



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

ATHornburg C #1-4

1700 N. Waterfront Parkw ay
 Building 1200
 Wichita, KS. 67206
 ATTN: Kevin Kessler

4-20s-23w-Ness

Job Ticket: 39038

DST#: 1

Test Start: 2010.08.22 @ 07:43:45

GENERAL INFORMATION:

Formation: **Lansing-"H-I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:33:45

Time Test Ended: 15:48:15

Test Type: Conventional Bottom Hole

Tester: Jason McLemore

Unit No: 32

Interval: 4040.00 ft (KB) To 4110.00 ft (KB) (TVD)

Reference Elevations: 2584.00 ft (KB)

Total Depth: 4110.00 ft (KB) (TVD)

2575.00 ft (CF)

Hole Diameter: 7.80 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: 6755

Inside

Press @ Run Depth: 32.59 psig @ 4077.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2010.08.22

End Date:

2010.08.22

Last Calib.:

2010.08.22

Start Time: 07:43:47

End Time:

15:48:15

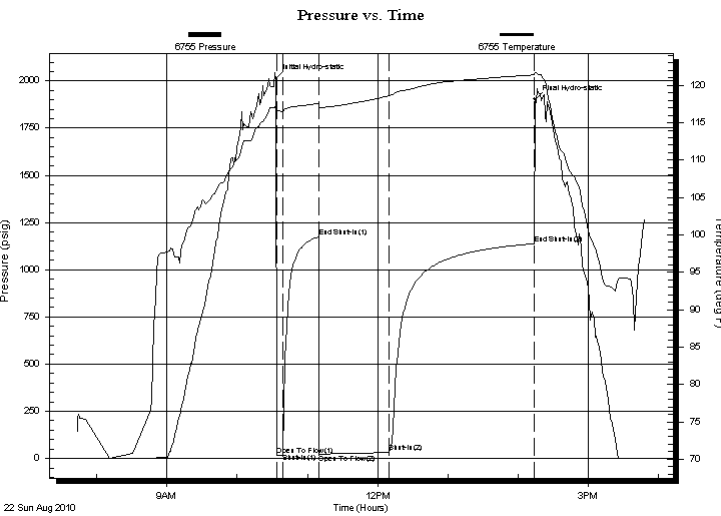
Time On Btm:

2010.08.22 @ 10:33:15

Time Off Btm:

2010.08.22 @ 14:14:30

TEST COMMENT: IFP-Weak Blow ,Built to 3/4"
 ISI-Dead
 FFP-Weak Blow ,Built to 3/4"
 FSI-Dead



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2010.64	117.36	Initial Hydro-static
1	17.42	116.65	Open To Flow (1)
6	27.99	116.54	Shut-In(1)
37	1174.74	117.57	End Shut-In(1)
37	20.73	117.10	Open To Flow (2)
97	32.59	118.61	Shut-In(2)
221	1138.62	121.43	End Shut-In(2)
222	1901.95	121.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	Drilling Mud	0.63

Gas Rates

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



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FLUID SUMMARY

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ATHornburg C #1-4

1700 N. Waterfront Parkw ay
Building 1200
Wichita, KS. 67206
ATTN: Kevin Kessler

4-20s-23w-Ness

Job Ticket: 39038

DST#: 1

Test Start: 2010.08.22 @ 07:43:45

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 53.00 sec/qt

Water Loss: 8.79 in³

Resistivity: ohm.m

Salinity: 3600.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	Drilling Mud	0.631

