

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co., Inc.**

PO Box 2758
Wichita, KS 67202-1510

ATTN: Phil Askey

13 15s 27w Gove,KS

Garvey #1-13

Start Date: 2008.11.07 @ 06:02:05

End Date: 2008.11.07 @ 13:33:35

Job Ticket #: 33552 DST #: 1

15-003-21754

**KCC
FEB 18 2009
CONFIDENTIAL**

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

Mull Drilling Co., Inc.

Garvey #1-13

13 15s 27w Gove,KS

DST # 1

LKC 'H, I'

2008.11.07

13-15s-27w



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mull Drilling Co., Inc.
PO Box 2758
Wichita, KS 67202-1510
ATTN: Phil Askey

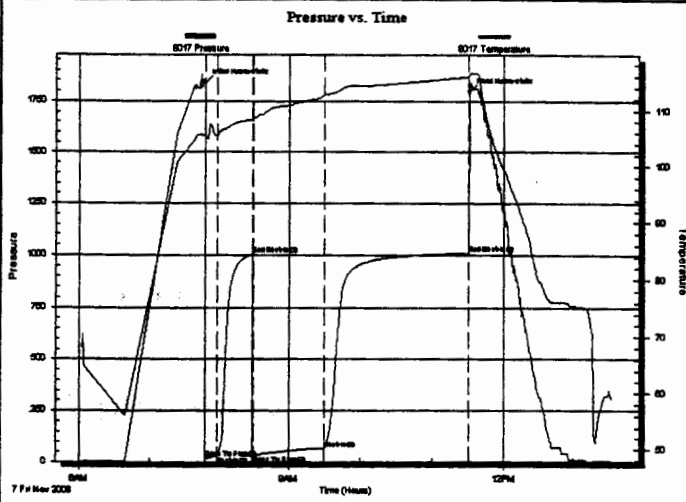
Garvey #1-13
13 15s 27w Gove,KS
Job Ticket: 33552 **DST#: 1**
Test Start: 2008.11.07 @ 06:02:05

GENERAL INFORMATION:

Formation: **LKC 'H, I'**
Deviated: **No Whipstock** ft (KB)
Time Tool Opened: **07:48:15**
Time Test Ended: **13:33:35**
Interval: **3765.00 ft (KB) To 3825.00 ft (KB) (TVD)**
Total Depth: **3825.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Good**
Test Type: **Conventional Bottom Hole**
Tester: **Chuck Smith**
Unit No: **37**
Reference Elevations: **2360.00 ft (KB)**
2355.00 ft (CF)
KB to GR/CF: **5.00 ft**

Serial #: 8017 Inside
Press@RunDepth: **65.01 psig @ 3766.00 ft (KB)** Capacity: **7000.00 psig**
Start Date: **2008.11.07** End Date: **2008.11.07** Last Calib.: **2008.11.07**
Start Time: **06:02:06** End Time: **13:33:35** Time On Btrr: **2008.11.07 @ 07:48:05**
Time Off Btrr: **2008.11.07 @ 11:31:05**

TEST COMMENT: IF: 1" Blow.
IS: No return.
FF: 7" Blow.
FS: No return.



| PRESSURE SUMMARY | | | |
|------------------|-----------------|--------------|----------------------|
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
| 0 | 1836.99 | 105.71 | Initial Hydro-static |
| 1 | 16.59 | 105.04 | Open To Flow (1) |
| 11 | 29.34 | 105.58 | Shut-in(1) |
| 41 | 1004.47 | 108.38 | End Shut-in(1) |
| 42 | 33.47 | 108.19 | Open To Flow (2) |
| 102 | 65.01 | 112.67 | Shut-in(2) |
| 223 | 1010.42 | 115.90 | End Shut-in(2) |
| 223 | 1795.86 | 116.14 | Final Hydro-static |

| Recovery | | |
|-------------|--------------------|--------------|
| Length (ft) | Description | Volume (bbl) |
| 122.00 | GOCM 5%G 25%O 70%M | 0.60 |
| 2.00 | FO 100%O | 0.03 |
| 0.00 | 0 Feet GIP | 0.00 |
| | | |
| | | |

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co., Inc.
PO Box 2758
Wichita, KS 67202-1510
ATTN: Phil Askey

Garvey #1-13
13 15s 27w Gove,KS
Job Ticket: 33552 **DST#: 1**
Test Start: 2008.11.07 @ 06:02:05

Tool Information

| | | | | |
|---------------------------|--------------------|-------------------------|-------------------|------------------------------------|
| Drill Pipe: | Length: 3642.00 ft | Diameter: 3.80 inches | Volume: 51.09 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: 26000.00 lb |
| Drill Collar: | Length: 122.00 ft | Diameter: 2.25 inches | Volume: 0.60 bbl | Weight to Pull Loose: 55000.00 lb |
| | | Total Volume: 51.69 bbl | | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 18.00 ft | | | String Weight: Initial 48000.00 lb |
| Depth to Top Packer: | 3765.00 ft | | | Final 48000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 60.00 ft | | | |
| Tool Length: | 79.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|------------------------------------|
| Shut In Tool | 5.00 | | | 3751.00 | |
| Hydraulic tool | 5.00 | | | 3756.00 | |
| Packer | 5.00 | | | 3761.00 | 19.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 3765.00 | |
| Stubb | 1.00 | | | 3766.00 | |
| Recorder | 0.00 | 8017 | inside | 3766.00 | |
| Recorder | 0.00 | 8351 | inside | 3766.00 | |
| Perforations | 21.00 | | | 3787.00 | |
| Change Over Sub | 1.00 | | | 3788.00 | |
| Drill Pipe | 31.00 | | | 3819.00 | |
| Change Over Sub | 1.00 | | | 3820.00 | |
| Bullnose | 5.00 | | | 3825.00 | 60.00 Bottom Packers & Anchor |

Total Tool Length: 79.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Co., Inc.

Garvey #1-13

PO Box 2758
Wichita, KS 67202-1510

13 15s 27w Gove,KS

Job Ticket: 33552 **DST#: 1**

ATTN: Phil Askey

Test Start: 2008.11.07 @ 06:02:05

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: 0 ppm |
| Viscosity: 48.00 sec/qt | Cushion Volume: bbl | |
| Water Loss: 6.78 in ³ | Gas Cushion Type: | |
| Resistivity: 0.00 ohm.m | Gas Cushion Pressure: psig | |
| Salinity: 4200.00 ppm | | |
| Filter Cake: 1.00 inches | | |

