



## DRILL STEM TEST REPORT

Prepared For: **Charter Energy, Inc.**

PO Box 252  
Great Bend, KS 67530

ATTN: Kurt Talbott

**Werth #A-1**

**30-15s-17w Ellis,KS**

Start Date: 2014.08.31 @ 18:45:51

End Date: 2014.09.01 @ 00:46:51

Job Ticket #: 58398                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.04 @ 14:56:21



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Charter Energy, Inc.  
 PO Box 252  
 Great Bend, KS 67530  
 ATTN: Kurt Talbott

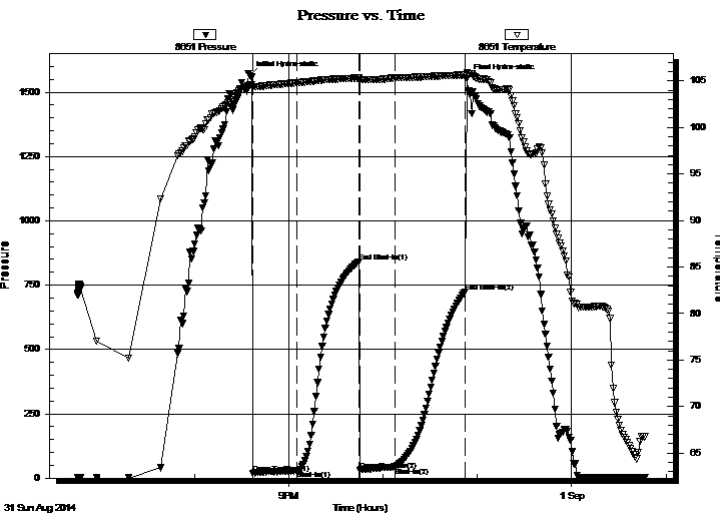
**30-15s-17w Ellis,KS**  
**Werth #A-1**  
 Job Ticket: 58398 **DST#: 1**  
 Test Start: 2014.08.31 @ 18:45:51

## GENERAL INFORMATION:

Formation: **Toronto - LKC"F"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 20:37:21 Tester: Brannan Lonsdale  
 Time Test Ended: 00:46:51 Unit No: 62  
 Interval: **3151.00 ft (KB) To 3285.00 ft (KB) (TVD)** Reference Elevations: 1910.00 ft (KB)  
 Total Depth: 3285.00 ft (KB) (TVD) 1903.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 7.00 ft

**Serial #: 8651 Inside**  
 Press@RunDepth: 43.29 psig @ 3152.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.08.31 End Date: 2014.09.01 Last Calib.: 2014.09.01  
 Start Time: 18:45:52 End Time: 00:46:51 Time On Btm: 2014.08.31 @ 20:35:21  
 Time Off Btm: 2014.08.31 @ 22:53:21

TEST COMMENT: 30- IF- Slow ly built to 2"  
 45- IS- No blow  
 30- FF- Slow ly built to 1"  
 45- FS- No blow



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1564.28         | 104.57       | Initial Hydro-static |
| 2           | 19.58           | 104.29       | Open To Flow (1)     |
| 30          | 28.30           | 104.81       | Shut-In(1)           |
| 70          | 840.72          | 105.31       | End Shut-In(1)       |
| 70          | 30.68           | 105.11       | Open To Flow (2)     |
| 93          | 43.29           | 105.33       | Shut-In(2)           |
| 137         | 723.99          | 105.63       | End Shut-In(2)       |
| 138         | 1553.17         | 105.91       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 50.00       | M           | 0.68         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

## Gas Rates

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



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# DRILL STEM TEST REPORT

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PO Box 252  
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ATTN: Kurt Talbott

**30-15s-17w Ellis, KS**  
**Werth #A-1**  
Job Ticket: 58398      **DST#: 1**  
Test Start: 2014.08.31 @ 18:45:51

## GENERAL INFORMATION:

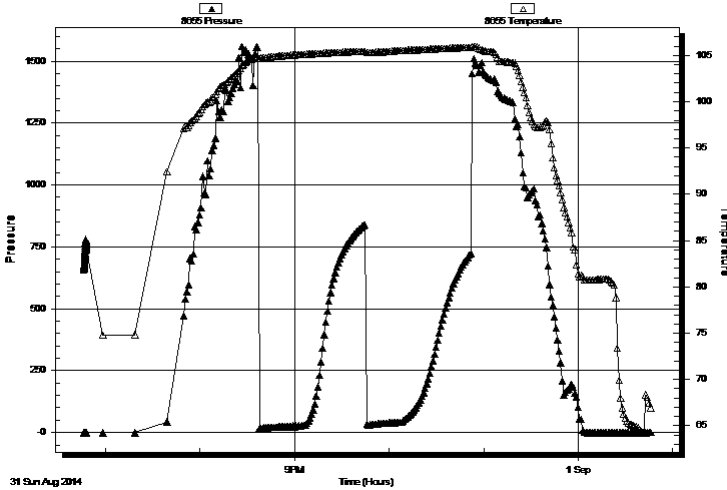
Formation: **Toronto - LKC"F"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 20:37:21  
Time Test Ended: 00:46:51  
Interval: **3151.00 ft (KB) To 3285.00 ft (KB) (TVD)**  
Total Depth: 3285.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 1910.00 ft (KB)  
1903.00 ft (CF)  
KB to GR/CF: 7.00 ft  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Brannan Lonsdale  
Unit No: 62

## Serial #: 8655 Outside

Press@RunDepth: psig @ 3152.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.08.31      End Date: 2014.09.01      Last Calib.: 2014.09.01  
Start Time: 18:46:22      End Time: 00:46:21      Time On Btm:  
Time Off Btm:

TEST COMMENT: 30- IF- Slow ly built to 2"  
45- IS- No blow  
30- FF- Slow ly built to 1"  
45- FS- No blow

### Pressure vs. Time



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|------------|
|             |                 |              |            |
|             |                 |              |            |
|             |                 |              |            |
|             |                 |              |            |
|             |                 |              |            |
|             |                 |              |            |
|             |                 |              |            |
|             |                 |              |            |
|             |                 |              |            |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 50.00       | M           | 0.68         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Charter Energy, Inc.  
PO Box 252  
Great Bend, KS 67530  
ATTN: Kurt Talbott

**30-15s-17w Ellis,KS**  
**Werth #A-1**  
Job Ticket: 58398      **DST#: 1**  
Test Start: 2014.08.31 @ 18:45:51

**Tool Information**

|                           |                    |                       |                            |                        |             |
|---------------------------|--------------------|-----------------------|----------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3136.00 ft | Diameter: 3.75 inches | Volume: 42.84 bbl          | Tool Weight:           | 2000.00 lb  |
| Heavy Wt. Pipe:           | Length: ft         | Diameter: 2.75 inches | Volume: - bbl              | Weight set on Packer:  | 25000.00 lb |
| Drill Collar:             | Length: 0.00 ft    | Diameter: 2.25 inches | Volume: 0.00 bbl           | Weight to Pull Loose:  | 55000.00 lb |
|                           |                    |                       | <u>Total Volume:</u> - bbl | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 5.00 ft            |                       |                            | String Weight: Initial | 50000.00 lb |
| Depth to Top Packer:      | 3151.00 ft         |                       |                            | Final                  | 50000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                            |                        |             |
| Interval between Packers: | 134.00 ft          |                       |                            |                        |             |
| Tool Length:              | 154.00 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   |      |         | 3132.00 |                                     |
| Shut In Tool    | 5.00   |      |         | 3137.00 |                                     |
| Hydraulic tool  | 5.00   |      |         | 3142.00 |                                     |
| Packer          | 5.00   |      |         | 3147.00 | 20.00      Bottom Of Top Packer     |
| Packer          | 4.00   |      |         | 3151.00 |                                     |
| Stubb           | 1.00   |      |         | 3152.00 |                                     |
| Recorder        | 0.00   | 8651 | Inside  | 3152.00 |                                     |
| Recorder        | 0.00   | 8655 | Outside | 3152.00 |                                     |
| Perforations    | 4.00   |      |         | 3156.00 |                                     |
| Change Over Sub | 1.00   |      |         | 3157.00 |                                     |
| Drill Pipe      | 124.00 |      |         | 3281.00 |                                     |
| Change Over Sub | 1.00   |      |         | 3282.00 |                                     |
| Bullnose        | 3.00   |      |         | 3285.00 | 134.00      Bottom Packers & Anchor |

