



## DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc.**

PO Box 352  
Russell KS 67665-2635

ATTN: Austin Klaus

### **Hagerman #1**

#### **12-20s-17w Pawnee,KS**

Start Date: 2014.10.31 @ 08:25:00

End Date: 2014.10.31 @ 15:29:00

Job Ticket #: 60473                      DST #: 1

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

Printed: 2014.11.03 @ 08:51:06

John O Farmer Inc.  
12-20s-17w Pawnee,KS  
Hagerman #1  
DST # 1  
LKC "H"  
2014.10.31



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

John O Farmer Inc.  
PO Box 352  
Russell KS 67665-2635  
ATTN: Austin Klaus

**12-20s-17w Pawnee, KS**  
**Hagerman #1**  
Job Ticket: 60473 **DST#: 1**  
Test Start: 2014.10.31 @ 08:25:00

## GENERAL INFORMATION:

Formation: **LKC "H"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 10:38:00  
Time Test Ended: 15:29:00  
Interval: **3702.00 ft (KB) To 3728.00 ft (KB) (TVD)**  
Total Depth: 3987.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Poor  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Shane Konzem  
Unit No: S3  
Reference Elevations: 2139.00 ft (KB)  
2129.00 ft (CF)  
KB to GR/CF: 10.00 ft

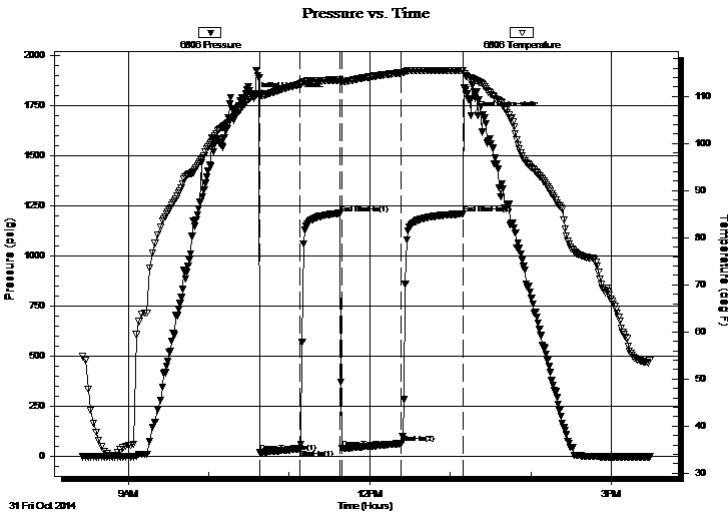
## Serial #: 6806

Inside

Press@RunDepth: 65.59 psig @ 3723.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2014.10.31 End Date: 2014.10.31 Last Calib.: 2014.10.31  
Start Time: 08:26:00 End Time: 15:29:00 Time On Btm: 2014.10.31 @ 10:34:30  
Time Off Btm: 2014.10.31 @ 13:15:30

TEST COMMENT: IFP 30 Weak blow built to 2 1/2"  
ISI 30 No blow back.  
FFP 45 Weak blow built to 2"  
FSI 45 No blow back.

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1795.65         | 110.24       | Initial Hydro-static |
| 4           | 21.45           | 110.21       | Open To Flow (1)     |
| 34          | 38.32           | 112.61       | Shut-In(1)           |
| 63          | 1212.20         | 113.50       | End Shut-In(1)       |
| 65          | 40.82           | 113.22       | Open To Flow (2)     |
| 109         | 65.59           | 115.02       | Shut-In(2)           |
| 155         | 1209.37         | 115.50       | End Shut-In(2)       |
| 161         | 1699.65         | 113.87       | Final Hydro-static   |

## Recovery

| Length (ft) | Description           | Volume (bbl) |
|-------------|-----------------------|--------------|
| 70.00       | MW 40% mud, 60% water | 0.98         |
|             |                       |              |
|             |                       |              |
|             |                       |              |
|             |                       |              |

## Gas Rates

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



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# DRILL STEM TEST REPORT

John O Farmer Inc.  
PO Box 352  
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ATTN: Austin Klaus

