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**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Hertel Oil Company Inc**

704 East 12th Street  
Hays Ks 67601

ATTN: **ORIGINAL**

**8-14s-17w Ellis Ks**

**Hoffman #1-8**

Start Date: 2003.11.15 @ 17:22:54

End Date: 2003.11.16 @ 00:48:23

Job Ticket #: 18206                      DST #: 1

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

101660

ORIGINAL



**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

Hertel Oil Company Inc  
704 East 12th Street  
Hays Ks 67601  
ATTN: Mike Hertel

**Hoffman #1-8**  
**8-14s-17w Ellis Ks**  
Job Ticket: 18206 **DST#: 1**  
Test Start: 2003.11.15 @ 17:22:54

**GENERAL INFORMATION:**

Formation: **Arbuckle**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 19:13:53  
Time Test Ended: 00:48:23  
Interval: **3531.00 ft (KB) To 3572.00 ft (KB) (TVD)**  
Total Depth: 3572.00 ft (KB) (TVD)  
Hole Diameter: 7.85 inches Hole Condition: Fair

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Test Type: Conventional Bottom Hole  
Tester: Ray Schwager  
Unit No: 28  
Reference Elevations: 2008.00 ft (KB)  
2000.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 6668**

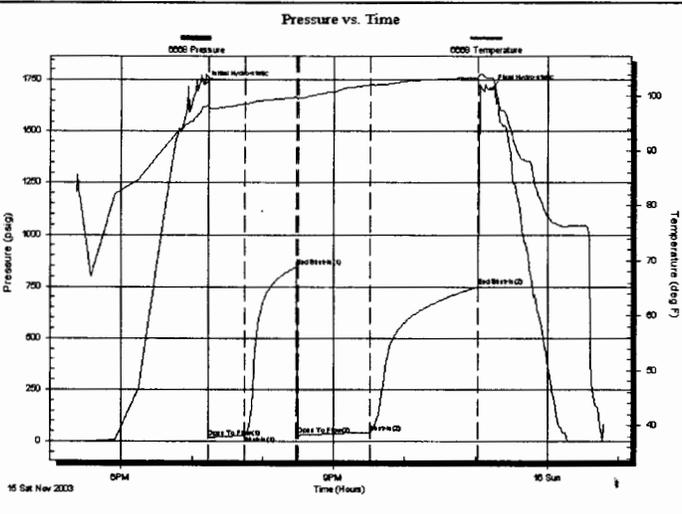
**Inside**

Press@RunDepth: 42.97 psig @ 3539.01 ft (KB)  
Start Date: 2003.11.15 End Date: 2003.11.16  
Start Time: 17:22:54 End Time: 00:48:23

Capacity: 7000.00 psig  
Last Calib.: 2003.11.16  
Time On Btm: 2003.11.15 @ 19:10:23  
Time Off Btm: 2003.11.15 @ 23:11:53

TEST COMMENT: IFP-wk to a fr bl 1/4"to 3 1/4"bl  
FFP-w k bl thru-out 1/4"to 1 1/4"bl  
Times 30-45-60-90

ORIGINAL



**PRESSURE SUMMARY**

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1729.58         | 98.11        | Initial Hydro-static |
| 4           | 18.01           | 98.07        | Open To Flow (1)     |
| 34          | 29.20           | 98.66        | Shut-In(1)           |
| 79          | 845.65          | 99.89        | End Shut-In(1)       |
| 80          | 30.36           | 99.72        | Open To Flow (2)     |
| 140         | 42.97           | 102.09       | Shut-In(2)           |
| 231         | 751.04          | 103.48       | End Shut-In(2)       |
| 242         | 1707.58         | 103.33       | Final Hydro-static   |

**Recovery**

| Length (ft) | Description                | Volume (bbl) |
|-------------|----------------------------|--------------|
| 35.00       | HO&GCM 5%gas 35%oil 60%mud | 0.49         |
| 35.00       | CO                         | 0.49         |
| 0.00        | 50'GIP                     | 0.00         |
|             |                            |              |
|             |                            |              |