**Total Tool Length: 154.00**



**TRILOBITE  
TESTING, INC**

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**FLUID SUMMARY**

Charter Energy, Inc.  
PO Box 252  
Great Bend, KS 67530  
ATTN: Kurt Talbott

**30-15s-17w Ellis,KS**  
**Werth #A-1**  
Job Ticket: 58398      **DST#: 1**  
Test Start: 2014.08.31 @ 18:45:51

## 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: 52.00 sec/qt          | Cushion Volume: bbl        |                 |         |
| Water Loss: 7.18 in <sup>3</sup> | Gas Cushion Type:          |                 |         |
| Resistivity: ohm.m               | Gas Cushion Pressure: psig |                 |         |
| Salinity: 3200.00 ppm            |                            |                 |         |
| Filter Cake: inches              |                            |                 |         |

## Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 50.00        | M           | 0.683         |

Total Length: 50.00 ft      Total Volume: 0.683 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

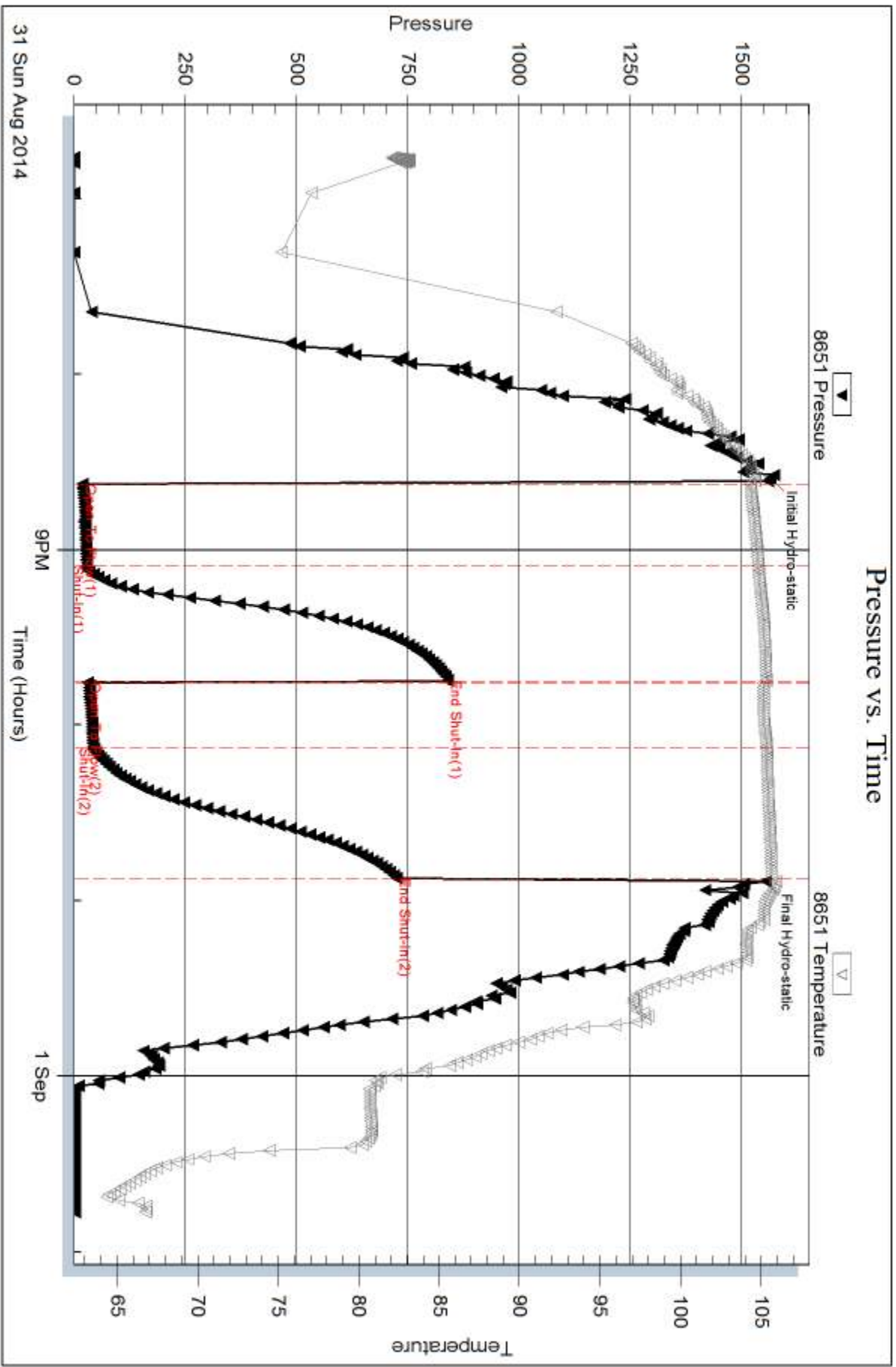
Serial #: 8651

Inside

Charter Energy, Inc.