Recovery Information

Recovery Table

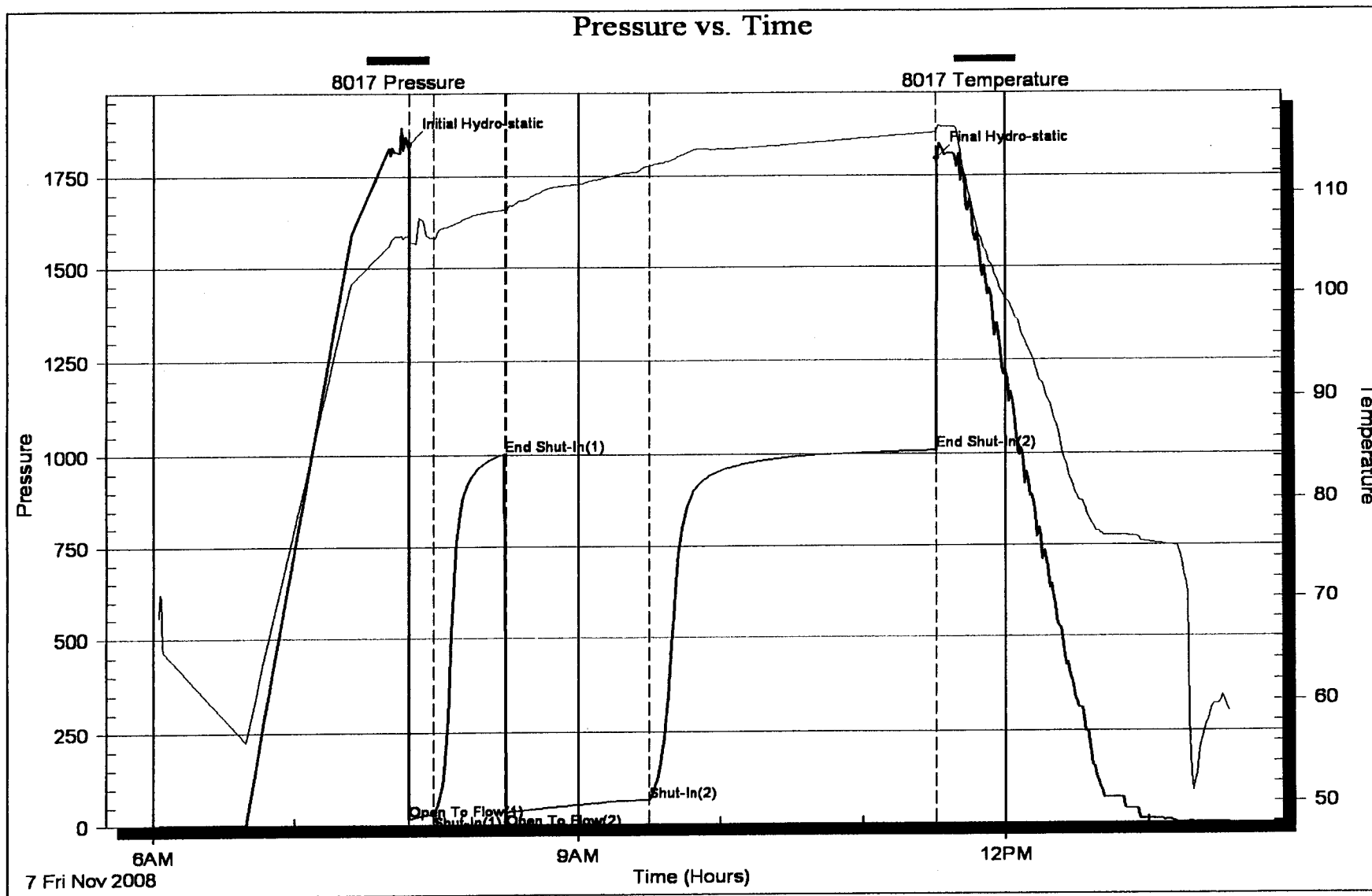
| Length ft | Description | Volume bbl |
|--------------|--------------------|---------------|
| 122.00 | GOCM 5%G 25%O 70%M | 0.600 |
| 2.00 | FO 100%O | 0.028 |
| 0.00 | 0 Feet GP | 0.000 |

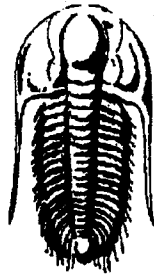
Total Length: 124.00 ft Total Volume: 0.628 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: API : 37 @ 60 Degrees F = 37.





**TRILOBITE
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DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co., Inc.**

PO Box 2758
Wichita, KS 67202-1510

ATTN: Phil Askey

13 15s 27w Gove,KS

Garvey #1-13

Start Date: 2008.11.07 @ 20:09:00

End Date: 2008.11.08 @ 03:24:00

Job Ticket #: 33553 DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Mull Drilling Co., Inc.

Garvey #1-13

13 15s 27w Gove,KS

DST # 2

LKC:J

2008.11.07



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mull Drilling Co., Inc.

Garvey #1-13

PO Box 2758
Wichita, KS 67202-1510

13 15s 27w Gove,KS

ATTN: Phil Askey

Job Ticket: 33553 **DST#: 2**

Test Start: 2008.11.07 @ 20:09:00

GENERAL INFORMATION:

Formation: **LKC 'J'**

Deviated: **No Whipstock** ft (KB)

Time Tool Opened: 22:03:15

Time Test Ended: 03:24:00

Test Type: **Conventional Bottom Hole**

Tester: **Chuck Smith**

Unit No: **37**

Interval: **3825.00 ft (KB) To 3855.00 ft (KB) (TVD)**

Total Depth: **3855.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2360.00 ft (KB)**

2355.00 ft (CF)

KB to GR/CF: **5.00 ft**

Serial #: 8351

Inside

Press@RunDepth: **135.35 psig @ 3826.00 ft (KB)**

Start Date: **2008.11.07**

End Date:

2008.11.08

Capacity: **7000.00 psig**

Last Calib.: **2008.11.08**

Start Time: **20:09:01**

End Time:

03:24:00

Time On Btm: **2008.11.07 @ 22:02:30**

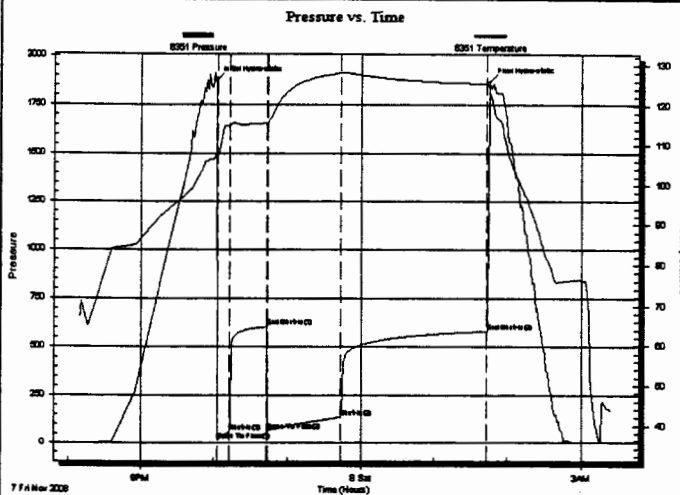
Time Off Btm: **2008.11.08 @ 01:46:00**

TEST COMMENT: **IF: 3 1/2" Blow.**

IS: No return.

FF: 8" Blow.

FS: Surface return died @ 15 min.



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1875.70 | 108.11 | Initial Hydro-static |
| 1 | 12.88 | 107.17 | Open To Flow (1) |
| 11 | 60.27 | 115.00 | Shut-in(1) |
| 41 | 606.06 | 115.57 | End Shut-in(1) |
| 42 | 65.32 | 115.46 | Open To Flow (2) |
| 101 | 135.35 | 128.05 | Shut-in(2) |
| 222 | 582.85 | 125.49 | End Shut-in(2) |
| 224 | 1869.50 | 123.47 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--------------------------|--------------|
| 122.00 | MW 10%M 90%W | 0.60 |
| 125.00 | OSMCW 20%M 80%W | 1.75 |
| 20.00 | GOMCW 5%G 15%O 30%M 50%W | 0.28 |
| 0.00 | 40 Feet GIP | 0.00 |
| | | |
| | | |

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co., Inc.

