



## DRILL STEM TEST REPORT

Prepared For: **Sam Gary**

1515 Wynkoop Ste 700  
Denver Co 80202

ATTN: Neil Sharp

**30-16-15-Barton-Ks**

**Steinert et al # 1-30**

Start Date: 2010.12.16 @ 10:45:56

End Date: 2010.12.16 @ 16:56:56

Job Ticket #: 041356                      DST #: 4

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Sam Gary  
 1515 Wynkoop Ste 700  
 Denver Co 80202  
 ATTN: Neil Sharp

**Steinert et al # 1-30**  
**30-16-15-Barton-Ks**  
 Job Ticket: 041356 **DST#: 4**  
 Test Start: 2010.12.16 @ 10:45:56

## GENERAL INFORMATION:

Formation: **K-L LKC**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:22:11  
 Time Test Ended: 16:56:56  
**Interval: 3488.00 ft (KB) To 3511.00 ft (KB) (TVD)**  
 Total Depth: 3511.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole  
 Tester: Dan Bangle  
 Unit No: 38  
 Reference Elevations: 2005.00 ft (KB)  
 1997.00 ft (CF)  
 KB to GR/CF: 8.00 ft

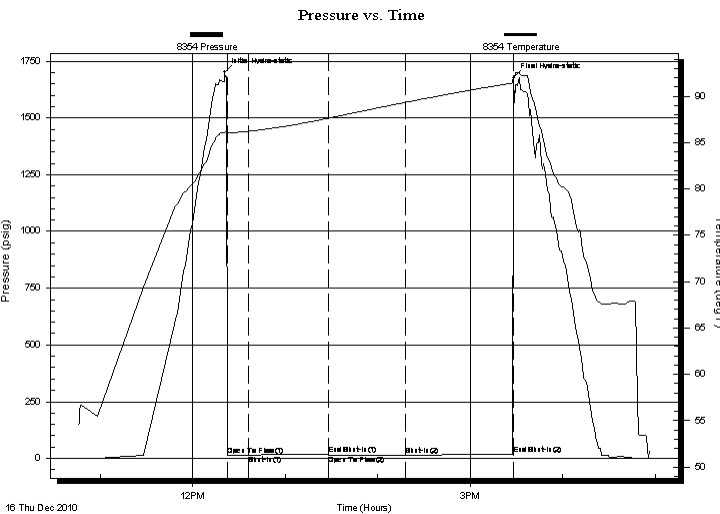
## Serial #: 8354

Inside

Press @ Run Depth: 14.99 psig @ 3489.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2010.12.16 End Date: 2010.12.16 Last Calib.: 2010.12.16  
 Start Time: 10:45:57 End Time: 16:56:56 Time On Btm: 2010.12.16 @ 12:20:41  
 Time Off Btm: 2010.12.16 @ 15:28:11

TEST COMMENT: IF-Weak steady surface blow

FF-Weak died in 8 min



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1700.38         | 86.11        | Initial Hydro-static |
| 2           | 12.47           | 85.19        | Open To Flow (1)     |
| 16          | 14.98           | 86.22        | Shut-In(1)           |
| 67          | 19.29           | 87.61        | End Shut-In(1)       |
| 68          | 14.74           | 87.62        | Open To Flow (2)     |
| 118         | 14.99           | 89.34        | Shut-In(2)           |
| 187         | 17.75           | 91.43        | End Shut-In(2)       |
| 188         | 1676.27         | 91.80        | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 5.00        | Drig Mud    | 0.02         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

## Gas Rates

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







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# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Sam Gary  
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**Steinert et al # 1-30**  
**30-16-15-Barton-Ks**  
Job Ticket: 041356      **DST#: 4**  
Test Start: 2010.12.16 @ 10:45:56

**Tool Information**

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3427.00 ft | Diameter: 3.80 inches | Volume: 48.07 bbl              | Tool Weight: 3800.00 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: 30.00 ft   | Diameter: 2.25 inches | Volume: 0.15 bbl               | Weight to Pull Loose: 50000.00 lb  |
|                           |                    |                       | <u>Total Volume: 48.22 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 4.00 ft            |                       |                                | String Weight: Initial 49000.00 lb |
| Depth to Top Packer:      | 3488.00 ft         |                       |                                | Final 49000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 23.00 ft           |                       |                                |                                    |
| Tool Length:              | 58.00 ft           |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

| <b>Tool Description</b> | <b>Length (ft)</b> | <b>Serial No.</b> | <b>Position</b> | <b>Depth (ft)</b> | <b>Accum. Lengths</b> |
|-------------------------|--------------------|-------------------|-----------------|-------------------|-----------------------|
|-------------------------|--------------------|-------------------|-----------------|-------------------|-----------------------|

|                 |       |      |         |         |                                    |
|-----------------|-------|------|---------|---------|------------------------------------|
| Change Over Sub | 1.00  |      |         | 3454.00 |                                    |
| Recorder        | 0.00  | 8653 | Inside  | 3454.00 |                                    |
| Blank Spacing   | 4.00  |      |         | 3458.00 |                                    |
| Shut In Tool    | 5.00  |      |         | 3463.00 |                                    |
| Sampler         | 3.00  |      |         | 3466.00 |                                    |
| Hydraulic tool  | 5.00  |      |         | 3471.00 |                                    |
| Jars            | 5.00  |      |         | 3476.00 |                                    |
| Safety Joint    | 3.00  |      |         | 3479.00 |                                    |
| Packer          | 5.00  |      |         | 3484.00 | 35.00      Bottom Of Top Packer    |
| Packer          | 4.00  |      |         | 3488.00 |                                    |
| Stubb           | 1.00  |      |         | 3489.00 |                                    |
| Recorder        | 0.00  | 8354 | Inside  | 3489.00 |                                    |
| Recorder        | 0.00  | 8520 | Outside | 3489.00 |                                    |
| Perforations    | 19.00 |      |         | 3508.00 |                                    |
| Bullnose        | 3.00  |      |         | 3511.00 | 23.00      Bottom Packers & Anchor |

**Total Tool Length: 58.00**



**TRILOBITE  
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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Sam Gary  
1515 Wynkoop Ste 700  
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ATTN: Neil Sharp

**Steinert et al # 1-30**  
**30-16-15-Barton-Ks**  
Job Ticket: 041356      **DST#: 4**  
Test Start: 2010.12.16 @ 10:45:56

## Mud and Cushion Information

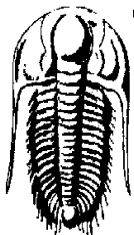
|                                  |                            |                 |         |
|----------------------------------|----------------------------|-----------------|---------|
| Mud Type: Gel Chem               | Cushion Type:              | Oil API:        | deg API |
| Mud Weight: 9.00 lb/gal          | Cushion Length: ft         | Water Salinity: | ppm     |
| Viscosity: 53.00 sec/qt          | Cushion Volume: bbl        |                 |         |
| Water Loss: 8.39 in <sup>3</sup> | Gas Cushion Type:          |                 |         |
| Resistivity: ohm.m               | Gas Cushion Pressure: psig |                 |         |
| Salinity: 5300.00 ppm            |                            |                 |         |
| Filter Cake: inches              |                            |                 |         |

## Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 5.00         | Drig Mud    | 0.025         |

Total Length: 5.00 ft      Total Volume: 0.025 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:



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**TESTING, INC.**

# DRILL STEM TEST REPORT

**GAS RATES**

Sam Gary  
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ATTN: Neil Sharp

**Steinert et al # 1-30**  
**30-16-15-Barton-Ks**  
Job Ticket: 041356      **DST#: 4**  
Test Start: 2010.12.16 @ 10:45:56