Worth #A-1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 58398

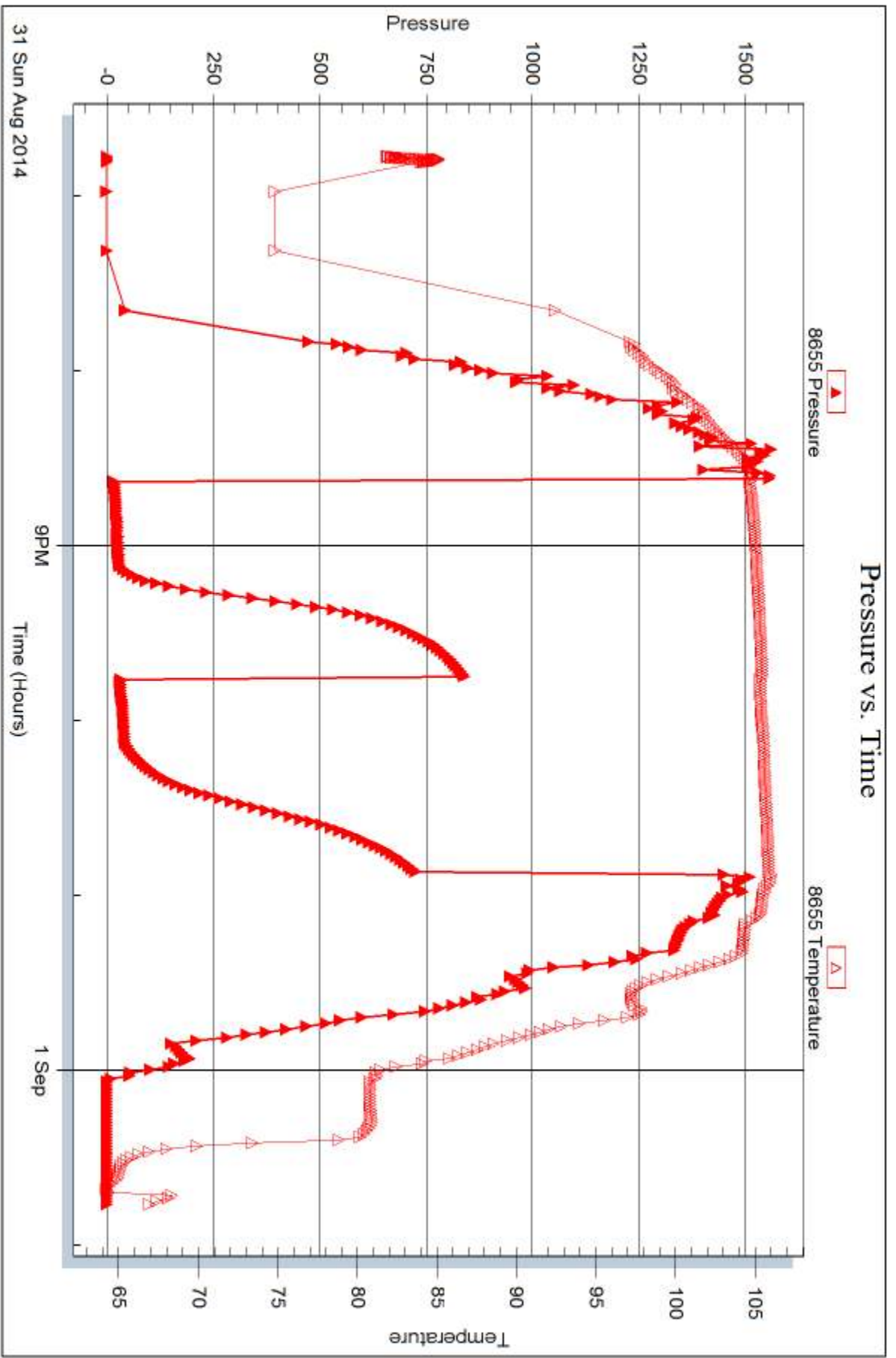
Printed: 2014.09.04 @ 14:56:22

Serial #: 8655

Outside Charter Energy, Inc.

Worth #A-1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 58398

Printed: 2014.09.04 @ 14:56:22



## DRILL STEM TEST REPORT

Prepared For: **Charter Energy, Inc.**

PO Box 252  
Great Bend, KS 67530

ATTN: Kurt Talbott

**Werth #A-1**

**30-15s-17w Ellis,KS**

Start Date: 2014.09.01 @ 14:50:57

End Date: 2014.09.01 @ 18:55:27

Job Ticket #: 58399                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.04 @ 14:55:52





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Charter Energy, Inc.  
PO Box 252  
Great Bend, KS 67530  
ATTN: Kurt Talbott

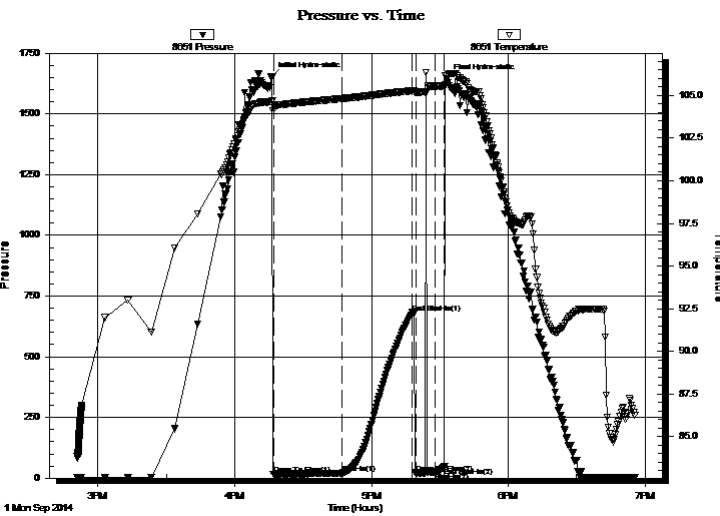
**30-15s-17w Ellis,KS**  
**Werth #A-1**  
Job Ticket: 58399      **DST#: 2**  
Test Start: 2014.09.01 @ 14:50:57

## GENERAL INFORMATION:

Formation: **Lower LKC**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 16:16:57  
Time Test Ended: 18:55:27  
Interval: **3318.00 ft (KB) To 3400.00 ft (KB) (TVD)**  
Total Depth: 3400.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brannan Lonsdale  
Unit No: 62  
Reference Elevations: 1910.00 ft (KB)  
1903.00 ft (CF)  
KB to GR/CF: 7.00 ft

**Serial #: 8651      Inside**  
Press@RunDepth: 24.01 psig @ 3319.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.09.01      End Date: 2014.09.01      Last Calib.: 2014.09.01  
Start Time: 14:50:58      End Time: 18:55:27      Time On Btm: 2014.09.01 @ 16:16:27  
Time Off Btm: 2014.09.01 @ 17:32:57

TEST COMMENT: 30- IF- Weak surface blow  
30- IS- No blow  
10- FF- No blow flushed tool No blow  
05- FSI- No blow



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1653.42         | 104.65       | Initial Hydro-static |
| 1           | 15.91           | 104.11       | Open To Flow (1)     |
| 31          | 19.49           | 104.81       | Shut-In(1)           |
| 62          | 681.60          | 105.27       | End Shut-In(1)       |
| 63          | 21.20           | 105.18       | Open To Flow (2)     |
| 72          | 24.01           | 105.55       | Shut-In(2)           |
| 76          | 46.50           | 105.56       | End Shut-In(2)       |
| 77          | 1643.99         | 106.14       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 15.00       | M           | 0.20         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* Recovery from multiple tests

## Gas Rates

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



# DRILL STEM TEST REPORT

Charter Energy, Inc.  
 PO Box 252  
 Great Bend, KS 67530  
 ATTN: Kurt Talbott

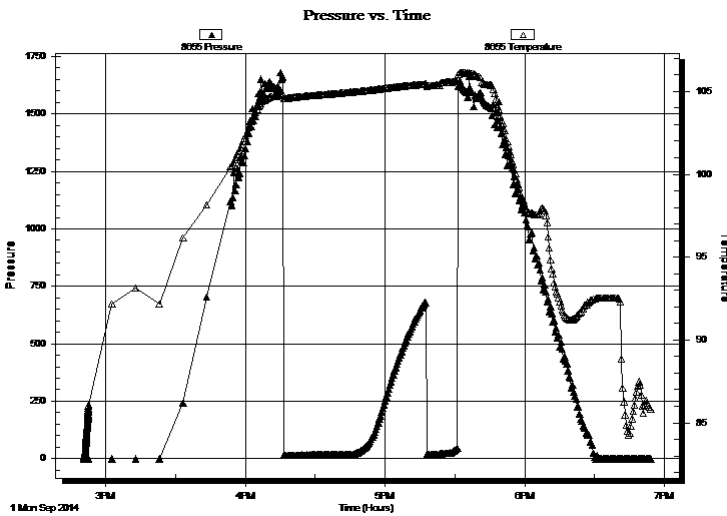
**30-15s-17w Ellis, KS**  
**Werth #A-1**  
 Job Ticket: 58399      **DST#: 2**  
 Test Start: 2014.09.01 @ 14:50:57