Garvey #1-13

PO Box 2758
Wichita, KS 67202-1510

13 15s 27w Gove,KS

ATTN: Phil Askey

Job Ticket: 33553 **DST#: 2**

Test Start: 2008.11.07 @ 20:09:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3704.00 ft | Diameter: 3.80 inches | Volume: 51.96 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: 122.00 ft | Diameter: 2.25 inches | Volume: 0.60 bbl | Weight to Pull Loose: 55000.00 lb |
| | | | <u>Total Volume: 52.56 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 20.00 ft | | | String Weight: Initial 47000.00 lb |
| Depth to Top Packer: | 3825.00 ft | | | Final 48000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 30.00 ft | | | |
| Tool Length: | 49.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |
| Tool Comments: | | | | |

Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|---------------------------|--------------|------------|----------|------------|------------------------------------|
| Shut In Tool | 5.00 | | | 3811.00 | |
| Hydraulic tool | 5.00 | | | 3816.00 | |
| Packer | 5.00 | | | 3821.00 | 19.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 3825.00 | |
| Stubb | 1.00 | | | 3826.00 | |
| Recorder | 0.00 | 8017 | Inside | 3826.00 | |
| Recorder | 0.00 | 8351 | Inside | 3826.00 | |
| Perforations | 24.00 | | | 3850.00 | |
| Bullnose | 5.00 | | | 3855.00 | 30.00 Bottom Packers & Anchor |
| Total Tool Length: | 49.00 | | | | |



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FLUID SUMMARY

Mull Drilling Co., Inc.
PO Box 2758
Wichita, KS 67202-1510
ATTN: Phil Askey

Garvey #1-13
13 15s 27w Gove,KS
Job Ticket: 33553 **DST#: 2**
Test Start: 2008.11.07 @ 20:09:00

Mud and Cushion Information

| | | |
|----------------------------------|----------------------------|---------------------------|
| Mud Type: Gel Chem | Cushion Type: | Oil API: 0 deg API |
| Mud Weight: 9.00 lb/gal | Cushion Length: ft | Water Salinity: 30000 ppm |
| Viscosity: 45.00 sec/qt | Cushion Volume: bbl | |
| Water Loss: 7.98 in ³ | Gas Cushion Type: | |
| Resistivity: 0.00 ohm.m | Gas Cushion Pressure: psig | |
| Salinity: 2800.00 ppm | | |
| Filter Cake: 1.00 inches | | |

Recovery Information

Recovery Table

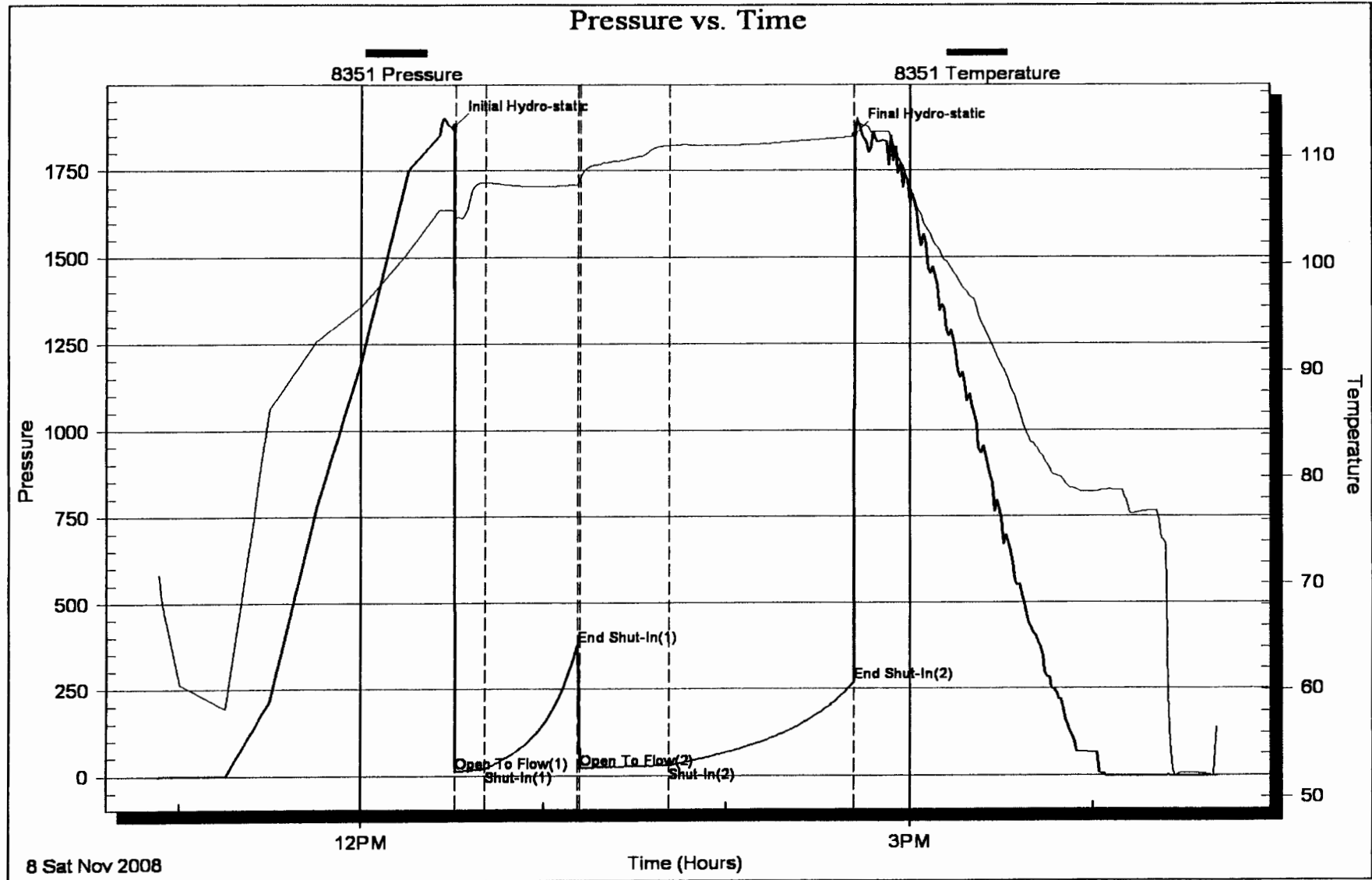
| Length ft | Description | Volume bbl |
|--------------|--------------------------|---------------|
| 122.00 | MW 10%M 90%W | 0.600 |
| 125.00 | OSMCW 20%M 80%W | 1.753 |
| 20.00 | GOMCW 5%G 15%O 30%M 50%W | 0.281 |
| 0.00 | 40 Feet GP | 0.000 |

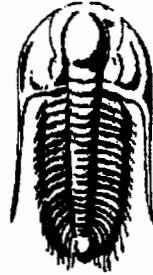
Total Length: 267.00 ft Total Volume: 2.634 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW: .351 @ 52 Degrees F = 30000 chlorides.





**TRILOBITE
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DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co., Inc.**

PO Box 2758
Wichita, KS 67202-1510

ATTN: Phil Askey

13 15s 27w Gove,KS

Garvey #1-13

Start Date: 2008.11.08 @ 10:53:00

End Date: 2008.11.08 @ 16:40:15

Job Ticket #: 33554 DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Mull Drilling Co., Inc.

