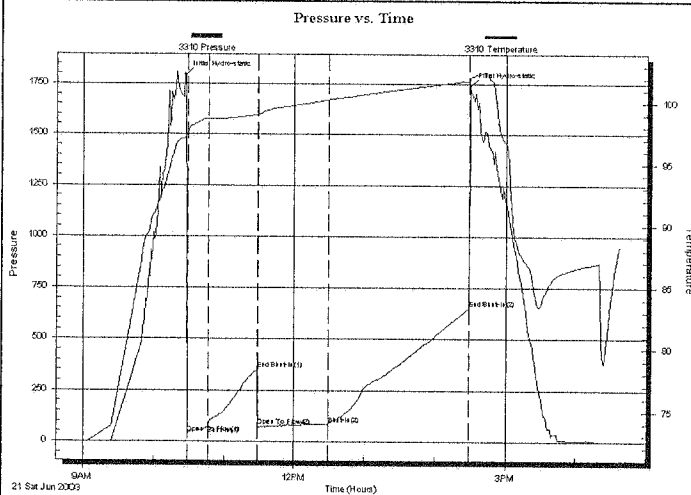
Capacity: 7000.00 psia

Last Calib.: 1899.12.30

Time On Btm: 2003.06.21 @ 10:27:24

Time Off Btm: 2003.06.21 @ 14:29:54

TEST COMMENT: IF:Weak blow .1/4"-4" in bucket.
IS:No blow .
FF:Weak blow .1/4"-4 1/2" in bucket.
FSI:No blow .



PRESSURE SUMMARY

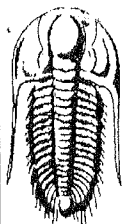
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1793.16	97.23	Initial Hydro-static
2	39.19	97.53	Open To Flow (1)
19	73.26	98.70	Shut-In(1)
61	352.38	99.02	End Shut-In(1)
62	74.50	99.08	Open To Flow (2)
123	83.87	100.28	Shut-In(2)
242	652.59	101.87	End Shut-In(2)
243	1738.98	101.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	G&OCM 30% g 18% O 52% M	0.61

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17084

DST#: 8

ATTN: Roger Martin

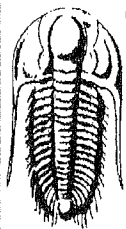
Test Start: 2003.06.21 @ 09:02:09

Tool Information

Drill Pipe:	Length: 3343.00 ft	Diameter: 3.80 inches	Volume: 46.89 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: 250.00 ft	Diameter: 2.25 inches	Volume: 1.23 bbl	Weight to Pull Loose: 60000.00 lb
		Total Volume:	48.12 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3589.00 ft			Final 53000.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3567.00	
Shut In Tool	5.00			3572.00	
Sampler	3.00			3575.00	
Hydraulic tool	5.00			3580.00	
Packer	4.00			3584.00	23.00 Bottom Of Top Packer
Packer	5.00			3589.00	
Stubb	1.00			3590.00	
Recorder	0.00	3310	Inside	3590.00	
Perforations	5.00			3595.00	
Change Over Sub	1.00			3596.00	
Blank Spacing	30.00			3626.00	
Change Over Sub	0.00			3626.00	
Perforations	34.00			3660.00	
Recorder	0.00	10242	Outside	3660.00	
Bullnose	2.00			3662.00	73.00 Bottom Packers & Anchor

Total Tool Length: 96.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17084

DST#: 8

ATTN: Roger Martin

Test Start: 2003.06.21 @ 09:02:09

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.53 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
125.00	G&OCM 30% g 18% O 52% M	0.615