## GENERAL INFORMATION:

|   |                      |         |  |   |
|---|----------------------|---------|--|---|
| Formation: <b>Lower LKC</b>                               |                      |         |  | Test Type: Conventional Bottom Hole (Reset) |
| Deviated: No Whipstock:                                   |                      | ft (KB) |  | Tester: Brannan Lonsdale                    |
| Time Tool Opened: 16:16:57                                |                      |         |  | Unit No: 62                                 |
| Time Test Ended: 18:55:27                                 |                      |         |  |   |
| <b>Interval: 3318.00 ft (KB) To 3400.00 ft (KB) (TVD)</b> |                      |         |  | Reference Elevations: 1910.00 ft (KB)       |
| Total Depth: 3400.00 ft (KB) (TVD)                        |                      |         |  | 1903.00 ft (CF)                             |
| Hole Diameter: 7.88 inches                                | Hole Condition: Fair |         |  | KB to GR/CF: 7.00 ft                        |

|                       |                |                 |            |               |              |
|-----------------------|----------------|-----------------|------------|---------------|--------------|
| <b>Serial #: 8655</b> | <b>Outside</b> |                 |            |               |              |
| Press@RunDepth:       | psig @         | 3319.00 ft (KB) |            | Capacity:     | 8000.00 psig |
| Start Date:           | 2014.09.01     | End Date:       | 2014.09.01 | Last Calib.:  | 2014.09.01   |
| Start Time:           | 14:50:32       | End Time:       | 18:54:01   | Time On Btm:  |              |
|                       |                |                 |            | Time Off Btm: |              |

**TEST COMMENT:** 30- IF- Weak surface blow  
 30- IS- No blow  
 10- FF- No blow flushed tool No blow  
 05- FS- No blow



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|------------|
|             |                 |              |            |
|             |                 |              |            |
|             |                 |              |            |
|             |                 |              |            |
|             |                 |              |            |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 15.00       | M           | 0.20         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Charter Energy, Inc.  
PO Box 252  
Great Bend, KS 67530  
ATTN: Kurt Talbott

**30-15s-17w Ellis,KS**  
**Werth #A-1**  
Job Ticket: 58399      **DST#: 2**  
Test Start: 2014.09.01 @ 14:50:57

**Tool Information**

|                           |                    |                       |                            |                        |             |
|---------------------------|--------------------|-----------------------|----------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3327.00 ft | Diameter: 3.75 inches | Volume: 45.45 bbl          | Tool Weight:           | 2000.00 lb  |
| Heavy Wt. Pipe:           | Length: ft         | Diameter: 2.75 inches | Volume: - bbl              | Weight set on Packer:  | 25000.00 lb |
| Drill Collar:             | Length: 0.00 ft    | Diameter: 2.25 inches | Volume: 0.00 bbl           | Weight to Pull Loose:  | 55000.00 lb |
|                           |                    |                       | <u>Total Volume:</u> - bbl | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 29.00 ft           |                       |                            | String Weight: Initial | 52000.00 lb |
| Depth to Top Packer:      | 3318.00 ft         |                       |                            | Final                  | 52000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                            |                        |             |
| Interval between Packers: | 82.00 ft           |                       |                            |                        |             |
| Tool Length:              | 102.00 ft          |                       |                            |                        |             |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                            |                        |             |

Tool Comments:

**Tool Description**

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

|                 |       |      |         |         |                                    |
|-----------------|-------|------|---------|---------|------------------------------------|
| Change Over Sub | 1.00  |      |         | 3299.00 |                                    |
| Shut In Tool    | 5.00  |      |         | 3304.00 |                                    |
| Hydraulic tool  | 5.00  |      |         | 3309.00 |                                    |
| Packer          | 5.00  |      |         | 3314.00 | 20.00      Bottom Of Top Packer    |
| Packer          | 4.00  |      |         | 3318.00 |                                    |
| Stubb           | 1.00  |      |         | 3319.00 |                                    |
| Recorder        | 0.00  | 8651 | Inside  | 3319.00 |                                    |
| Recorder        | 0.00  | 8655 | Outside | 3319.00 |                                    |
| Perforations    | 13.00 |      |         | 3332.00 |                                    |
| Change Over Sub | 1.00  |      |         | 3333.00 |                                    |
| Drill Pipe      | 63.00 |      |         | 3396.00 |                                    |
| Change Over Sub | 1.00  |      |         | 3397.00 |                                    |
| Bullnose        | 3.00  |      |         | 3400.00 | 82.00      Bottom Packers & Anchor |

**Total Tool Length: 102.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Charter Energy, Inc.  
PO Box 252  
Great Bend, KS 67530  
ATTN: Kurt Talbott

**30-15s-17w Ellis,KS**  
**Werth #A-1**  
Job Ticket: 58399      **DST#: 2**  
Test Start: 2014.09.01 @ 14:50:57

### 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: 46.00 sec/qt          | Cushion Volume: bbl        |                 |         |
| Water Loss: 7.98 in <sup>3</sup> | Gas Cushion Type:          |                 |         |
| Resistivity: ohm.m               | Gas Cushion Pressure: psig |                 |         |
| Salinity: 3800.00 ppm            |                            |                 |         |
| Filter Cake: inches              |                            |                 |         |

### Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 15.00        | M           | 0.205         |

Total Length: 15.00 ft      Total Volume: 0.205 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

Serial #: 8651

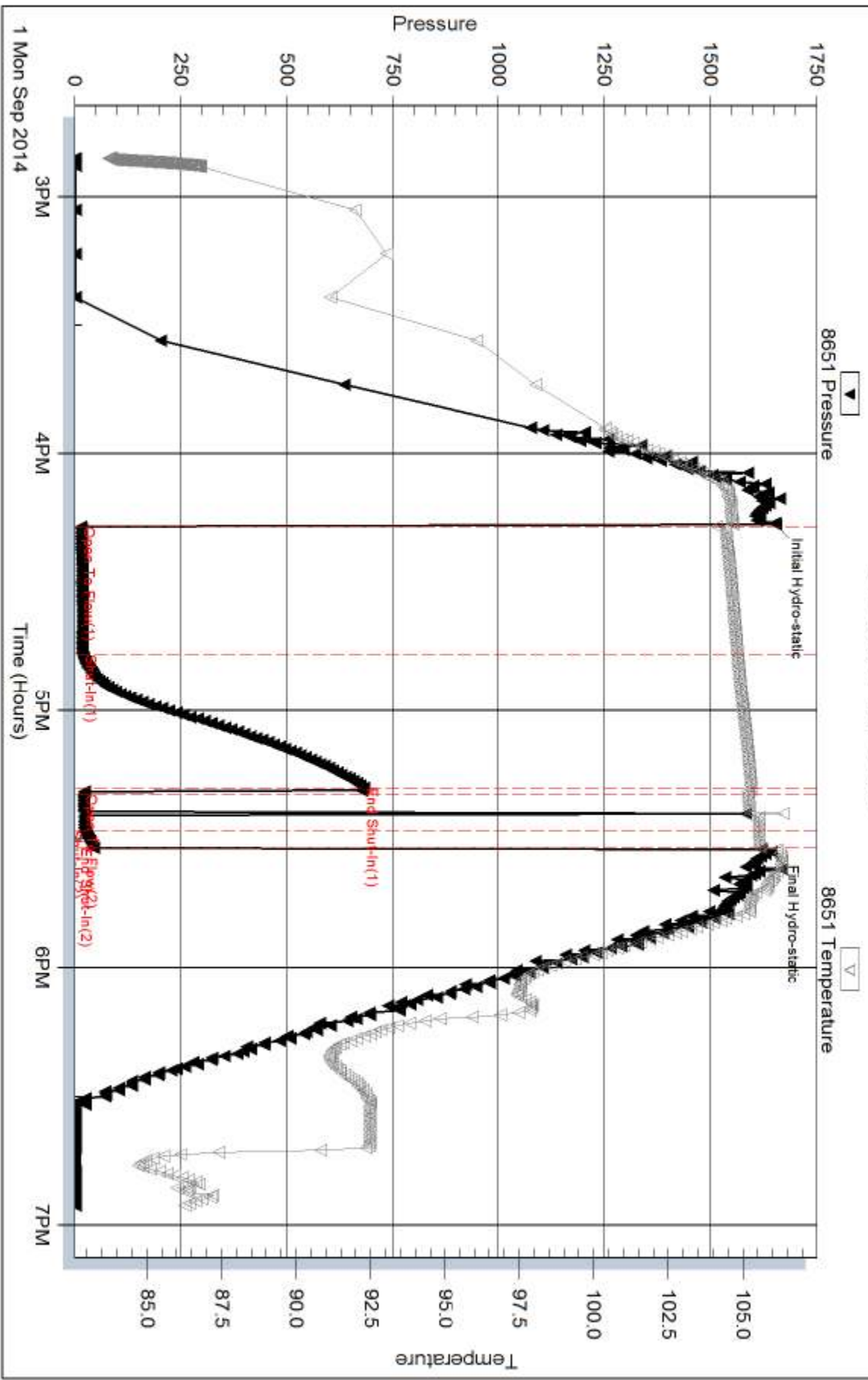
Inside

Charter Energy, Inc.

