

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co Inc**

1700 N. Waterfront Pkwy
Bldg. 1200
Wichita KS 67206-8837

ATTN: Mark Shreve

31-15S-26W Gove KS

Curtis "D" #1-31

Start Date: 2010.03.22 @ 11:51:39

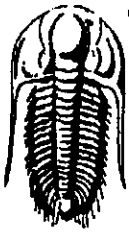
End Date: 2010.03.22 @ 19:34:03

Job Ticket #: 38211 DST #: 1

**KCC
JUN 23 2010
CONFIDENTIAL**

**RECEIVED
JUN 25 2010
KCC WICHITA**

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mull Drilling Co Inc
1700 N. Waterfront Pkwy
Bldg. 1200
Wichita KS 67206-8837
ATTN: Mark Shreve

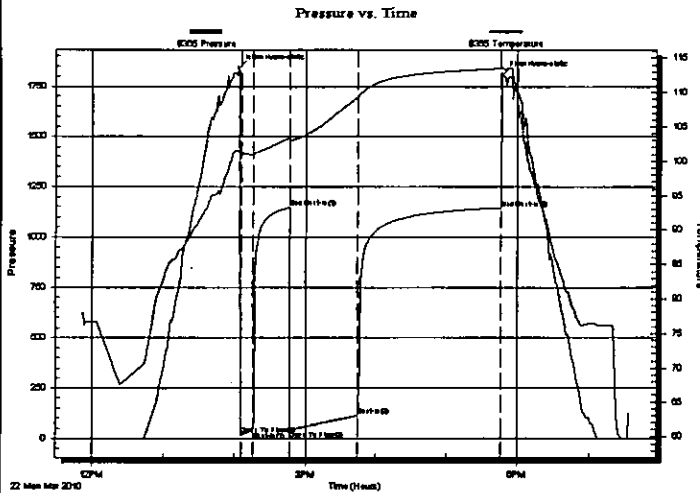
Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38211 DST#: 1
Test Start: 2010.03.22 @ 11:51:39

GENERAL INFORMATION:

Formation: **Toronto**
Deviated: **No Whipstock** ft (KB)
Time Tool Opened: 14:05:04
Time Test Ended: 19:34:03
Interval: **3800.00 ft (KB) To 3845.00 ft (KB) (TVD)**
Total Depth: **3845.00 ft (KB) (TVD)**
Hole Diameter: **7.85 inches** Hole Condition: **Fair**
Test Type: **Conventional Bottom Hole**
Tester: **Ray Schwager**
Unit No: **42**
Reference Elevations: **2572.00 ft (KB)**
2563.00 ft (CF)
KB to GR/CF: **9.00 ft**

Serial #: 8365 **Inside**
Press@RunDepth: **110.38 psig @ 3810.01 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2010.03.22** End Date: **2010.03.22** Last Calib.: **2010.03.22**
Start Time: **11:51:39** End Time: **19:34:03** Time On Btm: **2010.03.22 @ 14:03:04**
Time Off Btm: **2010.03.22 @ 17:47:03**

TEST COMMENT: IFF-w k bl 1/2" to 3" bl
FFP-w k to a gd bl 1" to 6 1/2" bl
Times 10-30-60-120
no bl on shut-in



PRESSURE SUMMARY

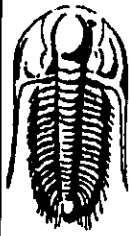
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1840.69	101.37	Initial Hydro-static
2	19.57	100.47	Open To Flow (1)
13	35.59	100.95	Shut-In(1)
43	1145.97	103.36	End Shut-In(1)
44	39.04	103.01	Open To Flow (2)
102	110.38	109.31	Shut-In(2)
223	1141.55	113.50	End Shut-In(2)
224	1807.25	113.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
80.00	MW 25% M75% W w/show of oil	1.12
120.00	Water	1.68

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co Inc
1700 N. Waterfront Pkwy
Bldg. 1200
Wichita KS 67206-8837
ATTN: Mark Shreve

Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38211 DST#: 1
Test Start: 2010.03.22 @ 11:51:39

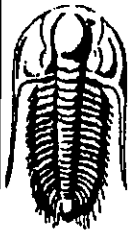
Tool Information

Drill Pipe:	Length: 3803.00 ft	Diameter: 3.80 inches	Volume: 53.35 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 53.35 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3800.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.02 ft			
Tool Length:	66.02 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			3780.00	
Shut In Tool	5.00			3785.00	
Hydraulic tool	5.00			3790.00	
Packer	5.00			3795.00	21.00 Bottom Of Top Packer
Packer	5.00			3800.00	
Stubb	1.00			3801.00	
Perforations	9.00			3810.00	
Recorder	0.01	8365	Inside	3810.01	
Recorder	0.01	6625	Outside	3810.02	
Blank Spacing	32.00			3842.02	
Bullnose	3.00			3845.02	45.02 Bottom Packers & Anchor

Total Tool Length: 66.02



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1700 N. Waterfront Pkwy
Bldg. 1200
Wichita KS 67206-8837
ATTN: Mark Shreve

Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38211 DST#: 1
Test Start: 2010.03.22 @ 11:51:39

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:	32000 ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.72 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1200.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