**12-20s-17w Pawnee, KS**

**Hagerman #1**

Job Ticket: 60473

**DST#: 1**

Test Start: 2014.10.31 @ 08:25:00

## GENERAL INFORMATION:

Formation: **LKC "H"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:38:00  
 Time Test Ended: 15:29:00  
 Interval: **3702.00 ft (KB) To 3728.00 ft (KB) (TVD)**  
 Total Depth: 3987.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Shane Konzem  
 Unit No: S3  
 Reference Elevations: 2139.00 ft (KB)  
 2129.00 ft (CF)  
 KB to GR/CF: 10.00 ft

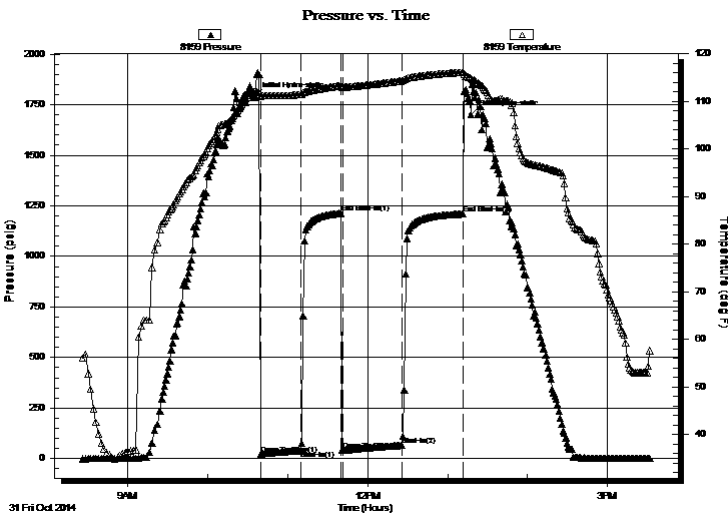
**Serial #: 8159**

**Outside**

Press@RunDepth: 1210.42 psig @ 3724.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.10.31 End Date: 2014.10.31 Last Calib.: 2014.10.31  
 Start Time: 08:26:00 End Time: 15:31:30 Time On Btm: 2014.10.31 @ 10:35:30  
 Time Off Btm: 2014.10.31 @ 13:17:30

TEST COMMENT: IFP 30 Weak blow built to 2 1/2"  
 ISI 30 No blow back.  
 FFP 45 Weak blow built to 2"  
 FSI 45 No blow back.

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1787.91         | 112.04       | Initial Hydro-static |
| 4           | 23.84           | 111.11       | Open To Flow (1)     |
| 35          | 40.42           | 111.48       | Shut-In(1)           |
| 64          | 1213.47         | 113.32       | End Shut-In(1)       |
| 66          | 42.52           | 112.99       | Open To Flow (2)     |
| 110         | 65.90           | 114.32       | Shut-In(2)           |
| 156         | 1210.42         | 116.09       | End Shut-In(2)       |
| 162         | 1702.58         | 114.79       | Final Hydro-static   |

## Recovery

| Length (ft) | Description           | Volume (bbl) |
|-------------|-----------------------|--------------|
| 70.00       | MW 40% mud, 60% water | 0.98         |
|             |                       |              |
|             |                       |              |
|             |                       |              |
|             |                       |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

John O Farmer Inc.

12-20s-17w Pawnee, KS

PO Box 352  
Russell KS 67665-2635

Hagerman #1

Job Ticket: 60473

DST#: 1

ATTN: Austin Klaus

Test Start: 2014.10.31 @ 08:25:00

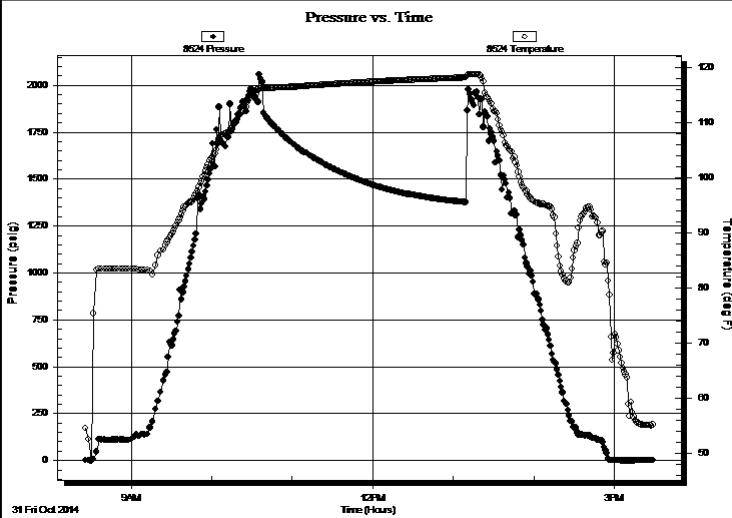
## GENERAL INFORMATION:

|   |                      |                       |                                    |
|---|----------------------|-----------------------|------------------------------------|
| Formation: <b>LKC "H"</b>                                 |                      |                       |                                    |
| Deviated: No Whipstock:                                   | ft (KB)              | Test Type:            | Conventional Bottom Hole (Initial) |
| Time Tool Opened: 10:38:00                                |                      | Tester:               | Shane Konzem                       |
| Time Test Ended: 15:29:00                                 |                      | Unit No:              | S3                                 |
| <b>Interval: 3702.00 ft (KB) To 3728.00 ft (KB) (TVD)</b> |                      | Reference Elevations: | 2139.00 ft (KB)                    |
| Total Depth: 3987.00 ft (KB) (TVD)                        |                      |                       | 2129.00 ft (CF)                    |
| Hole Diameter: 7.88 inches                                | Hole Condition: Poor | KB to GR/CF:          | 10.00 ft                           |

**Serial #: 8524 Below (Straddle)**

|                 |            |                 |            |               |            |
|-----------------|------------|-----------------|------------|---------------|------------|
| Press@RunDepth: | psig @     | 3983.50 ft (KB) | Capacity:  | 8000.00 psig  |            |
| Start Date:     | 2014.10.31 | End Date:       | 2014.10.31 | Last Calib.:  | 2014.10.31 |
| Start Time:     | 08:26:00   | End Time:       | 15:28:30   | Time On Btm:  |            |
|                 |            |                 |            | Time Off Btm: |            |

TEST COMMENT: IFP 30 Weak blow built to 2 1/2"  
ISI 30 No blow back.  
FFP 45 Weak blow built to 2"  
FSI 45 No blow back.



## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description           | Volume (bbl) |
|-------------|-----------------------|--------------|
| 70.00       | MW 40% mud, 60% water | 0.98         |
|             |                       |              |
|             |                       |              |
|             |                       |              |
|             |                       |              |
|             |                       |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

John O Farmer Inc.  
PO Box 352  
Russell KS 67665-2635  
ATTN: Austin Klaus

**12-20s-17w Pawnee, KS**  
**Hagerman #1**  
Job Ticket: 60473      **DST#: 1**  
Test Start: 2014.10.31 @ 08:25:00

**Tool Information**

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3702.00 ft | Diameter: 3.80 inches | Volume: 51.93 bbl              | Tool Weight: 2000.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 20000.00 lb  |
| Drill Collar:             | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight to Pull Loose: 72000.00 lb  |
|                           |                    |                       | <u>Total Volume: 51.93 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 20.00 ft           |                       |                                | String Weight: Initial 58000.00 lb |
| Depth to Top Packer:      | 3702.00 ft         |                       |                                | Final 58000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 284.50 ft          |                       |                                |                                    |
| Tool Length:              | 304.50 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> |
|-------------------------|--------------------|-------------------|-----------------|-------------------|-----------------------|
|-------------------------|--------------------|-------------------|-----------------|-------------------|-----------------------|

|                 |        |      |         |         |   |
|-----------------|--------|------|---------|---------|---|
| Shut-In Tool    | 5.00   |      |         | 3687.00 |   |
| Hydraulic tool  | 5.00   |      |         | 3692.00 |   |
| Top Packer      | 5.00   |      |         | 3697.00 |   |
| Packer          | 5.00   |      |         | 3702.00 | 20.00      Bottom Of Top Packer         |
| Anchor          | 20.00  |      |         | 3722.00 |   |
| Recorder        | 1.00   | 6806 | Inside  | 3723.00 |   |
| Recorder        | 1.00   | 8159 | Outside | 3724.00 |   |
| Blank Off Sub   | 0.75   |      |         | 3724.75 | 284.50      Tool Interval               |
| Packer          | 5.00   |      |         | 3729.75 |   |
| Change Over Sub | 0.75   |      |         | 3730.50 |   |
| Drill Pipe      | 252.00 |      |         | 3982.50 |   |
| Change Over Sub | 0.75   |      |         | 3983.25 |   |
| Recorder        | 0.25   | 8524 | Below   | 3983.50 |   |
| Bull Plug       | 3.00   |      |         | 3986.50 | 1000303.50      Bottom Packers & Anchor |

**Total Tool Length: 304.50**



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

John O Farmer Inc.