Garvey #1-13

13 15s 27w Gove,KS

DST # 3

LKC 'K, L'

2008.11.08



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mull Drilling Co., Inc.
PO Box 2758
Wichita, KS 67202-1510
ATTN: Phil Askey

Garvey #1-13
13 15s 27w Gove,KS
Job Ticket: 33554 DST#: 3
Test Start: 2008.11.08 @ 10:53:00

GENERAL INFORMATION:

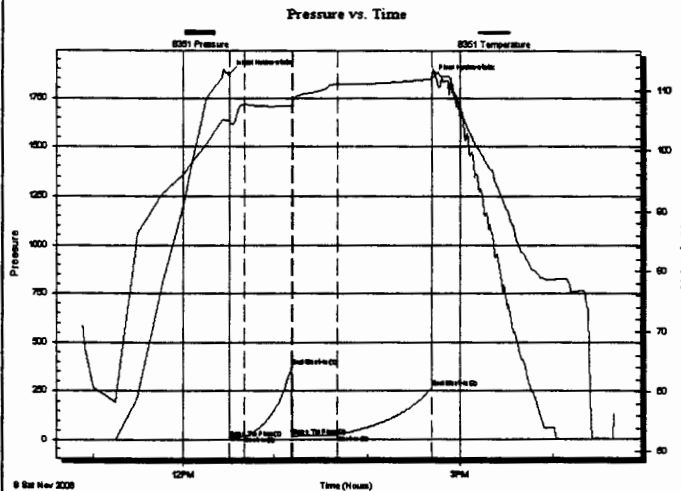
Formation: **LKC 'K, L'**
Deviated: **No Whipstock** ft (KB)
Time Tool Opened: 12:30:30
Time Test Ended: 16:40:15
Interval: **3857.00 ft (KB) To 3905.00 ft (KB) (TVD)**
Total Depth: **3905.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** - Hole Condition: **Good**
Test Type: **Conventional Bottom Hole**
Tester: **Chuck Smith**
Unit No: **37**
Reference Elevations: **2360.00 ft (KB)**
2355.00 ft (CF)
KB to GRVCF: **5.00 ft**

Serial #: 8351

Inside

Press@RunDepth: **27.16 psig @ 3858.00 ft (KB)** Capacity: **7000.00 psig**
Start Date: **2008.11.08** End Date: **2008.11.08** Last Calib.: **2008.11.08**
Start Time: **10:53:01** End Time: **16:40:15** Time On Btrr: **2008.11.08 @ 12:30:15**
Time Off Btrr: **2008.11.08 @ 14:41:45**

TEST COMMENT: IF: 1/2" Blow.
IS: No return.
FF: 1 1/2" Blow.
FS: No return.



PRESSURE SUMMARY

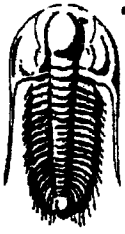
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1877.42 | 105.02 | Initial Hydro-static |
| 1 | 12.11 | 104.20 | Open To Flow (1) |
| 11 | 18.42 | 107.63 | Shut-In(1) |
| 41 | 377.75 | 107.46 | End Shut-In(1) |
| 42 | 20.40 | 108.16 | Open To Flow (2) |
| 71 | 27.16 | 111.04 | Shut-In(2) |
| 132 | 267.18 | 111.92 | End Shut-In(2) |
| 132 | 1852.36 | 112.50 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|------------------|--------------|
| 30.00 | SOCM 2%O 98%M | 0.15 |
| 0.00 | 30 Feet weak GIP | 0.00 |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co., Inc.

Garvey #1-13

PO Box 2758
Wichita, KS 67202-1510

13 15s 27w Gove,KS

Job Ticket: 33554

DST#: 3

ATTN: Phil Askey

Test Start: 2008.11.08 @ 10:53:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3734.00 ft | Diameter: 3.80 inches | Volume: 52.38 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: 122.00 ft | Diameter: 2.25 inches | Volume: 0.60 bbl | Weight to Pull Loose: 56000.00 lb |
| | | | <u>Total Volume: 52.98 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 18.00 ft | | | String Weight: Initial 47000.00 lb |
| Depth to Top Packer: | 3857.00 ft | | | Final 47000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 48.00 ft | | | |
| Tool Length: | 67.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Shut In Tool | 5.00 | | | 3843.00 | |
| Hydraulic tool | 5.00 | | | 3848.00 | |
| Packer | 5.00 | | | 3853.00 | 19.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 3857.00 | |
| Stubb | 1.00 | | | 3858.00 | |
| Recorder | 0.00 | 8017 | Inside | 3858.00 | |
| Recorder | 0.00 | 8351 | Inside | 3858.00 | |
| Perforations | 10.00 | | | 3868.00 | |
| Change Over Sub | 1.00 | | | 3869.00 | |
| Drill Pipe | 30.00 | | | 3899.00 | |
| Change Over Sub | 1.00 | | | 3900.00 | |
| Bullnose | 5.00 | | | 3905.00 | 48.00 Bottom Packers & Anchor |

Total Tool Length: 67.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Co., Inc.
PO Box 2758
Wichita, KS 67202-1510
ATTN: Phil Askey

Garvey #1-13
13 15s 27w Gove,KS
Job Ticket: 33554 **DST#: 3**
Test Start: 2008.11.08 @ 10:53:00

Mud and Cushion Information

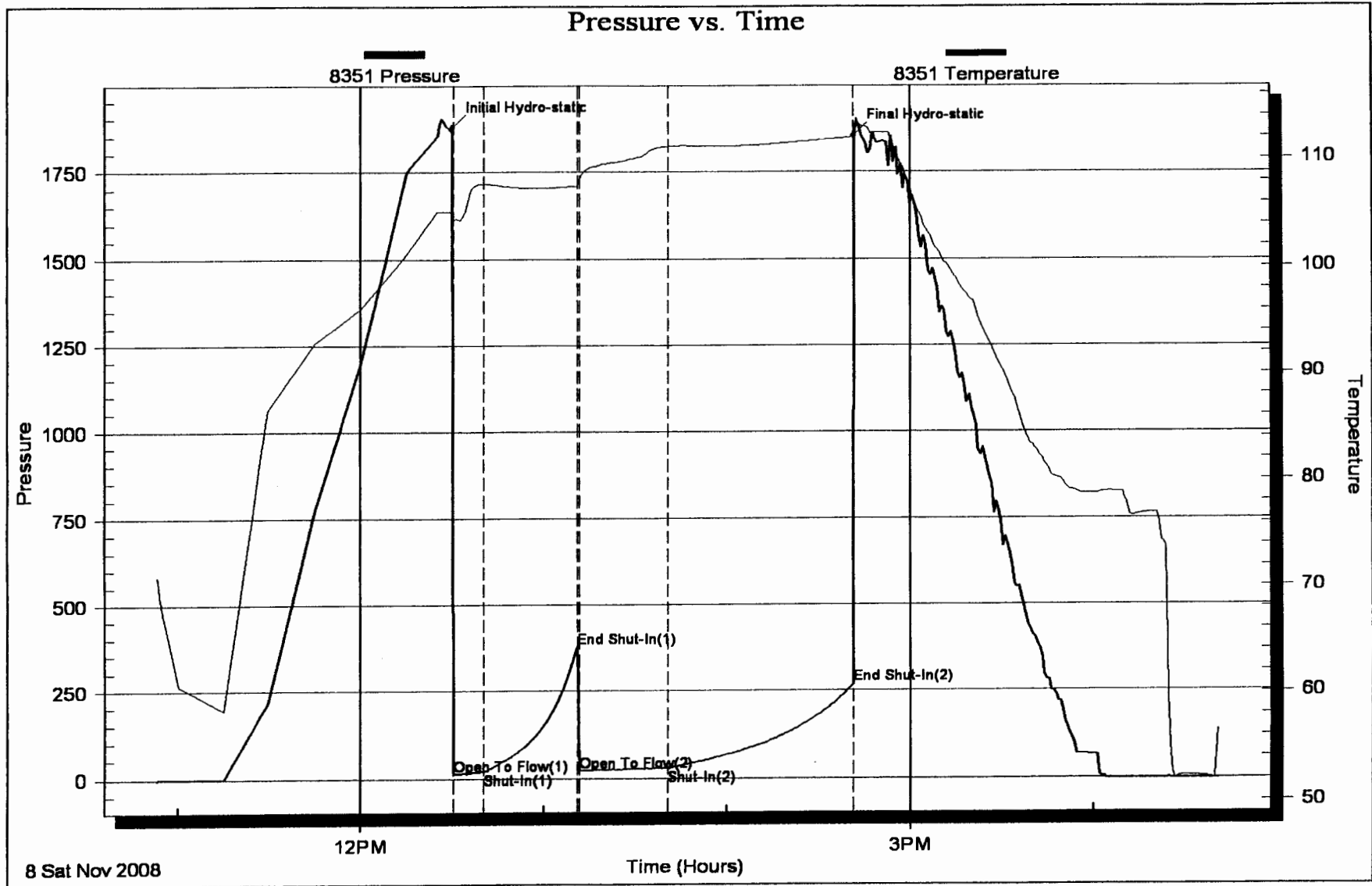
| | | | |
|----------------------------------|----------------------------|-----------------|-----------|
| Mud Type: Gel Chem | Cushion Type: | Oil API: | 0 deg API |
| Mud Weight: 9.00 lb/gal | Cushion Length: ft | Water Salinity: | 0 ppm |
| Viscosity: 49.00 sec/qt | Cushion Volume: bbl | | |
| Water Loss: 7.98 in ³ | Gas Cushion Type: | | |
| Resistivity: 0.00 ohm.m | Gas Cushion Pressure: psig | | |
| Salinity: 3900.00 ppm | | | |
| Filter Cake: 1.00 inches | | | |