Total Length: 45.00 ft Total Volume: 0.631 bbl

Num Fluid Samples: 0

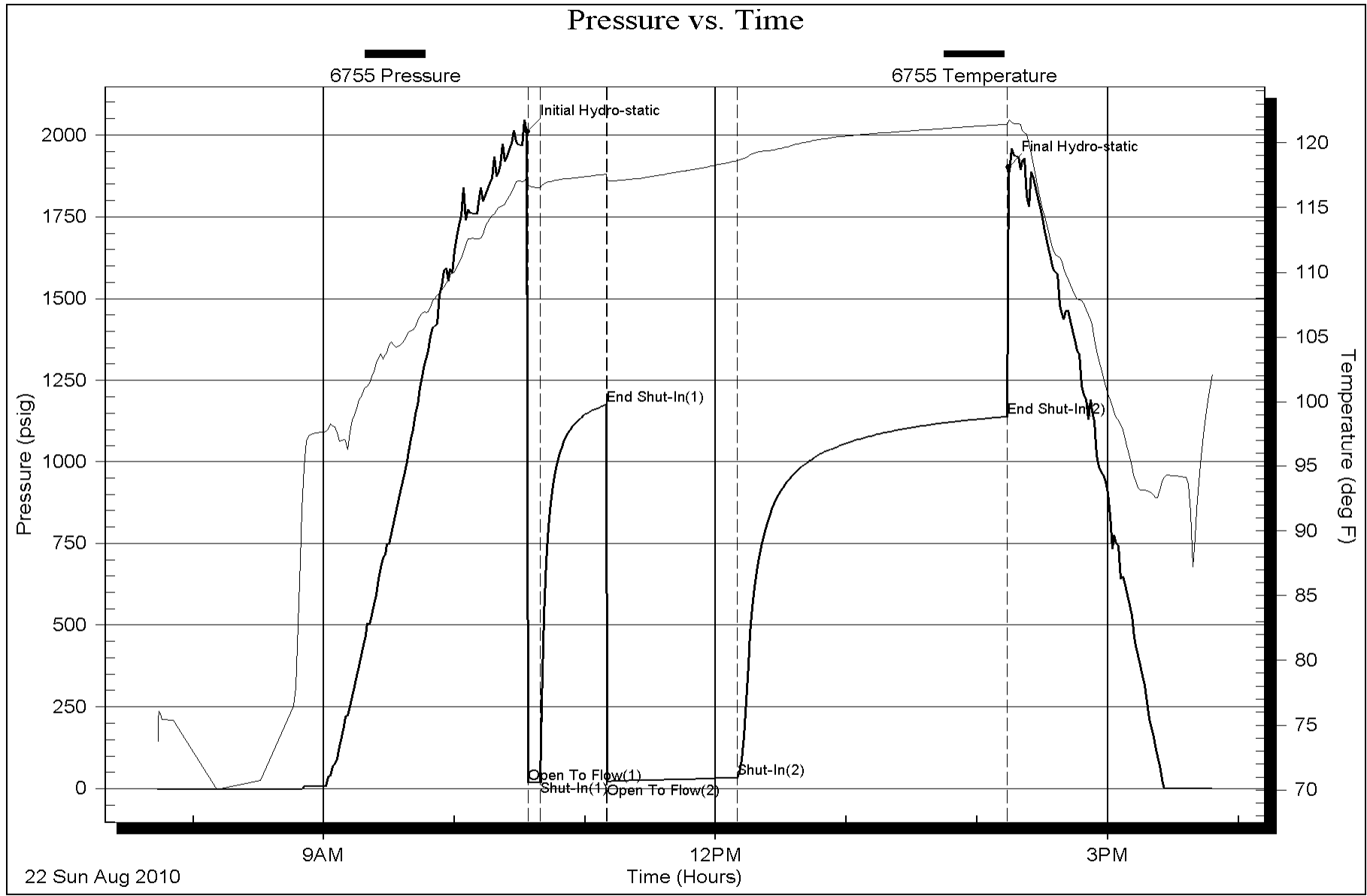
Num Gas Bombs: 0

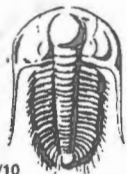
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

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AUG 26 2010

Test Ticket

NO. 03903814692

Well Name & No. Thornburg 'C' #1-4 BY: _____ Test No. 1 Date 8-22-10
 Company Mull Drilling Company, Inc Elevation 2584 KB 2575 GL
 Address 1700 N. Water Front Parkway, Building #1200, Wichita, Ks. 67206
 Co. Rep / Geo. Kevin Kessler Rig Duke #4
 Location: Sec. 4 Twp. 20s Rge. 23w Co. Ness State Ks

Interval Tested 4040-4110 Zone Tested Lansing H-I
 Anchor Length 70' Drill Pipe Run 4027 Mud Wt. 8.9
 Top Packer Depth 4035 Drill Collars Run 0 Vis 53
 Bottom Packer Depth 4040 Wt. Pipe Run 0 WL 8.8
 Total Depth 4110 Chlorides 3,600 ppm System LCM Trace
 Blow Description IFP - Weak Blow, Built to 3/4"
ISI - Dead