**12-20s-17w Pawnee,KS**

PO Box 352  
Russell KS 67665-2635

**Hagerman #1**

Job Ticket: 60473

**DST#: 1**

ATTN: Austin Klaus

Test Start: 2014.10.31 @ 08:25:00

## 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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9300.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

| Length<br>ft | Description           | Volume<br>bbl |
|--------------|-----------------------|---------------|
| 70.00        | MW 40% mud, 60% water | 0.982         |

Total Length: 70.00 ft      Total Volume: 0.982 bbl

Num Fluid Samples: 0

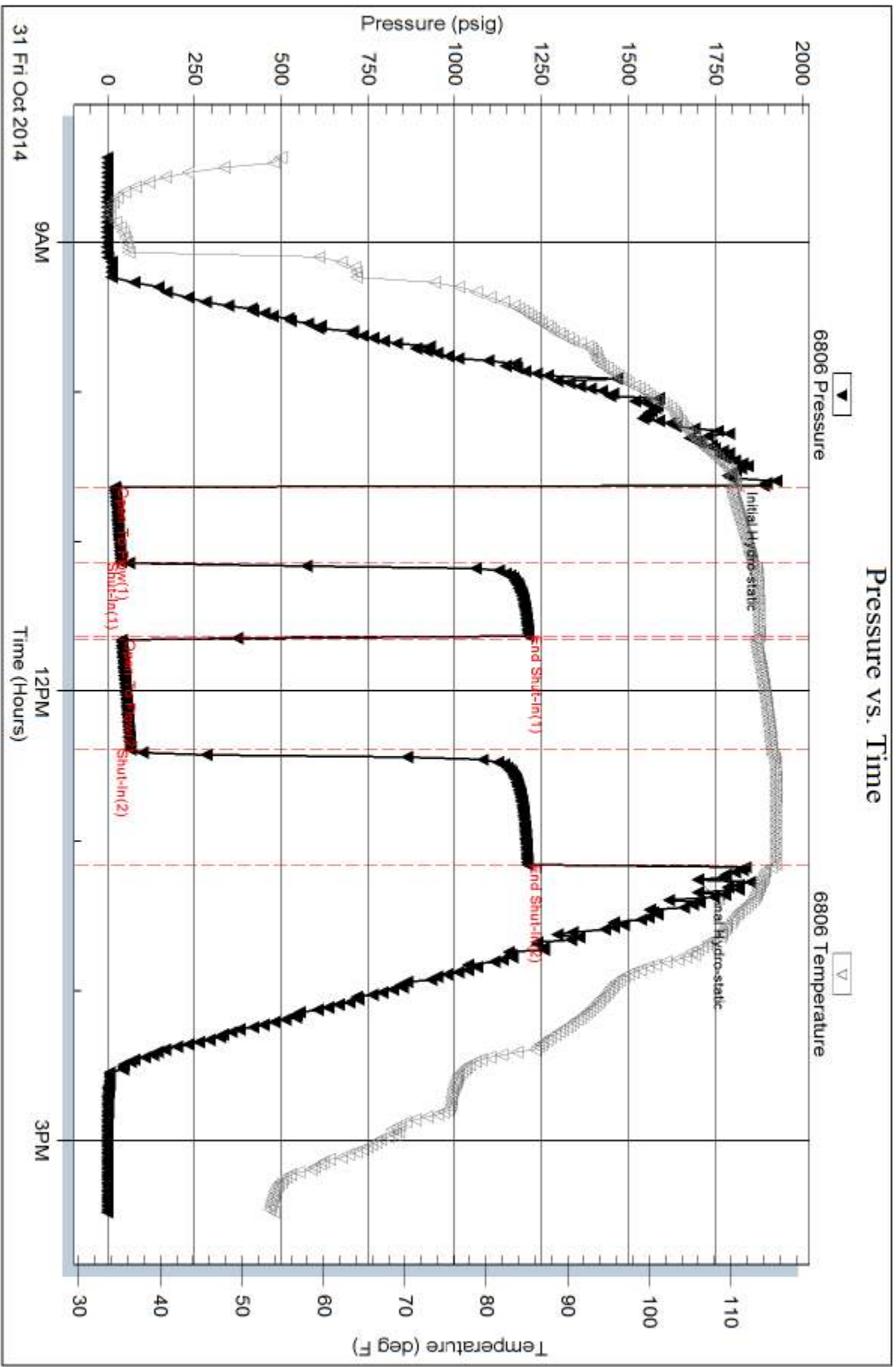
Num Gas Bombs: 0

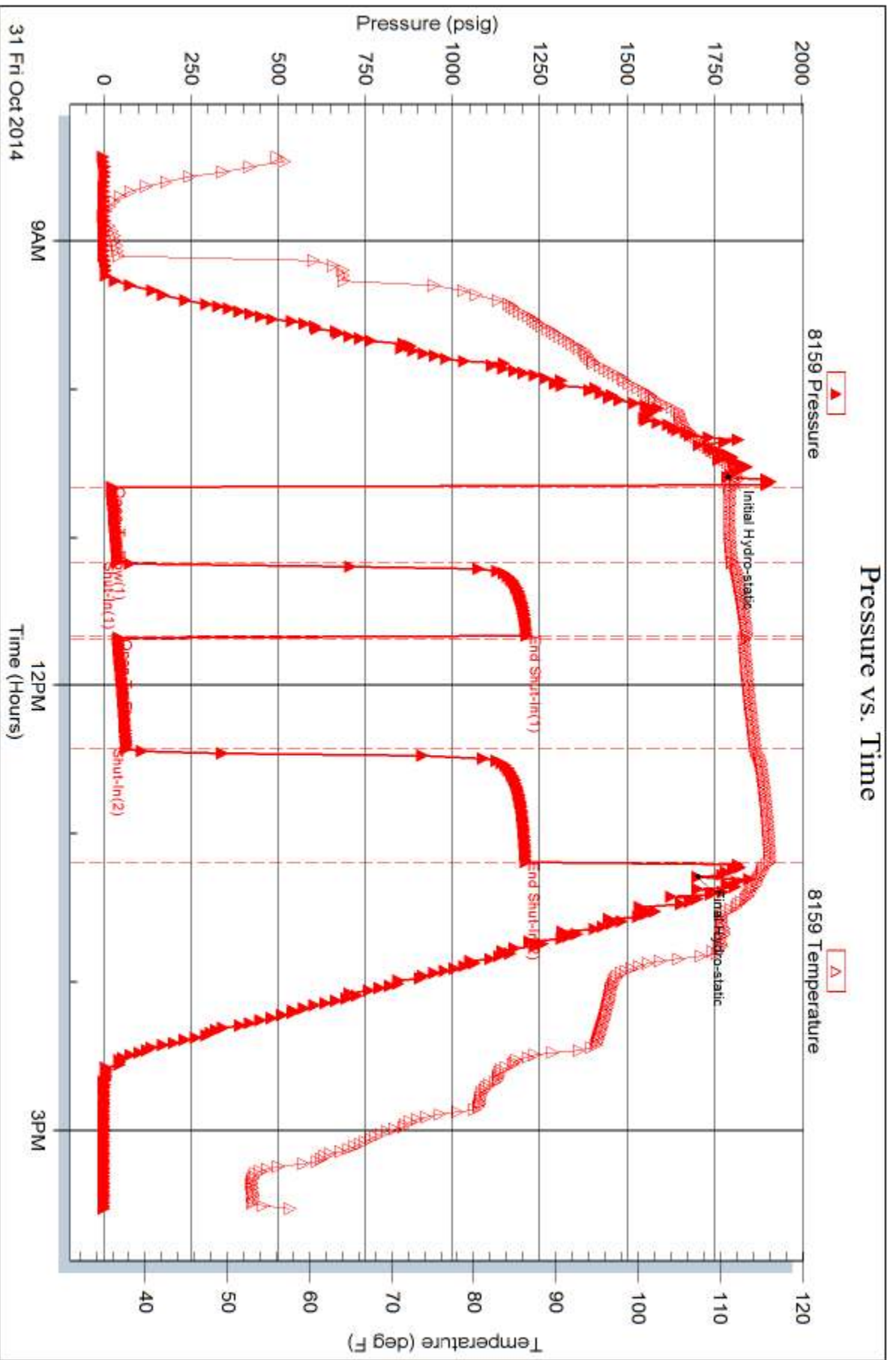
Serial #:

Laboratory Name:

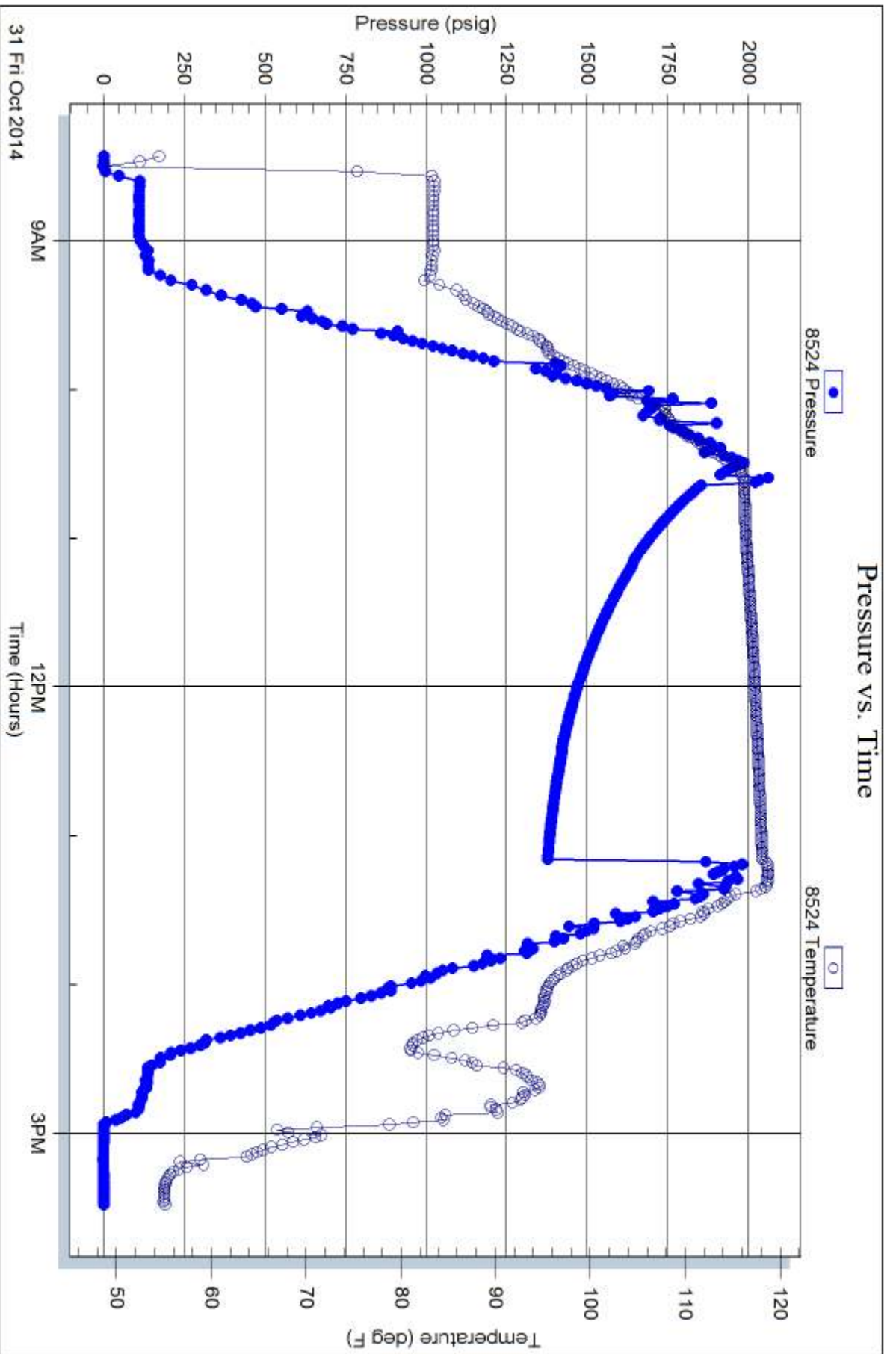
Laboratory Location:

Recovery Comments: resist recov. .22 at 50 degrees











# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **60473**

4/10

|   |                       |  |
|---|-----------------------|--|
| Well Name & No. <u>Hagerman #1</u>                                    | Test No. <u>1</u>     | Date <u>10-31-14</u>                               |
| Company <u>John O Farmer, Inc</u>                                     | Elevation <u>2139</u> | KB <u>2129</u> GL                                  |
| Address <u>320 W Wichita Ave. P.O. Box 352 Russell KS, 67665-2635</u> |                       |  |
| Co. Rep / Geo. <u>Austin Klaus</u>                                    | Rig <u>Val # 6</u>    |  |
| Location: Sec. <u>12</u>  | Twp. <u>20 S</u>      | Rge. <u>17 W</u> Co. <u>Pawnee</u> State <u>KS</u> |

|   |  |
|---|--|
| Interval Tested <u>3697 - 3702</u>  | Zone Tested <u>Lansing "H"</u>                         |
| Anchor Length <u>26'</u>  | Drill Pipe Run <u>3702</u> Mud Wt. <u>9.3</u>          |
| Top Packer Depth <u><del>3692</del> 3697 3702</u>   | Drill Collars Run <u>0</u> Vis <u><del>49</del> 53</u> |
| Bottom Packer Depth <u><del>3697</del> 3702 3728</u>  | Wt. Pipe Run <u>0</u> WL <u>10.4</u>                   |
| Total Depth <u>3987</u>   | Chlorides <u>9,300</u> ppm System LCM <u>TR</u>        |
| Blow Description <u>1<sup>st</sup> Open - Weak blow built to 2 1/2 inches into water. 1<sup>st</sup> Shut In - No blow back. 2<sup>nd</sup> Open - Weak blow built to 2 inches into water. 2<sup>nd</sup> Shut In - No blow back.</u> |  |

| Rec       | Feet of            | %gas | %oil      | %water    | %mud |
|-----------|--------------------|------|-----------|-----------|------|
| <u>78</u> | <u>muddy water</u> |      | <u>60</u> | <u>40</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 <u>70</u>                 | BHT  | Gravity <u>1</u>                             | API RW <u>-22 @ 50</u> °F | Chlorides <u>26000</u> ppm |
| (A) Initial Hydrostatic <u>1795</u> | <input checked="" type="checkbox"/> Test <u>1150</u>               | T-On Location <u>0800</u>                    |                           |                            |
| (B) First Initial Flow <u>21</u>    | <input type="checkbox"/> Jars                                      | T-Started <u>0845</u>                        |                           |                            |
| (C) First Final Flow <u>38</u>      | <input type="checkbox"/> Safety Joint                              | T-Open <u>10:45</u>                          |                           |                            |
| (D) Initial Shut-In <u>1212</u>     | <input type="checkbox"/> Circ Sub                                  | T-Pulled <u>13:15</u>                        |                           |                            |
| (E) Second Initial Flow <u>40</u>   | <input type="checkbox"/> Hourly Standby                            | T-Out <u>1515</u>                            |                           |                            |
| (F) Second Final Flow <u>65</u>     | <input checked="" type="checkbox"/> Mileage <u>80</u> 124          | Comments                                     |                           |                            |
| (G) Final Shut-In <u>1209</u>       | <input type="checkbox"/> Sampler                                   |  |                           |                            |
| (H) Final Hydrostatic <u>1699</u>   | <input checked="" type="checkbox"/> Straddle <u>600</u>            | <input type="checkbox"/> Ruined Shale Packer |                           |                            |
| Initial Open <u>30</u>              | <input type="checkbox"/> Shale Packer                              | <input type="checkbox"/> Ruined Packer       |                           |                            |
| Initial Shut-In <u>30</u>           | <input checked="" type="checkbox"/> Extra Packer <u>Straddle</u>   | <input type="checkbox"/> Extra Copies        |                           |                            |
| Final Flow <u>45</u>                | <input checked="" type="checkbox"/> Extra Recorder <u>Straddle</u> | Sub Total <u>0</u>                           |                           |                            |
| Final Shut-In <u>45</u>             | <input type="checkbox"/> Day Standby                               | Total <u>1874</u>                            |                           |                            |
|                                     | <input type="checkbox"/> Accessibility                             | MP/DST Disc't                                |                           |                            |
|                                     | Sub Total <u>1874</u>  |  |                           |                            |

Approved By \_\_\_\_\_ Our Representative Shan Kuper

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.