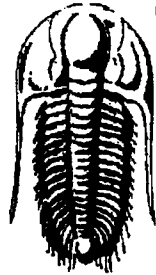
Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-----------------|---------------|
| 30.00 | SOCM 2%O 98%M | 0.148 |
| 0.00 | 30 Feet weak GP | 0.000 |

Total Length: 30.00 ft Total Volume: 0.148 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.**

PO Box 2758
Wichita, KS 67202-1510

ATTN: Phil Askey

13 15s 27w Gove,KS

Garvey #1-13

Start Date: 2008.11.09 @ 12:32:00

End Date: 2008.11.09 @ 20:13:20

Job Ticket #: 33555 DST #: 4

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Mull Drilling Co., Inc.

Garvey #1-13

13 15s 27w Gove,KS

DST # 4

Fl. Scott

2008.11.09



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mull Drilling Co., Inc.
PO Box 2758
Wichita, KS 67202-1510
ATTN: Phil Askey

Garvey #1-13
13 15s 27w Gove, KS
Job Ticket: 33555 DST#: 4
Test Start: 2008.11.09 @ 12:32:00

GENERAL INFORMATION:

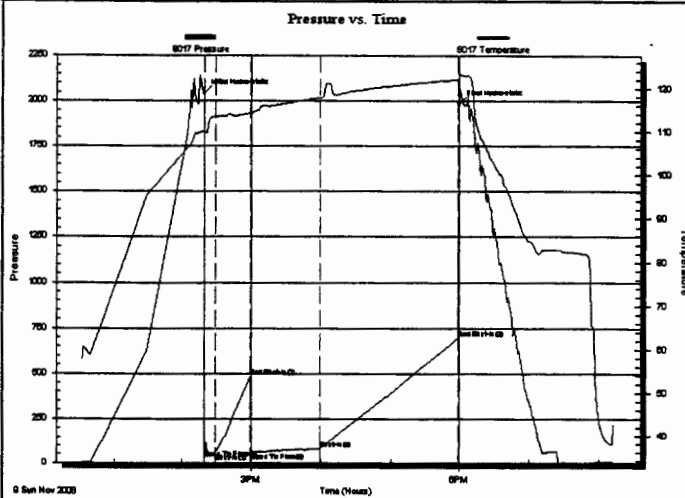
Formation: **Ft. Scott**
Deviated: **No Whipstock:** ft (KB)
Time Tool Opened: 14:19:20
Time Test Ended: 20:13:20
Test Type: **Conventional Bottom Hole**
Tester: **Chuck Smith**
Unit No: **37**
Interval: **4085.00 ft (KB) To 4135.00 ft (KB) (TVD)**
Reference Elevations: 2360.00 ft (KB)
Total Depth: **4135.00 ft (KB) (TVD)** 2355.00 ft (CF)
Hole Diameter: **7.88 inches** Hole Condition: **Good** KB to GR/CF: 5.00 ft

Serial #: 8017

Inside

Press@RunDepth: 80.75 psig @ 4086.00 ft (KB) Capacity: 7000.00 psig
Start Date: 2008.11.09 End Date: 2008.11.09 Last Calib.: 2008.11.09
Start Time: 12:32:01 End Time: 20:13:20 Time On Btrn: 2008.11.09 @ 14:19:05
Time Off Btrn: 2008.11.09 @ 17:59:35

TEST COMMENT: IF: 5" Blow.
IS: No return.
FF: B.O.B. @ 18 min.
FS: Weak return died @ 1 min.



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2042.63 | 110.14 | Initial Hydro-static |
| 1 | 22.90 | 109.30 | Open To Flow (1) |
| 10 | 51.87 | 113.41 | Shut-in(1) |
| 41 | 483.77 | 114.17 | End Shut-in(1) |
| 41 | 56.20 | 114.02 | Open To Flow (2) |
| 101 | 80.75 | 117.77 | Shut-in(2) |
| 221 | 695.87 | 122.01 | End Shut-in(2) |
| 221 | 1986.33 | 122.53 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--------------------|--------------|
| 122.00 | GOCM 25%G 5%O 70%M | 0.60 |
| 35.00 | GOCM 5%G 5%O 90%M | 0.49 |
| 0.00 | 90 Feet weak GIP | 0.00 |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co., Inc.
PO Box 2758
Wichita, KS 67202-1510

ATTN: Phil Askey

Garvey #1-13
13 15s 27w Gove,KS
Job Ticket: 33555 **DST#: 4**
Test Start: 2008.11.09 @ 12:32:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3948.00 ft | Diameter: 3.80 inches | Volume: 55.38 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: 122.00 ft | Diameter: 2.25 inches | Volume: 0.60 bbl | Weight to Pull Loose: 50000.00 lb |
| | | | <u>Total Volume: 55.98 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 4.00 ft | | | String Weight: Initial 48000.00 lb |
| Depth to Top Packer: | 4085.00 ft | | | Final 49000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 50.00 ft | | | |
| Tool Length: | 69.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

Tool Description Length (ft) Serial No. Position Depth (ft) Accum. Lengths

| | | | | | |
|-----------------|-------|------|--------|---------|------------------------------------|
| Shut In Tool | 5.00 | | | 4071.00 | |
| Hydraulic tool | 5.00 | | | 4076.00 | |
| Packer | 5.00 | | | 4081.00 | 19.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 4085.00 | |
| Stubb | 1.00 | | | 4086.00 | |
| Recorder | 0.00 | 8017 | Inside | 4086.00 | |
| Recorder | 0.00 | 8351 | Inside | 4086.00 | |
| Perforations | 11.00 | | | 4097.00 | |
| Change Over Sub | 1.00 | | | 4098.00 | |
| Drill Pipe | 31.00 | | | 4129.00 | |
| Change Over Sub | 1.00 | | | 4130.00 | |
| Bullnose | 5.00 | | | 4135.00 | 50.00 Bottom Packers & Anchor |

Total Tool Length: 69.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Co., Inc.

