



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Scott Robinson

**5-11-20 Ellis co KS**

**# 1-5 Fischer**

Start Date: 2001.03.14 @ 06:15:00

End Date: 2001.03.14 @ 12:11:00

Job Ticket #: 14676                      DST #: 1

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water Suite 300  
Wichita, KS 67202  
ATTN: Scott Robinson

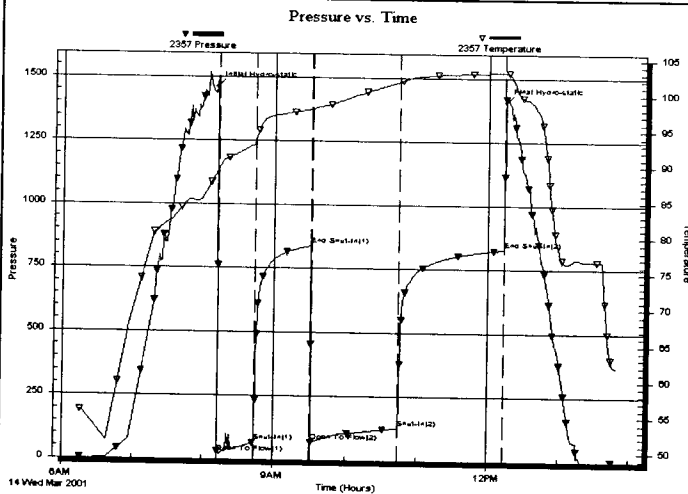
# 1-5 Fischer  
5-11-20 Ellis co KS  
Job Ticket: 14676      DST#: 1  
Test Start: 2001.03.14 @ 06:15:00

## GENERAL INFORMATION:

Formation: **30' Topeka**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 08:12:21  
Time Test Ended: 12:11:00  
Test Type: Conventional Bottom Hole  
Tester: Dan Bangle  
Unit No: 21  
Interval: **3082.00 ft (KB) To 3102.00 ft (KB) (TVD)**  
Total Depth: 3102.00 ft (KB)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Reference Elevations: 2035.00 ft (KB)  
2030.00 ft (CF)  
KB to GR/CF: 5.00 ft

Serial #: **2357** Inside  
Press@RunDepth: 128.26 psig @ 3083.01 ft (KB)  
Start Date: 2001.03.14 End Date: 2001.03.14  
Start Time: 06:15:22 End Time: 13:49:51  
Capacity: 7000.00 psig  
Last Calib.: 2001.03.13  
Time On Btm: 2001.03.14 @ 08:10:51  
Time Off Btm: 2001.03.14 @ 12:13:51

TEST COMMENT: IF-Weak-building to 2"  
FF-Weak-building to 1"



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 116         | 1461.05         | 88.98        | Initial Hydro-static |
| 117         | 20.93           | 89.56        | Open To Flow (1)     |
| 149         | 67.16           | 93.56        | Shut-In(1)           |
| 195         | 837.18          | 97.94        | End Shut-In(1)       |
| 196         | 71.26           | 97.95        | Open To Flow (2)     |
| 269         | 128.26          | 101.85       | Shut-In(2)           |
| 358         | 826.73          | 103.20       | End Shut-In(2)       |
| 359         | 1405.66         | 103.20       | Final Hydro-static   |

## Recovery

| Length (ft) | Description               | Volume (bbl) |
|-------------|---------------------------|--------------|
| 184.00      | water Rw. 08 @ 70 = 99000 | 0.90         |
| 40.00       | Muddy Water               | 0.56         |
|             |                           |              |
|             |                           |              |
|             |                           |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

# 1-5 Fischer

250 N. Water Suite 300  
Wichita, KS 67202

5-11-20 Ellis co KS

Job Ticket: 14676

DST#: 1

ATTN: Scott Robinson

Test Start: 2001.03.14 @ 06:15:00

### Tool Information

|                           |                    |                       |                   |                                    |
|---------------------------|--------------------|-----------------------|-------------------|------------------------------------|
| Drill Pipe:               | Length: 2900.00 ft | Diameter: 3.80 inches | Volume: 40.68 bbl | Tool Weight: 1000.00 lb            |
| Drill Collar:             | Length: 184.00 ft  | Diameter: 2.25 inches | Volume: 0.90 bbl  | Weight set on Packer: 30000.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.01 ft    | Diameter: 0.01 inches | Volume: 0.00 bbl  | Weight to Pull Loose: 50000.00 lb  |
| Drill Pipe Above KB:      | 26.01 ft           |                       |                   | Tool Chased 0.01 ft                |
| Depth to Top Packer:      | 3077.00 ft         |                       |                   | String Weight: Initial 42000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                   | Final 42000.00 lb                  |
| Interval between Packers: | ft                 |                       |                   |                                    |
| Tool Length:              | 44.02 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        |            |          | 3059.00    |                               |
| S.I. Tool        | 5.00        |            |          | 3064.00    |                               |
| HYD S.I. Tool    | 5.00        |            |          | 3069.00    |                               |
| Safety Joint     | 3.00        |            |          | 3072.00    |                               |
| Packer           | 5.00        |            |          | 3077.00    | 19.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3082.00    |                               |
| Stubb            | 1.00        |            |          | 3083.00    |                               |
| Recorder         | 0.01        | 2357       | Inside   | 3083.01    |                               |
| Perforations     | 16.00       |            |          | 3099.01    |                               |
| Recorder         | 0.01        | 13254      | Outside  | 3099.02    |                               |
| Bullnose         | 3.00        |            |          | 3102.02    | 25.02 Bottom Packers & Anchor |