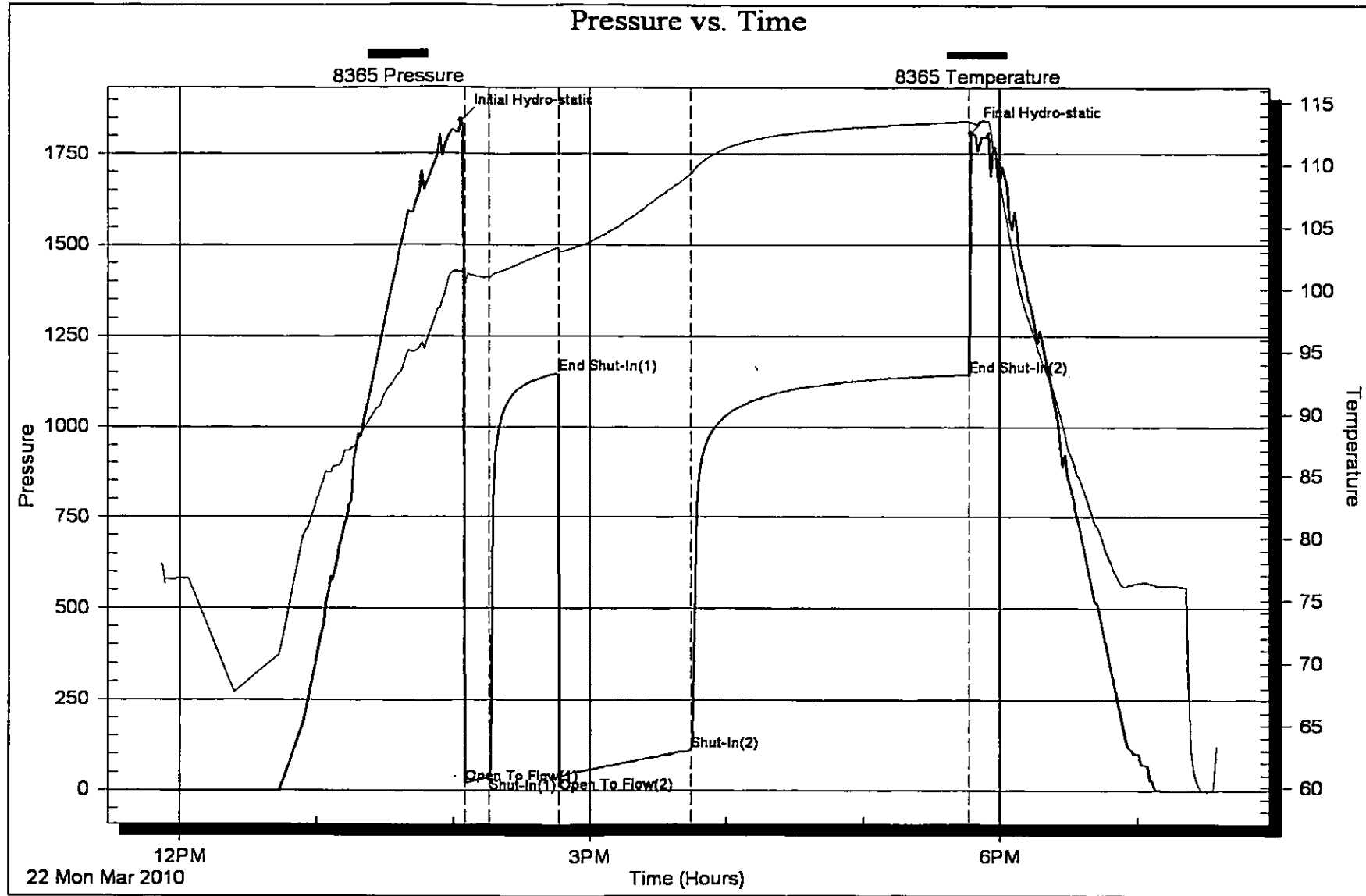
Length ft	Description	Volume bbl
80.00	MW 25% M75% W w/show of oil	1.122
120.00	Water	1.683

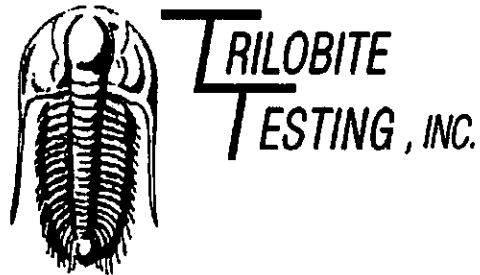
Total Length: 200.00 ft Total Volume: 2.805 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW .26@60F





DRILL STEM TEST REPORT

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31-15S-26W Gove KS

Curtis "D" #1-31

Start Date: 2010.03.23 @ 17:36:05

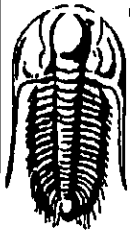
End Date: 2010.03.24 @ 01:44:29

Job Ticket #: 38212 DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co Inc
1700 N. Waterfront Pkwy
Bldg. 1200
Wichita KS 67206-8837
ATTN: Mark Shreve

Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38212 DST#: 2
Test Start: 2010.03.23 @ 17:36:05

Tool Information

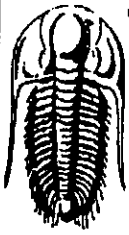
Drill Pipe:	Length: 3994.00 ft	Diameter: 3.80 inches	Volume: 56.03 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 56.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	4000.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.02 ft			
Tool Length:	86.02 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			3980.00	
Shut In Tool	5.00			3985.00	
Hydraulic tool	5.00			3990.00	
Packer	5.00			3995.00	21.00 Bottom Of Top Packer
Packer	5.00			4000.00	
Stubb	1.00			4001.00	
Perforations	5.00			4006.00	
Recorder	0.01	8365	Inside	4006.01	
Recorder	0.01	6625	Outside	4006.02	
Blank Spacing	33.00			4039.02	
Perforations	23.00			4062.02	
Bullnose	3.00			4065.02	65.02 Bottom Packers & Anchor

Total Tool Length: 86.02



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ATTN: Mark Shreve

Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38212 DST#: 2
Test Start: 2010.03.23 @ 17:36:05

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 38 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 58000 ppm
Viscosity: 56.00 sec/qt	Cushion Volume: bbl	
Water Loss: 9.48 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 3100.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

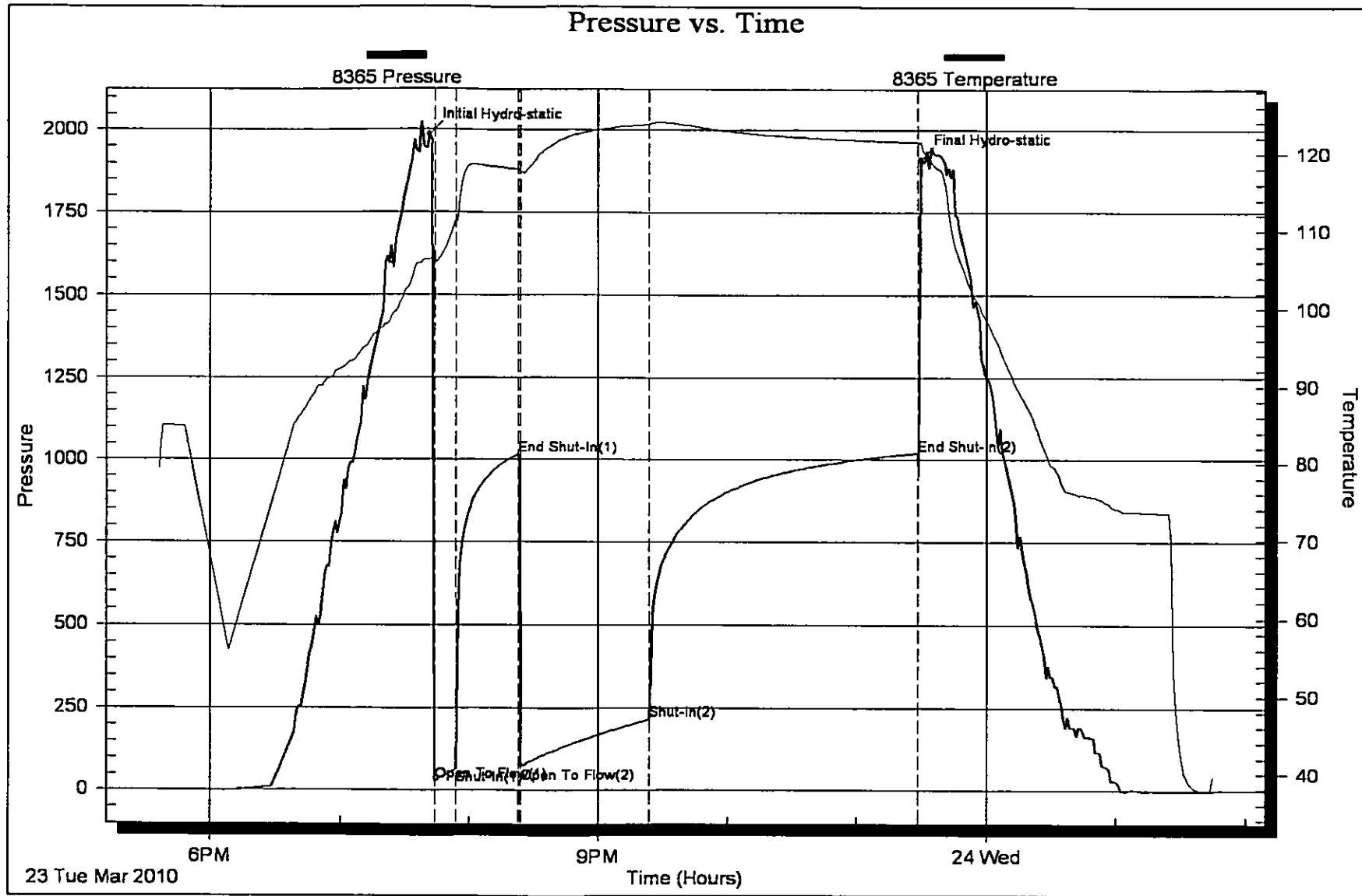
Length ft	Description	Volume bbl
0.00	125'GIP	0.000
20.00	CO	0.281
95.00	O&GCMM 15%G10%O15%W60%M	1.333
180.00	SO&GCMW 5%G2%O15%M78%W	2.525
120.00	Water	1.683