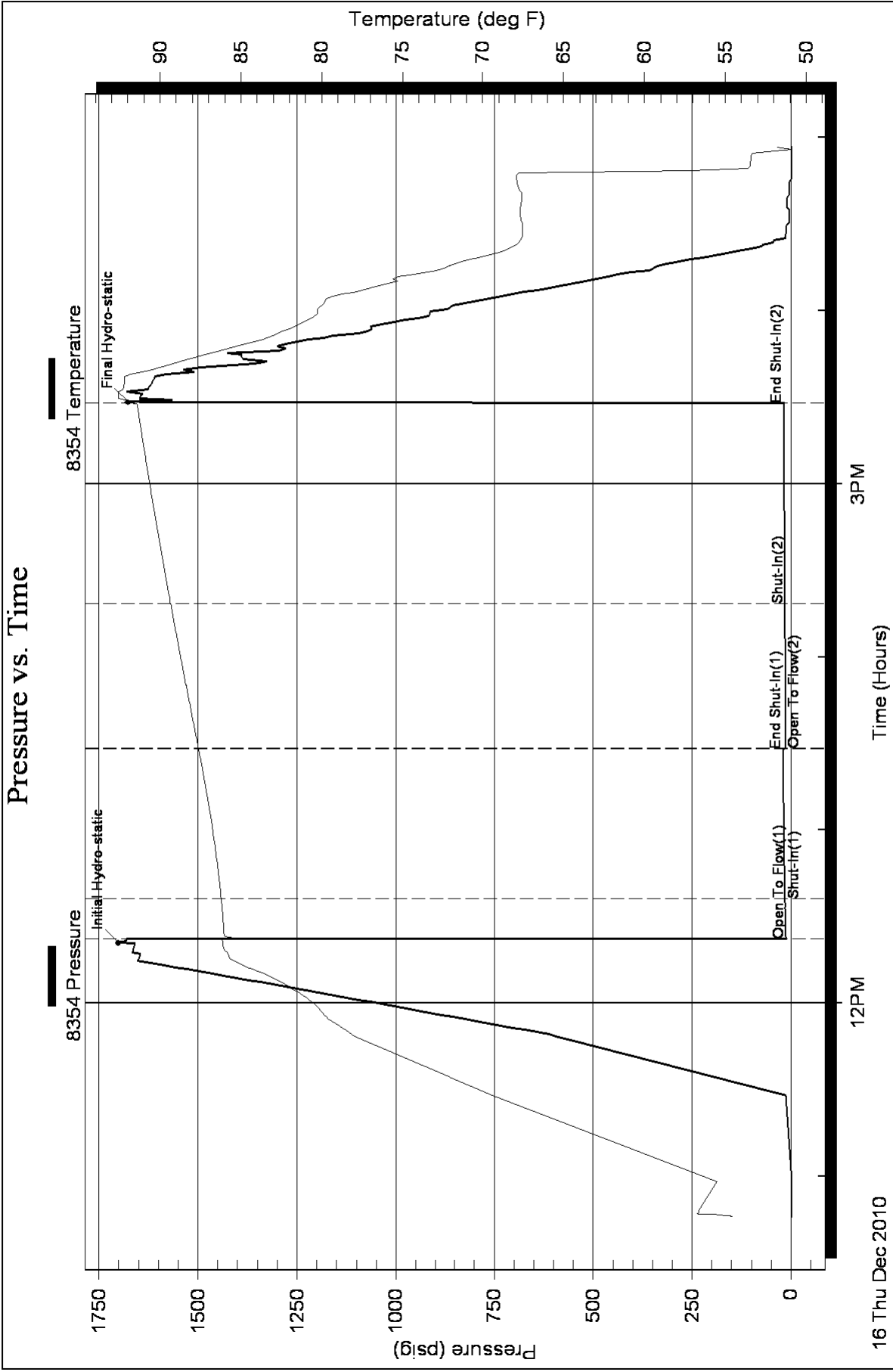
## Gas Rates Information

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

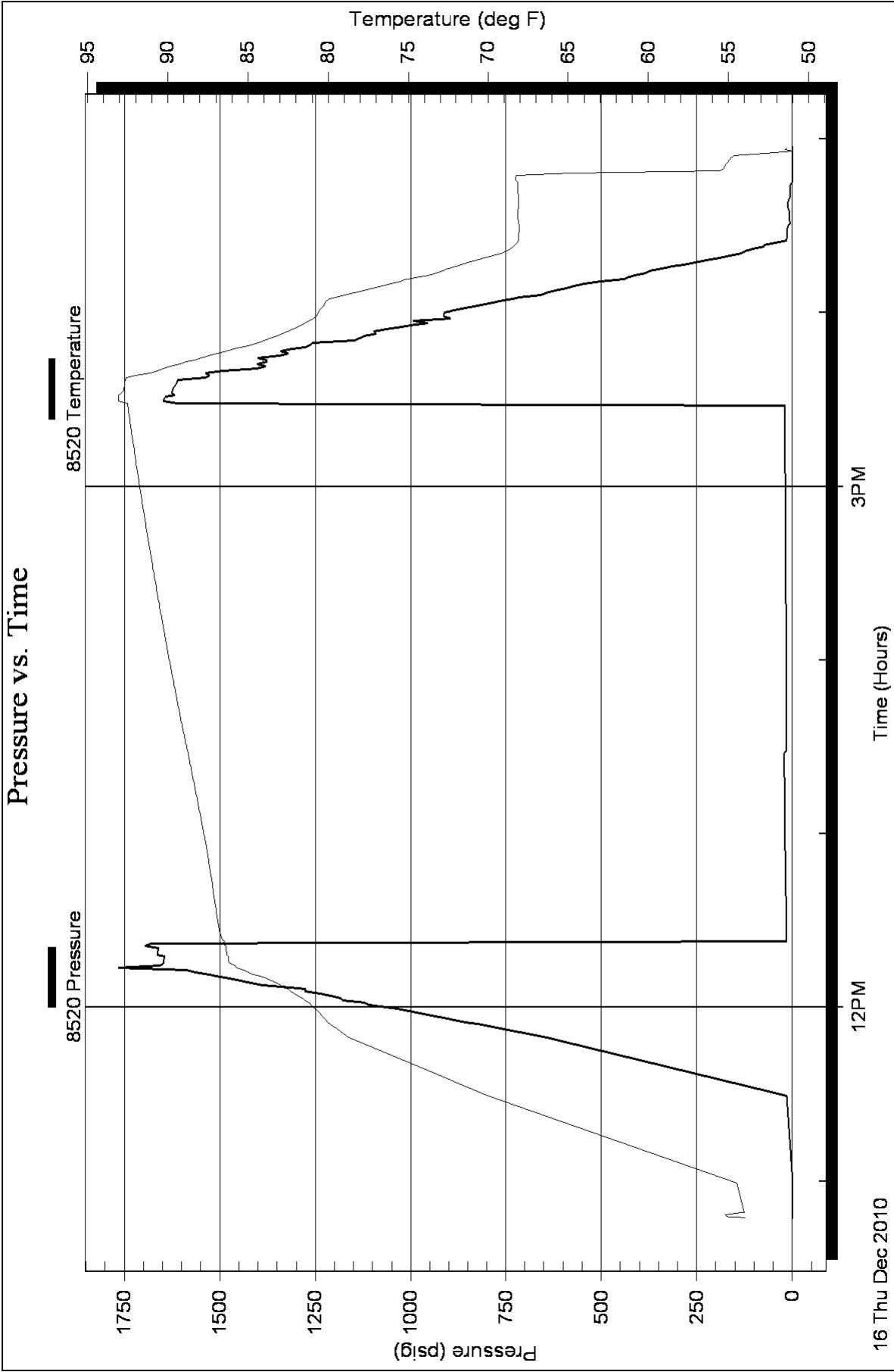
Gas Rates Table

| Flow Period | Elapsed Time | Choke (mm) | Pressure (kPaa) | Gas Rate (m <sup>3</sup> /d) |
|-------------|--------------|------------|-----------------|------------------------------|
|             |              | 0.00       | 0.00            | 0.00                         |

### Pressure vs. Time







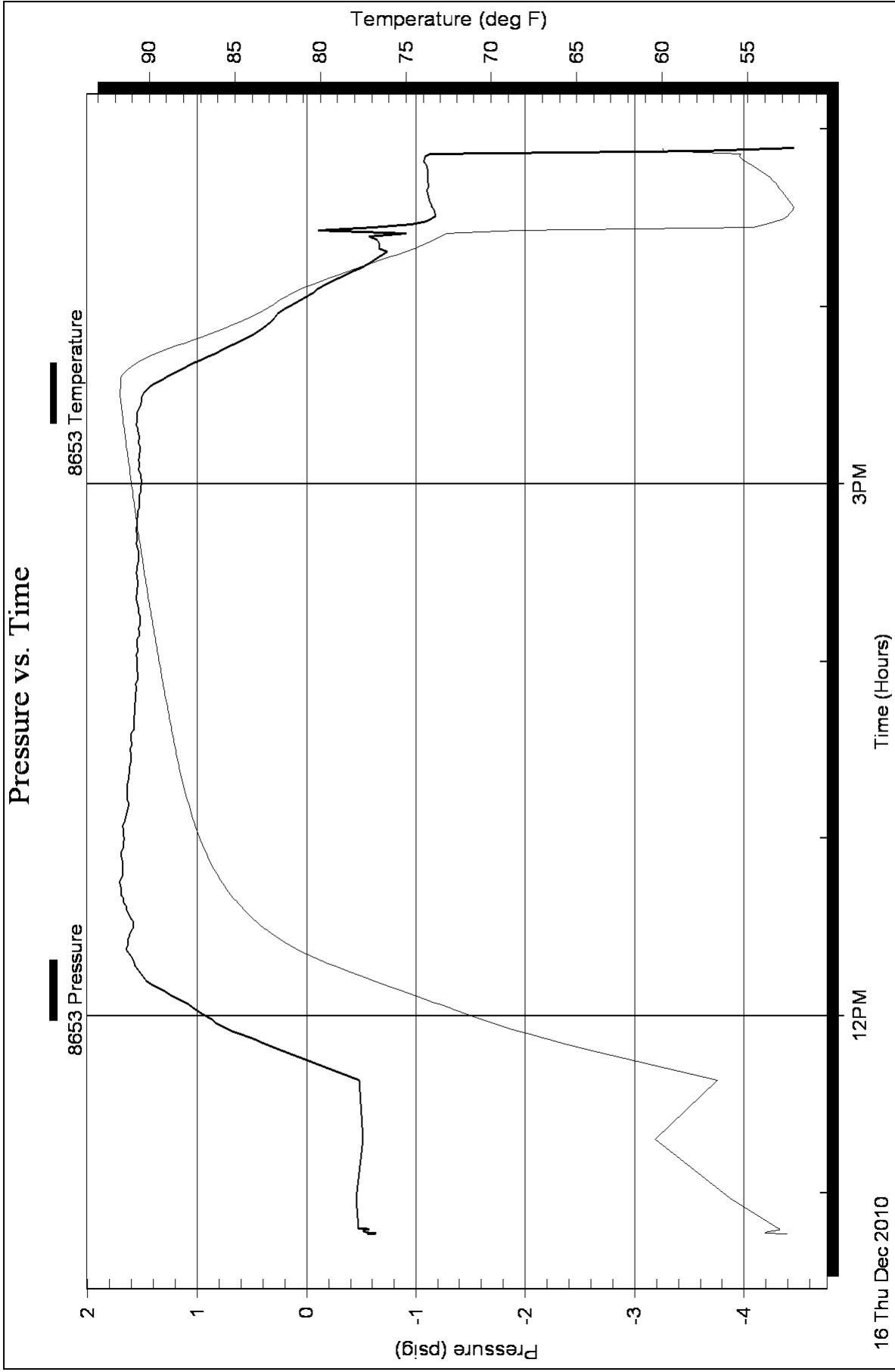
Serial #: 8653

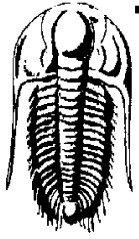
Inside

Sam Gary

30-16-15-Barton-Ks

DST Test Number: 4





**TRILOBITE  
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## DRILL STEM TESTING - DATA LISTING

Sam Gary  
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ATTN: Neil Sharp

**Steinert et al # 1-30**  
**30-16-15-Barton-Ks**  
Job Ticket: 041356      **DST#: 4**  
Test Start: 2010.12.16 @ 10:45:56

| Serial # 8354 Inside |             |                 |               | Serial # 8354 Inside |             |                 |               |
|----------------------|-------------|-----------------|---------------|----------------------|-------------|-----------------|---------------|
| Comments             | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments             | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                      | 0.0         | -1.35           | 54.6          |                      | 63.7        | 641.97          | 78.3          |
|                      | 0.1         | -1.34           | 54.7          |                      | 64.7        | 673.22          | 78.6          |
|                      | 0.1         | -1.32           | 54.7          |                      | 65.7        | 733.26          | 78.9          |
|                      | 0.2         | -1.33           | 54.9          |                      | 66.7        | 764.03          | 79.1          |
|                      | 0.3         | -1.33           | 55.1          |                      | 67.7        | 772.95          | 79.4          |
|                      | 0.3         | -1.33           | 55.2          |                      | 68.7        | 854.55          | 79.7          |
|                      | 0.4         | -1.34           | 55.3          |                      | 69.7        | 885.03          | 79.8          |
|                      | 0.5         | -1.33           | 55.4          |                      | 70.7        | 1008.49         | 80.0          |
|                      | 0.5         | -1.34           | 55.5          |                      | 71.7        | 975.19          | 80.2          |
|                      | 0.6         | -1.34           | 55.7          |                      | 72.7        | 1005.13         | 80.3          |
|                      | 0.7         | -1.34           | 56.1          |                      | 73.7        | 1079.06         | 80.5          |
|                      | 0.7         | -1.36           | 56.5          |                      | 74.7        | 1118.91         | 80.7          |
|                      | 0.8         | -1.34           | 56.7          |                      | 75.7        | 1126.26         | 80.9          |
|                      | 0.9         | -1.34           | 56.7          |                      | 76.7        | 1200.55         | 81.2          |
|                      | 0.9         | -1.32           | 56.7          |                      | 77.7        | 1240.98         | 81.5          |
|                      | 1.0         | -1.31           | 56.7          |                      | 78.7        | 1249.44         | 81.8          |
|                      | 1.1         | -1.28           | 56.7          |                      | 79.7        | 1279.89         | 82.1          |
|                      | 1.1         | -1.27           | 56.6          |                      | 80.7        | 1369.65         | 82.4          |
|                      | 1.2         | -1.26           | 56.6          |                      | 81.7        | 1372.76         | 82.7          |
|                      | 1.3         | -1.26           | 56.6          |                      | 82.7        | 1393.18         | 83.1          |
|                      | 1.3         | -1.27           | 56.6          |                      | 83.7        | 1518.42         | 83.4          |
|                      | 1.4         | -1.29           | 56.6          |                      | 84.7        | 1495.69         | 83.9          |
|                      | 1.5         | -1.31           | 56.6          |                      | 85.7        | 1521.59         | 84.3          |
|                      | 1.5         | -1.30           | 56.6          |                      | 86.7        | 1763.27         | 84.9          |
|                      | 1.6         | -1.31           | 56.6          |                      | 87.7        | 1618.10         | 85.1          |
|                      | 1.7         | -1.28           | 56.6          |                      | 88.7        | 1648.42         | 85.5          |
|                      | 1.7         | -1.27           | 56.6          |                      | 89.7        | 1647.50         | 85.7          |
|                      | 1.8         | -1.26           | 56.6          |                      | 90.7        | 1645.29         | 85.8          |
|                      | 1.9         | -1.25           | 56.6          |                      | 91.7        | 1663.69         | 85.9          |
|                      | 1.9         | -1.25           | 56.6          |                      | 92.7        | 1662.82         | 86.1          |
|                      | 12.0        | -1.19           | 55.5          |                      | 93.7        | 1660.54         | 86.1          |
|                      | 52.0        | 223.13          | 74.4          |                      | 94.2        | 1659.89         | 86.1          |
|                      | 62.7        | 612.30          | 78.1          |                      | 94.5        | 1659.68         | 86.1          |