Garvey #1-13

PO Box 2758
Wichita, KS 67202-1510

13 15s 27w Gove,KS

Job Ticket: 33555

DST#: 4

ATTN: Phil Askey

Test Start: 2008.11.09 @ 12:32:00

Mud and Cushion Information

| | | | | | |
|--------------|-----------------------|-----------------------|------|-----------------|-----------|
| Mud Type: | Gel Chem | Cushion Type: | | Oil API: | 0 deg API |
| Mud Weight: | 10.00 lb/gal | Cushion Length: | ft | Water Salinity: | 0 ppm |
| Viscosity: | 46.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 10.38 in ³ | Gas Cushion Type: | | | |
| Resistivity: | 0.00 ohm.m | Gas Cushion Pressure: | psig | | |
| Salinity: | 4400.00 ppm | | | | |
| Filter Cake: | 1.00 inches | | | | |

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|--------------------|---------------|
| 122.00 | GOCM 25%G 5%O 70%M | 0.600 |
| 35.00 | GOCM 5%G 5%O 90%M | 0.491 |
| 0.00 | 90 Feet weak GIP | 0.000 |

Total Length: 157.00 ft Total Volume: 1.091 bbl

Num Fluid Samples: 0

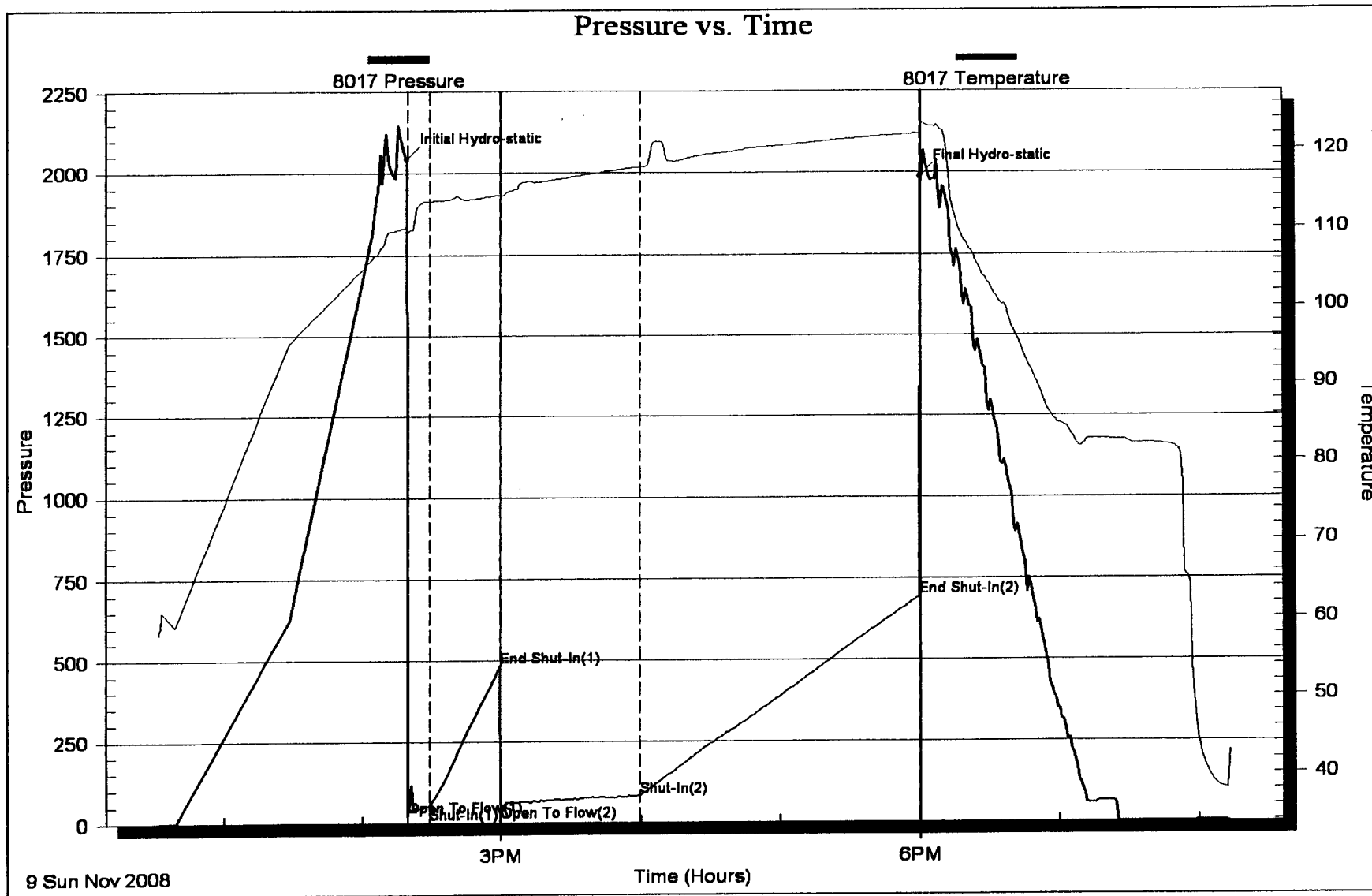
Num Gas Bombs: 0

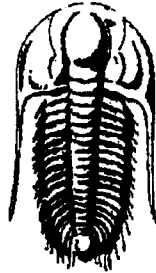
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co., Inc.**

PO Box 2758
Wichita, KS 67202-1510

ATTN: Phil Askey

13 15s 27w Gove,KS

Garvey #1-13

Start Date: 2008.11.10 @ 05:41:38

End Date: 2008.11.10 @ 13:34:23

Job Ticket #: 33556 DST #: 5

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Mull Drilling Co., Inc.

Garvey #1-13

13 15s 27w Gove,KS

DST # 5

Mississippian

2008.11.10



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mull Drilling Co., Inc.
PO Box 2758
Wichita, KS 67202-1510
ATTN: Phil Askey

Garvey #1-13
13 15s 27w Gove, KS
Job Ticket: 33556 DST#: 5
Test Start: 2008.11.10 @ 05:41:38

GENERAL INFORMATION:

Formation: **Mississippian**
Deviated: **No Whipstock** ft (KB)
Time Tool Opened: 07:22:43
Time Test Ended: 13:34:23

Test Type: **Conventional Bottom Hole**
Tester: **Chuck Smith**
Unit No: **37**

Interval: **4134.00 ft (KB) To 4221.00 ft (KB) (TVD)**
Total Depth: **4221.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2360.00 ft (KB)**
2355.00 ft (CF)
KB to GR/CF: **5.00 ft**

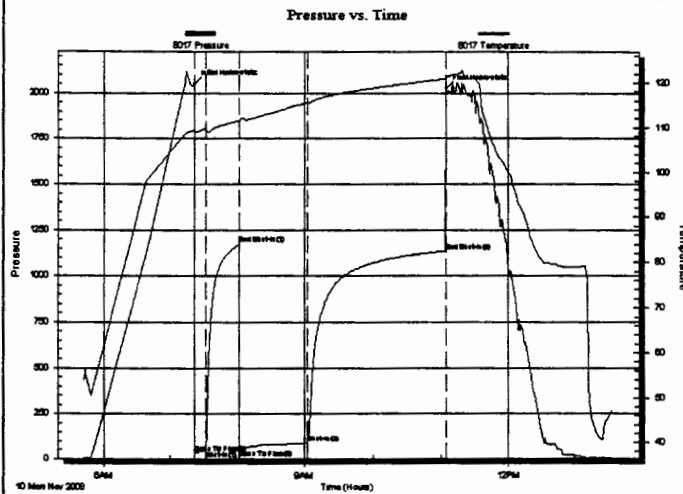
Serial #: 8017

Inside

Press@RunDepth: **86.77 psig @ 4135.00 ft (KB)**
Start Date: **2008.11.10** End Date: **2008.11.10**
Start Time: **05:41:39** End Time: **13:34:23**

Capacity: **7000.00 psig**
Last Calib.: **2008.11.10**
Time On Btrr: **2008.11.10 @ 07:22:33**
Time Off Btrr: **2008.11.10 @ 11:04:28**

TEST COMMENT: IF: 1 1/2" Blow.
IS: No return.
FF: 4" Blow.
FS: No return.