**Gas Rates**

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

|  |  |   |              |
|--|--|---|--------------|
|  <p style="font-size: 2em; font-weight: bold; margin: 0;">TRILOBITE<br/>TESTING, INC.</p> | DRILL STEM TEST REPORT   |   | TOOL DIAGRAM |
|  | Hertel Oil Company Inc<br>704 East 12th Street<br>Hays Ks 67601<br><br>ATTN: Mike Hertel | <b>Hoffman #1-8</b><br><br><b>8-14s-17w Ellis Ks</b><br><br>Job Ticket: 18206 <b>DST#: 1</b><br><br>Test Start: 2003.11.15 @ 17:22:54 |              |

**Tool Information**

|                           |                    |                       |                         |                                    |
|---------------------------|--------------------|-----------------------|-------------------------|------------------------------------|
| Drill Pipe:               | Length: 3535.00 ft | Diameter: 3.80 inches | Volume: 49.59 bbl       | Tool Weight: 2200.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl        | Weight set on Packer: 25000.00 lb  |
| Drill Collar:             | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl        | Weight to Pull Loose: 50000.00 lb  |
|                           |                    |                       | Total Volume: 49.59 bbl | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 25.00 ft           |                       |                         | String Weight: Initial 38000.00 lb |
| Depth to Top Packer:      | 3531.00 ft         |                       |                         | Final 38000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                         |                                    |
| Interval between Packers: | 41.02 ft           |                       |                         |                                    |
| Tool Length:              | 62.02 ft           |                       |                         |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                         |                                    |
| Tool Comments:            |                    |                       |                         |                                    |

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| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                     |
|------------------|-------------|------------|----------|------------|------------------------------------|
| Change Over Sub  | 1.00        |            |          | 3511.00    |                                    |
| Shut In Tool     | 5.00        |            |          | 3516.00    |                                    |
| Hydraulic tool   | 5.00        |            |          | 3521.00    |                                    |
| Packer           | 5.00        |            |          | 3526.00    | 21.00      Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3531.00    |                                    |
| Stubb            | 1.00        |            |          | 3532.00    |                                    |
| Perforations     | 7.00        |            |          | 3539.00    |                                    |
| Recorder         | 0.01        | 6668       | Inside   | 3539.01    |                                    |
| Perforations     | 30.00       |            |          | 3569.01    |                                    |
| Recorder         | 0.01        | 11085      | Outside  | 3569.02    |                                    |
| Bullnose         | 3.00        |            |          | 3572.02    | 41.02      Bottom Packers & Anchor |

**Total Tool Length: 62.02**

|  |  |  |                      |
|--|--|--|----------------------|
| <br><b>TRILOBITE TESTING, INC</b> | <b>DRILL STEM TEST REPORT</b>  |  | <b>FLUID SUMMARY</b> |
|  | Hertel Oil Company Inc<br>704 East 12th Street<br>Hays Ks 67601<br><br>ATTN: Mike Hertel | <b>Hoffman #1-8</b><br><b>8-14s-17w Ellis Ks</b><br>Job Ticket: 18206<br>Test Start: 2003.11.15 @ 17:22:54 | DST#: 1              |

**Mud and Cushion Information**

|                                  |                            |                     |
|----------------------------------|----------------------------|---------------------|
| Mud Type: Gel Chem               | Cushion Type:              | Oil API: 31 deg API |
| Mud Weight: 9.00 lb/gal          | Cushion Length: ft         | Water Salinity: ppm |
| Viscosity: 55.00 sec/qt          | Cushion Volume: bbl        |                     |
| Water Loss: 7.97 in <sup>3</sup> | Gas Cushion Type:          |                     |
| Resistivity: ohm.m               | Gas Cushion Pressure: psig |                     |
| Salinity: 6000.00 ppm            |                            |                     |
| Filter Cake: 2.00 inches         |                            |                     |

**Recovery Information**

Recovery Table

| Length<br>ft | Description                | Volume<br>bbl |
|--------------|----------------------------|---------------|
| 35.00        | HO&GCM 5%gas 35%oil 60%mud | 0.491         |
| 35.00        | CO                         | 0.491         |
| 0.00         | 50'GP                      | 0.000         |

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:

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Serial #: 6668

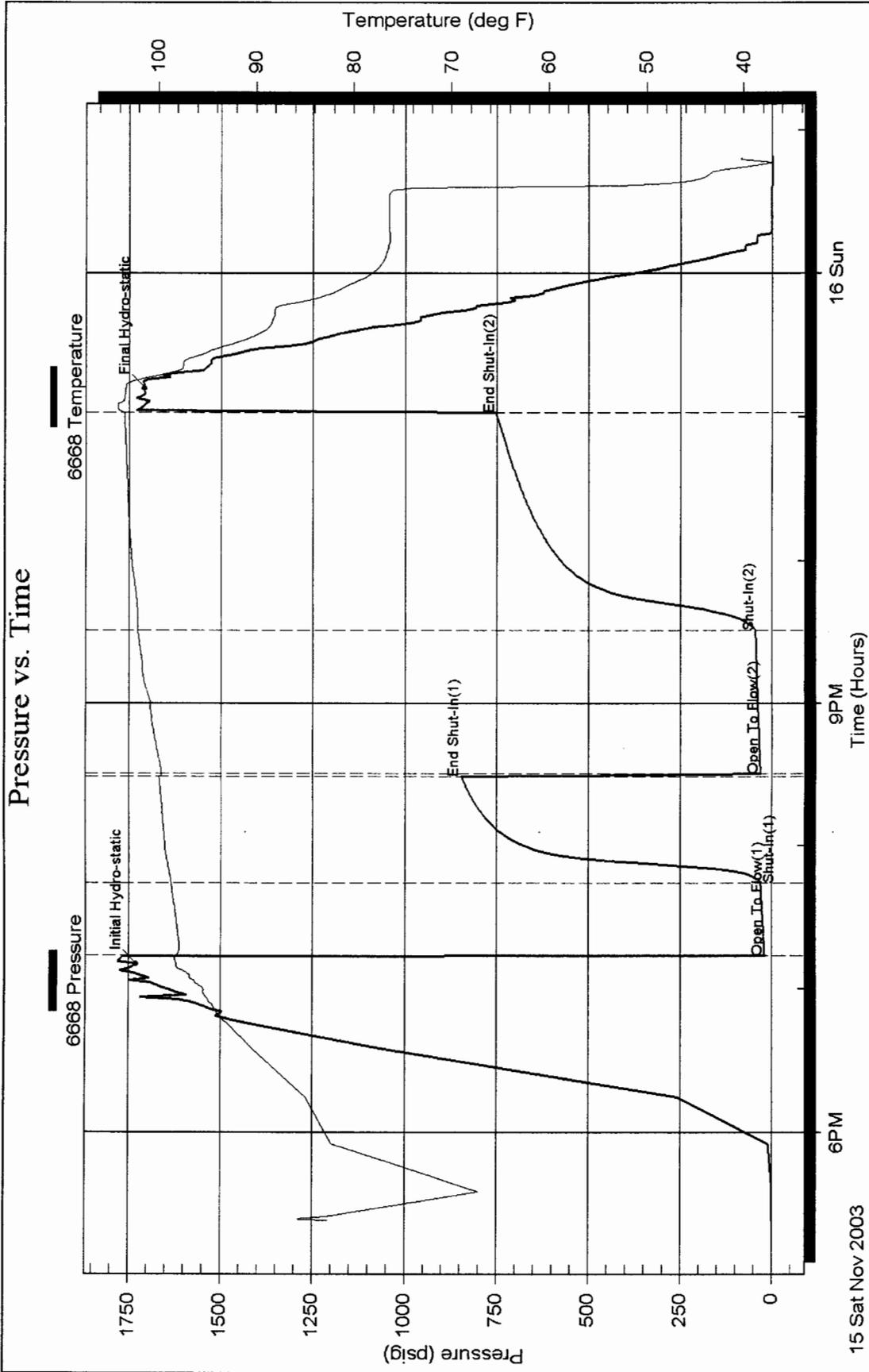
Inside

Hertel Oil Company Inc

8-14s-17w Ellis Ks

DST Test Number: 1

### Pressure vs. Time



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Ref. No: 18206

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