Printing every 4 samples

| Serial # 8354 Inside |             |                 |               | Serial # 8354 Inside |             |                 |               |
|----------------------|-------------|-----------------|---------------|----------------------|-------------|-----------------|---------------|
| Comments             | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments             | Time (Min.) | Pressure (psig) | Temp. (deg F) |
| Initial Hydro-static | 94.7        | 1700.38         | 86.1          |                      | 124.7       | 16.54           | 86.5          |
|                      | 95.0        | 1684.59         | 86.1          |                      | 125.7       | 16.65           | 86.5          |
|                      | 95.2        | 1682.53         | 86.1          |                      | 126.7       | 16.73           | 86.6          |
|                      | 95.5        | 1679.54         | 86.2          |                      | 127.7       | 16.82           | 86.6          |
| Open To Flow (1)     | 95.7        | 1680.48         | 86.2          |                      | 128.7       | 16.89           | 86.6          |
|                      | 96.0        | 1680.68         | 86.2          |                      | 129.7       | 16.94           | 86.6          |
|                      | 96.2        | 12.47           | 85.2          |                      | 130.7       | 17.02           | 86.7          |
|                      | 96.5        | 13.42           | 85.9          |                      | 131.7       | 17.08           | 86.7          |
|                      | 96.7        | 13.53           | 86.0          |                      | 132.7       | 17.18           | 86.7          |
|                      | 97.0        | 13.59           | 86.0          |                      | 133.7       | 17.29           | 86.8          |
|                      | 98.0        | 13.76           | 86.0          |                      | 134.7       | 17.38           | 86.8          |
|                      | 99.0        | 13.85           | 86.1          |                      | 135.7       | 17.46           | 86.8          |
|                      | 100.0       | 13.88           | 86.1          |                      | 136.7       | 17.55           | 86.8          |
|                      | 101.0       | 13.91           | 86.1          |                      | 137.7       | 17.65           | 86.9          |
|                      | 102.0       | 13.88           | 86.1          |                      | 138.7       | 17.74           | 86.9          |
|                      | 103.0       | 13.49           | 86.1          |                      | 139.7       | 17.82           | 86.9          |
|                      | 104.0       | 13.82           | 86.1          |                      | 140.7       | 17.90           | 86.9          |
|                      | 105.0       | 14.12           | 86.1          |                      | 141.7       | 17.96           | 87.0          |
|                      | 106.0       | 14.37           | 86.2          |                      | 142.7       | 18.04           | 87.0          |
|                      | 107.0       | 14.52           | 86.2          |                      | 143.7       | 18.12           | 87.0          |
|                      | 108.0       | 14.37           | 86.2          |                      | 144.7       | 18.20           | 87.1          |
|                      | 109.0       | 14.83           | 86.2          |                      | 145.7       | 18.29           | 87.1          |
|                      | 109.5       | 14.90           | 86.2          |                      | 146.7       | 18.37           | 87.1          |
|                      | 109.7       | 14.94           | 86.2          |                      | 147.7       | 18.44           | 87.2          |
|                      | 110.0       | 14.98           | 86.2          |                      | 148.7       | 18.51           | 87.2          |
| Shut-In(1)           | 110.2       | 15.01           | 86.2          |                      | 149.7       | 18.57           | 87.2          |
|                      | 110.5       | 15.04           | 86.2          |                      | 150.7       | 18.62           | 87.3          |
|                      | 110.7       | 15.07           | 86.2          |                      | 151.7       | 18.68           | 87.3          |
|                      | 111.7       | 15.21           | 86.3          |                      | 152.7       | 18.75           | 87.3          |
|                      | 112.7       | 15.34           | 86.3          |                      | 153.7       | 18.82           | 87.3          |
|                      | 113.7       | 15.18           | 86.3          |                      | 154.7       | 18.90           | 87.4          |
|                      | 114.7       | 15.61           | 86.3          |                      | 155.7       | 18.96           | 87.4          |
|                      | 115.7       | 15.75           | 86.3          |                      | 156.7       | 19.03           | 87.4          |
|                      | 116.7       | 15.84           | 86.3          |                      | 157.7       | 19.11           | 87.5          |
|                      | 117.7       | 15.93           | 86.4          |                      | 158.7       | 19.18           | 87.5          |
|                      | 118.7       | 16.01           | 86.4          |                      | 159.7       | 19.23           | 87.5          |
|                      | 119.7       | 16.09           | 86.4          |                      | 160.7       | 19.26           | 87.6          |
|                      | 120.7       | 16.17           | 86.4          |                      | 161.2       | 19.28           | 87.6          |
|                      | 121.7       | 16.28           | 86.5          |                      | 161.5       | 19.31           | 87.6          |
|                      | 122.7       | 16.36           | 86.5          | End Shut-In(1)       | 161.7       | 19.29           | 87.6          |
|                      | 123.7       | 16.45           | 86.5          | Open To Flow (2)     | 162.0       | 14.74           | 87.6          |

Printing every 4 samples

| Serial # 8354 Inside |             |                 |               | Serial # 8354 Inside |             |                 |               |
|----------------------|-------------|-----------------|---------------|----------------------|-------------|-----------------|---------------|
| Comments             | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments             | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                      | 162.2       | 14.17           | 87.6          |                      | 202.5       | 14.54           | 89.0          |
|                      | 162.5       | 14.19           | 87.6          |                      | 203.5       | 14.58           | 89.1          |
|                      | 163.5       | 14.16           | 87.7          |                      | 204.5       | 14.61           | 89.1          |
|                      | 164.5       | 14.17           | 87.7          |                      | 205.5       | 14.67           | 89.1          |
|                      | 165.5       | 14.24           | 87.8          |                      | 206.5       | 14.72           | 89.2          |
|                      | 166.5       | 14.18           | 87.8          |                      | 207.5       | 14.77           | 89.2          |
|                      | 167.5       | 14.14           | 87.8          |                      | 208.5       | 14.82           | 89.2          |
|                      | 168.5       | 14.09           | 87.9          |                      | 209.5       | 14.87           | 89.3          |
|                      | 169.5       | 14.12           | 87.9          |                      | 210.5       | 14.91           | 89.3          |
|                      | 170.5       | 14.16           | 87.9          |                      | 211.5       | 14.96           | 89.3          |
|                      | 171.5       | 14.20           | 88.0          |                      | 211.7       | 14.98           | 89.3          |
|                      | 172.5       | 14.23           | 88.0          |                      | 212.0       | 14.98           | 89.3          |
|                      | 173.5       | 14.20           | 88.0          | Shut-In(2)           | 212.2       | 14.99           | 89.3          |
|                      | 174.5       | 14.14           | 88.1          |                      | 212.5       | 15.01           | 89.4          |
|                      | 175.5       | 14.09           | 88.1          |                      | 212.7       | 15.02           | 89.4          |
|                      | 176.5       | 14.10           | 88.1          |                      | 213.0       | 15.03           | 89.4          |
|                      | 177.5       | 14.15           | 88.2          |                      | 214.0       | 15.07           | 89.4          |
|                      | 178.5       | 14.20           | 88.2          |                      | 215.0       | 15.11           | 89.4          |
|                      | 179.5       | 14.21           | 88.2          |                      | 216.0       | 15.15           | 89.5          |
|                      | 180.5       | 14.25           | 88.3          |                      | 217.0       | 15.18           | 89.5          |
|                      | 181.5       | 14.26           | 88.3          |                      | 218.0       | 15.23           | 89.5          |
|                      | 182.5       | 14.27           | 88.3          |                      | 219.0       | 15.27           | 89.6          |
|                      | 183.5       | 14.23           | 88.4          |                      | 220.0       | 15.32           | 89.6          |
|                      | 184.5       | 14.22           | 88.4          |                      | 221.0       | 15.37           | 89.6          |
|                      | 185.5       | 14.21           | 88.4          |                      | 222.0       | 15.43           | 89.7          |
|                      | 186.5       | 14.24           | 88.5          |                      | 223.0       | 15.47           | 89.7          |
|                      | 187.5       | 14.27           | 88.5          |                      | 224.0       | 15.51           | 89.7          |
|                      | 188.5       | 14.21           | 88.5          |                      | 225.0       | 15.54           | 89.8          |
|                      | 189.5       | 14.13           | 88.6          |                      | 226.0       | 15.58           | 89.8          |
|                      | 190.5       | 14.08           | 88.6          |                      | 227.0       | 15.61           | 89.8          |
|                      | 191.5       | 14.04           | 88.7          |                      | 228.0       | 15.65           | 89.9          |
|                      | 192.5       | 14.08           | 88.7          |                      | 229.0       | 15.69           | 89.9          |
|                      | 193.5       | 14.10           | 88.7          |                      | 230.0       | 15.73           | 89.9          |
|                      | 194.5       | 14.15           | 88.8          |                      | 231.0       | 15.78           | 89.9          |
|                      | 195.5       | 14.20           | 88.8          |                      | 232.0       | 15.82           | 90.0          |
|                      | 196.5       | 14.25           | 88.8          |                      | 233.0       | 15.86           | 90.0          |
|                      | 197.5       | 14.31           | 88.9          |                      | 234.0       | 15.87           | 90.0          |
|                      | 198.5       | 14.35           | 88.9          |                      | 235.0       | 15.92           | 90.1          |
|                      | 199.5       | 14.39           | 88.9          |                      | 236.0       | 15.96           | 90.1          |
|                      | 200.5       | 14.44           | 89.0          |                      | 237.0       | 16.00           | 90.1          |
|                      | 201.5       | 14.49           | 89.0          |                      | 238.0       | 16.04           | 90.2          |

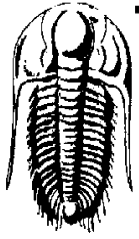
Printing every 4 samples

| Serial # 8354 Inside |             |                 |               | Serial # 8354 Inside |             |                 |               |
|----------------------|-------------|-----------------|---------------|----------------------|-------------|-----------------|---------------|
| Comments             | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments             | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                      | 239.0       | 16.07           | 90.2          |                      | 280.0       | 17.72           | 91.4          |
|                      | 240.0       | 16.10           | 90.2          |                      | 281.0       | 17.74           | 91.4          |
|                      | 241.0       | 16.14           | 90.3          |                      | 281.2       | 17.76           | 91.4          |
|                      | 242.0       | 16.17           | 90.3          |                      | 281.5       | 17.75           | 91.4          |
|                      | 243.0       | 16.19           | 90.3          | End Shut-In(2)       | 281.7       | 17.75           | 91.4          |
|                      | 244.0       | 16.22           | 90.3          |                      | 282.0       | 1594.58         | 92.2          |
|                      | 245.0       | 16.26           | 90.4          | Final Hydro-static   | 282.2       | 1676.27         | 91.8          |
|                      | 246.0       | 16.31           | 90.4          |                      | 282.5       | 1632.99         | 91.7          |
|                      | 247.0       | 16.36           | 90.4          |                      | 283.5       | 1647.74         | 92.6          |
|                      | 248.0       | 16.39           | 90.5          |                      | 284.5       | 1643.23         | 92.6          |
|                      | 249.0       | 16.43           | 90.5          |                      | 285.5       | 1601.72         | 92.6          |
|                      | 250.0       | 16.47           | 90.5          |                      | 286.5       | 1626.18         | 92.3          |
|                      | 251.0       | 16.51           | 90.6          |                      | 287.5       | 1622.76         | 92.2          |
|                      | 252.0       | 16.55           | 90.6          |                      | 288.5       | 1618.70         | 92.2          |
|                      | 253.0       | 16.60           | 90.6          |                      | 289.5       | 1614.19         | 92.2          |
|                      | 254.0       | 16.63           | 90.6          |                      | 290.5       | 1610.41         | 92.2          |
|                      | 255.0       | 16.66           | 90.7          |                      | 291.5       | 1531.18         | 92.1          |
|                      | 256.0       | 16.71           | 90.7          |                      | 292.5       | 1509.21         | 91.1          |
|                      | 257.0       | 16.76           | 90.7          |                      | 293.5       | 1461.20         | 90.3          |
|                      | 258.0       | 16.79           | 90.8          |                      | 294.5       | 1408.15         | 89.9          |
|                      | 259.0       | 16.84           | 90.8          |                      | 295.5       | 1355.99         | 89.2          |
|                      | 260.0       | 16.87           | 90.8          |                      | 296.5       | 1370.26         | 88.6          |
|                      | 261.0       | 16.92           | 90.8          |                      | 297.5       | 1384.33         | 87.9          |
|                      | 262.0       | 16.95           | 90.9          |                      | 298.5       | 1388.92         | 87.2          |
|                      | 263.0       | 17.00           | 90.9          |                      | 299.5       | 1370.91         | 86.5          |
|                      | 264.0       | 17.02           | 90.9          |                      | 300.5       | 1340.78         | 85.9          |
|                      | 265.0       | 17.06           | 91.0          |                      | 301.5       | 1299.19         | 85.3          |
|                      | 266.0       | 17.10           | 91.0          |                      | 302.5       | 1228.80         | 84.7          |
|                      | 267.0       | 17.16           | 91.0          |                      | 303.5       | 1184.01         | 84.0          |
|                      | 268.0       | 17.20           | 91.0          |                      | 304.5       | 1183.11         | 83.4          |
|                      | 269.0       | 17.27           | 91.1          |                      | 305.5       | 1157.19         | 82.9          |
|                      | 270.0       | 17.31           | 91.1          |                      | 306.5       | 1125.98         | 82.5          |
|                      | 271.0       | 17.36           | 91.1          |                      | 307.5       | 1059.95         | 82.0          |
|                      | 272.0       | 17.40           | 91.2          |                      | 308.5       | 1014.56         | 81.7          |
|                      | 273.0       | 17.45           | 91.2          |                      | 309.5       | 989.34          | 81.3          |
|                      | 274.0       | 17.50           | 91.2          |                      | 310.5       | 976.07          | 80.9          |
|                      | 275.0       | 17.55           | 91.2          |                      | 311.5       | 945.19          | 80.6          |
|                      | 276.0       | 17.59           | 91.3          |                      | 312.5       | 914.59          | 80.3          |
|                      | 277.0       | 17.63           | 91.3          |                      | 313.5       | 912.61          | 80.3          |
|                      | 278.0       | 17.67           | 91.3          |                      | 314.5       | 881.40          | 80.2          |
|                      | 279.0       | 17.70           | 91.4          |                      | 315.5       | 853.90          | 80.0          |