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>Mud with Oil Scum</u>	<u>1</u>			
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 45 BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2011 ~~400~~ Test 1225- T-On Location 6:45
 (B) First Initial Flow 17 Jars _____ T-Started 7:43
 (C) First Final Flow 28 Safety Joint _____ T-Open 10:39
 (D) Initial Shut-In 1175 Circ Sub _____ T-Pulled 14:14
 (E) Second Initial Flow 21 Hourly Standby _____ T-Out 15:53
 (F) Second Final Flow 33 ~~400~~ Mileage 140 + 175 Comments _____
 (G) Final Shut-In 1139 Sampler _____
 (H) Final Hydrostatic 1902 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 5 Extra Recorder _____ Sub Total 0
 Initial Shut-In 30 Day Standby _____ Total 1400-
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 120 Sub Total 1400-

Approved By _____

Our Representative Jason Mc Lane

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



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DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

ATHornburg C #1-4

1700 N. Waterfront Parkw ay
 Building 1200
 Wichita, KS. 67206
 ATTN: Kevin Kessler

4-20s-23w-Ness

Job Ticket: 39039

DST#: 2

Test Start: 2010.08.23 @ 21:18:15

GENERAL INFORMATION:

Formation: **Ft. Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:21:30

Time Test Ended: 05:49:45

Test Type: Conventional Bottom Hole

Tester: Jason McLemore

Unit No: 32

Interval: 4380.00 ft (KB) To 4420.00 ft (KB) (TVD)

Reference Elevations: 2584.00 ft (KB)

Total Depth: 4420.00 ft (KB) (TVD)

2575.00 ft (CF)

Hole Diameter: 7.80 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: 6755 Inside

Press @RunDepth: 23.09 psig @ 4384.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2010.08.23

End Date:

2010.08.24

Last Calib.:

2010.08.24

Start Time: 21:18:17

End Time:

05:49:45

Time On Btm:

2010.08.24 @ 02:21:15

Time Off Btm:

2010.08.24 @ 04:26:45

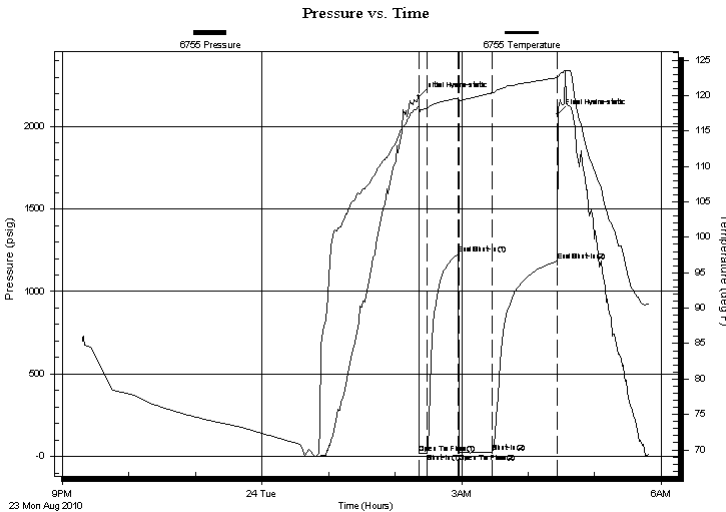
TEST COMMENT: IFP-Weak Blow ,1/2"

ISI-Dead

FFP-Dead

FSI-Dead

PRESSURE SUMMARY



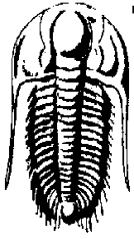
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2182.83	118.51	Initial Hydro-static
1	21.40	117.18	Open To Flow (1)
8	21.63	118.20	Shut-In(1)
36	1225.88	119.69	End Shut-In(1)
37	22.00	119.23	Open To Flow (2)
66	23.09	120.34	Shut-In(2)
125	1184.61	122.53	End Shut-In(2)
126	2077.17	122.73	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Drilling Mud	0.07

Gas Rates

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



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FLUID SUMMARY

Mull Drilling Company, Inc.