PRESSURE SUMMARY

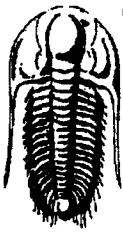
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2051.82 | 109.52 | Initial Hydro-static |
| 1 | 31.26 | 108.87 | Open To Flow (1) |
| 10 | 45.63 | 109.68 | Shut-In (1) |
| 40 | 1172.82 | 111.58 | End Shut-In (1) |
| 41 | 52.15 | 111.26 | Open To Flow (2) |
| 100 | 86.77 | 115.51 | Shut-In (2) |
| 222 | 1135.07 | 120.89 | End Shut-In (2) |
| 222 | 2027.01 | 121.16 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--------------|--------------|
| 31.00 | GO 15%G 85%O | 0.15 |
| 0.00 | 30 Feet GIP | 0.00 |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co., Inc.

Garvey #1-13

PO Box 2758
Wichita, KS 67202-1510

13 15s 27w Gove,KS

Job Ticket: 33556

DST#: 5

ATTN: Phil Askey

Test Start: 2008.11.10 @ 05:41:38

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 4013.00 ft | Diameter: 3.80 inches | Volume: 56.29 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: 26000.00 lb |
| Drill Collar: | Length: 122.00 ft | Diameter: 2.25 inches | Volume: 0.60 bbl | Weight to Pull Loose: 85000.00 lb |
| | | | <u>Total Volume: 56.89 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 20.00 ft | | | String Weight: Initial 50000.00 lb |
| Depth to Top Packer: | 4134.00 ft | | | Final 50000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 87.00 ft | | | |
| Tool Length: | 106.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |
| Tool Comments: | | | | |

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|----------------|
|------------------|-------------|------------|----------|------------|----------------|

| | | | | | |
|-----------------|-------|------|--------|---------|-------------------------------|
| Shut In Tool | 5.00 | | | 4120.00 | |
| Hydraulic tool | 5.00 | | | 4125.00 | |
| Packer | 5.00 | | | 4130.00 | 19.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 4134.00 | |
| Stubb | 1.00 | | | 4135.00 | |
| Recorder | 0.00 | 8017 | inside | 4135.00 | |
| Recorder | 0.00 | 8351 | inside | 4135.00 | |
| Perforations | 19.00 | | | 4154.00 | |
| Change Over Sub | 1.00 | | | 4155.00 | |
| Drill Pipe | 60.00 | | | 4215.00 | |
| Change Over Sub | 1.00 | | | 4216.00 | |
| Bullnose | 5.00 | | | 4221.00 | 87.00 Bottom Packers & Anchor |

Total Tool Length: 106.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Co., Inc.
PO Box 2758
Wichita, KS 67202-1510
ATTN: Phil Askey

Garvey #1-13
13 15s 27w Gove,KS
Job Ticket: 33556 DST#: 5
Test Start: 2008.11.10 @ 05:41:38

Mud and Cushion Information

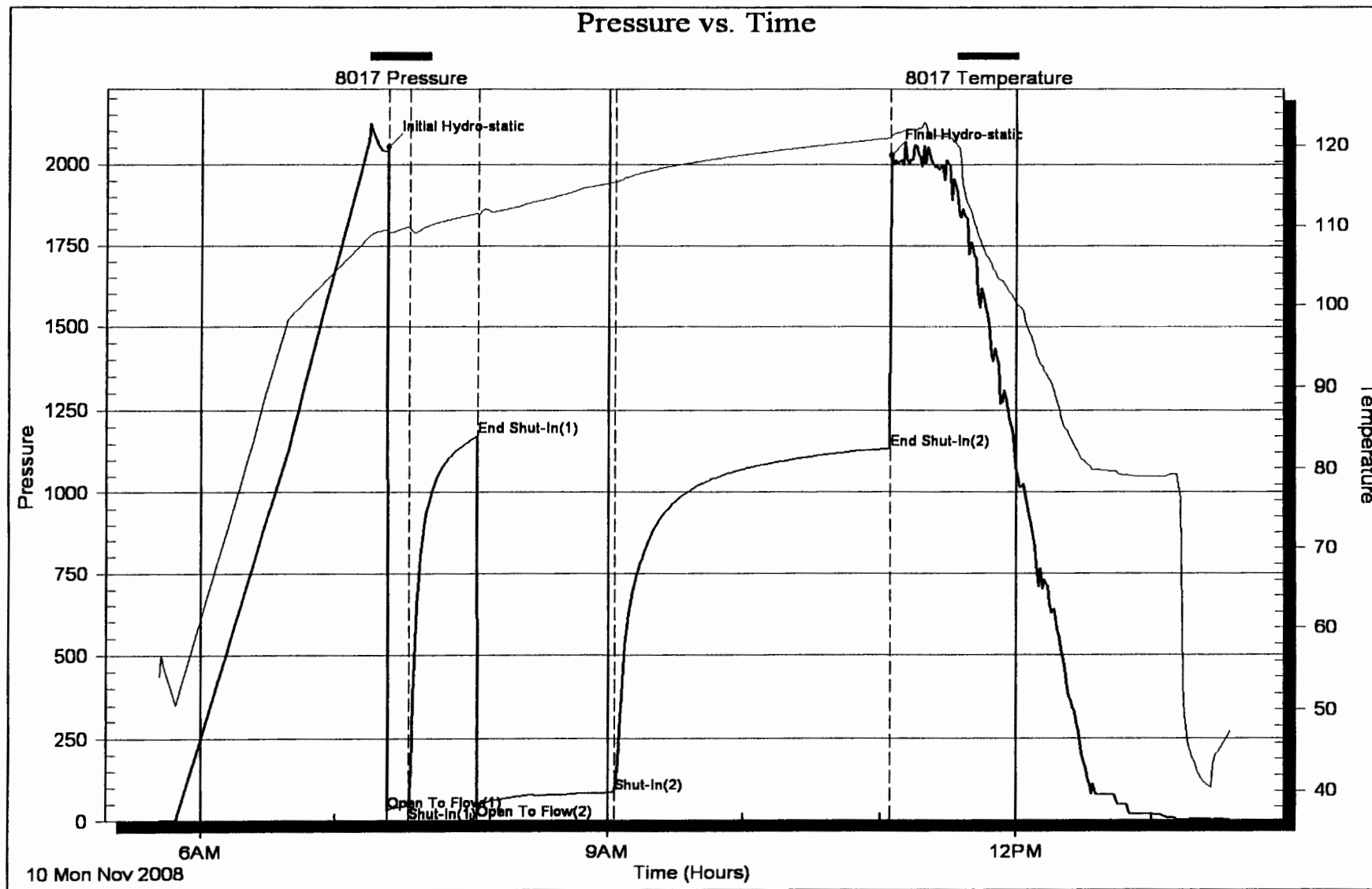
| | | |
|----------------------------------|----------------------------|-----------------------|
| Mud Type: Gel Chem | Cushion Type: | Oil API: 38 deg API |
| Mud Weight: 10.00 lb/gal | Cushion Length: ft | Water Salinity: 0 ppm |
| Viscosity: 54.00 sec/qt | Cushion Volume: bbl | |
| Water Loss: 9.58 in ³ | Gas Cushion Type: | |
| Resistivity: 0.00 ohm.m | Gas Cushion Pressure: psig | |
| Salinity: 4200.00 ppm | | |
| Filter Cake: 1.00 inches | | |