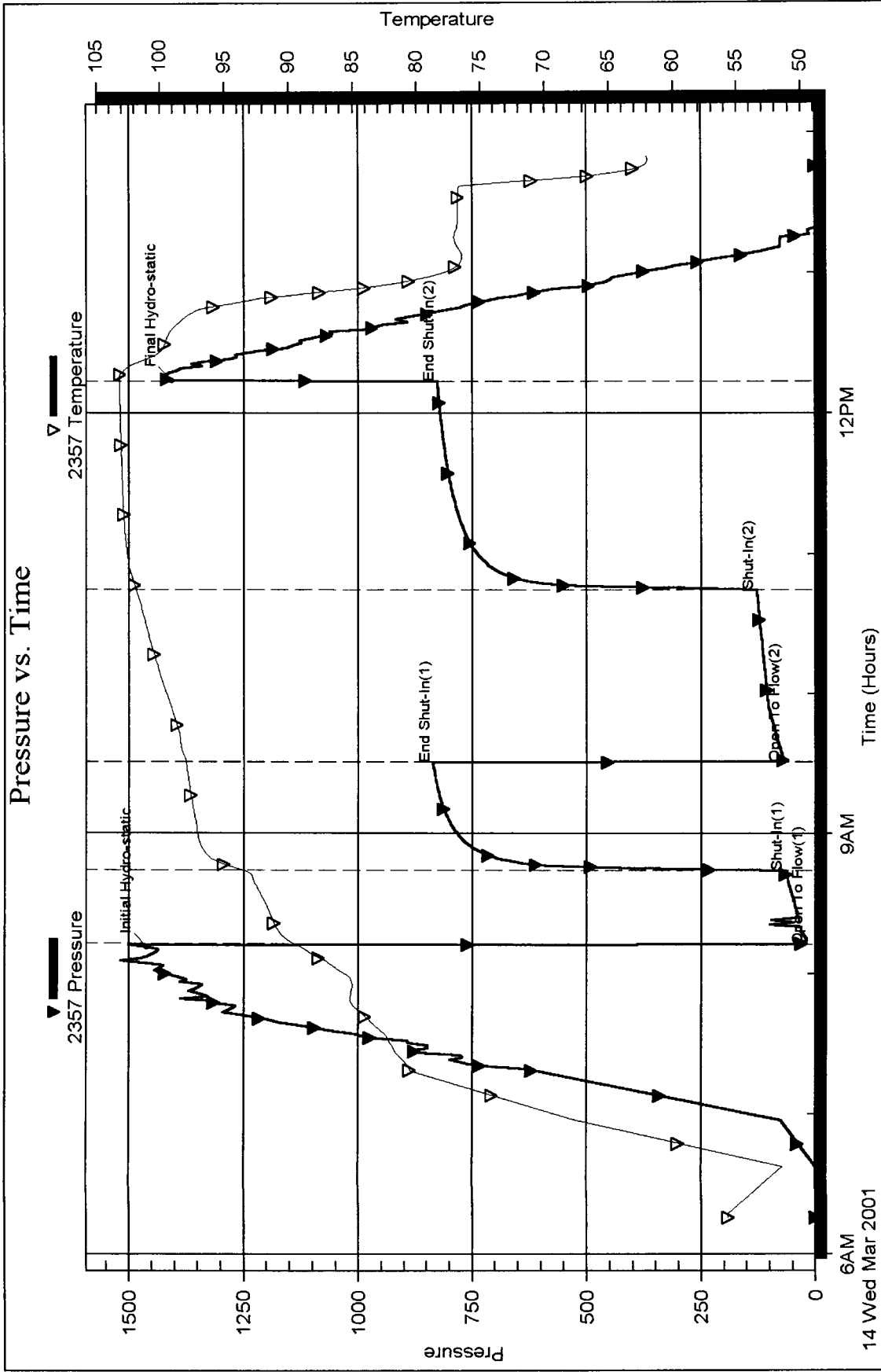
**Total Tool Length: 44.02**

Serial #: 2357

Inside

Murfin Drilling Co.

5-11-20 Ellis co KS





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Scott Robinson

**5-11-20 Ellis co KS**

**# 1-5 Fischer**

Start Date: 2001.03.15 @ 16:23:00

End Date: 2001.03.15 @ 21:49:00

Job Ticket #: 14677                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Murfin Drilling Co.

# 1-5 Fischer

5-11-20 Ellis co KS

DST #: 2

A-B

LKC

2001.03.15



**TRILOBITE  
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# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water Suite 300  
Wichita, KS 67202  
ATTN: Scott Robinson

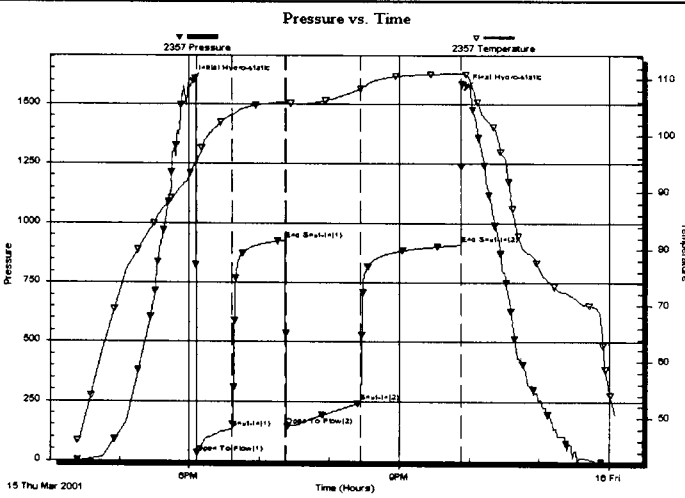
# 1-5 Fischer  
5-11-20 Ellis co KS  
Job Ticket: 14677      **DST#: 2**  
Test Start: 2001.03.15 @ 16:23:00

## GENERAL INFORMATION:

Formation: **A-B LKC**  
 Deviated: No Whipstock:                      ft (KB)  
 Test Type: Conventional Bottom Hole  
 Time Tool Opened: 18:06:15                      Tester: Dan Bangle  
 Time Test Ended: 21:49:00                      Unit No: 21  
 Interval: **3322.00 ft (KB) To 3365.00 ft (KB) (TVD)**                      Reference Elevations: 2035.00 ft (KB)  
 Total Depth: 3365.00 ft (KB)                      2030.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good                      KB to GR/CF: 5.00 ft

Serial #: **2357** Inside  
 Press@RunDepth: 243.25 psig @ 3334.01 ft (KB)                      Capacity: 7000.00 psig  
 Start Date: 2001.03.15                      End Date: 2001.03.16                      Last Calib.: 2001.03.13  
 Start Time: 16:23:46                      End Time: 00:05:45                      Time On Btm: 2001.03.15 @ 18:02:15  
 Time Off Btm: 2001.03.15 @ 21:56:45

TEST COMMENT: 1104' Gas in pipe IF-BOB in 8 min  
 FF-BOB in 11 min



| PRESSURE SUMMARY |                 |              |                      |
|------------------|-----------------|--------------|----------------------|
| Time (Min.)      | Pressure (psig) | Temp (deg F) | Annotation           |
| 99               | 1599.84         | 94.01        | Initial Hydro-static |
| 103              | 27.16           | 95.53        | Open To Flow (1)     |
| 133              | 132.88          | 103.73       | Shut-In(1)           |
| 179              | 929.21          | 106.03       | End Shut-In(1)       |
| 180              | 143.44          | 106.00       | Open To Flow (2)     |
| 243              | 243.25          | 108.32       | Shut-In(2)           |
| 329              | 910.36          | 111.06       | End Shut-In(2)       |
| 333              | 1561.33         | 110.96       | Final Hydro-static   |

| Recovery    |                                   |              |
|-------------|-----------------------------------|--------------|
| Length (ft) | Description                       | Volume (bbl) |
| 310.00      | Mud cut gassy oil 10%g 70%o 20%am | 2.67         |
| 372.00      | Clean gassy oil 20%g 80%o         | 5.22         |
|             |                                   |              |
|             |                                   |              |
|             |                                   |              |