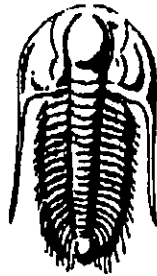
Total Length: 415.00 ft Total Volume: 5.822 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW .15@60F





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ATTN: Mark Shreve

31-15S-26W Gove KS

Curtis "D" #1-31

Start Date: 2010.03.24 @ 09:15:46

End Date: 2010.03.24 @ 15:28:40

Job Ticket #: 38213 DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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Printed: 2010.04.07 @ 14:15:30 Page 1

Mull Drilling Co Inc

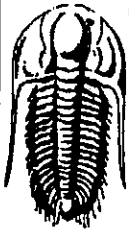
Curtis "D" #1-31

31-15S-26W Gove KS

DST # 3

LKC "J"

2010.03.24



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Wichita KS 67206-8837
ATTN: Mark Shreve

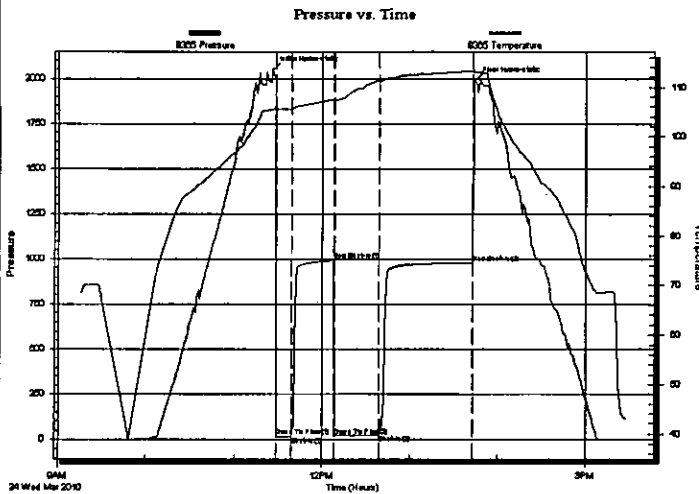
Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38213 DST#: 3
Test Start: 2010.03.24 @ 09:15:46

GENERAL INFORMATION:

Formation: **LKC "J"**
Deviated: **No Whipstock:** ft (KB)
Time Tool Opened: 11:28:41
Time Test Ended: 15:28:40
Interval: **4060.00 ft (KB) To 4090.00 ft (KB) (TVD)**
Total Depth: **4090.00 ft (KB) (TVD)**
Hole Diameter: **7.85 inches** Hole Condition: **Fair**
Test Type: **Conventional Bottom Hole**
Tester: **Ray Schwager**
Unit No: **42**
Reference Elevations: **2572.00 ft (KB)**
2563.00 ft (CF)
KB to GR/CF: **9.00 ft**

Serial #: 8365 Inside
Press@RunDepth: **25.08 psig @ 4061.01 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2010.03.24** End Date: **2010.03.24** Last Calib.: **2010.03.24**
Start Time: **09:15:46** End Time: **15:28:40** Time On Btm: **2010.03.24 @ 11:26:11**
Time Off Btm: **2010.03.24 @ 13:43:40**

TEST COMMENT: IFF-w k bl 1/4" to 3/4" bl
FFP-surface bl thru-out
Times 10-30-30-60



PRESSURE SUMMARY

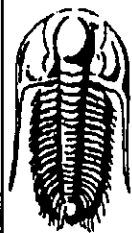
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2046.97	105.36	Initial Hydro-static
3	14.33	105.48	Open To Flow (1)
13	18.60	105.62	Shut-In(1)
42	992.38	107.50	End Shut-In(1)
43	18.75	107.24	Open To Flow (2)
73	25.08	111.26	Shut-In(2)
137	979.32	113.30	End Shut-In(2)
138	1988.55	113.14	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud	0.28

Gas Rates

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



**TRIOBITE
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TOOL DIAGRAM

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1700 N. Waterfront Pkwy
Bldg. 1200
Wichita KS 67206-8837
ATTN: Mark Shreve

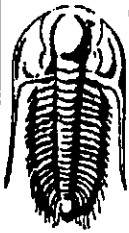
Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38213 DST#: 3
Test Start: 2010.03.24 @ 09:15:46

Tool Information

Drill Pipe:	Length: 4055.00 ft	Diameter: 3.80 inches	Volume: 56.88 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 56.88 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4060.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.02 ft			
Tool Length:	51.02 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			4040.00	
Shut In Tool	5.00			4045.00	
Hydraulic tool	5.00			4050.00	
Packer	5.00			4055.00	21.00 Bottom Of Top Packer
Packer	5.00			4060.00	
Stubb	1.00			4061.00	
Recorder	0.01	8365	Inside	4061.01	
Recorder	0.01	6625	Outside	4061.02	
Perforations	26.00			4087.02	
Bullnose	3.00			4090.02	30.02 Bottom Packers & Anchor
Total Tool Length:	51.02				