Printing every 4 samples

| <b>Serial # 8354 Inside</b> |             |                 |               | <b>Serial # 8354 Inside</b> |             |                 |               |
|-----------------------------|-------------|-----------------|---------------|-----------------------------|-------------|-----------------|---------------|
| Comments                    | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments                    | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                             | 316.5       | 823.60          | 79.9          |                             | 357.5       | 4.54            | 67.9          |
|                             | 317.5       | 752.70          | 79.8          |                             | 358.5       | 4.53            | 67.9          |
|                             | 318.5       | 728.17          | 79.5          |                             | 359.5       | -1.31           | 67.9          |
|                             | 319.5       | 702.57          | 78.8          |                             | 360.5       | -1.31           | 67.9          |
|                             | 320.5       | 667.88          | 77.9          |                             | 361.5       | -1.23           | 67.8          |
|                             | 321.5       | 592.91          | 77.2          |                             | 362.5       | -0.92           | 54.4          |
|                             | 322.5       | 581.51          | 76.5          |                             | 363.5       | -1.52           | 53.5          |
|                             | 323.5       | 551.12          | 75.7          |                             | 364.5       | -1.56           | 53.5          |
|                             | 324.5       | 477.14          | 75.0          |                             | 365.5       | -1.56           | 53.4          |
|                             | 325.5       | 461.62          | 75.3          |                             | 366.5       | -1.54           | 53.4          |
|                             | 326.5       | 432.53          | 73.9          |                             | 367.5       | -1.54           | 53.4          |
|                             | 327.5       | 402.68          | 73.0          |                             | 368.5       | -1.49           | 53.1          |
|                             | 328.5       | 348.70          | 72.5          |                             | 369.5       | -1.50           | 51.2          |
|                             | 329.5       | 318.05          | 72.1          |                             | 370.5       | -1.58           | 51.8          |
|                             | 330.5       | 283.37          | 71.5          |                             | 371.0       | -1.55           | 51.8          |
|                             | 331.5       | 253.74          | 70.8          |                             |             |                 |               |
|                             | 332.5       | 218.44          | 70.1          |                             |             |                 |               |
|                             | 333.5       | 160.51          | 69.4          |                             |             |                 |               |
|                             | 334.5       | 133.33          | 68.7          |                             |             |                 |               |
|                             | 335.5       | 103.23          | 68.3          |                             |             |                 |               |
|                             | 336.5       | 73.19           | 68.0          |                             |             |                 |               |
|                             | 337.5       | 46.81           | 67.8          |                             |             |                 |               |
|                             | 338.5       | 13.93           | 67.6          |                             |             |                 |               |
|                             | 339.5       | 13.01           | 67.6          |                             |             |                 |               |
|                             | 340.5       | 12.65           | 67.6          |                             |             |                 |               |
|                             | 341.5       | 12.54           | 67.6          |                             |             |                 |               |
|                             | 342.5       | 12.49           | 67.5          |                             |             |                 |               |
|                             | 343.5       | 12.51           | 67.5          |                             |             |                 |               |
|                             | 344.5       | 4.54            | 67.6          |                             |             |                 |               |
|                             | 345.5       | 4.71            | 67.6          |                             |             |                 |               |
|                             | 346.5       | 4.68            | 67.7          |                             |             |                 |               |
|                             | 347.5       | 4.67            | 67.7          |                             |             |                 |               |
|                             | 348.5       | 4.62            | 67.7          |                             |             |                 |               |
|                             | 349.5       | 9.51            | 67.7          |                             |             |                 |               |
|                             | 350.5       | 9.70            | 67.6          |                             |             |                 |               |
|                             | 351.5       | 9.70            | 67.6          |                             |             |                 |               |
|                             | 352.5       | 9.69            | 67.6          |                             |             |                 |               |
|                             | 353.5       | 4.82            | 67.6          |                             |             |                 |               |
|                             | 354.5       | 4.18            | 67.6          |                             |             |                 |               |
|                             | 355.5       | 4.43            | 67.7          |                             |             |                 |               |
|                             | 356.5       | 4.54            | 67.8          |                             |             |                 |               |

Printing every 4 samples



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TESTING - DATA LISTING

Sam Gary  
1515 Wynkoop Ste 700  
Denver Co 80202  
ATTN: Neil Sharp

**Steinert et al # 1-30**  
**30-16-15-Barton-Ks**  
Job Ticket: 041356      **DST#: 4**  
Test Start: 2010.12.16 @ 10:45:56

| Serial # 8520 Outside |             |                 |               | Serial # 8520 Outside |             |                 |               |
|-----------------------|-------------|-----------------|---------------|-----------------------|-------------|-----------------|---------------|
| Comments              | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments              | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                       | 0.0         | -0.96           | 54.0          |                       | 63.7        | 702.56          | 79.1          |
|                       | 0.1         | -0.83           | 54.2          |                       | 64.7        | 730.77          | 79.3          |
|                       | 0.1         | -0.86           | 54.4          |                       | 65.7        | 814.00          | 79.6          |
|                       | 0.2         | -0.90           | 54.7          |                       | 66.7        | 823.69          | 79.9          |
|                       | 0.3         | -0.95           | 54.9          |                       | 67.7        | 854.16          | 80.1          |
|                       | 0.3         | -0.98           | 55.0          |                       | 68.7        | 904.30          | 80.2          |
|                       | 0.4         | -0.98           | 55.1          |                       | 69.7        | 945.53          | 80.4          |
|                       | 0.5         | -1.00           | 55.1          |                       | 70.7        | 1023.44         | 80.6          |
|                       | 0.5         | -1.02           | 55.1          |                       | 71.7        | 1011.26         | 80.7          |
|                       | 0.6         | -1.01           | 55.1          |                       | 72.7        | 1065.38         | 80.9          |
|                       | 0.7         | -1.00           | 55.1          |                       | 73.7        | 1095.76         | 81.1          |
|                       | 0.7         | -0.97           | 55.1          |                       | 74.7        | 1255.56         | 81.4          |
|                       | 0.8         | -0.98           | 55.2          |                       | 75.7        | 1183.68         | 81.6          |
|                       | 0.9         | -0.98           | 55.2          |                       | 76.7        | 1217.83         | 82.0          |
|                       | 0.9         | -1.01           | 55.2          |                       | 77.7        | 1427.81         | 82.3          |
|                       | 1.0         | -1.02           | 55.2          |                       | 78.7        | 1275.48         | 82.5          |
|                       | 1.1         | -1.01           | 55.1          |                       | 79.7        | 1341.96         | 82.9          |
|                       | 1.1         | -1.00           | 55.0          |                       | 80.7        | 1573.13         | 83.2          |
|                       | 1.2         | -0.99           | 54.9          |                       | 81.7        | 1445.52         | 83.5          |
|                       | 1.3         | -1.00           | 54.9          |                       | 82.7        | 1464.56         | 84.0          |
|                       | 1.3         | -0.97           | 54.8          |                       | 83.7        | 1688.85         | 84.6          |
|                       | 1.4         | -0.99           | 54.7          |                       | 84.7        | 1564.23         | 84.9          |
|                       | 1.5         | -0.97           | 54.6          |                       | 85.7        | 1587.42         | 85.4          |
|                       | 1.5         | -1.00           | 54.5          |                       | 86.7        | 1617.90         | 85.7          |
|                       | 1.6         | -1.00           | 54.3          |                       | 87.7        | 1648.23         | 86.1          |
|                       | 1.7         | -1.01           | 54.2          |                       | 88.7        | 1646.71         | 86.2          |
|                       | 1.7         | -1.00           | 54.1          |                       | 89.7        | 1645.49         | 86.2          |
|                       | 1.8         | -1.00           | 54.0          |                       | 90.7        | 1663.52         | 86.3          |
|                       | 1.9         | -0.99           | 54.0          |                       | 91.7        | 1661.93         | 86.3          |
|                       | 1.9         | -0.99           | 54.0          |                       | 92.7        | 1659.93         | 86.3          |
|                       | 12.0        | -0.98           | 54.5          |                       | 93.7        | 1695.63         | 86.4          |
|                       | 52.0        | 253.47          | 75.9          |                       | 94.7        | 1680.60         | 86.6          |
|                       | 62.7        | 659.48          | 78.8          |                       | 95.7        | 13.97           | 86.6          |