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



**TRILOBITE  
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# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.  
250 N. Water Suite 300  
Wichita, KS 67202  
  
ATTN: Scott Robinson

**# 1-5 Fischer**  
**5-11-20 Ellis co KS**  
Job Ticket: 14677      **DST#: 2**  
Test Start: 2001.03.15 @ 16:23:00

**Tool Information**

|                           |                    |                       |                   |                                    |
|---------------------------|--------------------|-----------------------|-------------------|------------------------------------|
| Drill Pipe:               | Length: 3121.00 ft | Diameter: 3.80 inches | Volume: 43.78 bbl | Tool Weight: 1000.00 lb            |
| Drill Collar:             | Length: 184.00 ft  | Diameter: 2.25 inches | Volume: 0.90 bbl  | Weight set on Packer: 30000.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.01 ft    | Diameter: 0.01 inches | Volume: 0.00 bbl  | Weight to Pull Loose: 48000.00 lb  |
| Drill Pipe Above KB:      | 2.01 ft            |                       |                   | Tool Chased 0.01 ft                |
| Depth to Top Packer:      | 3322.00 ft         |                       |                   | String Weight: Initial 43000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                   | Final 45000.00 lb                  |
| Interval between Packers: | ft                 |                       |                   |                                    |
| Tool Length:              | 67.02 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        |            |          | 3304.00    |                                    |
| S.I. Tool        | 5.00        |            |          | 3309.00    |                                    |
| HYD S.I. Tool    | 5.00        |            |          | 3314.00    |                                    |
| Safety Joint     | 3.00        |            |          | 3317.00    |                                    |
| Packer           | 5.00        |            |          | 3322.00    | 19.00      Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3327.00    |                                    |
| Stubb            | 1.00        |            |          | 3328.00    |                                    |
| Perforations     | 5.00        |            |          | 3333.00    |                                    |
| C.O. Sub         | 1.00        |            |          | 3334.00    |                                    |
| Recorder         | 0.01        | 2357       | Inside   | 3334.01    |                                    |
| Blank Spacing    | 30.00       |            |          | 3364.01    |                                    |
| Combination Sub  | 1.00        |            |          | 3365.01    |                                    |
| Recorder         | 0.01        | 13254      | Outside  | 3365.02    |                                    |
| Bullnose         | 5.00        |            |          | 3370.02    | 48.02      Bottom Packers & Anchor |

**Total Tool Length: 67.02**





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Scott Robinson

**5-11-20 Ellis co KS**

**# 1-5 Fischer**

Start Date: 2001.03.16 @ 09:26:00

End Date: 2001.03.16 @ 13:55:00

Job Ticket #: 14678                      DST #: 3

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
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# DRILL STEM TEST REPORT

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ATTN: Scott Robinson

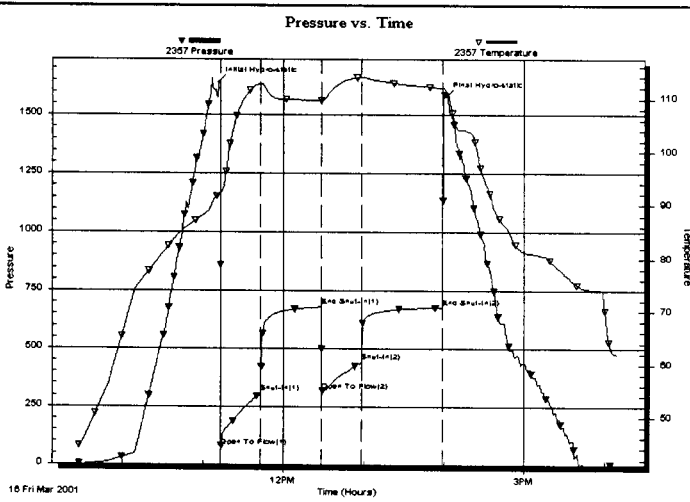
**# 1-5 Fischer**  
**5-11-20 Ellis co KS**  
Job Ticket: 14678      **DST#: 3**  
Test Start: 2001.03.16 @ 09:26:00

## GENERAL INFORMATION:

Formation: **D-E-F LKC**  
Deviated: **No** Whipstock:                      ft (KB)  
Time Tool Opened: 11:13:06  
Time Test Ended: 13:55:00  
Interval: **3361.00 ft (KB) To 3410.00 ft (KB) (TVD)**  
Total Depth: **3410.00 ft (KB)**  
Hole Diameter: **7.88 inches** Hole Condition: **Good**  
Test Type: **Conventional Bottom Hole**  
Tester: **Dan Bangle**  
Unit No: **21**  
Reference Elevations: **2035.00 ft (KB)**  
**2030.00 ft (CF)**  
KB to GR/CF: **5.00 ft**

**Serial #: 2357** Inside  
Press@RunDepth: **440.70 psig @ 3368.01 ft (KB)** Capacity: **7000.00 psig**  
Start Date: **2001.03.16** End Date: **2001.03.16** Last Calib.: **2001.03.14**  
Start Time: **09:27:07** End Time: **16:10:06** Time On Btm: **2001.03.16 @ 11:11:36**  
Time Off Btm: **2001.03.16 @ 14:01:36**

**TEST COMMENT:** 62' Gas in pipe IF-BOB in 2.5 min  
FF-BOB in 6 min



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 105         | 1639.73         | 92.09        | Initial Hydro-static |
| 106         | 72.22           | 92.36        | Open To Flow (1)     |
| 136         | 308.72          | 112.85       | Shut-In(1)           |
| 181         | 678.61          | 109.74       | End Shut-In(1)       |
| 182         | 316.85          | 109.73       | Open To Flow (2)     |
| 211         | 440.70          | 114.06       | Shut-In(2)           |
| 272         | 677.93          | 112.03       | End Shut-In(2)       |
| 275         | 1579.97         | 111.55       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                              | Volume (bbl) |
|-------------|--|--------------|
| 310.00      | Water Rw.09 @ 70 = 80000ppm              | 2.67         |
| 124.00      | Oil cut water 20%o 80%w                  | 1.74         |
| 248.00      | Oil & water cut Gassy mud 10%g 20%o 15%w | 3.48         |
| 325.00      | MCGassy oil 10%g 70%o 20%w               | 4.56         |
|             |  |              |
|             |  |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

