



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300  
Wichita Ks 67202-1216

ATTN: Tim Pierce

**Oelkers "A"#1-2**

**2-16s-19w Rush,KS**

Start Date: 2014.04.26 @ 20:10:12

End Date: 2014.04.27 @ 04:00:36

Job Ticket #: 55332                      DST #: 1

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

Printed: 2014.05.01 @ 15:15:21



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
250 N. Water STE 300  
Wichita Ks 67202-1216  
ATTN: Tim Pierce

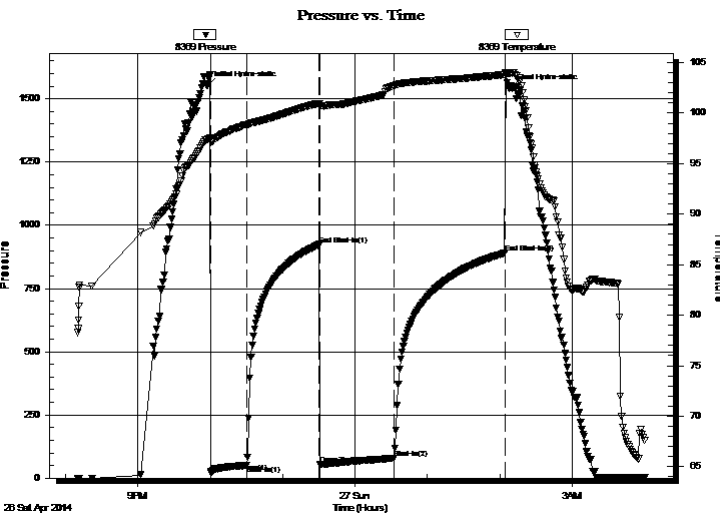
**2-16s-19w Rush,KS**  
**Oelkers "A" #1-2**  
Job Ticket: 55332 **DST#: 1**  
Test Start: 2014.04.26 @ 20:10:12

## GENERAL INFORMATION:

Formation: **Toronto -LKC B**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 22:00:37  
Time Test Ended: 04:00:36  
Interval: **3272.00 ft (KB) To 3358.00 ft (KB) (TVD)**  
Total Depth: 3358.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2022.00 ft (KB)  
1017.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Ray Schwager  
Unit No: 70

**Serial #: 8369 Inside**  
Press@RunDepth: 79.19 psig @ 3274.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2014.04.26 End Date: 2014.04.27 Last Calib.: 2014.04.27  
Start Time: 20:10:12 End Time: 04:00:36 Time On Btm: 2014.04.26 @ 21:58:07  
Time Off Btm: 2014.04.27 @ 02:08:06

TEST COMMENT: 30-IFP-w k to a fr bl 1/4" to 3 1/2" bl  
60-ISIP-no bl  
60-FFP-w k bl thru-out surface to 1/2" bl  
90-FSIP-no bl



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1552.89         | 97.42        | Initial Hydro-static |
| 3           | 23.41           | 97.12        | Open To Flow (1)     |
| 33          | 50.92           | 98.84        | Shut-In(1)           |
| 93          | 923.94          | 100.98       | End Shut-In(1)       |
| 93          | 54.52           | 100.74       | Open To Flow (2)     |
| 154         | 79.19           | 102.68       | Shut-In(2)           |
| 246         | 890.36          | 103.82       | End Shut-In(2)       |
| 250         | 1541.87         | 103.96       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                | Volume (bbl) |
|-------------|----------------------------|--------------|
| 125.00      | WM 45%W55%M w /show of oil | 1.48         |
|             |                            |              |
|             |                            |              |
|             |                            |              |
|             |                            |              |

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita Ks 67202-1216  
 ATTN: Tim Pierce