Worth #A-1

DST Test Number: 2

### Pressure vs. Time

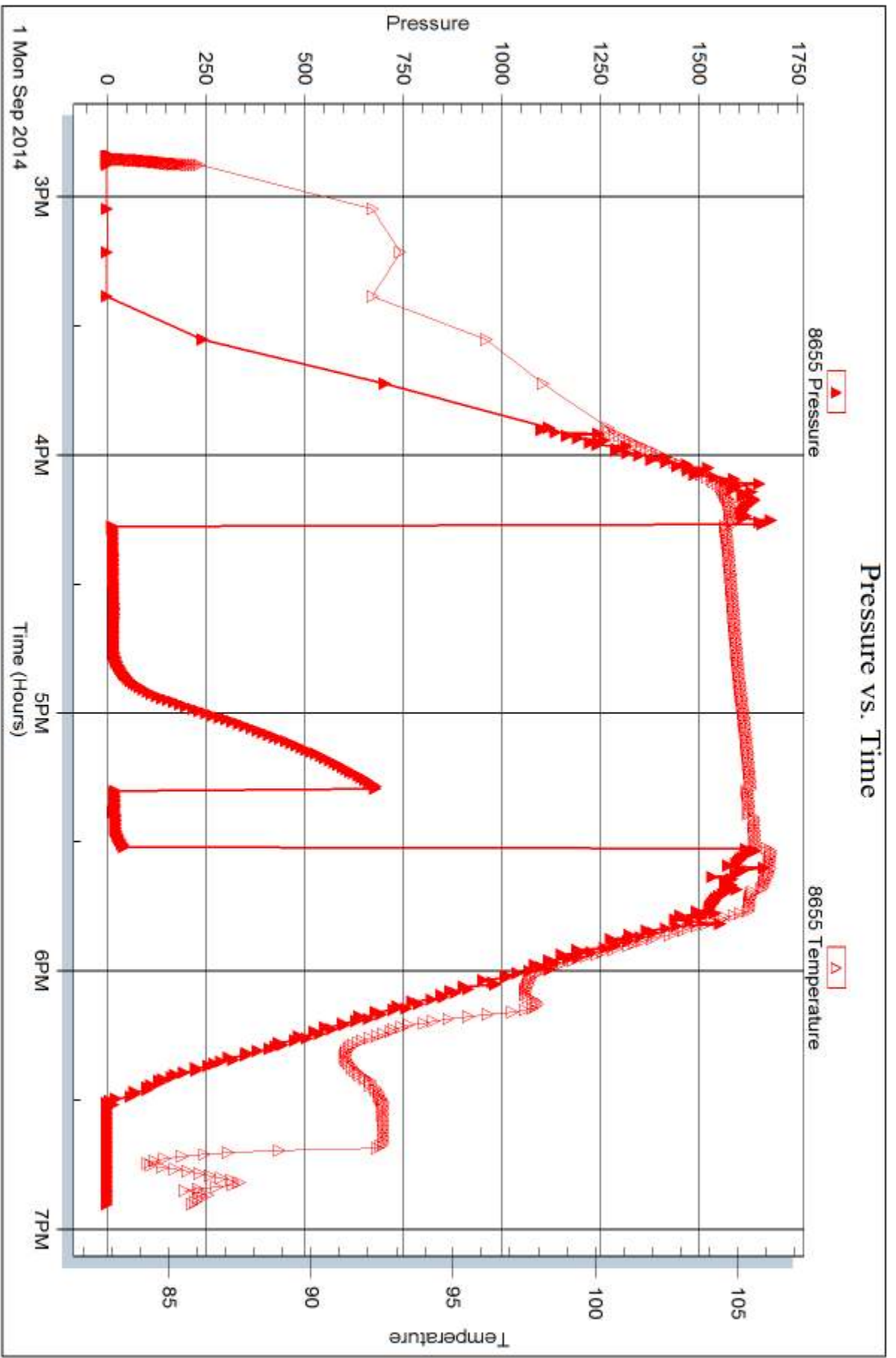


Serial #: 8655

Outside Charter Energy, Inc.

Worth #A-1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 58399

Printed: 2014.09.04 @ 14:55:53



## DRILL STEM TEST REPORT

Prepared For: **Charter Energy, Inc.**

PO Box 252  
Great Bend, KS 67530

ATTN: Kurt Talbott

**Werth #A-1**

**30-15s-17w Ellis,KS**

Start Date: 2014.09.02 @ 12:16:22

End Date: 2014.09.02 @ 17:13:22

Job Ticket #: 58400                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.04 @ 14:54:43



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Charter Energy, Inc.  
PO Box 252  
Great Bend, KS 67530  
ATTN: Kurt Talbott

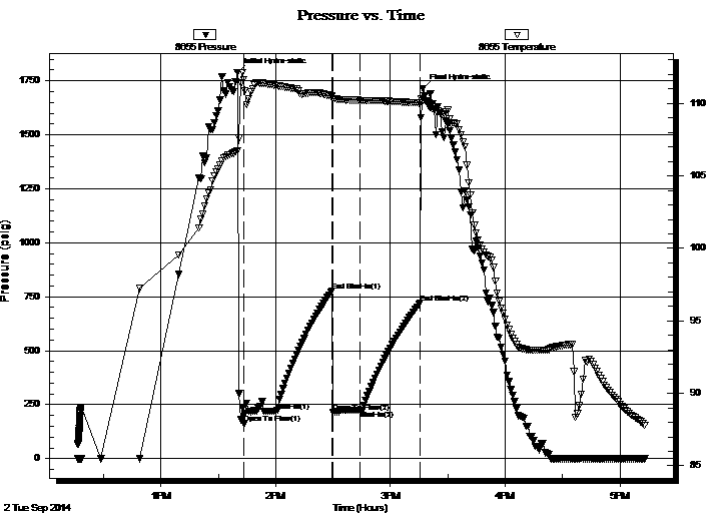
**30-15s-17w Ellis,KS**  
**Werth #A-1**  
Job Ticket: 58400      **DST#: 3**  
Test Start: 2014.09.02 @ 12:16:22

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 13:43:22  
Time Test Ended: 17:13:22  
Interval: **3430.00 ft (KB) To 3504.00 ft (KB) (TVD)**  
Total Depth: 3504.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 1910.00 ft (KB)  
1903.00 ft (CF)  
KB to GR/CF: 7.00 ft

**Serial #: 8655      Outside**  
Press@RunDepth: 223.99 psig @ 3431.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.09.02      End Date: 2014.09.02      Last Calib.: 2014.09.02  
Start Time: 12:16:23      End Time: 17:13:22      Time On Btm: 2014.09.02 @ 13:39:52  
Time Off Btm: 2014.09.02 @ 15:16:52

TEST COMMENT: 20- IF- BOB 1 min  
30- IS- No blow  
15- FF- Weak surface blow died in 2 mins  
30- FS- No blow