# 1-5 Fischer

250 N. Water Suite 300  
Wichita, KS 67202

5-11-20 Ellis co KS

Job Ticket: 14678

DST#: 3

ATTN: Scott Robinson

Test Start: 2001.03.16 @ 09:26:00

**Tool Information**

|                           |                    |                       |                   |                                    |
|---------------------------|--------------------|-----------------------|-------------------|------------------------------------|
| Drill Pipe:               | Length: 3182.00 ft | Diameter: 3.80 inches | Volume: 44.64 bbl | Tool Weight: 1000.00 lb            |
| Drill Collar:             | Length: 184.00 ft  | Diameter: 2.25 inches | Volume: 0.90 bbl  | Weight set on Packer: 30000.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.01 ft    | Diameter: 0.01 inches | Volume: 0.00 bbl  | Weight to Pull Loose: 55000.00 lb  |
| Drill Pipe Above KB:      | 29.01 ft           |                       |                   | Tool Chased 0.01 ft                |
| Depth to Top Packer:      | 3356.00 ft         |                       |                   | String Weight: Initial 43000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                   | Final 48000.00 lb                  |
| Interval between Packers: | ft                 |                       |                   |                                    |
| Tool Length:              | 73.02 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        |            |          | 3338.00    |                               |
| S.I. Tool        | 5.00        |            |          | 3343.00    |                               |
| HYD S.I. Tool    | 5.00        |            |          | 3348.00    |                               |
| Safety Joint     | 3.00        |            |          | 3351.00    |                               |
| Packer           | 5.00        |            |          | 3356.00    | 19.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3361.00    |                               |
| Stubb            | 1.00        |            |          | 3362.00    |                               |
| Perforations     | 5.00        |            |          | 3367.00    |                               |
| C.O. Sub         | 1.00        |            |          | 3368.00    |                               |
| Recorder         | 0.01        | 2357       | Inside   | 3368.01    |                               |
| Blank Spacing    | 31.00       |            |          | 3399.01    |                               |
| C.O. Sub         | 1.00        |            |          | 3400.01    |                               |
| Perforations     | 5.00        |            |          | 3405.01    |                               |
| Recorder         | 0.01        | 13254      | Outside  | 3405.02    |                               |
| Bullnose         | 5.00        |            |          | 3410.02    | 54.02 Bottom Packers & Anchor |

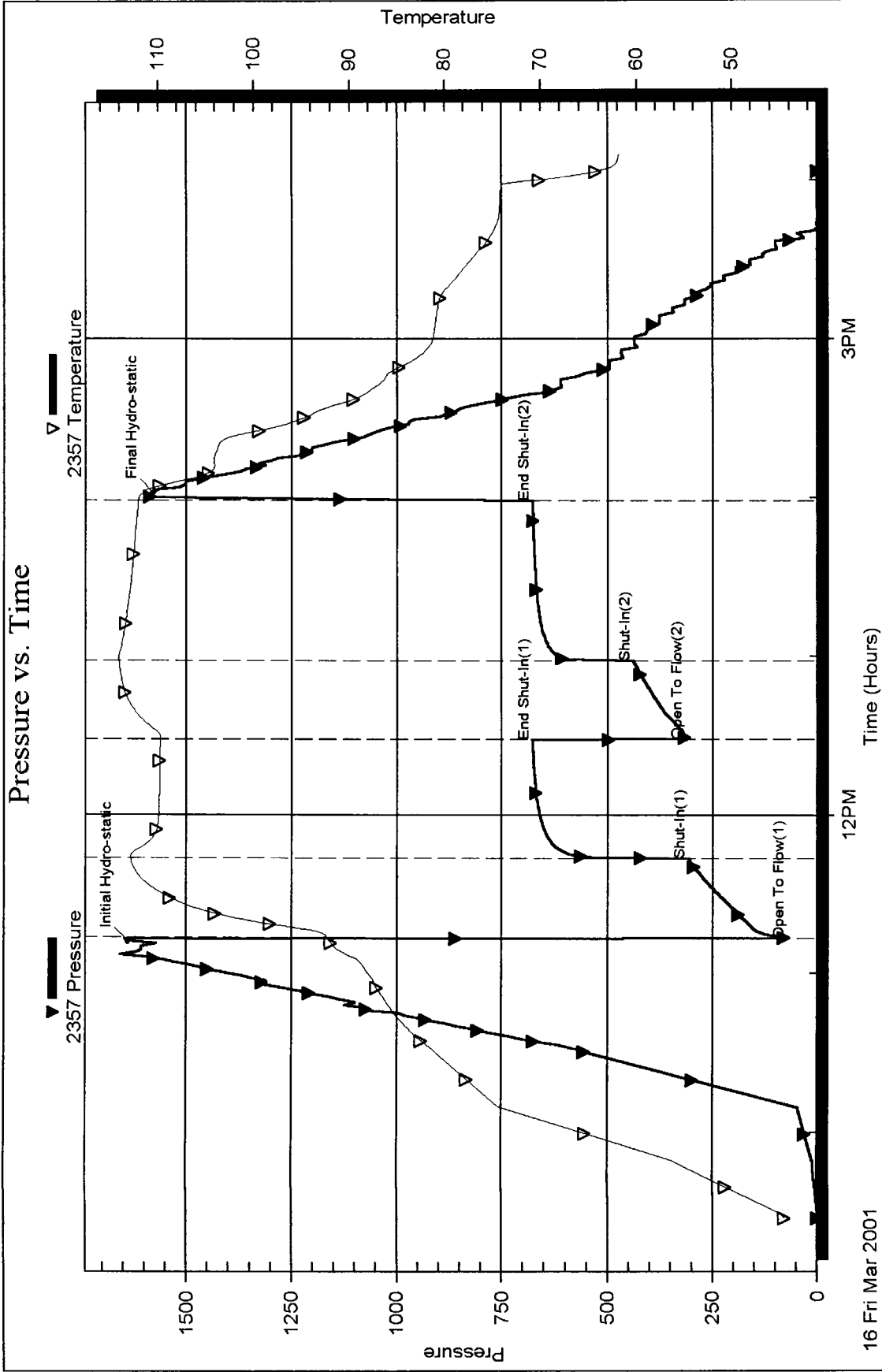
**Total Tool Length: 73.02**

Serial #: 2357

Inside Murfin Drilling Co.