Printing every 4 samples



| Serial # 8520 Outside |             |                 |               | Serial # 8520 Outside |             |                 |               |
|-----------------------|-------------|-----------------|---------------|-----------------------|-------------|-----------------|---------------|
| Comments              | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments              | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                       | 96.7        | 14.14           | 86.7          |                       | 137.7       | 18.26           | 87.9          |
|                       | 97.7        | 14.24           | 86.7          |                       | 138.7       | 18.36           | 88.0          |
|                       | 98.7        | 14.27           | 86.8          |                       | 139.7       | 18.44           | 88.0          |
|                       | 99.7        | 14.30           | 86.8          |                       | 140.7       | 18.50           | 88.0          |
|                       | 100.7       | 14.28           | 86.8          |                       | 141.7       | 18.56           | 88.1          |
|                       | 101.7       | 13.25           | 86.9          |                       | 142.7       | 18.62           | 88.1          |
|                       | 102.7       | 14.24           | 86.9          |                       | 143.7       | 18.69           | 88.1          |
|                       | 103.7       | 14.53           | 86.9          |                       | 144.7       | 18.76           | 88.2          |
|                       | 104.7       | 14.80           | 87.0          |                       | 145.7       | 18.82           | 88.2          |
|                       | 105.7       | 15.00           | 87.0          |                       | 146.7       | 18.90           | 88.2          |
|                       | 106.7       | 15.15           | 87.0          |                       | 147.7       | 18.96           | 88.3          |
|                       | 107.7       | 15.31           | 87.0          |                       | 148.7       | 19.03           | 88.3          |
|                       | 108.7       | 15.44           | 87.1          |                       | 149.7       | 19.09           | 88.4          |
|                       | 109.7       | 15.58           | 87.1          |                       | 150.7       | 19.17           | 88.4          |
|                       | 110.7       | 15.73           | 87.1          |                       | 151.7       | 19.24           | 88.4          |
|                       | 111.7       | 15.55           | 87.1          |                       | 152.7       | 19.31           | 88.5          |
|                       | 112.7       | 15.98           | 87.2          |                       | 153.7       | 19.37           | 88.5          |
|                       | 113.7       | 16.11           | 87.2          |                       | 154.7       | 19.43           | 88.5          |
|                       | 114.7       | 16.19           | 87.2          |                       | 155.7       | 19.49           | 88.6          |
|                       | 115.7       | 16.30           | 87.2          |                       | 156.7       | 19.55           | 88.6          |
|                       | 116.7       | 16.40           | 87.3          |                       | 157.7       | 19.59           | 88.6          |
|                       | 117.7       | 16.52           | 87.3          |                       | 158.7       | 19.62           | 88.7          |
|                       | 118.7       | 16.63           | 87.3          |                       | 159.7       | 19.67           | 88.7          |
|                       | 119.7       | 16.71           | 87.4          |                       | 160.7       | 14.62           | 88.8          |
|                       | 120.7       | 16.79           | 87.4          |                       | 161.7       | 14.68           | 88.8          |
|                       | 121.7       | 16.89           | 87.4          |                       | 162.7       | 14.59           | 88.8          |
|                       | 122.7       | 16.99           | 87.4          |                       | 163.7       | 14.70           | 88.9          |
|                       | 123.7       | 17.10           | 87.5          |                       | 164.7       | 14.65           | 88.9          |
|                       | 124.7       | 17.17           | 87.5          |                       | 165.7       | 14.59           | 89.0          |
|                       | 125.7       | 17.28           | 87.5          |                       | 166.7       | 14.54           | 89.0          |
|                       | 126.7       | 17.38           | 87.6          |                       | 167.7       | 14.53           | 89.0          |
|                       | 127.7       | 17.45           | 87.6          |                       | 168.7       | 14.60           | 89.1          |
|                       | 128.7       | 17.55           | 87.6          |                       | 169.7       | 14.64           | 89.1          |
|                       | 129.7       | 17.63           | 87.7          |                       | 170.7       | 14.65           | 89.1          |
|                       | 130.7       | 17.72           | 87.7          |                       | 171.7       | 14.63           | 89.2          |
|                       | 131.7       | 17.81           | 87.7          |                       | 172.7       | 14.57           | 89.2          |
|                       | 132.7       | 17.86           | 87.8          |                       | 173.7       | 14.53           | 89.2          |
|                       | 133.7       | 17.93           | 87.8          |                       | 174.7       | 14.51           | 89.3          |
|                       | 134.7       | 18.02           | 87.8          |                       | 175.7       | 14.57           | 89.3          |
|                       | 135.7       | 18.08           | 87.9          |                       | 176.7       | 14.61           | 89.4          |
|                       | 136.7       | 18.18           | 87.9          |                       | 177.7       | 14.65           | 89.4          |

Printing every 4 samples

| Serial # 8520 Outside |             |                 |               | Serial # 8520 Outside |             |                 |               |
|-----------------------|-------------|-----------------|---------------|-----------------------|-------------|-----------------|---------------|
| Comments              | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments              | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                       | 178.7       | 14.67           | 89.4          |                       | 219.7       | 15.82           | 90.8          |
|                       | 179.7       | 14.70           | 89.5          |                       | 220.7       | 15.84           | 90.8          |
|                       | 180.7       | 14.72           | 89.5          |                       | 221.7       | 15.89           | 90.8          |
|                       | 181.7       | 14.70           | 89.5          |                       | 222.7       | 15.94           | 90.9          |
|                       | 182.7       | 14.63           | 89.6          |                       | 223.7       | 15.99           | 90.9          |
|                       | 183.7       | 14.60           | 89.6          |                       | 224.7       | 16.03           | 90.9          |
|                       | 184.7       | 14.59           | 89.6          |                       | 225.7       | 16.08           | 91.0          |
|                       | 185.7       | 14.63           | 89.7          |                       | 226.7       | 16.11           | 91.0          |
|                       | 186.7       | 14.63           | 89.7          |                       | 227.7       | 16.15           | 91.0          |
|                       | 187.7       | 14.54           | 89.7          |                       | 228.7       | 16.18           | 91.1          |
|                       | 188.7       | 14.47           | 89.8          |                       | 229.7       | 16.22           | 91.1          |
|                       | 189.7       | 14.40           | 89.8          |                       | 230.7       | 16.24           | 91.1          |
|                       | 190.7       | 14.47           | 89.8          |                       | 231.7       | 16.29           | 91.1          |
|                       | 191.7       | 14.54           | 89.9          |                       | 232.7       | 16.33           | 91.2          |
|                       | 192.7       | 14.63           | 89.9          |                       | 233.7       | 16.38           | 91.2          |
|                       | 193.7       | 14.70           | 89.9          |                       | 234.7       | 16.44           | 91.2          |
|                       | 194.7       | 14.75           | 90.0          |                       | 235.7       | 16.48           | 91.3          |
|                       | 195.7       | 14.81           | 90.0          |                       | 236.7       | 16.54           | 91.3          |
|                       | 196.7       | 14.84           | 90.0          |                       | 237.7       | 16.58           | 91.3          |
|                       | 197.7       | 14.89           | 90.1          |                       | 238.7       | 16.62           | 91.3          |
|                       | 198.7       | 14.94           | 90.1          |                       | 239.7       | 16.64           | 91.4          |
|                       | 199.7       | 14.99           | 90.1          |                       | 240.7       | 16.67           | 91.4          |
|                       | 200.7       | 15.05           | 90.2          |                       | 241.7       | 16.72           | 91.4          |
|                       | 201.7       | 15.08           | 90.2          |                       | 242.7       | 16.77           | 91.5          |
|                       | 202.7       | 15.12           | 90.2          |                       | 243.7       | 16.80           | 91.5          |
|                       | 203.7       | 15.14           | 90.3          |                       | 244.7       | 16.85           | 91.5          |
|                       | 204.7       | 15.18           | 90.3          |                       | 245.7       | 16.89           | 91.5          |
|                       | 205.7       | 15.22           | 90.3          |                       | 246.7       | 16.93           | 91.6          |
|                       | 206.7       | 15.26           | 90.4          |                       | 247.7       | 16.98           | 91.6          |
|                       | 207.7       | 15.29           | 90.4          |                       | 248.7       | 17.02           | 91.6          |
|                       | 208.7       | 15.33           | 90.4          |                       | 249.7       | 17.05           | 91.7          |
|                       | 209.7       | 15.36           | 90.5          |                       | 250.7       | 17.10           | 91.7          |
|                       | 210.7       | 15.42           | 90.5          |                       | 251.7       | 17.14           | 91.7          |
|                       | 211.7       | 15.48           | 90.5          |                       | 252.7       | 17.19           | 91.7          |
|                       | 212.7       | 15.52           | 90.6          |                       | 253.7       | 17.20           | 91.8          |
|                       | 213.7       | 15.56           | 90.6          |                       | 254.7       | 17.24           | 91.8          |
|                       | 214.7       | 15.61           | 90.6          |                       | 255.7       | 17.29           | 91.8          |
|                       | 215.7       | 15.65           | 90.7          |                       | 256.7       | 17.35           | 91.9          |
|                       | 216.7       | 15.68           | 90.7          |                       | 257.7       | 17.39           | 91.9          |
|                       | 217.7       | 15.74           | 90.7          |                       | 258.7       | 17.44           | 91.9          |
|                       | 218.7       | 15.78           | 90.7          |                       | 259.7       | 17.48           | 91.9          |

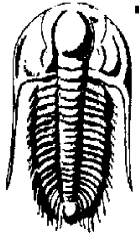
Printing every 4 samples

| Serial # 8520 Outside |             |                 |               | Serial # 8520 Outside |             |                 |               |
|-----------------------|-------------|-----------------|---------------|-----------------------|-------------|-----------------|---------------|
| Comments              | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments              | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                       | 260.7       | 17.52           | 92.0          |                       | 301.7       | 1248.98         | 84.6          |
|                       | 261.7       | 17.55           | 92.0          |                       | 302.7       | 1200.24         | 84.1          |
|                       | 262.7       | 17.59           | 92.0          |                       | 303.7       | 1135.42         | 83.6          |
|                       | 263.7       | 17.61           | 92.1          |                       | 304.7       | 1149.39         | 83.1          |
|                       | 264.7       | 17.62           | 92.1          |                       | 305.7       | 1095.65         | 82.7          |
|                       | 265.7       | 17.65           | 92.1          |                       | 306.7       | 1065.83         | 82.2          |
|                       | 266.7       | 17.69           | 92.1          |                       | 307.7       | 1035.76         | 81.9          |
|                       | 267.7       | 17.75           | 92.2          |                       | 308.7       | 968.24          | 81.5          |
|                       | 268.7       | 17.82           | 92.2          |                       | 309.7       | 993.02          | 81.2          |
|                       | 269.7       | 17.89           | 92.2          |                       | 310.7       | 913.81          | 80.9          |
|                       | 270.7       | 17.96           | 92.2          |                       | 311.7       | 913.89          | 80.7          |
|                       | 271.7       | 18.01           | 92.3          |                       | 312.7       | 911.74          | 80.6          |
|                       | 272.7       | 18.05           | 92.3          |                       | 313.7       | 853.72          | 80.5          |
|                       | 273.7       | 18.07           | 92.3          |                       | 314.7       | 812.13          | 80.3          |
|                       | 274.7       | 18.08           | 92.3          |                       | 315.7       | 793.69          | 80.2          |
|                       | 275.7       | 18.13           | 92.4          |                       | 316.7       | 763.49          | 80.1          |
|                       | 276.7       | 18.16           | 92.4          |                       | 317.7       | 694.00          | 79.7          |
|                       | 277.7       | 18.20           | 92.4          |                       | 318.7       | 658.10          | 79.0          |
|                       | 278.7       | 18.25           | 92.4          |                       | 319.7       | 641.56          | 78.2          |
|                       | 279.7       | 18.27           | 92.5          |                       | 320.7       | 587.62          | 77.3          |
|                       | 280.7       | 1631.07         | 93.0          |                       | 321.7       | 571.44          | 76.7          |
|                       | 281.7       | 1649.73         | 93.0          |                       | 322.7       | 521.94          | 75.8          |
|                       | 282.7       | 1645.69         | 93.0          |                       | 323.7       | 491.95          | 75.4          |
|                       | 283.7       | 1640.02         | 93.1          |                       | 324.7       | 431.96          | 74.6          |
|                       | 284.7       | 1578.60         | 92.9          |                       | 325.7       | 408.19          | 73.6          |
|                       | 285.7       | 1624.49         | 92.8          |                       | 326.7       | 372.95          | 73.0          |
|                       | 286.7       | 1620.63         | 92.7          |                       | 327.7       | 342.56          | 72.5          |
|                       | 287.7       | 1616.11         | 92.7          |                       | 328.7       | 297.53          | 72.0          |
|                       | 288.7       | 1612.04         | 92.7          |                       | 329.7       | 256.69          | 71.5          |
|                       | 289.7       | 1608.78         | 92.7          |                       | 330.7       | 224.05          | 70.7          |
|                       | 290.7       | 1581.27         | 92.1          |                       | 331.7       | 193.92          | 70.0          |
|                       | 291.7       | 1536.18         | 91.1          |                       | 332.7       | 153.35          | 69.3          |
|                       | 292.7       | 1491.78         | 90.5          |                       | 333.7       | 123.13          | 68.8          |
|                       | 293.7       | 1447.29         | 90.0          |                       | 334.7       | 68.46           | 68.6          |
|                       | 294.7       | 1402.04         | 89.2          |                       | 335.7       | 73.59           | 68.3          |
|                       | 295.7       | 1381.96         | 88.8          |                       | 336.7       | 44.15           | 68.2          |
|                       | 296.7       | 1356.90         | 88.0          |                       | 337.7       | 14.20           | 68.1          |
|                       | 297.7       | 1344.52         | 87.4          |                       | 338.7       | 13.65           | 68.1          |
|                       | 298.7       | 1299.84         | 86.8          |                       | 339.7       | 13.47           | 68.1          |
|                       | 299.7       | 1314.42         | 86.1          |                       | 340.7       | 13.44           | 68.1          |
|                       | 300.7       | 1277.99         | 85.5          |                       | 341.7       | 13.39           | 68.1          |