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ATTN: Mark Shreve

Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38213 DST#: 3
Test Start: 2010.03.24 @ 09:15:46

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: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.50 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3100.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

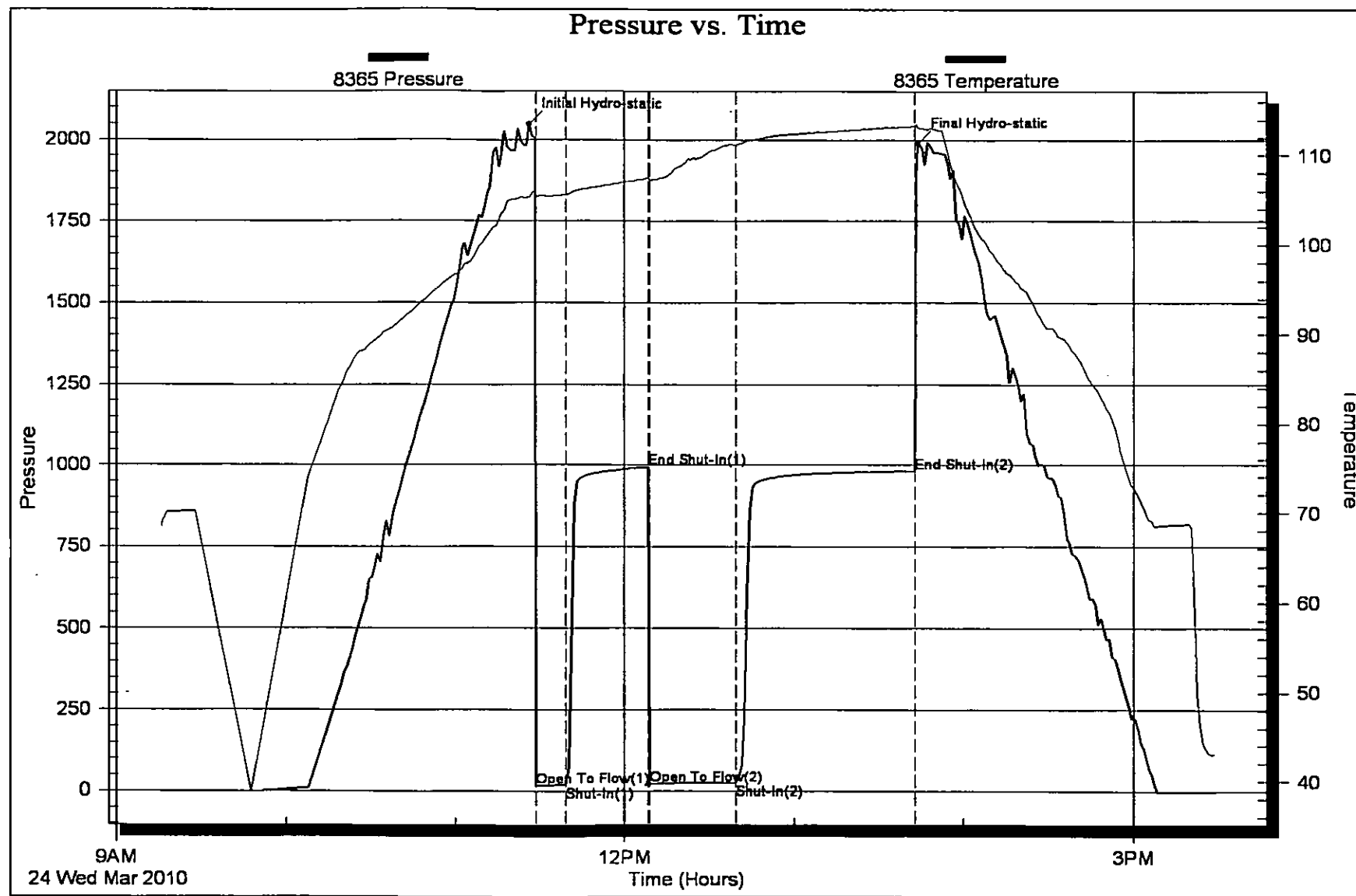
Length ft	Description	Volume bbl
20.00	Mud	0.281

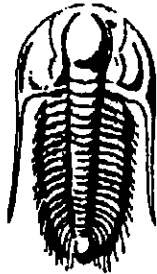
Total Length: 20.00 ft Total Volume: 0.281 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:





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Wichita KS 67206-8837

ATTN: Mark Shreve

31-15S-26W Gove KS

Curtis "D" #1-31

Start Date: 2010.03.26 @ 12:08:36

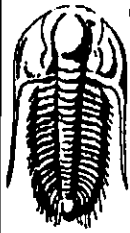
End Date: 2010.03.26 @ 19:51:00

Job Ticket #: 38214 DST #: 4

Trilobite Testing, Inc

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ATTN: Mark Shreve

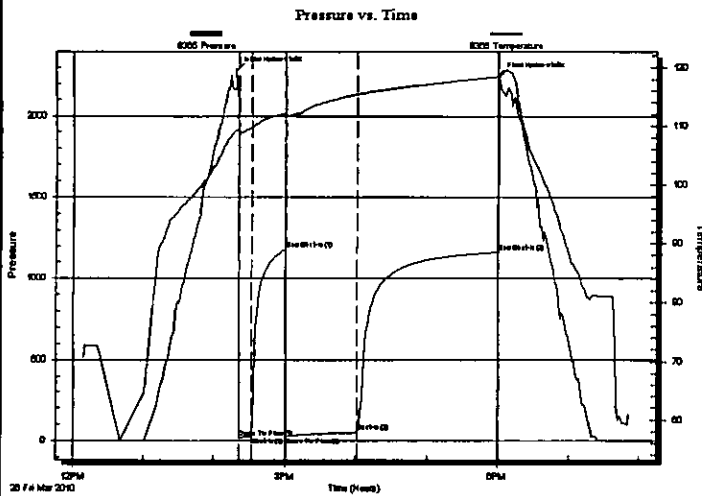
Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38214 DST#: 4
Test Start: 2010.03.26 @ 12:08:36

GENERAL INFORMATION:

Formation: **ft-scott-Miss**
Deviated: **No** Whipstock: **ft (KB)**
Time Tool Opened: 14:20:31
Time Test Ended: 19:51:00
Test Type: **Conventional Bottom Hole**
Tester: **Ray Schwager**
Unit No: **42**
Interval: **4355.00 ft (KB) To 4460.00 ft (KB) (TVD)**
Reference Elevations: **2572.00 ft (KB)**
2563.00 ft (CF)
Total Depth: **4460.00 ft (KB) (TVD)**
Hole Diameter: **7.85 inches** Hole Condition: **Fair**
KB to GR/CF: **9.00 ft**

Serial #: 8365 Inside
Press@RunDepth: **51.62 psig @ 4360.01 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2010.03.26** End Date: **2010.03.26** Last Calib.: **2010.03.26**
Start Time: **12:08:36** End Time: **19:51:00** Time On Btm: **2010.03.26 @ 14:18:31**
Time Off Btm: **2010.03.26 @ 18:01:30**