5-11-20 Ellis co KS

### Pressure vs. Time



16 Fri Mar 2001

12PM

3PM



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Scott Robinson

**5-11-20 Ellis co KS**

**# 1-5 Fischer**

Start Date: 2001.03.17 @ 04:27:00

End Date: 2001.03.17 @ 10:08:00

Job Ticket #: 14679                      DST #: 4

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

Murfin Drilling Co.

# 1-5 Fischer

5-11-20 Ellis co KS

DST #: 4

HJJJK

2001.03.17



**TRILOBITE  
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# DRILL STEM TEST REPORT

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250 N. Water Suite 300  
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ATTN: Scott Robinson

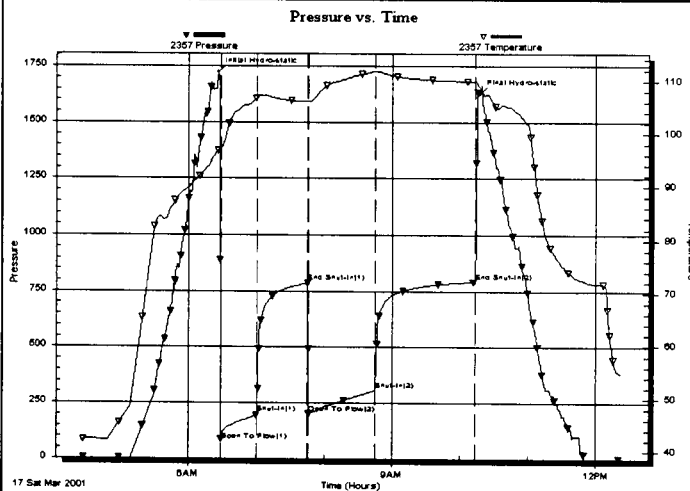
**# 1-5 Fischer**  
**5-11-20 Ellis co KS**  
Job Ticket: 14679      **DST#: 4**  
Test Start: 2001.03.17 @ 04:27:00

## GENERAL INFORMATION:

Formation: **H-I-J-K**  
 Deviated: **No** Whipstock: **ft (KB)**  
 Time Tool Opened: **06:28:35**  
 Time Test Ended: **10:08:00**  
 Interval: **3422.00 ft (KB) To 3514.00 ft (KB) (TVD)**  
 Total Depth: **3514.00 ft (KB)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Good**  
 Test Type: **Conventional Bottom Hole**  
 Tester: **Dan Bangle**  
 Unit No: **21**  
 Reference Elevations: **2035.00 ft (KB)**  
**2030.00 ft (CF)**  
 KB to GR/CF: **5.00 ft**

**Serial #: 2357** Inside  
 Press@RunDepth: **306.78 psig @ 3429.01 ft (KB)** Capacity: **7000.00 psig**  
 Start Date: **2001.03.17** End Date: **2001.03.17** Last Calib.: **2001.03.13**  
 Start Time: **04:27:06** End Time: **12:23:05** Time On Btm: **2001.03.17 @ 06:26:35**  
 Time Off Btm: **2001.03.17 @ 10:17:35**

**TEST COMMENT:** 124' GIP IF-Strong BOB in 3 min  
 FF-Strong BOB in 20 min



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 120         | 1721.91         | 96.91        | Initial Hydro-static |
| 122         | 74.73           | 97.23        | Open To Flow (1)     |
| 154         | 197.41          | 106.82       | Shut-In(1)           |
| 199         | 785.73          | 106.08       | End Shut-In(1)       |
| 199         | 200.20          | 106.08       | Open To Flow (2)     |
| 258         | 306.78          | 111.72       | Shut-In(2)           |
| 346         | 791.70          | 109.90       | End Shut-In(2)       |
| 351         | 1626.02         | 108.75       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                   | Volume (bbl) |
|-------------|-------------------------------|--------------|
| 186.00      | Water Rw.11 @ 70 = 70000      | 0.93         |
| 124.00      | SI OC mdy water 2%w 85%w 13%v | 1.74         |
| 248.00      | OCM 5%w 95%v                  | 3.48         |
| 30.00       | MC Gsy o 10%g 60% o 30%v      | 0.42         |
| 30.00       | Cl gsy oil                    | 0.42         |

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.  
250 N. Water Suite 300  
Wichita, KS 67202  
ATTN: Scott Robinson

**# 1-5 Fischer**  
**5-11-20 Ellis co KS**  
Job Ticket: 14679      **DST#: 4**  
Test Start: 2001.03.17 @ 04:27:00

**Tool Information**

|                           |                    |                       |                   |                                    |
|---------------------------|--------------------|-----------------------|-------------------|------------------------------------|
| Drill Pipe:               | Length: 3220.00 ft | Diameter: 3.80 inches | Volume: 45.17 bbl | Tool Weight: 1000.00 lb            |
| Drill Collar:             | Length: 184.00 ft  | Diameter: 2.25 inches | Volume: 0.90 bbl  | Weight set on Packer: 30000.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.01 ft    | Diameter: 0.01 inches | Volume: 0.00 bbl  | Weight to Pull Loose: 55000.00 lb  |
| Drill Pipe Above KB:      | 6.01 ft            |                       |                   | Tool Chased 0.01 ft                |
| Depth to Top Packer:      | 3417.00 ft         |                       |                   | String Weight: Initial 43000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                   | Final 48000.00 lb                  |
| Interval between Packers: | ft                 |                       |                   |                                    |
| Tool Length:              | 116.02 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        |            |          | 3399.00    |                                    |
| S.I. Tool        | 5.00        |            |          | 3404.00    |                                    |
| HYD S.I. Tool    | 5.00        |            |          | 3409.00    |                                    |
| Safety Joint     | 3.00        |            |          | 3412.00    |                                    |
| Packer           | 5.00        |            |          | 3417.00    | 19.00      Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3422.00    |                                    |
| Stubb            | 1.00        |            |          | 3423.00    |                                    |
| Perforations     | 5.00        |            |          | 3428.00    |                                    |
| C.O. Sub         | 1.00        |            |          | 3429.00    |                                    |
| Recorder         | 0.01        | 2357       | Inside   | 3429.01    |                                    |
| Blank Spacing    | 63.00       |            |          | 3492.01    |                                    |
| C.O. Sub         | 1.00        |            |          | 3493.01    |                                    |
| Perforations     | 16.00       |            |          | 3509.01    |                                    |
| Recorder         | 0.01        | 13254      | Outside  | 3509.02    |                                    |
| Bullnose         | 5.00        |            |          | 3514.02    | 97.02      Bottom Packers & Anchor |