ATHornburg C #1-4

1700 N. Waterfront Parkw ay
Building 1200
Wichita, KS. 67206
ATTN: Kevin Kessler

4-20s-23w-Ness

Job Ticket: 39039

DST#: 2

Test Start: 2010.08.23 @ 21:18:15

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
5.00	Drilling Mud	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

Num Fluid Samples: 0

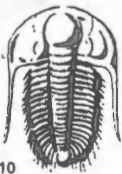
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



TRILOBITE TESTING INC.

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BY: _____

Test Ticket

No. 039039

Well Name & No. Thorburg 'C' #1-4 Test No. 2 Date 8-23-10
 Company Mull Drilling Company, Inc. Elevation 2584 KB 2575 GL
 Address 1700 N. Waterfront Parkway, Building 1200, Wichita, KS. 67206
 Co. Rep / Geo. Kevin Kessler Rig Duke #4
 Location: Sec. 4 Twp. 20s Rge. 23w Co. Ness State _____

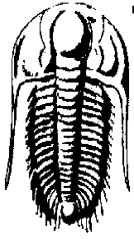
Interval Tested 4380 - 4420 Zone Tested Ft. Scott
 Anchor Length 40' Drill Pipe Run _____ Mud Wt. 8.9
 Top Packer Depth 4375 Drill Collars Run 0 Vis 53
 Bottom Packer Depth 4380 Wt. Pipe Run 0 WL 8.8
 Total Depth 4420 Chlorides 3600 ppm System LCM Trace
 Blow Description I-FP-Weak, 1/2" Blow
I-SI-Dead
F-FP-Dead
I-SI-Dead

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Drilling Mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 123 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2183 Test 1225' T-On Location 2:11
 (B) First Initial Flow 21 Jars _____ T-Started 2:18
 (C) First Final Flow 22 Safety Joint 75' T-Open 2:20
 (D) Initial Shut-In 1226 Circ Sub _____ T-Pulled 4:25
 (E) Second Initial Flow 22 Hourly Standby _____ T-Out 6:12
 (F) Second Final Flow 23 Mileage 140 or 175' Comments _____
 (G) Final Shut-In 1185 Sampler _____
 (H) Final Hydrostatic 2077 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 5 Extra Recorder _____ Sub Total 0
 Initial Shut-In 30 Day Standby _____ Total 1475'
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1475'

Approved By _____ Our Representative Jason McJannet
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



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DRILL STEM TEST REPORT

Mull Drilling Company, Inc.

ATHornburg C #1-4

1700 N. Waterfront Parkw ay
 Building 1200
 Wichita, KS. 67206
 ATTN: Kevin Kessler

4-20s-23w-Ness

Job Ticket: 39040

DST#: 3

Test Start: 2010.08.24 @ 17:49:38

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:17:53

Time Test Ended: 02:58:38

Test Type: Conventional Bottom Hole

Tester: Jason McLemore

Unit No: 32

Interval: 4440.00 ft (KB) To 4505.00 ft (KB) (TVD)

Reference Elevations: 2584.00 ft (KB)

Total Depth: 4505.00 ft (KB) (TVD)

2575.00 ft (CF)

Hole Diameter: 7.80 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: 6755

Inside

Press @RunDepth: 218.71 psig @ 4477.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2010.08.24

End Date:

2010.08.25

Last Calib.:

2010.08.25

Start Time: 17:49:40

End Time:

02:58:38

Time On Btm:

2010.08.24 @ 20:17:23

Time Off Btm:

2010.08.25 @ 00:02:08

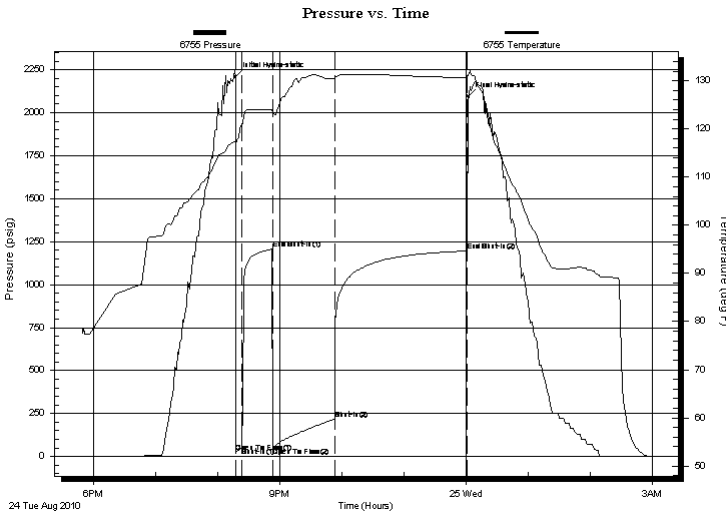
TEST COMMENT: IFP-Fair Blow ,Built to 6"