TEST COMMENT: IFF-w k bl 1/4" to 2" bl
FFP-w k to a fr bl 1/4" to 6" bl
Times 10-30-60-120
ISIP-surface bl bk , FSP-no bl



PRESSURE SUMMARY

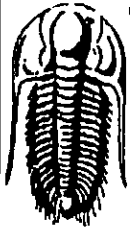
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2282.77	109.27	Initial Hydro-static
2	18.91	108.31	Open To Flow (1)
13	26.58	109.71	Shut-In (1)
42	1180.42	112.10	End Shut-In (1)
43	27.03	111.71	Open To Flow (2)
103	51.62	115.36	Shut-In (2)
222	1161.25	118.48	End Shut-In (2)
223	2246.13	118.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	60'GIP	0.00
40.00	CO	0.56
30.00	OCM 18% O82%M	0.42
30.00	OCM 10% O90%M	0.42

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co Inc
1700 N. Waterfront Pkwy
Bldg. 1200
Wichita KS 67206-8837
ATTN: Mark Shreve

Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38214 DST#: 4
Test Start: 2010.03.26 @ 12:08:36

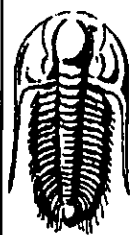
Tool Information

Drill Pipe:	Length: 4362.00 ft	Diameter: 3.80 inches	Volume: 61.19 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 61.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4355.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	105.02 ft			
Tool Length:	126.02 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			4335.00	
Shut In Tool	5.00			4340.00	
Hydraulic tool	5.00			4345.00	
Packer	5.00			4350.00	21.00 Bottom Of Top Packer
Packer	5.00			4355.00	
Stubb	1.00			4356.00	
Perforations	4.00			4360.00	
Recorder	0.01	8365	Inside	4360.01	
Recorder	0.01	6625	Outside	4360.02	
Blank Spacing	95.00			4455.02	
Bullnose	5.00			4460.02	105.02 Bottom Packers & Anchor

Total Tool Length: 126.02



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Co Inc
1700 N. Waterfront Pkwy
Bldg. 1200
Wichita KS 67206-8837
ATTN: Mark Shreve

Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38214 DST#: 4
Test Start: 2010.03.26 @ 12:08:36

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 54.00 sec/qt
Water Loss: 8.34 in³
Resistivity: ohm.m
Salinity: 4900.00 ppm
Filter Cake: 2.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 36 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

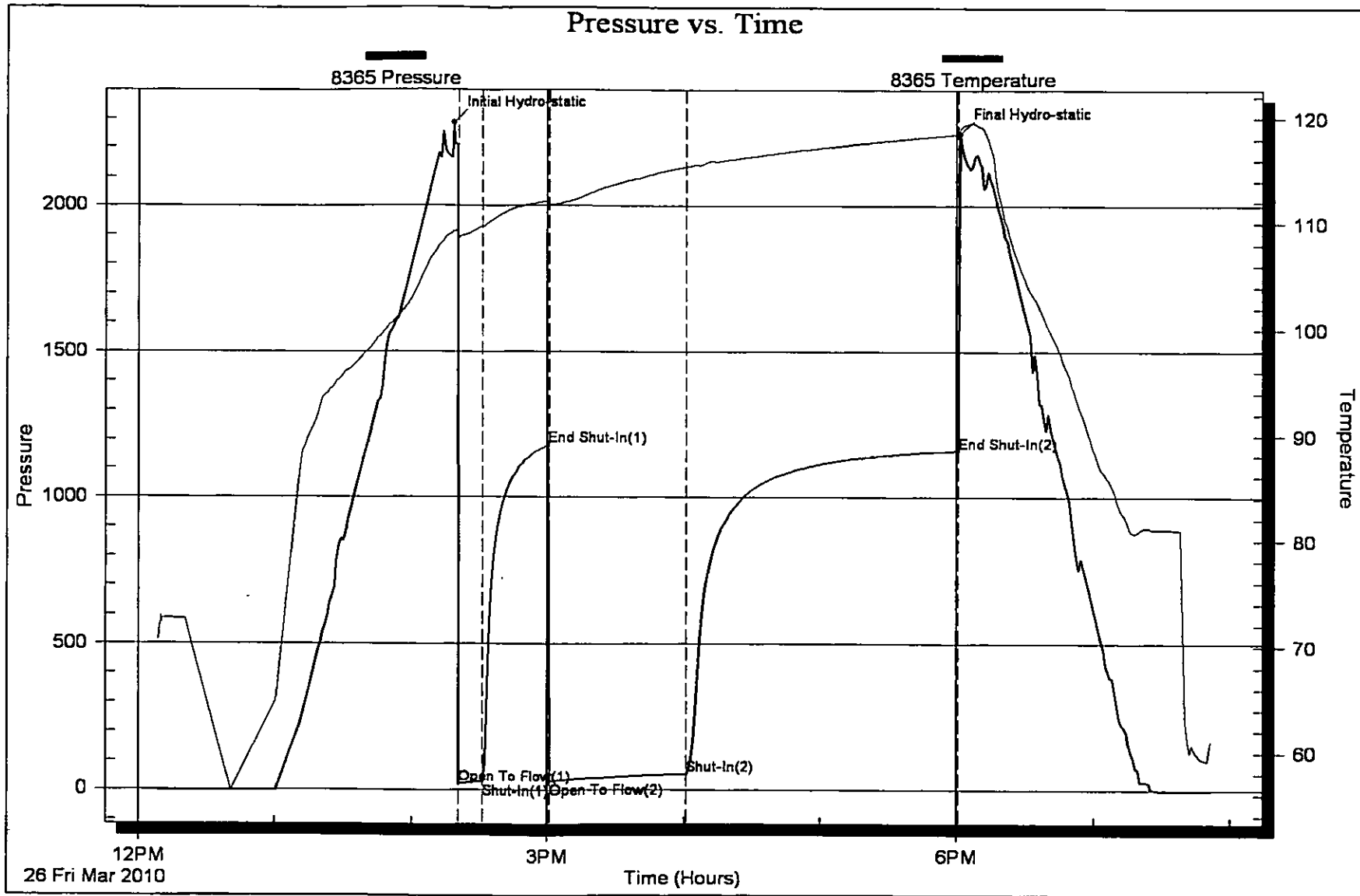
Length ft	Description	Volume bbl
0.00	60'GIP	0.000
40.00	CO	0.561
30.00	OCM 18%O82%M	0.421
30.00	OCM 10%O90%M	0.421

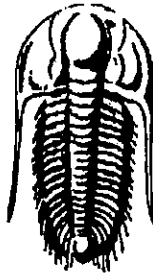
Total Length: 100.00 ft Total Volume: 1.403 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co Inc**