**Total Tool Length: 116.02**

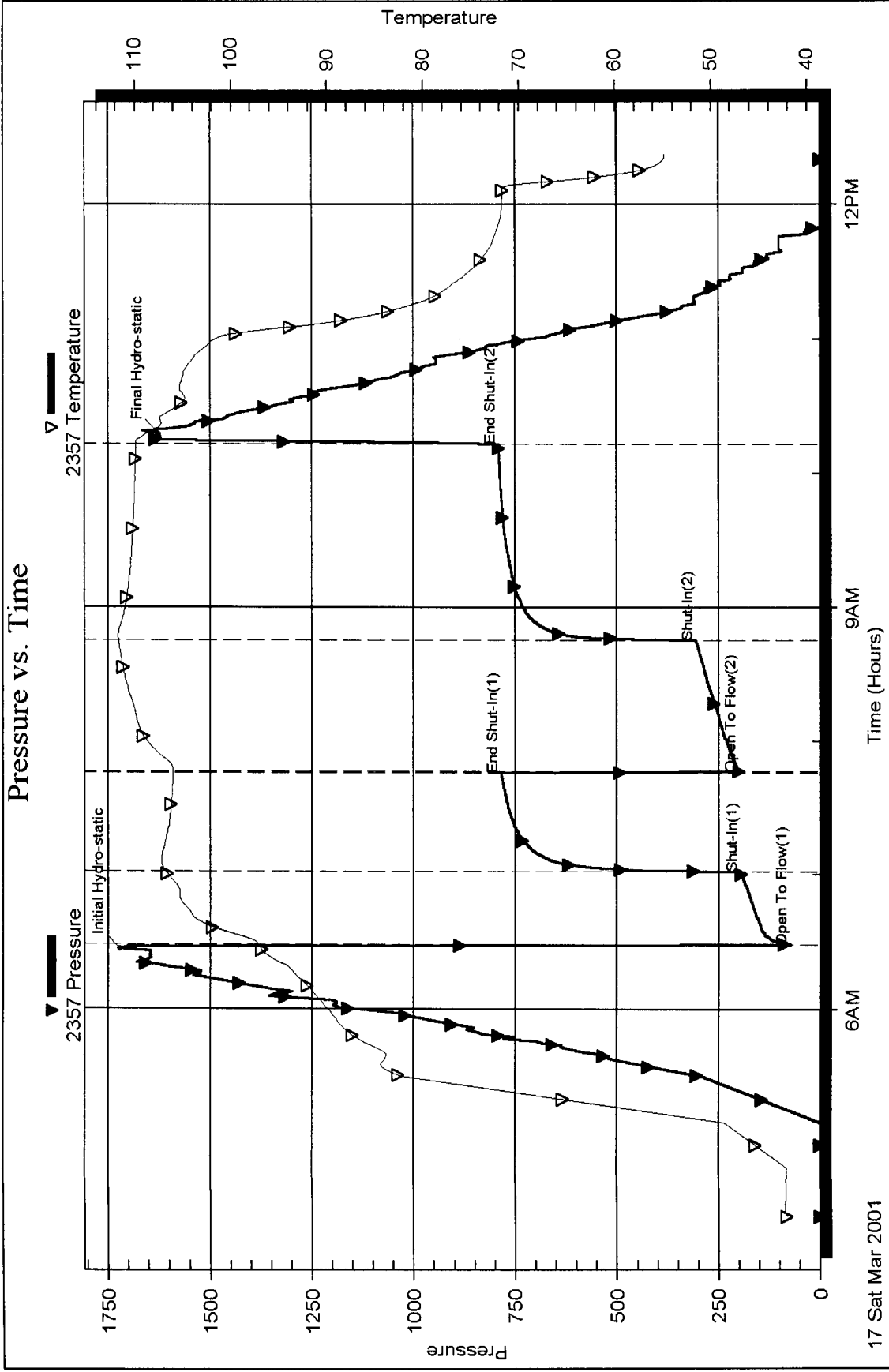
Serial #: 2357

Inside

Murfin Drilling Co.

5-11-20 Ellis co KS

### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Scott Robinson

**5-11-20 Ellis co KS**

**# 1-5 Fischer**

Start Date: 2001.03.18 @ 02:02:00

End Date: 2001.03.18 @ 07:30:00

Job Ticket #: 14680                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Murfin Drilling Co.

# 1-5 Fischer

5-11-20 Ellis co KS

DST #: 5

Arbuckle

2001.03.18



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water Suite 300  
Wichita, KS 67202  
ATTN: Scott Robinson

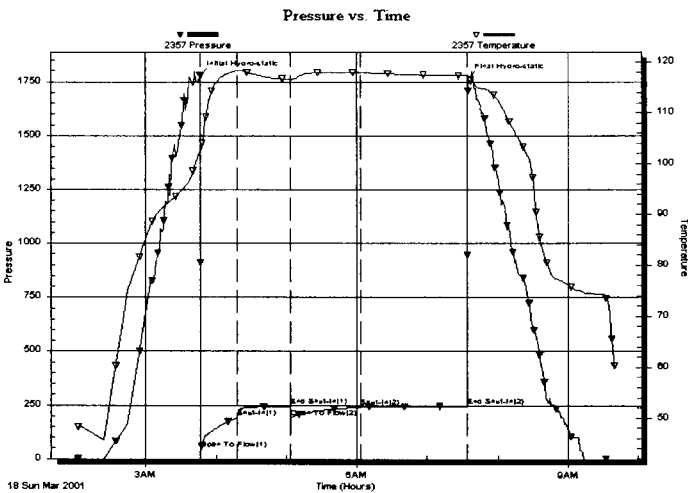
# 1-5 Fischer  
5-11-20 Ellis co KS  
Job Ticket: 14680      **DST#: 5**  
Test Start: 2001.03.18 @ 02:02:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 03:46:55  
Time Test Ended: 07:30:00  
Interval: **3620.00 ft (KB) To 3630.00 ft (KB) (TVD)**  
Total Depth: 3630.00 ft (KB)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole  
Tester: Dan Bangle  
Unit No: 21  
Reference Elevations: 2035.00 ft (KB)  
2030.00 ft (CF)  
KB to GR/CF: 5.00 ft