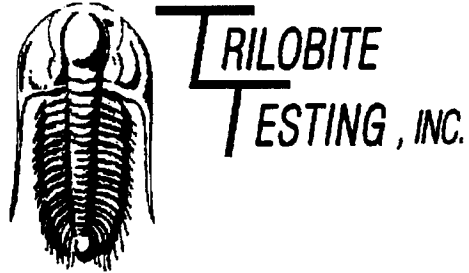
Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|--------------|---------------|
| 31.00 | GO 15%G 85%O | 0.152 |
| 0.00 | 30 Feet GIP | 0.000 |

Total Length: ft Total Volume: 1.035 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: API: 36 @ 40 Degrees F = 38





DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co., Inc.**

PO Box 2758
Wichita, KS 67202-1510

ATTN: Phil Askey

13 15s 27w Gove,KS

Garvey #1-13

Start Date: 2008.11.10 @ 19:41:11

End Date: 2008.11.11 @ 03:24:01

Job Ticket #: 33557 DST #: 6

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

Mull Drilling Co., Inc.

Garvey #1-13

13 15s 27w Gove,KS

DST # 6

Mississippian

2008.11.10



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mull Drilling Co., Inc.
PO Box 2758
Wichita, KS 67202-1510
ATTN: Phil Askey

Garvey #1-13
13 15s 27w Gove,KS
Job Ticket: 33557 **DST#: 6**
Test Start: 2008.11.10 @ 19:41:11

GENERAL INFORMATION:

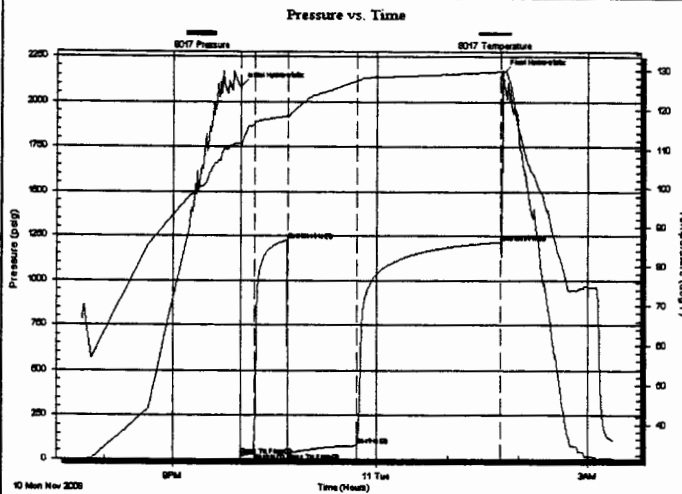
Formation: **Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:01:06
Time Test Ended: 03:24:01
Interval: **4220.00 ft (KB) To 4231.00 ft (KB) (TVD)**
Total Depth: 4231.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole
Tester: Chuck Smith
Unit No: 37
Reference Elevations: 2360.00 ft (KB)
2355.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8017

Inside

Press@RunDepth: 77.44 psig @ 4221.00 ft (KB) Capacity: 7000.00 psig
Start Date: 2008.11.10 End Date: 2008.11.11 Last Calib.: 2008.11.11
Start Time: 19:41:12 End Time: 03:24:01 Time On Btm: 2008.11.10 @ 22:01:01
Time Off Btm: 2008.11.11 @ 01:46:01

TEST COMMENT: IF: 1" Blow.
IS: No return.
FF: 4 1/2" Blow.
FS: Weak return died @ 3 min.



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2085.55 | 111.46 | Initial Hydro-static |
| 1 | 18.19 | 110.36 | Open To Flow (1) |
| 12 | 33.99 | 116.31 | Shut-In(1) |
| 41 | 1226.53 | 118.37 | End Shut-In(1) |
| 42 | 34.12 | 117.90 | Open To Flow (2) |
| 102 | 77.44 | 127.26 | Shut-In(2) |
| 224 | 1215.15 | 129.66 | End Shut-In(2) |
| 226 | 2159.06 | 129.99 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|------------------|--------------|
| 61.00 | OSMCW 40%M 60%W | 0.30 |
| 61.00 | SOCM 3%O 97%M | 0.30 |
| 20.00 | GO 40%G 60%O | 0.28 |
| 0.00 | 40 Feet weak GIP | 0.00 |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co., Inc.

Garvey #1-13

PO Box 2758
Wichita, KS 67202-1510

13 15s 27w Gove,KS

Job Ticket: 33557 **DST#: 6**

ATTN: Phil Askey

Test Start: 2008.11.10 @ 19:41:11

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 4102.00 ft | Diameter: 3.80 inches | Volume: 57.54 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: 30000.00 lb |
| Drill Collar: | Length: 122.00 ft | Diameter: 2.25 inches | Volume: 0.60 bbl | Weight to Pull Loose: 60000.00 lb |
| | | | <u>Total Volume: 58.14 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 30.50 ft | | | String Weight: Initial 50000.00 lb |
| Depth to Top Packer: | 4220.00 ft | | | Final 50000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 11.00 ft | | | |
| Tool Length: | 37.50 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |
| Tool Comments: | | | | |

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|------------------------------------|
| Shut In Tool | 5.00 | | | 4198.50 | |
| Hydraulic tool | 5.00 | | | 4203.50 | |
| Jars | 5.00 | | | 4208.50 | |
| Safety Joint | 2.50 | | | 4211.00 | |
| Packer | 5.00 | | | 4216.00 | 26.50 Bottom Of Top Packer |
| Packer | 4.00 | | | 4220.00 | |
| Stubb | 1.00 | | | 4221.00 | |
| Recorder | 0.00 | 8017 | Inside | 4221.00 | |
| Recorder | 0.00 | 8351 | Inside | 4221.00 | |
| Perforations | 5.00 | | | 4226.00 | |
| Bullnose | 5.00 | | | 4231.00 | 11.00 Bottom Packers & Anchor |

Total Tool Length: 37.50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Co., Inc.

Garvey #1-13

PO Box 2758
Wichita, KS 67202-1510

13 15s 27w Gove,KS

Job Ticket: 33557

DST#: 6

ATTN: Phil Askey

Test Start: 2008.11.10 @ 19:41:11

Mud and Cushion Information

| | | |
|----------------------------------|----------------------------|--------------------------|
| Mud Type: Gel Chem | Cushion Type: | Oil API: 39 deg API |
| Mud Weight: 10.00 lb/gal | Cushion Length: ft | Water Salinity: 8000 ppm |
| Viscosity: 54.00 sec/qt | Cushion Volume: bbl | |
| Water Loss: 9.58 in ³ | Gas Cushion Type: | |
| Resistivity: 0.00 ohm.m | Gas Cushion Pressure: psig | |
| Salinity: 4300.00 ppm | | |
| Filter Cake: 1.00 inches | | |

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-----------------|---------------|
| 61.00 | OSMCW 40%M 60%W | 0.300 |
| 61.00 | SOCM 3%O 97%M | 0.300 |
| 20.00 | GO 40%G 60%O | 0.281 |
| 0.00 | 40 Feet weak GP | 0.000 |

Total Length: 142.00 ft Total Volume: 0.881 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 36 @ 30 Degrees F = 39.

RW: 1.100 @ 50 Degrees F = 8000 chlorides.