Printing every 4 samples

| <b>Serial # 8520 Outside</b> |             |                 |               | <b>Serial # 8653 Inside</b> |             |                 |               |
|------------------------------|-------------|-----------------|---------------|-----------------------------|-------------|-----------------|---------------|
| Comments                     | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments                    | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                              | 342.7       | 9.45            | 68.1          |                             |             |                 |               |
|                              | 343.7       | 5.60            | 68.1          |                             |             |                 |               |
|                              | 344.7       | 5.61            | 68.1          |                             |             |                 |               |
|                              | 345.7       | 5.62            | 68.1          |                             |             |                 |               |
|                              | 346.7       | 5.60            | 68.1          |                             |             |                 |               |
|                              | 347.7       | 8.99            | 68.1          |                             |             |                 |               |
|                              | 348.7       | 10.53           | 68.1          |                             |             |                 |               |
|                              | 349.7       | 10.61           | 68.1          |                             |             |                 |               |
|                              | 350.7       | 10.62           | 68.1          |                             |             |                 |               |
|                              | 351.7       | 7.62            | 68.1          |                             |             |                 |               |
|                              | 352.7       | 7.25            | 68.1          |                             |             |                 |               |
|                              | 353.7       | 5.17            | 68.1          |                             |             |                 |               |
|                              | 354.7       | 5.47            | 68.1          |                             |             |                 |               |
|                              | 355.7       | 5.45            | 68.1          |                             |             |                 |               |
|                              | 356.7       | 5.42            | 68.1          |                             |             |                 |               |
|                              | 357.7       | 0.80            | 68.1          |                             |             |                 |               |
|                              | 358.7       | -0.93           | 68.3          |                             |             |                 |               |
|                              | 359.7       | -0.97           | 68.3          |                             |             |                 |               |
|                              | 360.7       | -1.11           | 64.8          |                             |             |                 |               |
|                              | 361.7       | -0.76           | 55.4          |                             |             |                 |               |
|                              | 362.7       | -0.97           | 55.2          |                             |             |                 |               |
|                              | 363.7       | -0.98           | 55.1          |                             |             |                 |               |
|                              | 364.7       | -0.96           | 55.0          |                             |             |                 |               |
|                              | 365.7       | -0.98           | 54.9          |                             |             |                 |               |
|                              | 366.7       | -0.92           | 54.7          |                             |             |                 |               |
|                              | 367.7       | -0.90           | 52.0          |                             |             |                 |               |
|                              | 368.7       | -1.18           | 51.6          |                             |             |                 |               |
|                              | 369.7       | -1.06           | 51.3          |                             |             |                 |               |

Printing every 2 samples



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TESTING - DATA LISTING

Sam Gary  
1515 Wynkoop Ste 700  
Denver Co 80202  
ATTN: Neil Sharp

**Steinert et al # 1-30**  
**30-16-15-Barton-Ks**  
Job Ticket: 041356      **DST#: 4**  
Test Start: 2010.12.16 @ 10:45:56

| Serial # 8653 Inside |             |                 |               | Serial # 8653 Inside |             |                 |               |
|----------------------|-------------|-----------------|---------------|----------------------|-------------|-----------------|---------------|
| Comments             | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments             | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                      | 0.0         | -0.55           | 52.7          |                      | 1.1         | -0.52           | 53.5          |
|                      | 0.0         | -0.59           | 52.8          |                      | 1.1         | -0.51           | 53.4          |
|                      | 0.1         | -0.58           | 52.9          |                      | 1.2         | -0.52           | 53.3          |
|                      | 0.1         | -0.59           | 53.1          |                      | 1.2         | -0.52           | 53.3          |
|                      | 0.1         | -0.62           | 53.3          |                      | 1.2         | -0.51           | 53.2          |
|                      | 0.2         | -0.63           | 53.5          |                      | 1.3         | -0.52           | 53.2          |
|                      | 0.2         | -0.62           | 53.6          |                      | 1.3         | -0.52           | 53.2          |
|                      | 0.2         | -0.61           | 53.7          |                      | 1.3         | -0.53           | 53.2          |
|                      | 0.3         | -0.60           | 53.8          |                      | 1.4         | -0.54           | 53.2          |
|                      | 0.3         | -0.58           | 53.9          |                      | 1.4         | -0.54           | 53.1          |
|                      | 0.3         | -0.58           | 53.9          |                      | 1.4         | -0.54           | 53.1          |
|                      | 0.4         | -0.57           | 54.0          |                      | 1.5         | -0.54           | 53.1          |
|                      | 0.4         | -0.56           | 54.0          |                      | 1.5         | -0.54           | 53.1          |
|                      | 0.4         | -0.57           | 54.0          |                      | 1.5         | -0.56           | 53.1          |
|                      | 0.5         | -0.57           | 54.0          |                      | 1.6         | -0.57           | 53.1          |
|                      | 0.5         | -0.56           | 54.0          |                      | 1.6         | -0.56           | 53.1          |
|                      | 0.5         | -0.56           | 54.0          |                      | 1.6         | -0.56           | 53.1          |
|                      | 0.6         | -0.56           | 54.0          |                      | 1.7         | -0.56           | 53.1          |
|                      | 0.6         | -0.56           | 54.0          |                      | 1.7         | -0.56           | 53.1          |
|                      | 0.6         | -0.56           | 54.0          |                      | 1.7         | -0.56           | 53.2          |
|                      | 0.7         | -0.55           | 54.0          |                      | 1.8         | -0.54           | 53.2          |
|                      | 0.7         | -0.54           | 53.9          |                      | 1.8         | -0.51           | 53.2          |
|                      | 0.7         | -0.54           | 53.9          |                      | 1.8         | -0.52           | 53.2          |
|                      | 0.8         | -0.53           | 53.9          |                      | 1.9         | -0.51           | 53.2          |
|                      | 0.8         | -0.53           | 53.9          |                      | 1.9         | -0.49           | 53.2          |
|                      | 0.8         | -0.53           | 53.9          |                      | 1.9         | -0.49           | 53.2          |
|                      | 0.9         | -0.52           | 53.8          |                      | 2.0         | -0.47           | 53.2          |
|                      | 0.9         | -0.52           | 53.8          |                      | 12.0        | -0.45           | 56.0          |
|                      | 0.9         | -0.52           | 53.7          |                      | 32.0        | -0.51           | 60.4          |
|                      | 1.0         | -0.53           | 53.7          |                      | 52.0        | -0.48           | 56.8          |
|                      | 1.0         | -0.53           | 53.6          |                      | 62.5        | 0.26            | 64.5          |
|                      | 1.0         | -0.53           | 53.6          |                      | 63.5        | 0.33            | 65.2          |
|                      | 1.1         | -0.52           | 53.5          |                      | 64.5        | 0.40            | 65.8          |

Printing every 2 samples

| <b>Serial # 8653 Inside</b> |             |                 |               | <b>Serial # 8653 Inside</b> |             |                 |               |
|-----------------------------|-------------|-----------------|---------------|-----------------------------|-------------|-----------------|---------------|
| Comments                    | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments                    | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                             | 65.5        | 0.45            | 66.5          |                             | 106.5       | 1.60            | 83.9          |
|                             | 66.5        | 0.53            | 67.1          |                             | 107.5       | 1.62            | 84.1          |
|                             | 67.5        | 0.61            | 67.7          |                             | 108.5       | 1.63            | 84.3          |
|                             | 68.5        | 0.67            | 68.3          |                             | 109.5       | 1.64            | 84.5          |
|                             | 69.5        | 0.72            | 68.9          |                             | 110.5       | 1.64            | 84.6          |
|                             | 70.5        | 0.78            | 69.4          |                             | 111.5       | 1.66            | 84.8          |
|                             | 71.5        | 0.83            | 70.0          |                             | 112.5       | 1.67            | 84.9          |
|                             | 72.5        | 0.86            | 70.5          |                             | 113.5       | 1.67            | 85.1          |
|                             | 73.5        | 0.91            | 71.0          |                             | 114.5       | 1.69            | 85.2          |
|                             | 74.5        | 0.96            | 71.5          |                             | 115.5       | 1.69            | 85.3          |
|                             | 75.5        | 1.00            | 72.0          |                             | 116.5       | 1.69            | 85.5          |
|                             | 76.5        | 1.04            | 72.5          |                             | 117.5       | 1.70            | 85.6          |
|                             | 77.5        | 1.08            | 73.0          |                             | 118.5       | 1.70            | 85.7          |
|                             | 78.5        | 1.11            | 73.4          |                             | 119.5       | 1.70            | 85.8          |
|                             | 79.5        | 1.17            | 73.9          |                             | 120.5       | 1.69            | 85.9          |
|                             | 80.5        | 1.23            | 74.4          |                             | 121.5       | 1.68            | 86.0          |
|                             | 81.5        | 1.27            | 74.9          |                             | 122.5       | 1.68            | 86.1          |
|                             | 82.5        | 1.31            | 75.4          |                             | 123.5       | 1.68            | 86.2          |
|                             | 83.5        | 1.37            | 75.9          |                             | 124.5       | 1.68            | 86.3          |
|                             | 84.5        | 1.42            | 76.4          |                             | 125.5       | 1.68            | 86.4          |
|                             | 85.5        | 1.46            | 76.9          |                             | 126.5       | 1.68            | 86.5          |
|                             | 86.5        | 1.49            | 77.3          |                             | 127.5       | 1.69            | 86.6          |
|                             | 87.5        | 1.50            | 77.8          |                             | 128.5       | 1.69            | 86.6          |
|                             | 88.5        | 1.53            | 78.3          |                             | 129.5       | 1.69            | 86.7          |
|                             | 89.5        | 1.55            | 78.7          |                             | 130.5       | 1.68            | 86.8          |
|                             | 90.5        | 1.56            | 79.1          |                             | 131.5       | 1.67            | 86.9          |
|                             | 91.5        | 1.57            | 79.6          |                             | 132.5       | 1.68            | 87.0          |
|                             | 92.5        | 1.58            | 80.0          |                             | 133.5       | 1.67            | 87.0          |
|                             | 93.5        | 1.60            | 80.4          |                             | 134.5       | 1.67            | 87.1          |
|                             | 94.5        | 1.62            | 80.7          |                             | 135.5       | 1.67            | 87.2          |
|                             | 95.5        | 1.63            | 81.1          |                             | 136.5       | 1.67            | 87.2          |
|                             | 96.5        | 1.65            | 81.5          |                             | 137.5       | 1.68            | 87.3          |
|                             | 97.5        | 1.63            | 81.8          |                             | 138.5       | 1.68            | 87.3          |
|                             | 98.5        | 1.63            | 82.1          |                             | 139.5       | 1.66            | 87.4          |
|                             | 99.5        | 1.63            | 82.3          |                             | 140.5       | 1.66            | 87.5          |
|                             | 100.5       | 1.62            | 82.6          |                             | 141.5       | 1.65            | 87.5          |
|                             | 101.5       | 1.61            | 82.9          |                             | 142.5       | 1.65            | 87.6          |
|                             | 102.5       | 1.60            | 83.1          |                             | 143.5       | 1.63            | 87.6          |
|                             | 103.5       | 1.59            | 83.3          |                             | 144.5       | 1.63            | 87.7          |
|                             | 104.5       | 1.58            | 83.5          |                             | 145.5       | 1.62            | 87.7          |
|                             | 105.5       | 1.58            | 83.7          |                             | 146.5       | 1.63            | 87.8          |