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1788.91         | 106.75       | Initial Hydro-static |
| 4           | 162.28          | 111.62       | Open To Flow (1)     |
| 20          | 218.62          | 111.23       | Shut-In(1)           |
| 50          | 777.59          | 110.49       | End Shut-In(1)       |
| 50          | 213.93          | 110.34       | Open To Flow (2)     |
| 64          | 223.99          | 110.21       | Shut-In(2)           |
| 96          | 720.13          | 110.03       | End Shut-In(2)       |
| 97          | 1712.52         | 110.23       | Final Hydro-static   |

## Recovery

| Length (ft) | Description   | Volume (bbl) |
|-------------|---------------|--------------|
| 425.00      | WM, 20%W 80%M | 5.81         |
|             |               |              |
|             |               |              |
|             |               |              |
|             |               |              |

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Charter Energy, Inc.  
 PO Box 252  
 Great Bend, KS 67530  
 ATTN: Kurt Talbott

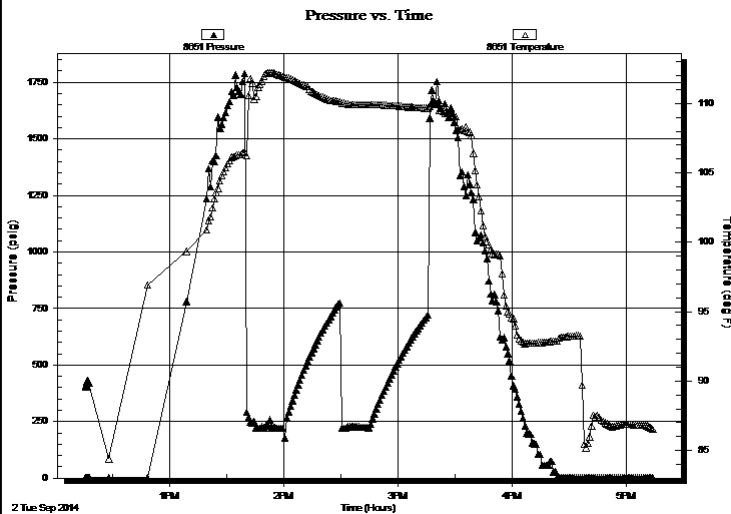
**30-15s-17w Ellis,KS**  
**Werth #A-1**  
 Job Ticket: 58400 **DST#: 3**  
 Test Start: 2014.09.02 @ 12:16:22

**GENERAL INFORMATION:**

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 13:43:22 Tester: Brannan Lonsdale  
 Time Test Ended: 17:13:22 Unit No: 62  
**Interval: 3430.00 ft (KB) To 3504.00 ft (KB) (TVD)** Reference Elevations: 1910.00 ft (KB)  
 Total Depth: 3504.00 ft (KB) (TVD) 1903.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 7.00 ft

**Serial #: 8651 Inside**  
 Press@RunDepth: psig @ 3431.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.09.02 End Date: 2014.09.02 Last Calib.: 2014.09.02  
 Start Time: 12:16:07 End Time: 17:14:06 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 20- IF- BOB 1 min  
 30- IS- No blow  
 15- FF- Weak surface blow died in 2 mins  
 30- FS- No blow



**PRESSURE SUMMARY**

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|------------|
|             |                 |              |            |
|             |                 |              |            |
|             |                 |              |            |
|             |                 |              |            |

**Recovery**

| Length (ft) | Description   | Volume (bbl) |
|-------------|---------------|--------------|
| 425.00      | WM, 20%W 80%M | 5.81         |
|             |               |              |
|             |               |              |
|             |               |              |
|             |               |              |

**Gas Rates**

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Charter Energy, Inc.  
PO Box 252  
Great Bend, KS 67530  
ATTN: Kurt Talbott

**30-15s-17w Ellis,KS**  
**Werth #A-1**  
Job Ticket: 58400      **DST#: 3**  
Test Start: 2014.09.02 @ 12:16:22

**Tool Information**

|                           |                    |                       |                            |                        |             |
|---------------------------|--------------------|-----------------------|----------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3424.00 ft | Diameter: 3.75 inches | Volume: 46.77 bbl          | Tool Weight:           | 2000.00 lb  |
| Heavy Wt. Pipe:           | Length: ft         | Diameter: 2.75 inches | Volume: - bbl              | Weight set on Packer:  | 25000.00 lb |
| Drill Collar:             | Length: 0.00 ft    | Diameter: 2.25 inches | Volume: 0.00 bbl           | Weight to Pull Loose:  | 60000.00 lb |
|                           |                    |                       | <u>Total Volume:</u> - bbl | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 14.00 ft           |                       |                            | String Weight: Initial | 51000.00 lb |
| Depth to Top Packer:      | 3430.00 ft         |                       |                            | Final                  | 55000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                            |                        |             |
| Interval between Packers: | 74.00 ft           |                       |                            |                        |             |
| Tool Length:              | 94.00 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  |      |         | 3411.00 |                                    |
| Shut In Tool    | 5.00  |      |         | 3416.00 |                                    |
| Hydraulic tool  | 5.00  |      |         | 3421.00 |                                    |
| Packer          | 5.00  |      |         | 3426.00 | 20.00      Bottom Of Top Packer    |
| Packer          | 4.00  |      |         | 3430.00 |                                    |
| Stubb           | 1.00  |      |         | 3431.00 |                                    |
| Recorder        | 0.00  | 8651 | Inside  | 3431.00 |                                    |
| Recorder        | 0.00  | 8655 | Outside | 3431.00 |                                    |
| Perforations    | 5.00  |      |         | 3436.00 |                                    |
| Change Over Sub | 1.00  |      |         | 3437.00 |                                    |
| Drill Pipe      | 63.00 |      |         | 3500.00 |                                    |
| Change Over Sub | 1.00  |      |         | 3501.00 |                                    |
| Bullnose        | 3.00  |      |         | 3504.00 | 74.00      Bottom Packers & Anchor |

**Total Tool Length: 94.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Charter Energy, Inc.  
PO Box 252  
Great Bend, KS 67530  
ATTN: Kurt Talbott

**30-15s-17w Ellis,KS**  
**Werth #A-1**  
Job Ticket: 58400      **DST#: 3**  
Test Start: 2014.09.02 @ 12:16:22

## 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: | 26000 ppm |
| Viscosity: 60.00 sec/qt          | Cushion Volume: bbl        |                 |           |
| Water Loss: 6.79 in <sup>3</sup> | Gas Cushion Type:          |                 |           |
| Resistivity: ohm.m               | Gas Cushion Pressure: psig |                 |           |
| Salinity: 3700.00 ppm            |                            |                 |           |
| Filter Cake: inches              |                            |                 |           |