ISI-Dead

FFP-Good Blow ,BOB in 11 Min.

FSI-Blow back Built to 3"

PRESSURE SUMMARY



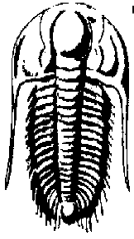
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2209.52	117.61	Initial Hydro-static
1	22.97	116.82	Open To Flow (1)
6	51.85	120.81	Shut-In(1)
36	1206.64	123.93	End Shut-In(1)
36	53.58	123.31	Open To Flow (2)
96	218.71	130.35	Shut-In(2)
224	1196.10	130.67	End Shut-In(2)
225	2095.25	130.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	Frothy Muddy Oil-30%G-40%O-30%M	4.21
220.00	Gassy Oil-20%G-80%O	3.09
0.00	320' Gas In Pipe	0.00

Gas Rates

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



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DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company, Inc.

ATHornburg C #1-4

1700 N. Waterfront Parkw ay
Building 1200
Wichita, KS. 67206
ATTN: Kevin Kessler

4-20s-23w-Ness

Job Ticket: 39040

DST#: 3

Test Start: 2010.08.24 @ 17:49:38

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
300.00	Frothy Muddy Oil-30%G-40%O-30%M	4.208
220.00	Gassy Oil-20%G-80%O	3.086
0.00	320' Gas In Pipe	0.000