Printing every 2 samples

| <b>Serial # 8653 Inside</b> |             |                 |               | <b>Serial # 8653 Inside</b> |             |                 |               |
|-----------------------------|-------------|-----------------|---------------|-----------------------------|-------------|-----------------|---------------|
| Comments                    | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments                    | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                             | 147.5       | 1.64            | 87.8          |                             | 188.5       | 1.54            | 89.3          |
|                             | 148.5       | 1.64            | 87.9          |                             | 189.5       | 1.54            | 89.3          |
|                             | 149.5       | 1.64            | 87.9          |                             | 190.5       | 1.55            | 89.3          |
|                             | 150.5       | 1.64            | 88.0          |                             | 191.5       | 1.55            | 89.3          |
|                             | 151.5       | 1.64            | 88.0          |                             | 192.5       | 1.55            | 89.4          |
|                             | 152.5       | 1.64            | 88.0          |                             | 193.5       | 1.54            | 89.4          |
|                             | 153.5       | 1.63            | 88.1          |                             | 194.5       | 1.55            | 89.4          |
|                             | 154.5       | 1.62            | 88.1          |                             | 195.5       | 1.55            | 89.5          |
|                             | 155.5       | 1.62            | 88.2          |                             | 196.5       | 1.55            | 89.5          |
|                             | 156.5       | 1.61            | 88.2          |                             | 197.5       | 1.54            | 89.5          |
|                             | 157.5       | 1.62            | 88.2          |                             | 198.5       | 1.55            | 89.6          |
|                             | 158.5       | 1.62            | 88.3          |                             | 199.5       | 1.55            | 89.6          |
|                             | 159.5       | 1.61            | 88.3          |                             | 200.5       | 1.55            | 89.6          |
|                             | 160.5       | 1.60            | 88.3          |                             | 201.5       | 1.55            | 89.7          |
|                             | 161.5       | 1.60            | 88.4          |                             | 202.5       | 1.54            | 89.7          |
|                             | 162.5       | 1.60            | 88.4          |                             | 203.5       | 1.53            | 89.7          |
|                             | 163.5       | 1.61            | 88.5          |                             | 204.5       | 1.53            | 89.7          |
|                             | 164.5       | 1.61            | 88.5          |                             | 205.5       | 1.53            | 89.8          |
|                             | 165.5       | 1.60            | 88.5          |                             | 206.5       | 1.52            | 89.8          |
|                             | 166.5       | 1.60            | 88.6          |                             | 207.5       | 1.53            | 89.8          |
|                             | 167.5       | 1.60            | 88.6          |                             | 208.5       | 1.52            | 89.9          |
|                             | 168.5       | 1.60            | 88.6          |                             | 209.5       | 1.52            | 89.9          |
|                             | 169.5       | 1.60            | 88.7          |                             | 210.5       | 1.54            | 89.9          |
|                             | 170.5       | 1.58            | 88.7          |                             | 211.5       | 1.53            | 89.9          |
|                             | 171.5       | 1.57            | 88.7          |                             | 212.5       | 1.54            | 90.0          |
|                             | 172.5       | 1.57            | 88.8          |                             | 213.5       | 1.55            | 90.0          |
|                             | 173.5       | 1.58            | 88.8          |                             | 214.5       | 1.55            | 90.0          |
|                             | 174.5       | 1.58            | 88.8          |                             | 215.5       | 1.56            | 90.1          |
|                             | 175.5       | 1.57            | 88.9          |                             | 216.5       | 1.55            | 90.1          |
|                             | 176.5       | 1.57            | 88.9          |                             | 217.5       | 1.55            | 90.1          |
|                             | 177.5       | 1.57            | 88.9          |                             | 218.5       | 1.56            | 90.1          |
|                             | 178.5       | 1.57            | 89.0          |                             | 219.5       | 1.54            | 90.2          |
|                             | 179.5       | 1.57            | 89.0          |                             | 220.5       | 1.54            | 90.2          |
|                             | 180.5       | 1.56            | 89.0          |                             | 221.5       | 1.55            | 90.2          |
|                             | 181.5       | 1.57            | 89.1          |                             | 222.5       | 1.55            | 90.3          |
|                             | 182.5       | 1.56            | 89.1          |                             | 223.5       | 1.56            | 90.3          |
|                             | 183.5       | 1.56            | 89.1          |                             | 224.5       | 1.55            | 90.3          |
|                             | 184.5       | 1.56            | 89.1          |                             | 225.5       | 1.55            | 90.3          |
|                             | 185.5       | 1.56            | 89.2          |                             | 226.5       | 1.55            | 90.4          |
|                             | 186.5       | 1.56            | 89.2          |                             | 227.5       | 1.54            | 90.4          |
|                             | 187.5       | 1.55            | 89.2          |                             | 228.5       | 1.53            | 90.4          |

Printing every 2 samples

| Serial # 8653 Inside |             |                 |               | Serial # 8653 Inside |             |                 |               |
|----------------------|-------------|-----------------|---------------|----------------------|-------------|-----------------|---------------|
| Comments             | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments             | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                      | 229.5       | 1.54            | 90.4          |                      | 270.5       | 1.53            | 91.4          |
|                      | 230.5       | 1.53            | 90.5          |                      | 271.5       | 1.54            | 91.4          |
|                      | 231.5       | 1.54            | 90.5          |                      | 272.5       | 1.54            | 91.5          |
|                      | 232.5       | 1.55            | 90.5          |                      | 273.5       | 1.55            | 91.5          |
|                      | 233.5       | 1.55            | 90.5          |                      | 274.5       | 1.55            | 91.5          |
|                      | 234.5       | 1.55            | 90.6          |                      | 275.5       | 1.55            | 91.5          |
|                      | 235.5       | 1.55            | 90.6          |                      | 276.5       | 1.55            | 91.5          |
|                      | 236.5       | 1.55            | 90.6          |                      | 277.5       | 1.54            | 91.6          |
|                      | 237.5       | 1.56            | 90.7          |                      | 278.5       | 1.54            | 91.6          |
|                      | 238.5       | 1.56            | 90.7          |                      | 279.5       | 1.53            | 91.6          |
|                      | 239.5       | 1.55            | 90.7          |                      | 280.5       | 1.52            | 91.6          |
|                      | 240.5       | 1.54            | 90.7          |                      | 281.5       | 1.51            | 91.7          |
|                      | 241.5       | 1.54            | 90.7          |                      | 282.5       | 1.51            | 91.7          |
|                      | 242.5       | 1.55            | 90.8          |                      | 283.5       | 1.50            | 91.7          |
|                      | 243.5       | 1.54            | 90.8          |                      | 284.5       | 1.49            | 91.7          |
|                      | 244.5       | 1.54            | 90.8          |                      | 285.5       | 1.46            | 91.7          |
|                      | 245.5       | 1.53            | 90.8          |                      | 286.5       | 1.44            | 91.7          |
|                      | 246.5       | 1.52            | 90.9          |                      | 287.5       | 1.40            | 91.7          |
|                      | 247.5       | 1.53            | 90.9          |                      | 288.5       | 1.36            | 91.7          |
|                      | 248.5       | 1.52            | 90.9          |                      | 289.5       | 1.31            | 91.7          |
|                      | 249.5       | 1.52            | 90.9          |                      | 290.5       | 1.26            | 91.6          |
|                      | 250.5       | 1.52            | 91.0          |                      | 291.5       | 1.20            | 91.5          |
|                      | 251.5       | 1.51            | 91.0          |                      | 292.5       | 1.15            | 91.3          |
|                      | 252.5       | 1.51            | 91.0          |                      | 293.5       | 1.10            | 91.1          |
|                      | 253.5       | 1.51            | 91.0          |                      | 294.5       | 1.05            | 90.8          |
|                      | 254.5       | 1.51            | 91.1          |                      | 295.5       | 0.98            | 90.5          |
|                      | 255.5       | 1.51            | 91.1          |                      | 296.5       | 0.92            | 90.2          |
|                      | 256.5       | 1.51            | 91.1          |                      | 297.5       | 0.86            | 89.8          |
|                      | 257.5       | 1.52            | 91.1          |                      | 298.5       | 0.80            | 89.3          |
|                      | 258.5       | 1.53            | 91.2          |                      | 299.5       | 0.75            | 88.9          |
|                      | 259.5       | 1.53            | 91.2          |                      | 300.5       | 0.69            | 88.4          |
|                      | 260.5       | 1.53            | 91.2          |                      | 301.5       | 0.64            | 87.9          |
|                      | 261.5       | 1.53            | 91.2          |                      | 302.5       | 0.59            | 87.5          |
|                      | 262.5       | 1.53            | 91.2          |                      | 303.5       | 0.54            | 87.0          |
|                      | 263.5       | 1.53            | 91.3          |                      | 304.5       | 0.48            | 86.5          |
|                      | 264.5       | 1.52            | 91.3          |                      | 305.5       | 0.44            | 86.0          |
|                      | 265.5       | 1.52            | 91.3          |                      | 306.5       | 0.40            | 85.6          |
|                      | 266.5       | 1.52            | 91.3          |                      | 307.5       | 0.37            | 85.2          |
|                      | 267.5       | 1.53            | 91.3          |                      | 308.5       | 0.33            | 84.7          |
|                      | 268.5       | 1.54            | 91.4          |                      | 309.5       | 0.30            | 84.3          |
|                      | 269.5       | 1.53            | 91.4          |                      | 310.5       | 0.28            | 84.0          |