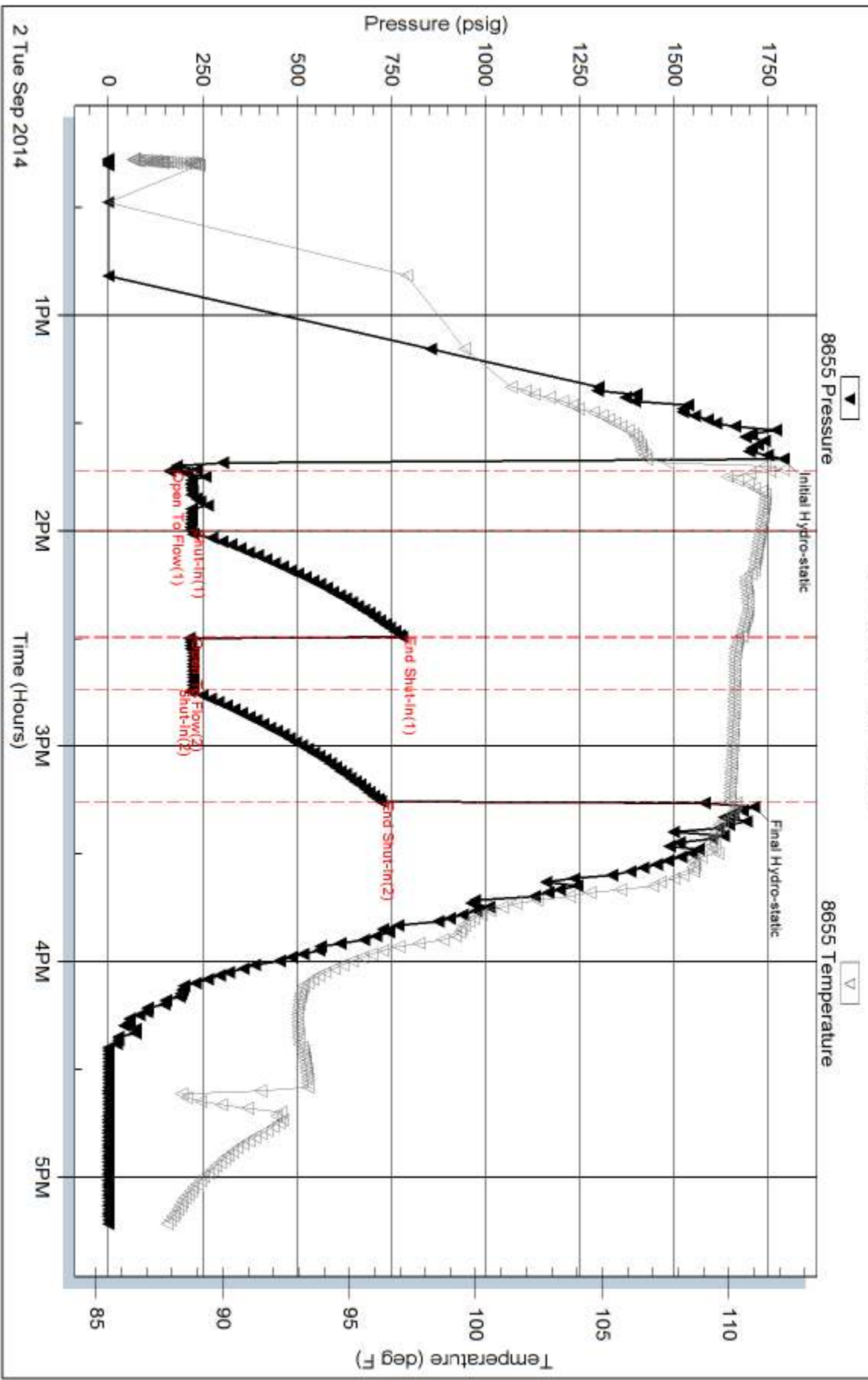
## Recovery Information

Recovery Table

| Length<br>ft | Description   | Volume<br>bbl |
|--------------|---------------|---------------|
| 425.00       | WM, 20%W 80%M | 5.806         |

Total Length: 425.00 ft      Total Volume: 5.806 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time



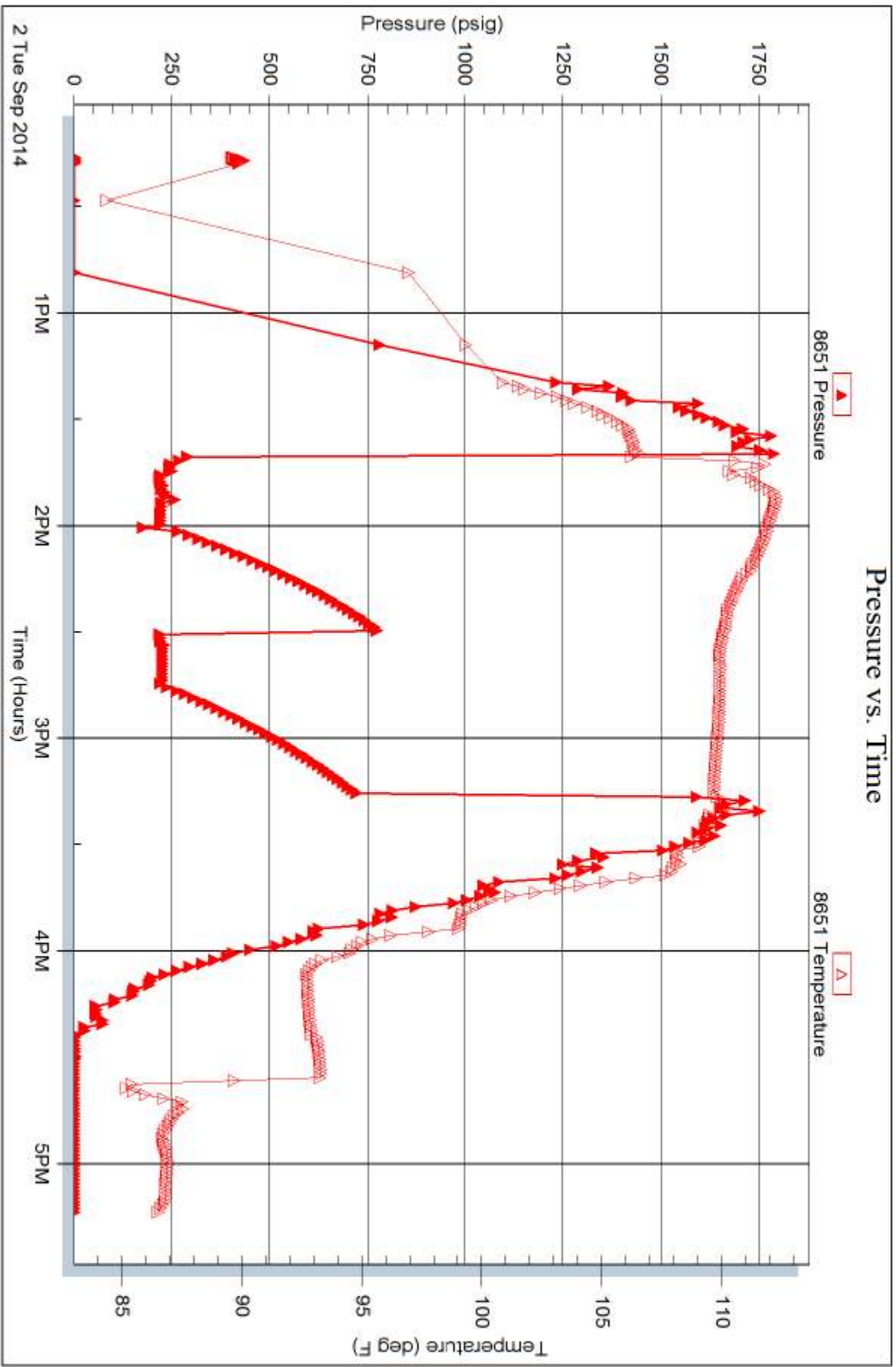
Serial #: 8651

Inside

Charter Energy, Inc.