Serial #: **2357** Inside  
Press@RunDepth: 241.55 psig @ 3626.01 ft (KB)  
Start Date: 2001.03.18 End Date: 2001.03.18  
Start Time: 02:02:26 End Time: 09:40:25  
Capacity: 7000.00 psig  
Last Calib.: 2001.03.13  
Time On Btm: 2001.03.18 @ 03:46:25  
Time Off Btm: 2001.03.18 @ 07:34:25

TEST COMMENT: 92' GP IF- Strong BOB in 5 min  
FFWeak-building to 5"



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 104         | 1779.46         | 102.42       | Initial Hydro-static |
| 105         | 45.71           | 102.57       | Open To Flow (1)     |
| 136         | 191.38          | 118.30       | Shut-In(1)           |
| 181         | 244.58          | 116.56       | End Shut-In(1)       |
| 181         | 191.95          | 116.55       | Open To Flow (2)     |
| 241         | 241.55          | 117.90       | Shut-In(2)           |
| 331         | 245.48          | 117.29       | End Shut-In(2)       |
| 332         | 1765.53         | 117.33       | Final Hydro-static   |

## Recovery

| Length (ft) | Description              | Volume (bbl) |
|-------------|--------------------------|--------------|
| 216.00      | Water Rw.25 @ 60 = 32000 | 1.35         |
| 154.00      | OC Water 40%O 60%w       | 2.16         |
| 92.00       | C Gsy O 10%g 90%o        | 1.29         |
|             |                          |              |
|             |                          |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co.

# 1-5 Fischer

250 N. Water Suite 300  
Wichita, KS 67202

5-11-20 Ellis co KS

Job Ticket: 14680

DST#: 5

ATTN: Scott Robinson

Test Start: 2001.03.18 @ 02:02:00

### Tool Information

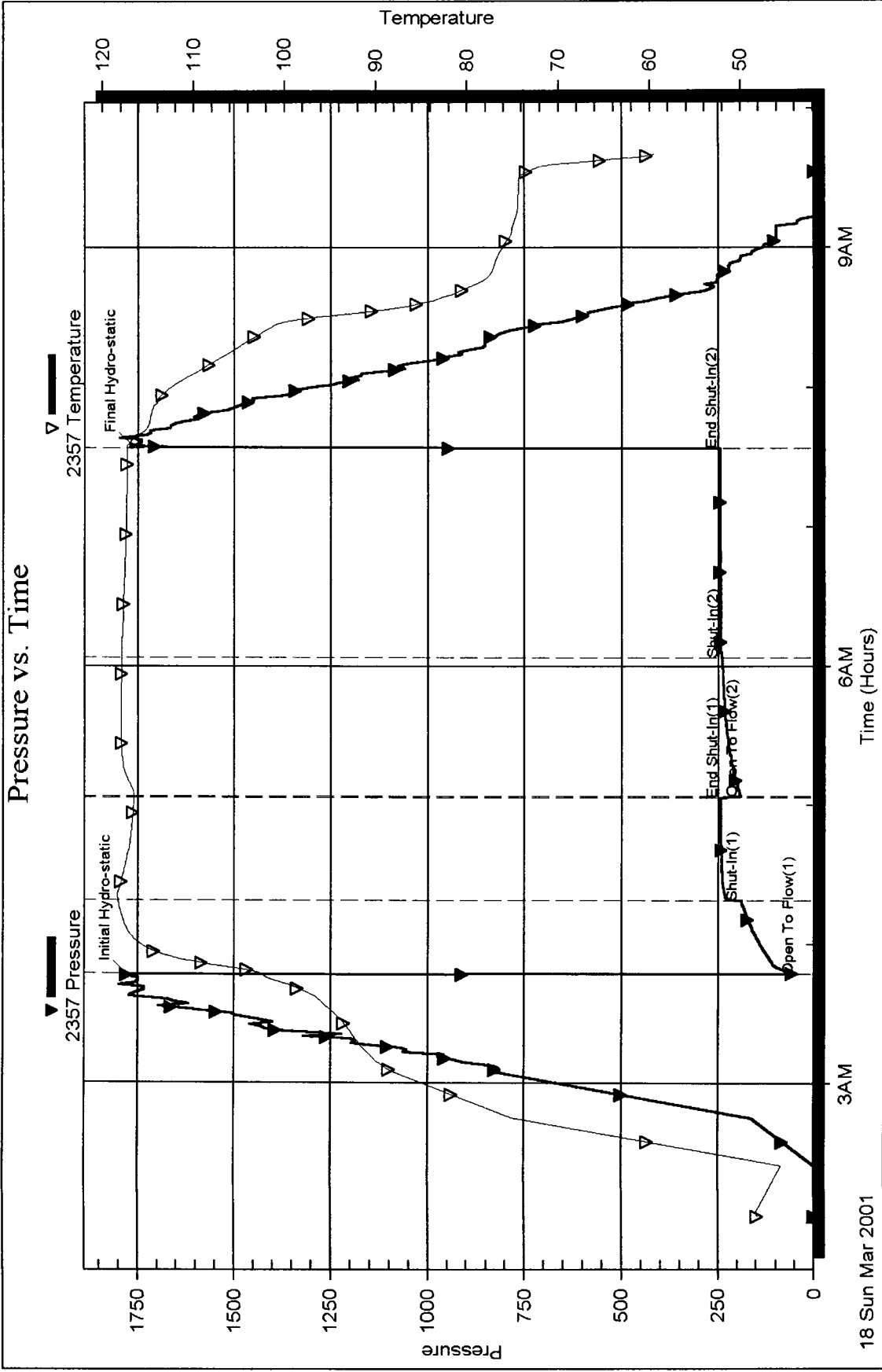
|                           |                    |                       |                   |                                    |
|---------------------------|--------------------|-----------------------|-------------------|------------------------------------|
| Drill Pipe:               | Length: 3441.00 ft | Diameter: 3.80 inches | Volume: 48.27 bbl | Tool Weight: 1000.00 lb            |
| Drill Collar:             | Length: 184.00 ft  | Diameter: 2.25 inches | Volume: 0.90 bbl  | Weight set on Packer: 30000.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.01 ft    | Diameter: 0.01 inches | Volume: 0.00 bbl  | Weight to Pull Loose: 50000.00 lb  |
| Drill Pipe Above KB:      | 24.01 ft           |                       |                   | Tool Chased 0.01 ft                |
| Depth to Top Packer:      | 3620.00 ft         |                       |                   | String Weight: Initial 44000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                   | Final 46000.00 lb                  |
| Interval between Packers: | ft                 |                       |                   |                                    |
| Tool Length:              | 34.02 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        |            |          | 3602.00    |                               |
| S.I. Tool        | 5.00        |            |          | 3607.00    |                               |
| HYD S.I. Tool    | 5.00        |            |          | 3612.00    |                               |
| Safety Joint     | 3.00        |            |          | 3615.00    |                               |
| Packer           | 5.00        |            |          | 3620.00    | 19.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3625.00    |                               |
| Stubb            | 1.00        |            |          | 3626.00    |                               |
| Recorder         | 0.01        | 2357       | Inside   | 3626.01    |                               |
| Perforations     | 4.00        |            |          | 3630.01    |                               |
| Recorder         | 0.01        | 14680      | Outside  | 3630.02    |                               |
| Bullnose         | 5.00        |            |          | 3635.02    | 15.02 Bottom Packers & Anchor |