1700 N. Waterfront Pkwy
Bldg. 1200
Wichita KS 67206-8837

ATTN: Mark Shreve

31-15S-26W Gove KS

Curtis "D" #1-31

Start Date: 2010.03.27 @ 01:26:23

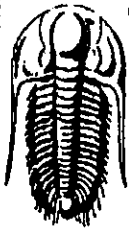
End Date: 2010.03.27 @ 08:19:47

Job Ticket #: 38215 DST #: 5

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mull Drilling Co Inc
1700 N. Waterfront Pkwy
Bldg. 1200
Wichita KS 67206-8837
ATTN: Mark Shreve

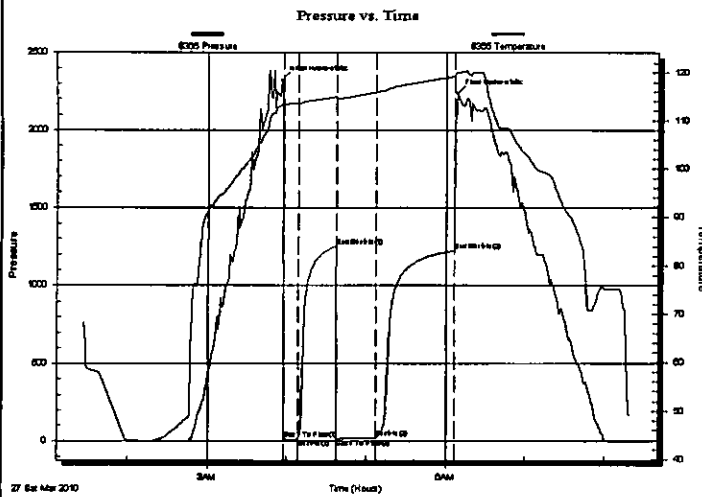
Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38215 DST#: 5
Test Start: 2010.03.27 @ 01:26:23

GENERAL INFORMATION:

Formation: **Miss**
Deviated: **No** Whipstock: ft (KB)
Time Tool Opened: 03:57:18
Time Test Ended: 08:19:47
Interval: **4460.00 ft (KB) To 4470.00 ft (KB) (TVD)**
Total Depth: **4470.00 ft (KB) (TVD)**
Hole Diameter: **7.85 inches** Hole Condition: Fair
Reference Elevations: **2572.00 ft (KB)**
2563.00 ft (CF)
KB to GR/CF: **9.00 ft**

Serial #: **8365** Inside
Press@RunDepth: **20.95 psig @ 4465.01 ft (KB)**
Start Date: **2010.03.27** End Date: **2010.03.27**
Start Time: **01:26:23** End Time: **08:19:47**
Capacity: **8000.00 psig**
Last Calib.: **2010.03.27**
Time On Btm: **2010.03.27 @ 03:55:48**
Time Off Btm: **2010.03.27 @ 06:08:47**

TEST COMMENT: IFF-surface bl
FFP-no bl
Times 10-30-30-60



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2326.22	113.12	Initial Hydro-static
2	13.47	113.09	Open To Flow (1)
13	14.86	113.51	Shut-In(1)
42	1251.78	114.92	End Shut-In(1)
42	15.44	114.13	Open To Flow (2)
72	20.95	115.89	Shut-In(2)
131	1226.38	119.17	End Shut-In(2)
133	2238.01	119.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	CO	0.01
25.00	SOCVM 1%O25%W74%M	0.35

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co Inc
1700 N. Waterfront Pkwy
Bldg. 1200
Wichita KS 67206-8837
ATTN: Mark Shreve

Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38215 DST#: 5
Test Start: 2010.03.27 @ 01:26:23

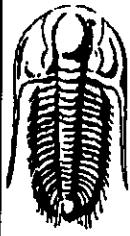
Tool Information

Drill Pipe:	Length: 4459.00 ft	Diameter: 3.80 inches	Volume: 62.55 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 62.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4460.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.02 ft			
Tool Length:	31.02 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			4440.00	
Shut In Tool	5.00			4445.00	
Hydraulic tool	5.00			4450.00	
Packer	5.00			4455.00	21.00 Bottom Of Top Packer
Packer	5.00			4460.00	
Stubb	1.00			4461.00	
Perforations	4.00			4465.00	
Recorder	0.01	8365	Inside	4465.01	
Recorder	0.01	6625	Outside	4465.02	
Perforations	2.00			4467.02	
Bullnose	3.00			4470.02	10.02 Bottom Packers & Anchor

Total Tool Length: 31.02



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Co Inc
1700 N. Waterfront Pkwy
Bldg. 1200
Wichita KS 67206-8837
ATTN: Mark Shreve

Curtis "D" #1-31
31-15S-26W Gove KS
Job Ticket: 38215 DST#: 5
Test Start: 2010.03.27 @ 01:26:23

Mud and Cushion Information

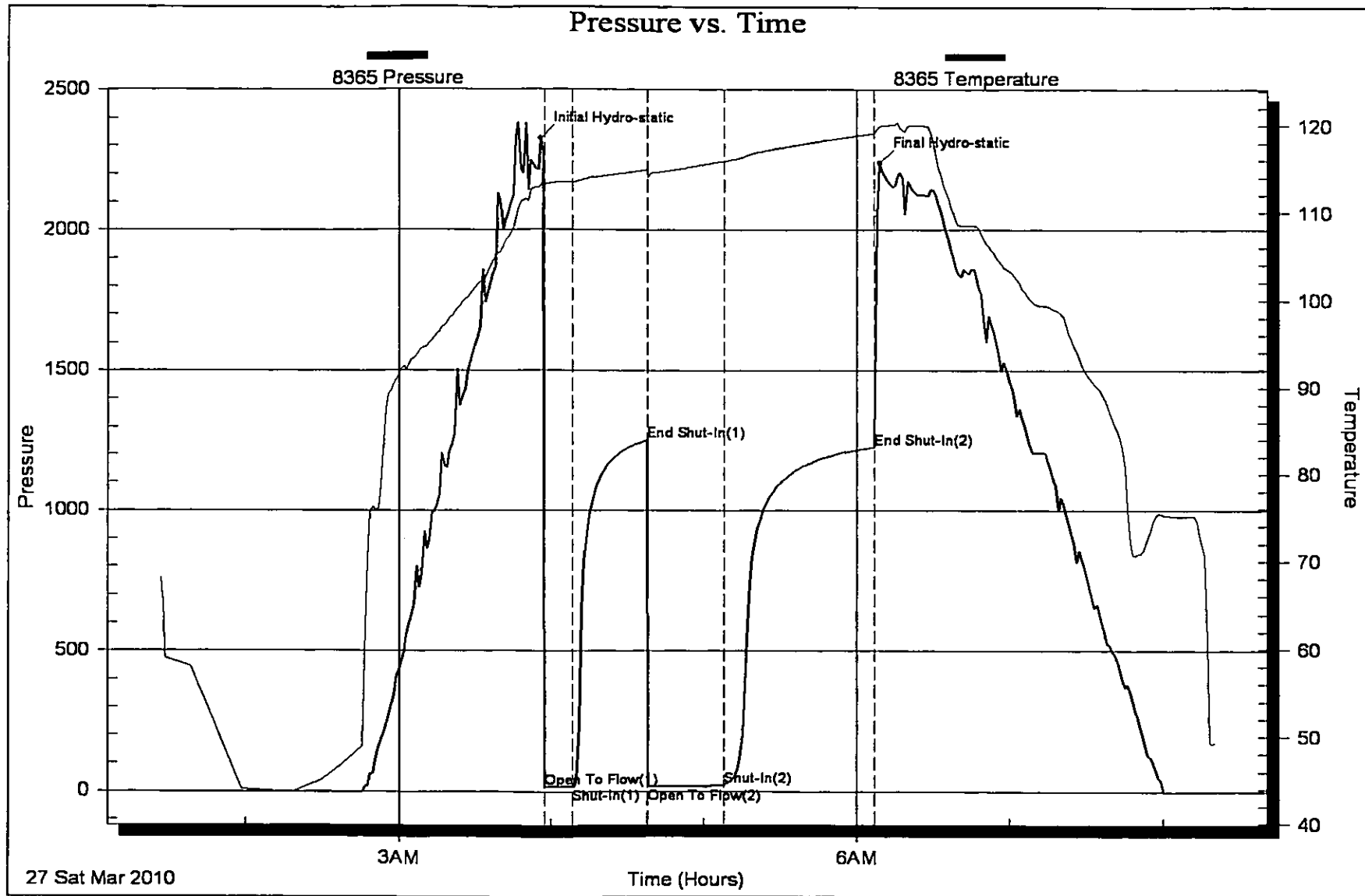
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	31000 ppm
Viscosity: 67.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.36 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4900.00 ppm			
Filter Cake: 2.00 inches			