Werth #A-1

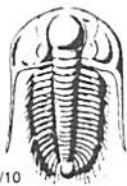
DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 58400

Printed: 2014.09.04 @ 14:54:45



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58398

Well Name & No. Worth #A-1 Test No. 1 Date 8/31/14  
 Company Charter Energy, Inc. Elevation 1910 KB 1903 GL  
 Address PO Box 252 / Great Bend, KS 67530  
 Co. Rep / Geo. Kurt Talbot Rig Royal #1  
 Location: Sec. 30 Twp. 18S Rge. 17W Co. Ellis State KS

Interval Tested 3151-8285 Zone Tested Toronto-LKC "F"  
 Anchor Length 134' Drill Pipe Run 3136 Mud Wt. 8.9  
 Top Packer Depth 3146 Drill Collars Run — Vis 52  
 Bottom Packer Depth 3151 Wt. Pipe Run — WL 7.2  
 Total Depth 3285 Chlorides 3200 ppm System LCM 1#  
 Blow Description IF - slowly built to 2"  
FSI - No blow  
FF - slowly built A to 1"  
FSI - No blow

| Rec       | Feet of  | %gas | %oil | %water | %mud |
|-----------|----------|------|------|--------|------|
| <u>50</u> | <u>M</u> |      |      |        |      |
| Rec       | Feet of  | %gas | %oil | %water | %mud |
| Rec       | Feet of  | %gas | %oil | %water | %mud |
| Rec       | Feet of  | %gas | %oil | %water | %mud |
| Rec       | Feet of  | %gas | %oil | %water | %mud |

Rec Total 50' BHT 106° Gravity — API RW — @ — ° F Chlorides — ppm

|   |  |   |
|---|--|---|
| (A) Initial Hydrostatic <u>1564</u>     | <input checked="" type="checkbox"/> Test <u>1150</u>           | T-On Location <u>1640</u>                             |
| (B) First Initial Flow <u>20</u>        | <input type="checkbox"/> Jars <u>—</u>                         | T-Started <u>1826</u>                                 |
| (C) First Final Flow <u>28</u>          | <input type="checkbox"/> Safety Joint <u>—</u>                 | T-Open <u>2017</u>                                    |
| (D) Initial Shut-In <u>841</u>          | <input type="checkbox"/> Circ Sub <u>—</u>                     | T-Pulled <u><del>2247</del> 2232</u>                  |
| (E) Second Initial Flow <u>31</u>       | <input type="checkbox"/> Hourly Standby <u>—</u>               | T-Out <u>2027 9/1</u>                                 |
| (F) Second Final Flow <u>43</u>         | <input checked="" type="checkbox"/> Mileage <u>26 RT 40.30</u> | Comments <u>—</u>                                     |
| (G) Final Shut-In <u>724</u>            | <input type="checkbox"/> Sampler <u>—</u>                      | <input type="checkbox"/> Ruined Shale Packer <u>—</u> |
| (H) Final Hydrostatic <u>1533</u>       | <input type="checkbox"/> Straddle <u>—</u>                     | <input type="checkbox"/> Ruined Packer <u>—</u>       |
| Initial Open <u>30</u>                  | <input type="checkbox"/> Shale Packer <u>—</u>                 | <input type="checkbox"/> Extra Copies <u>—</u>        |
| Initial Shut-In <u><del>30</del> 30</u> | <input type="checkbox"/> Extra Packer <u>—</u>                 | Sub Total <u>0</u>                                    |
| Final Flow <u>30</u>                    | <input type="checkbox"/> Extra Recorder <u>—</u>               | Total <u>1190.30</u>                                  |
| Final Shut-In <u>45</u>                 | <input type="checkbox"/> Day Standby <u>—</u>                  | MP/DST Disc't <u>—</u>                                |
|   | <input type="checkbox"/> Accessibility <u>—</u>                |   |
|   | Sub Total <u>1190.30</u>                                       |   |

Approved By \_\_\_\_\_ Our Representative Brannan Lonsdale

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



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58399

4/10

Well Name & No. Werth A#1 Test No. 2 Date 9/1/14  
 Company Charter Energy, Inc. Elevation 1910 KB 1903 GL  
 Address PO Box 252 Great Bend, KS 67530  
 Co. Rep / Geo. Kurt Talbott Rig Royal #1  
 Location: Sec. 30 Twp. 15.5 Rge. 17W Co. Ellis State KS

Interval Tested 3318-3400 Zone Tested Lower LKC  
 Anchor Length 82' Drill Pipe Run 3327 Mud Wt. 9.2  
 Top Packer Depth 3313 Drill Collars Run --- Vis 46  
 Bottom Packer Depth 3318 Wt. Pipe Run --- WL 8.0  
 Total Depth 3400 Chlorides 3800 ppm System LCM 1#

Blow Description IF - Weak surface blow  
ISI - No blow  
FF - No blow Flushed tool No blow  
FST - No blow

| Rec       | Feet of  | %gas | %oil | %water | %mud |
|-----------|----------|------|------|--------|------|
| <u>15</u> | <u>M</u> |      |      |        |      |
| Rec       | Feet of  | %gas | %oil | %water | %mud |
| Rec       | Feet of  | %gas | %oil | %water | %mud |
| Rec       | Feet of  | %gas | %oil | %water | %mud |

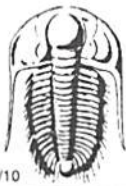
Rec Total 15' BHT 106° Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic 1653  Test 1150 T-On Location 1445  
 (B) First Initial Flow 16  Jars --- T-Started 1451  
 (C) First Final Flow 19  Safety Joint --- T-Open 1617  
 (D) Initial Shut-In 682  Circ Sub --- T-Pulled 1732  
 (E) Second Initial Flow 21  Hourly Standby --- T-Out 1856  
 (F) Second Final Flow 24  Mileage 26 RT 40.30 Comments ---  
 (G) Final Shut-In 47  Sampler ---  
 (H) Final Hydrostatic 1644  Straddle ---  Ruined Shale Packer ---  
 Shale Packer ---  Ruined Packer ---  
 Extra Packer ---  Extra Copies ---  
 Extra Recorder --- Sub Total 0  
 Day Standby --- Total 1190.30  
 Accessibility --- MP/DST Disc't ---

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 10  
 Final Shut-In 5  
 Sub Total 1190.30

Approved By \_\_\_\_\_ Our Representative Brennan Lowdale

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58400

Well Name & No. Worth A#1 Test No. 3 Date 9/2/14  
 Company Charter Energy, Inc. Elevation 1910 KB 1903 GL  
 Address 252 PO Box Acreat Bend, KS 67530  
 Co. Rep / Geo. Kurt Talbott Rig Royal #1  
 Location: Sec. 30 Twp. 15 S Rge. 17 W Co. Ellis State KS

Interval Tested 3430-3504 Zone Tested Arbuckle  
 Anchor Length 74' Drill Pipe Run 3424 Mud Wt. 9.3  
 Top Packer Depth 3425 Drill Collars Run — Vis 60+  
 Bottom Packer Depth 3430 Wt. Pipe Run — WL 6.8  
 Total Depth 3504 Chlorides 3,700 ppm System LCM 2#

Blow Description IP - BOB 1 min  
ISI - No blow  
FF - Weak surface blow dried in 2 mins  
FSI - No blow

| Rec        | Feet of   | %gas | %oil | %water    | %mud      |
|------------|-----------|------|------|-----------|-----------|
| <u>425</u> | <u>WM</u> |      |      | <u>20</u> | <u>80</u> |
| Rec        | Feet of   | %gas | %oil | %water    | %mud      |
| Rec        | Feet of   | %gas | %oil | %water    | %mud      |
| Rec        | Feet of   | %gas | %oil | %water    | %mud      |

Rec Total 425' BHT 110° Gravity — API RW .21 @ 83 °F Chlorides 26,000 ppm  
 Test 1150 T-On Location 1210  
 Jars \_\_\_\_\_ T-Started 1216  
 Safety Joint \_\_\_\_\_ T-Open 1340  
 Circ Sub \_\_\_\_\_ T-Pulled 1515  
 Hourly Standby \_\_\_\_\_ T-Out 1714  
 Mileage 26 RT 40.30 Comments \_\_\_\_\_  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 20  
 Initial Shut-In 30  
 Final Flow 15  
 Final Shut-In 30  
 Sub Total 0  
 Total 1190.30  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1190.30

Approved By \_\_\_\_\_ Our Representative Brannan Lonsdale

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