Total Length: 125.00 ft

Total Volume: 0.615 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

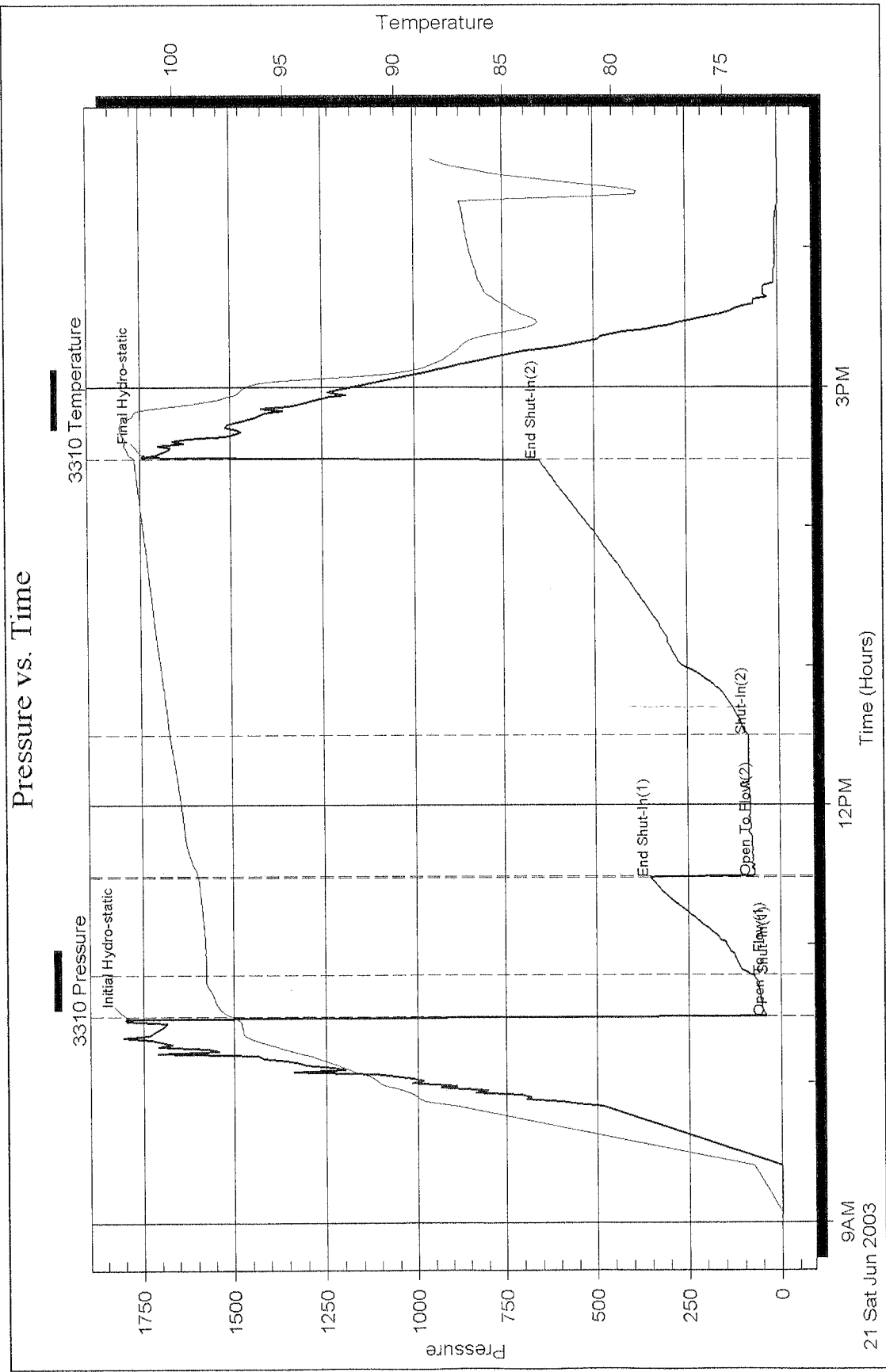
Laboratory Location:

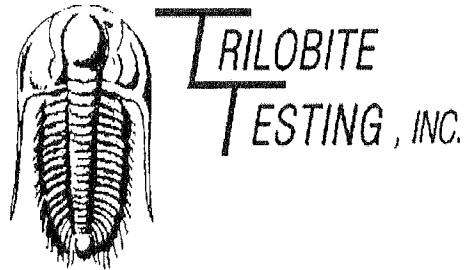
Recovery Comments:

Well #1-23
23-21S-13W

DST Test Number: 8

Serial #: 3310 Inside Mull Drilling Company, Inc.





DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company, inc.**

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

23-21S-13W

Hall #1-23

Start Date: 2003.06.22 @ 00:14:16

End Date: 2003.06.22 @ 09:49:31

Job Ticket #: 17085 DST #: 9

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

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OCT 02 2003

KCC WICHITA

Mull Drilling Company, inc.

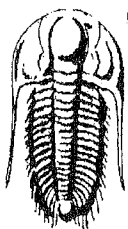
Hall #1-23

23-21S-13W

DST # 9

Arbuckle

2003.06.22



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mull Drilling Company, inc.