Total Length: 520.00 ft

Total Volume: 7.294 bbl

Num Fluid Samples: 0

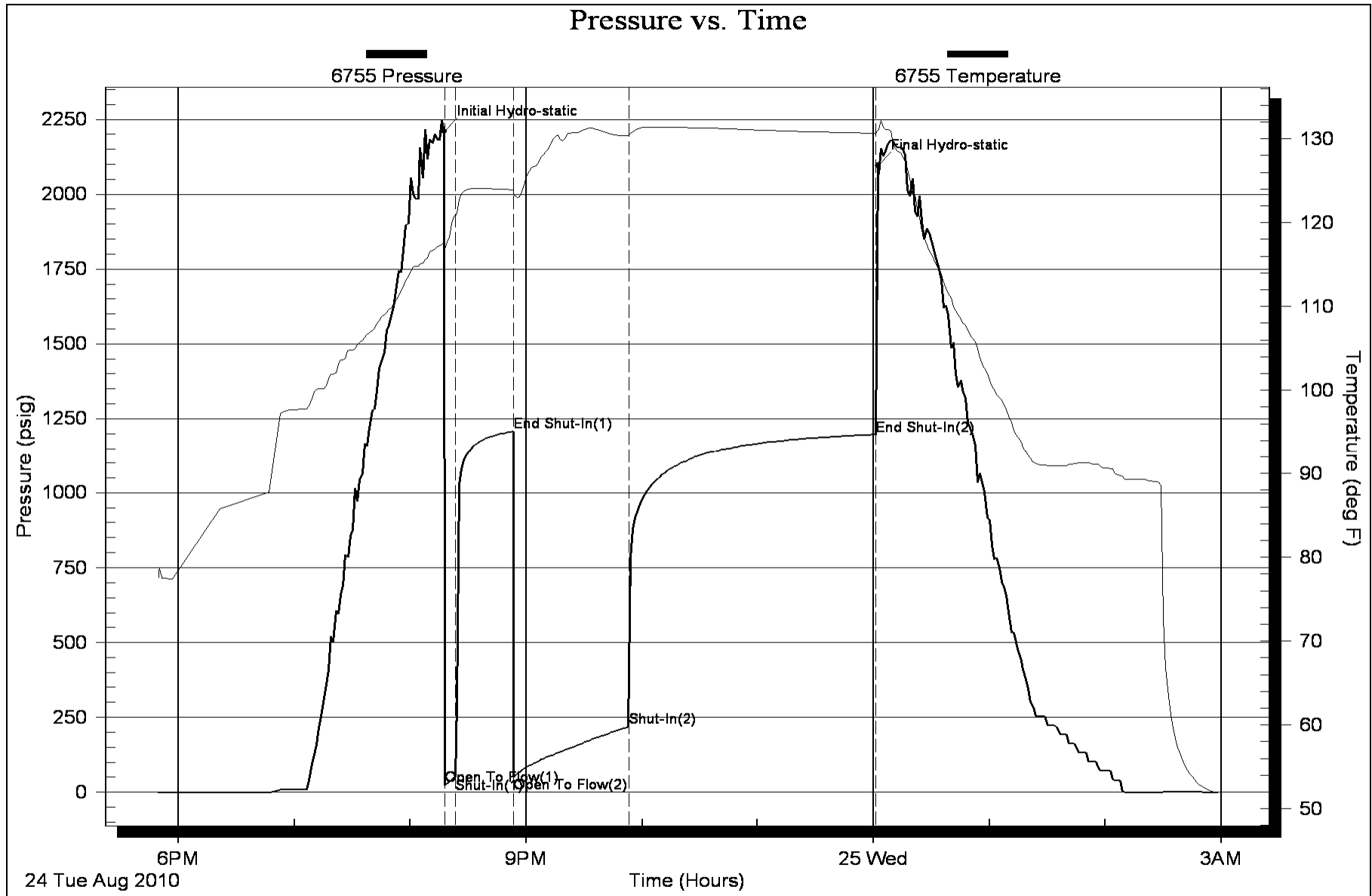
Num Gas Bombs: 0

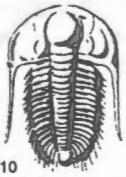
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
AUG 26 2010
BY: _____

Test Ticket

NO. 039040

Well Name & No. Thornburg 'C' #1-4 Test No. 3 Date 8-24-10
 Company Mull Drilling Company, Inc. Elevation 2584 KB 2575 GL
 Address 1700 N. Waterfront Parkway, Building 1200, Wichita, KS. 67206
 Co. Rep / Geo. Kevin Kessler Rig Duke #4
 Location: Sec. 4 Twp. 20s Rge. 2-3w Co. Ness State KS

Interval Tested 4440-4505 Zone Tested Mississippi
 Anchor Length 65' Drill Pipe Run 4433 Mud Wt. 9.2
 Top Packer Depth 4435 Drill Collars Run 0 Vis 48
 Bottom Packer Depth 4440 Wt. Pipe Run 0 WL 8.8
 Total Depth 4505 Chlorides 3700 ppm System LCM 0

Blow Description IFP - Fair Blow, Built to 6'
ISI - Dead
FFP - Good Blow, BOB in 11 min.
FSI - Blowback Built to 3''

Rec	Feet of	%gas	%oil	%water	%mud
<u>220</u>	<u>Clear Gassy Oil</u>	<u>20</u>	<u>80</u>		
<u>300</u>	<u>Frothy Muddy Oil</u>	<u>30</u>	<u>40</u>		<u>30</u>
	<u>320' Gas In Pipe</u>				

Rec Total 520 BHT 131° Gravity 37 API RW @ _____ °F Chlorides _____ ppm
 (A) Initial Hydrostatic 2210 Test 1225 T-On Location 17:43
 (B) First Initial Flow 23 Jars _____ T-Started 17:49
 (C) First Final Flow 52 Safety Joint _____ T-Open 20:23
 (D) Initial Shut-In 1207 Circ Sub _____ T-Pulled 23:58
 (E) Second Initial Flow 54 Hourly Standby _____ T-Out 3:06
 (F) Second Final Flow 219 Mileage 140RT 175 Comments _____
 (G) Final Shut-In 1196 Sampler _____
 (H) Final Hydrostatic 2095 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1400
 Accessibility _____ MP/DST Disc't _____

Initial Open 5
 Initial Shut-In 30
 Final Flow 60
 Final Shut-In 120
 Sub Total 1400

Approved By _____ Our Representative Jason McJannet

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Thank You!