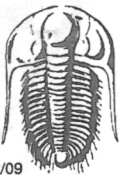
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	CO	0.014
25.00	SOCWM 1%O25%W74%M	0.351

Total Length: 26.00 ft Total Volume: 0.365 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW .3 @ 50F





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

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MAR 29 2010

Test Ticket

NO. 38211 14064

Well Name & No. CURTIS "D" #1-31 Test No. 1 Date 3-22-10
 Company Mull Drilling Company Inc Elevation 2572 KB 2563 GL
 Address 1700 N. WATERFRONT PKWY. BLDG 1200 WICHITA, KS 67206-8837
 Co. Rep / Geo. Kevin Kessler Rig Duke rig 4
 Location: Sec. 31 Twp. 15^s Rge. 26^w Co. Gove State Ks

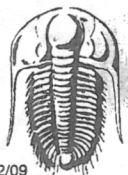
Interval Tested 3800 - 3845 Zone Tested TORONTO
 Anchor Length 45 Drill Pipe Run 3803 Mud Wt. 8.8
 Top Packer Depth 3795 Drill Collars Run - Vis 50
 Bottom Packer Depth 3800 Wt. Pipe Run - WL 6.8
 Total Depth 3845 Chlorides 1200 ppm System LCM 1 #
 Blow Description IFP - WEAK BLOW 1/2" TO 3" BLOW
FFP - WEAK TO A GOOD BLOW 1" TO 6 1/2" BLOW
ISIP - NO BLOW
FSIP - NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>80</u>	<u>MW w/show of oil</u>			<u>75</u>	<u>25</u>
<u>120</u>	<u>WATER</u>				

Rec Total 200 BHT 113 Gravity - API RW .26 @ 60 ° F Chlorides 32000 ppm
 (A) Initial Hydrostatic 1808 Test 1050 T-On Location 1030
 (B) First Initial Flow 19 Jars T-Started 1151
 (C) First Final Flow 35 Safety Joint T-Open 1415
 (D) Initial Shut-In 1145 Circ Sub T-Pulled 1755
 (E) Second Initial Flow 39 Hourly Standby T-Out 1934
 (F) Second Final Flow 110 Mileage 145 RT Comments _____
 (G) Final Shut-In 1141 Sampler _____
 (H) Final Hydrostatic 1802 Straddle _____
 Shale Packer Ruined Shale Packer
 Extra Packer Ruined Packer
 Extra Recorder Extra Copies
 Initial Open 10 Day Standby Sub Total 0
 Initial Shut-In 30 Accessibility Total 1195
 Final Flow 60
 Final Shut-In 120
 Sub Total 1195

Approved By Kevin Kessler Our Representative Ray Schwager Thank you
 404

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
MAR 29 2010

Test Ticket

NO. 38212

12/09

BY: _____

Well Name & No. CURTIS "O" #1-31 Test No. 2 Date 3-29-10

Company Mull Drilling Company Inc Elevation 2572 KB 2563 GL

Address 1700 N. WATERFRONT PKWY, BLDG 1200 WICHITA, KS 67206-8837

Co. Rep / Geo. Kern Kessler Rig Duke rig 4

Location: Sec. 31 Twp. 15^s Rge. 26^w Co. Gove State Ks

Interval Tested 4000-4065 Zone Tested LRC H-I

Anchor Length 65 Drill Pipe Run 3994 Mud Wt. 9.2

Top Packer Depth 3995 Drill Collars Run - Vis 56

Bottom Packer Depth 4000 Wt. Pipe Run - WL 9.6

Total Depth 4065 Chlorides 3100 ppm System LCM 1#

Blow Description IFP-WEAK TO STRONG IN 9 MIN
FFP-WEAK TO STRONG IN 16 MIN

Rec	Feet of	%gas	%oil	%water	%mud
<u>125</u>	<u>GTP</u>				
<u>20</u>	<u>CO</u>				
<u>95</u>	<u>0+6CWM</u>	<u>15</u>	<u>10</u>	<u>15</u>	<u>60</u>
<u>180</u>	<u>50+6CMW</u>	<u>5</u>	<u>2</u>	<u>78</u>	<u>15</u>
<u>120</u>	<u>WATER</u>				

Rec Total 415 BHT 121 Gravity 38 API RW 115 @ 60 °F Chlorides 58000 ppm

(A) Initial Hydrostatic 1945 Test 1150 T-On Location 1630

(B) First Initial Flow 27 Jars _____ T-Started 1736

(C) First Final Flow 64 Safety Joint _____ T-Open 1950

(D) Initial Shut-In 1014 Circ Sub _____ T-Pulled 2330

(E) Second Initial Flow 71 Hourly Standby _____ T-Out 0144

(F) Second Final Flow 213 Mileage 145RT Comments _____

(G) Final Shut-In 1018 Sampler _____

(H) Final Hydrostatic 1925 Straddle _____

Shale Packer _____ Ruined Shale Packer _____

Extra Packer _____ Ruined Packer _____

Extra Recorder _____ Extra Copies _____

Initial Open 10 Day Standby _____ Sub Total 0

Initial Shut-In 30 Accessibility _____ Total 1295

Final Flow 60

Final Shut-In 120

Sub Total 1295

Approved By Kern Kessler Our Representative RAY SCHWAGER thank you

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TRILOBITE TESTING INC.