P.O. box 2758
Wichita, Ks. 67201-2758

ATTN: Roger Martin

Hall #1-23

23-21S-13W

Job Ticket: 17085

DST#: 9

Test Start: 2003.06.22 @ 00:14:16

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:26:16

Time Test Ended: 09:49:31

Test Type: Conventional Bottom Hole

Tester: Wenrich

Unit No: 24

Interval: **3587.00 ft (KB) To 3571.00 ft (KB) (TVD)**

Total Depth: 3671.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1876.00 ft (KB)

1869.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 3310

Inside

Press@RunDepth: 272.09 psig @ 3588.00 ft (KB)

Start Date: 2003.06.22

End Date: 2003.06.22

Start Time: 00:14:21

End Time: 09:49:31

Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Time On Btm: 2003.06.22 @ 02:25:46

Time Off Btm: 2003.06.22 @ 06:06:46

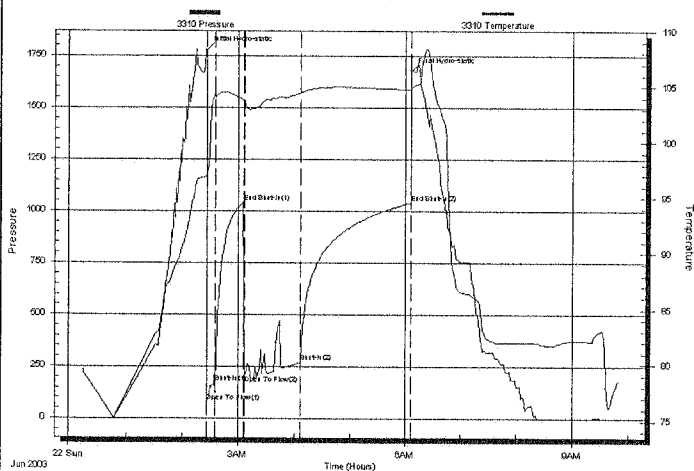
TEST COMMENT: IF: Strong blow BOB in 3 mins.

IS: No blow.

FF: Strong blow BOB in 3 mins.

FS: Strong blow BOB in 5 mins.

Pressure vs. Time



PRESSURE SUMMARY

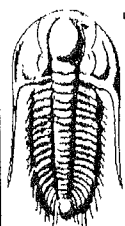
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1777.66	97.00	Initial Hydro-static
1	77.14	97.15	Open To Flow (1)
10	173.18	104.13	Shut-In(1)
40	1043.58	103.82	End Shut-In(1)
41	210.29	103.78	Open To Flow (2)
101	272.09	104.51	Shut-In(2)
221	1040.65	104.77	End Shut-In(2)
221	1677.34	104.80	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
620.00	Gas&mcoil 28%g 44%o 28%m	6.42
110.00	clean gassy oil	1.54

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17085

DST#: 9

ATTN: Roger Martin

Test Start: 2003.06.22 @ 00:14:16

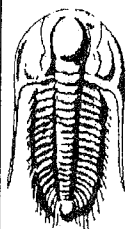
Tool Information

Drill Pipe:	Length: 3345.00 ft	Diameter: 3.80 inches	Volume: 46.92 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: 250.00 ft	Diameter: 2.25 inches	Volume: 1.23 bbl	Weight to Pull Loose:	60000.00 lb
		Total Volume:	48.15 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3587.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	84.00 ft				
Tool Length:	107.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3565.00	
Shut In Tool	5.00			3570.00	
Sampler	3.00			3573.00	
Hydraulic tool	5.00			3578.00	
Packer	4.00			3582.00	23.00 Bottom Of Top Packer
Packer	5.00			3587.00	
Stubb	1.00			3588.00	
Recorder	0.00	3310	Inside	3588.00	
Perforations	5.00			3593.00	
Change Over Sub	1.00			3594.00	
Blank Spacing	61.00			3655.00	
Change Over Sub	0.00			3655.00	
Perforations	14.00			3669.00	
Recorder	0.00	10242	Outside	3669.00	
Bullnose	2.00			3671.00	84.00 Bottom Packers & Anchor

Total Tool Length: 107.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, inc.

Hall #1-23

P.O. box 2758
Wichita, Ks. 67201-2758

23-21S-13W

Job Ticket: 17085

DST#: 9

ATTN: Roger Martin

Test Start: 2003.06.22 @ 00:14:16

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 56.00 sec/qt

Water Loss: 11.97 in³

Resistivity: 0.00 ohm.m

Salinity: 8500.00 ppm

Filter Cake: 0.20 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
620.00	Gas & mcoil 28%g 44%o 28%m	6.420
110.00	clean gassy oil	1.543

Total Length: 730.00 ft

Total Volume: 7.963 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 3310 Inside Mill Drilling Company, Inc.

Well #1-23
23-21S-13W

DST Test Number: 9

Pressure vs. Time