Printing every 2 samples

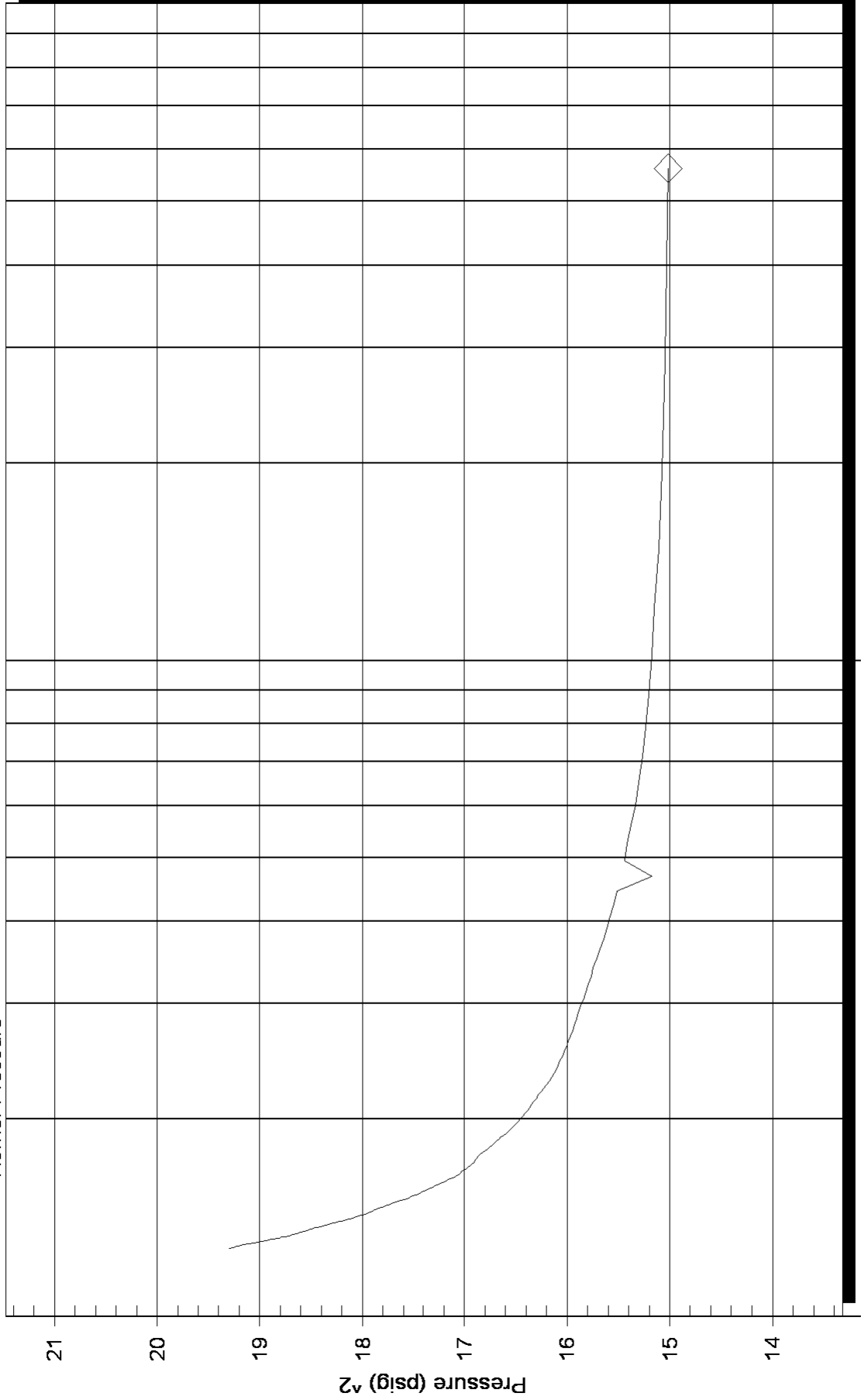


| <b>Serial # 8653 Inside</b> |             |                 |               | <b>Serial # 8653 Inside</b> |             |                 |               |
|-----------------------------|-------------|-----------------|---------------|-----------------------------|-------------|-----------------|---------------|
| Comments                    | Time (Min.) | Pressure (psig) | Temp. (deg F) | Comments                    | Time (Min.) | Pressure (psig) | Temp. (deg F) |
|                             | 311.5       | 0.27            | 83.7          |                             | 352.5       | -1.10           | 53.0          |
|                             | 312.5       | 0.22            | 83.3          |                             | 353.5       | -1.10           | 53.1          |
|                             | 313.5       | 0.18            | 83.0          |                             | 354.5       | -1.11           | 53.3          |
|                             | 314.5       | 0.13            | 82.8          |                             | 355.5       | -1.11           | 53.4          |
|                             | 315.5       | 0.08            | 82.5          |                             | 356.5       | -1.11           | 53.5          |
|                             | 316.5       | 0.04            | 82.2          |                             | 357.5       | -1.11           | 53.7          |
|                             | 317.5       | -0.01           | 81.9          |                             | 358.5       | -1.11           | 53.9          |
|                             | 318.5       | -0.07           | 81.6          |                             | 359.5       | -1.11           | 54.2          |
|                             | 319.5       | -0.09           | 81.2          |                             | 360.5       | -1.10           | 54.5          |
|                             | 320.5       | -0.14           | 80.8          |                             | 361.5       | -1.10           | 54.8          |
|                             | 321.5       | -0.18           | 80.4          |                             | 362.5       | -1.07           | 55.1          |
|                             | 322.5       | -0.23           | 80.0          |                             | 363.5       | -1.07           | 55.3          |
|                             | 323.5       | -0.29           | 79.5          |                             | 364.5       | -1.08           | 55.5          |
|                             | 324.5       | -0.35           | 79.0          |                             | 365.5       | -1.12           | 55.4          |
|                             | 325.5       | -0.41           | 78.5          |                             | 366.5       | -3.62           | 59.9          |
|                             | 326.5       | -0.47           | 78.0          |                             | 367.5       | -4.45           | 60.0          |
|                             | 327.5       | -0.52           | 77.5          |                             | 368.0       | -4.86           | 60.6          |
|                             | 328.5       | -0.58           | 77.0          |                             |             |                 |               |
|                             | 329.5       | -0.61           | 76.5          |                             |             |                 |               |
|                             | 330.5       | -0.66           | 76.0          |                             |             |                 |               |
|                             | 331.5       | -0.69           | 75.5          |                             |             |                 |               |
|                             | 332.5       | -0.74           | 75.0          |                             |             |                 |               |
|                             | 333.5       | -0.66           | 74.5          |                             |             |                 |               |
|                             | 334.5       | -0.66           | 74.1          |                             |             |                 |               |
|                             | 335.5       | -0.66           | 73.7          |                             |             |                 |               |
|                             | 336.5       | -0.64           | 73.4          |                             |             |                 |               |
|                             | 337.5       | -0.57           | 73.0          |                             |             |                 |               |
|                             | 338.5       | -0.91           | 72.7          |                             |             |                 |               |
|                             | 339.5       | -0.11           | 68.5          |                             |             |                 |               |
|                             | 340.5       | -0.60           | 54.7          |                             |             |                 |               |
|                             | 341.5       | -0.96           | 54.0          |                             |             |                 |               |
|                             | 342.5       | -1.10           | 53.4          |                             |             |                 |               |
|                             | 343.5       | -1.15           | 52.9          |                             |             |                 |               |
|                             | 344.5       | -1.17           | 52.7          |                             |             |                 |               |
|                             | 345.5       | -1.17           | 52.5          |                             |             |                 |               |
|                             | 346.5       | -1.16           | 52.3          |                             |             |                 |               |
|                             | 347.5       | -1.15           | 52.3          |                             |             |                 |               |
|                             | 348.5       | -1.14           | 52.5          |                             |             |                 |               |
|                             | 349.5       | -1.12           | 52.6          |                             |             |                 |               |
|                             | 350.5       | -1.11           | 52.7          |                             |             |                 |               |
|                             | 351.5       | -1.11           | 52.8          |                             |             |                 |               |

Printing every 2 samples

### Homer Plot

Horner Pressure



10<sup>0</sup>

10<sup>1</sup>

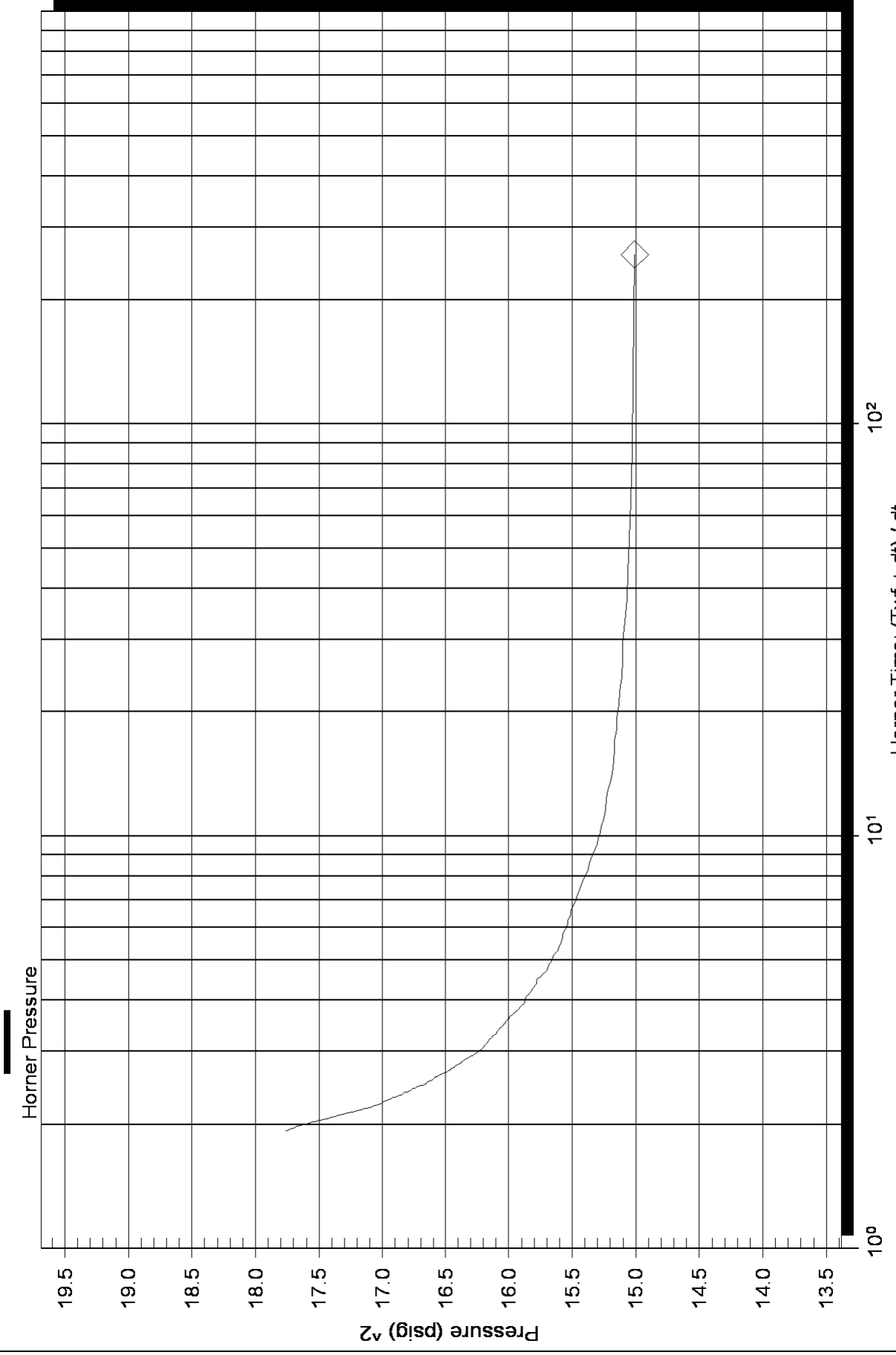
Horner Time: (Twf + dt) / dt

Serial Number: 8354 (Inside)

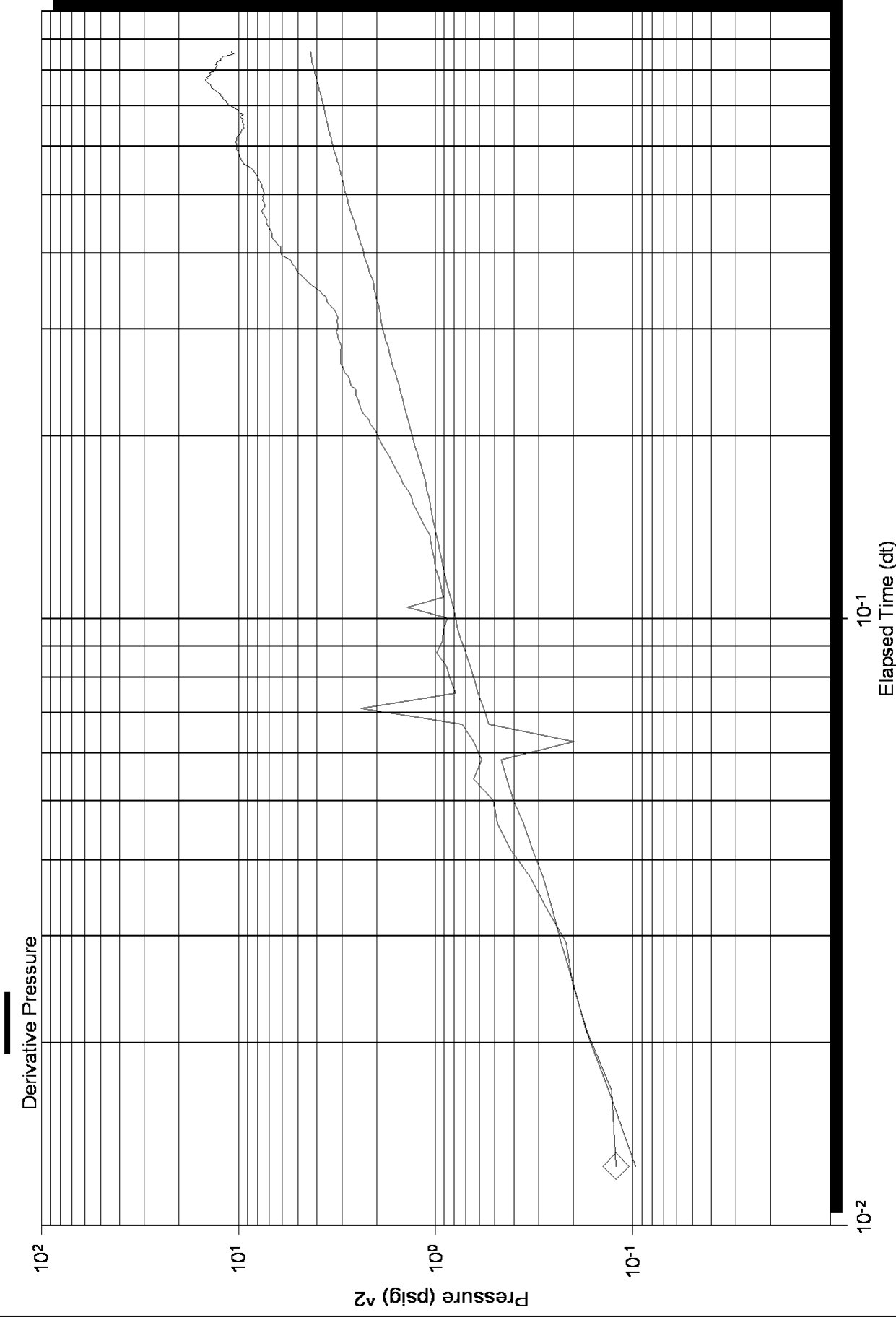
P\* : Slope (m) : kpa/log cycle

Flow Cycle: 1

### Homer Plot



# Log-Log and Pseudo-Log-Derivative



# Log-Log and Pseudo-Log-Derivative