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RECEIVED
MAR 29 2010

Test Ticket

NO. 38213

Well Name & No. CURTIS "D" #1-31 Test No. 3 Date 3-24-10
 Company Mull Drilling Company Inc Elevation 2572 KB 2563 GL
 Address 1700 N. WATERFRONT PKWY. Bldg. 1200 WICHITA, KS 67206-8837
 Co. Rep / Geo. Kevin Kessler Rig Duke rig 4
 Location: Sec. 31 Twp. 15^s Rge. 26^w Co. Gove State Ks

Interval Tested 4060-4090 Zone Tested LKC "J"
 Anchor Length 30 Drill Pipe Run 4055 Mud Wt. 9.3
 Top Packer Depth 4055 Drill Collars Run - Vis 57
 Bottom Packer Depth 4060 Wt. Pipe Run - WL 9.6
 Total Depth 4090 Chlorides 3100 ppm System LCM 1#
 Blow Description IFP - WEAK BLOW 1/4" TO 3/4" BLOW
FFP - SURFACE BLOW THRU-OUT

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Mud</u>				

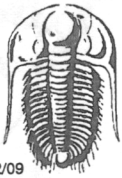
Rec Total 20 BHT 113 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1981 Test 1150- T-On Location 0830
 (B) First Initial Flow 14 Jars - T-Started 0915
 (C) First Final Flow 18 Safety Joint - T-Open 1145
 (D) Initial Shut-In 992 Circ Sub - T-Pulled 1355
 (E) Second Initial Flow 18 Hourly Standby - T-Out 1528
 (F) Second Final Flow 25 Mileage 145RT Comments -
 (G) Final Shut-In 979 Sampler -
 (H) Final Hydrostatic 1971 Straddle -
 Shale Packer - Ruined Shale Packer -
 Extra Packer - Ruined Packer -
 Extra Recorder - Extra Copies -
 Day Standby - Sub Total 0
 Accessibility - Total 1295-
 Sub Total 1295-

Initial Open 10
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 60

Approved By Kevin Kessler Our Representative RAY SCHWAGER THANK YOU

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TRILOBITE TESTING INC.

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RECEIVED
MAR 29 2010

Test Ticket

NO. 38214

12/09

Well Name & No. CURTIS "D" #1-31 Test No. 4 Date 3-26-10
 Company Mull Drilling Company Inc Elevation 2572 KB 2563 GL
 Address 1700 N. WATERFRONT PKWY. BLDG 1200 WICHITA, KS 67206-8837
 Co. Rep / Geo. Kevin Kessler Rig Duka rig 1
 Location: Sec. 31 Twp. 15^s Rge. 26^w Co. 600c State Ko

Interval Tested 4355-4460 Zone Tested Miss
 Anchor Length 105 Drill Pipe Run 4362 Mud Wt. 9.3
 Top Packer Depth 4350 Drill Collars Run - Vis 54
 Bottom Packer Depth 4355 Wt. Pipe Run - WL 8.4
 Total Depth 4460 Chlorides 4900 ppm System LCM TR
 Blow Description TFP - WEAK BLOW 1/4" TO 2" BLOW
FFP - WEAK TO A FAIR BLOW 1/4" TO 6" BLOW
ISIP - SURFACE BLOW BACK
FSIP - NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>GIP</u>				
<u>40</u>	<u>CO</u>				
<u>30</u>	<u>OCM</u>		<u>18</u>		<u>82</u>
<u>30</u>	<u>OCM</u>		<u>10</u>		<u>90</u>
<u>Rec</u>	<u>Feet of</u>	<u>%gas</u>	<u>%oil</u>	<u>%water</u>	<u>%mud</u>

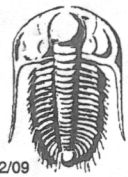
Rec Total 100 BHT 118 Gravity 36 API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 2164 Test 1150 T-On Location 1100
 (B) First Initial Flow 18 Jars T-Started 1208
 (C) First Final Flow 26 Safety Joint T-Open 1440
 (D) Initial Shut-In 1180 Circ Sub T-Pulled 1820
 (E) Second Initial Flow 27 Hourly Standby T-Out 1951
 (F) Second Final Flow 51 Mileage 145RT Comments _____
 (G) Final Shut-In 1161 Sampler _____
 (H) Final Hydrostatic 2123 Straddle _____

Initial Open 10 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 30 Extra Packer _____ Ruined Packer _____
 Final Flow 60 Extra Recorder _____ Extra Copies _____
 Final Shut-In 120 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1295-

Approved By Kevin Kessler Our Representative RAY SCHWAGER Thank you

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
MAR 29 2010
BY: _____

Test Ticket

NO. 38215

Well Name & No. CURTIS "D" # 1-31 Test No. 5 Date 3-27-10
 Company Mull Drilling Company Inc Elevation 2572 KB 2563 GL
 Address 1700 N. WATERFRONT PKWY, BLDG 1200 WICHITA, KS 67206-8837
 Co. Rep / Geo. Kevin Kessler Rig Duke rig 9
 Location: Sec. 31 Twp. 15^s Rge. 26^w Co. Gove State Ko

Interval Tested 4460-4470 Zone Tested MISS
 Anchor Length 10 Drill Pipe Run 4459 Mud Wt. 9.4
 Top Packer Depth 4455 Drill Collars Run - Vis 67
 Bottom Packer Depth 4460 Wt. Pipe Run - WL 8.4
 Total Depth 4470 Chlorides 4900 ppm System LCM TR.
 Blow Description JFP - SURFACE BLOW
FFP - SURFACE BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>CO</u>				
<u>25</u>	<u>SOCWM</u>		<u>1</u>	<u>25</u>	<u>74</u>

Rec Total 26 BHT 119 Gravity - API RW .3 @ 50 ° F Chlorides 31000 ppm
 (A) Initial Hydrostatic 2215 Test 1150 T-On Location 0000
 (B) First Initial Flow 13 Jars - T-Started 0126
 (C) First Final Flow 14 Safety Joint - T-Open 0415
 (D) Initial Shut-In 1251 Circ Sub - T-Pulled 0625
 (E) Second Initial Flow 15 Hourly Standby - T-Out 0819
 (F) Second Final Flow 20 Mileage 145RT Comments _____
 (G) Final Shut-In 1226 Sampler _____
 (H) Final Hydrostatic 2155 Straddle _____
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1295
 Sub Total 1295

Approved By Kevin Kessler Our Representative Ray Schwager *thank you*

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