**Total Tool Length: 34.02**

### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water Suite 300  
Wichita, KS 67202

ATTN: Scott Robinson

**5-11-20 Ellis co KS**

**# 1-5 Fischer**

Start Date: 2001.03.18 @ 16:10:00

End Date: 2001.03.18 @ 21:46:00

Job Ticket #: 14681                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Murfin Drilling Co.

# 1-5 Fischer

5-11-20 Ellis co KS

DST #: 6

Arbuckle

2001.03.18



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
250 N. Water Suite 300  
Wichita, KS 67202  
ATTN: Scott Robinson

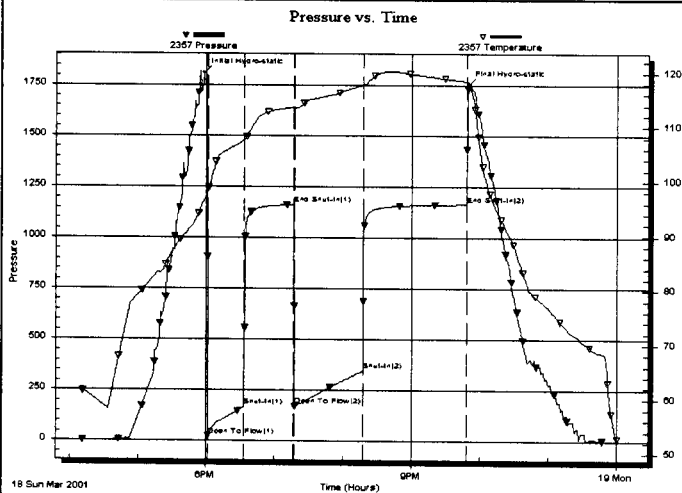
**# 1-5 Fischer**  
**5-11-20 Ellis co KS**  
Job Ticket: 14681      **DST#: 6**  
Test Start: 2001.03.18 @ 16:10:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 18:01:13  
Time Test Ended: 21:46:00  
Interval: **3636.00 ft (KB) To 3655.00 ft (KB) (TVD)**  
Total Depth: 3655.00 ft (KB)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole  
Tester: Dan Bangle  
Unit No: 21  
Reference Elevations: 2035.00 ft (KB)  
2030.00 ft (CF)  
KB to GR/CF: 5.00 ft

Serial #: **2357** Inside  
Press@RunDepth: 347.44 psig @ 3642.01 ft (KB) Capacity: 7000.00 psig  
Start Date: 2001.03.18 End Date: 2001.03.19 Last Calib.: 2001.03.13  
Start Time: 16:11:14 End Time: 00:04:13 Time On Btm: 2001.03.18 @ 17:57:43  
Time Off Btm: 2001.03.18 @ 21:49:13

TEST COMMENT: 134' GIP IF- Strong BOB in 8 min  
FF Strong BOB in 8 min



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 107         | 1809.18         | 96.46        | Initial Hydro-static |
| 110         | 22.41           | 98.32        | Open To Flow (1)     |
| 142         | 168.03          | 107.66       | Shut-In(1)           |
| 186         | 1162.02         | 113.74       | End Shut-In(1)       |
| 186         | 170.74          | 113.74       | Open To Flow (2)     |
| 246         | 347.44          | 117.78       | Shut-In(2)           |
| 337         | 1164.53         | 118.56       | End Shut-In(2)       |
| 338         | 1752.19         | 118.49       | Final Hydro-static   |

## Recovery

| Length (ft) | Description        | Volume (bbl) |
|-------------|--------------------|--------------|
| 92.00       | MCO 60%o 40%sm     | 0.45         |
| 784.00      | C gsy o 20%g 80% o | 10.16        |
|             |                    |              |
|             |                    |              |
|             |                    |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**# 1-5 Fischer**

250 N. Water Suite 300  
Wichita, KS 67202

**5-11-20 Ellis co KS**

Job Ticket: 14681

**DST#: 6**

ATTN: Scott Robinson

Test Start: 2001.03.18 @ 16:10:00

### Tool Information

|                           |                    |                       |                   |                                    |
|---------------------------|--------------------|-----------------------|-------------------|------------------------------------|
| Drill Pipe:               | Length: 3435.00 ft | Diameter: 3.80 inches | Volume: 48.18 bbl | Tool Weight: 1000.00 lb            |
| Drill Collar:             | Length: 184.00 ft  | Diameter: 2.25 inches | Volume: 0.90 bbl  | Weight set on Packer: 30000.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.01 ft    | Diameter: 0.01 inches | Volume: 0.00 bbl  | Weight to Pull Loose: 55000.00 lb  |
| Drill Pipe Above KB:      | 2.01 ft            |                       |                   | Tool Chased 0.01 ft                |
| Depth to Top Packer:      | 3636.00 ft         |                       |                   | String Weight: Initial 43000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                   | Final 48000.00 lb                  |
| Interval between Packers: | ft                 |                       |                   |                                    |
| Tool Length:              | 43.02 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        |            |          | 3618.00    |                               |
| S.I. Tool        | 5.00        |            |          | 3623.00    |                               |
| HYD S.I. Tool    | 5.00        |            |          | 3628.00    |                               |
| Safety Joint     | 3.00        |            |          | 3631.00    |                               |
| Packer           | 5.00        |            |          | 3636.00    | 19.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3641.00    |                               |
| Stubb            | 1.00        |            |          | 3642.00    |                               |
| Recorder         | 0.01        | 2357       | Inside   | 3642.01    |                               |
| Perforations     | 13.00       |            |          | 3655.01    |                               |
| Recorder         | 0.01        | 13254      | Outside  | 3655.02    |                               |
| Bullnose         | 5.00        |            |          | 3660.02    | 24.02 Bottom Packers & Anchor |

**Total Tool Length: 43.02**

Serial #: 2357

Inside

Murfin Drilling Co.

5-11-20 Ellis co KS

### Pressure vs. Time