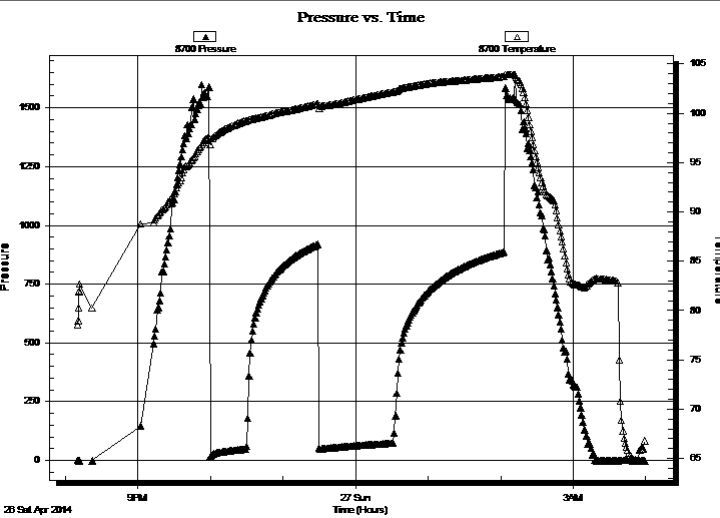
**2-16s-19w Rush, KS**  
**Oelkers "A" #1-2**  
 Job Ticket: 55332 **DST#: 1**  
 Test Start: 2014.04.26 @ 20:10:12

### GENERAL INFORMATION:

Formation: **Toronto -LKC B**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:00:37  
 Time Test Ended: 04:00:36  
 Interval: **3272.00 ft (KB) To 3358.00 ft (KB) (TVD)**  
 Total Depth: 3358.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ray Schwager  
 Unit No: 70  
 Reference Elevations: 2022.00 ft (KB)  
 2017.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8700 Outside**  
 Press@RunDepth: psig @ 3274.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.04.26 End Date: 2014.04.27 Last Calib.: 2014.04.27  
 Start Time: 20:10:20 End Time: 03:59:14 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30-IFP-w k to a fr bl 1/4" to 3 1/2" bl  
 60-ISIP-no bl  
 60-FFP-w k bl thru-out surface to 1/2" bl  
 90-FSIP-no bl



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

| Recovery    |                              |              |
|-------------|------------------------------|--------------|
| Length (ft) | Description                  | Volume (bbl) |
| 125.00      | WM 45% W55% M w /show of oil | 1.48         |
|             |                              |              |
|             |                              |              |
|             |                              |              |
|             |                              |              |
|             |                              |              |

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**2-16s-19w Rush,KS**

250 N. Water STE 300  
Wichita Ks 67202-1216

**Oelkers "A" #1-2**

Job Ticket: 55332

**DST#: 1**

ATTN: Tim Pierce

Test Start: 2014.04.26 @ 20:10:12

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3235.00 ft | Diameter: 3.80 inches | Volume: 45.38 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: 30.00 ft   | Diameter: 2.25 inches | Volume: 0.15 bbl               | Weight to Pull Loose: 65000.00 lb  |
|                           |                    |                       | <u>Total Volume: 45.53 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 22.00 ft           |                       |                                | String Weight: Initial 50000.00 lb |
| Depth to Top Packer:      | 3272.00 ft         |                       |                                | Final 51000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 86.00 ft           |                       |                                |                                    |
| Tool Length:              | 115.00 ft          |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

## Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub  | 1.00        |            |          | 3244.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3249.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3254.00    |                               |
| Jars             | 5.00        |            |          | 3259.00    |                               |
| Safety Joint     | 3.00        |            |          | 3262.00    |                               |
| Packer           | 5.00        |            |          | 3267.00    | 29.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3272.00    |                               |
| Stubb            | 1.00        |            |          | 3273.00    |                               |
| Perforations     | 1.00        |            |          | 3274.00    |                               |
| Recorder         | 0.00        | 8369       | Inside   | 3274.00    |                               |
| Recorder         | 0.00        | 8700       | Outside  | 3274.00    |                               |
| Blank Spacing    | 63.00       |            |          | 3337.00    |                               |
| Perforations     | 18.00       |            |          | 3355.00    |                               |
| Bullnose         | 3.00        |            |          | 3358.00    | 86.00 Bottom Packers & Anchor |

**Total Tool Length: 115.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc

**2-16s-19w Rush,KS**

250 N. Water STE 300  
Wichita Ks 67202-1216

**Oelkers "A"#1-2**

Job Ticket: 55332

**DST#: 1**

ATTN: Tim Pierce

Test Start: 2014.04.26 @ 20:10:12

### 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:

42000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.91 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description                | Volume<br>bbf |
|--------------|----------------------------|---------------|
| 125.00       | WM 45%W55%M w /show of oil | 1.480         |

Total Length: 125.00 ft      Total Volume: 1.480 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .2@60F

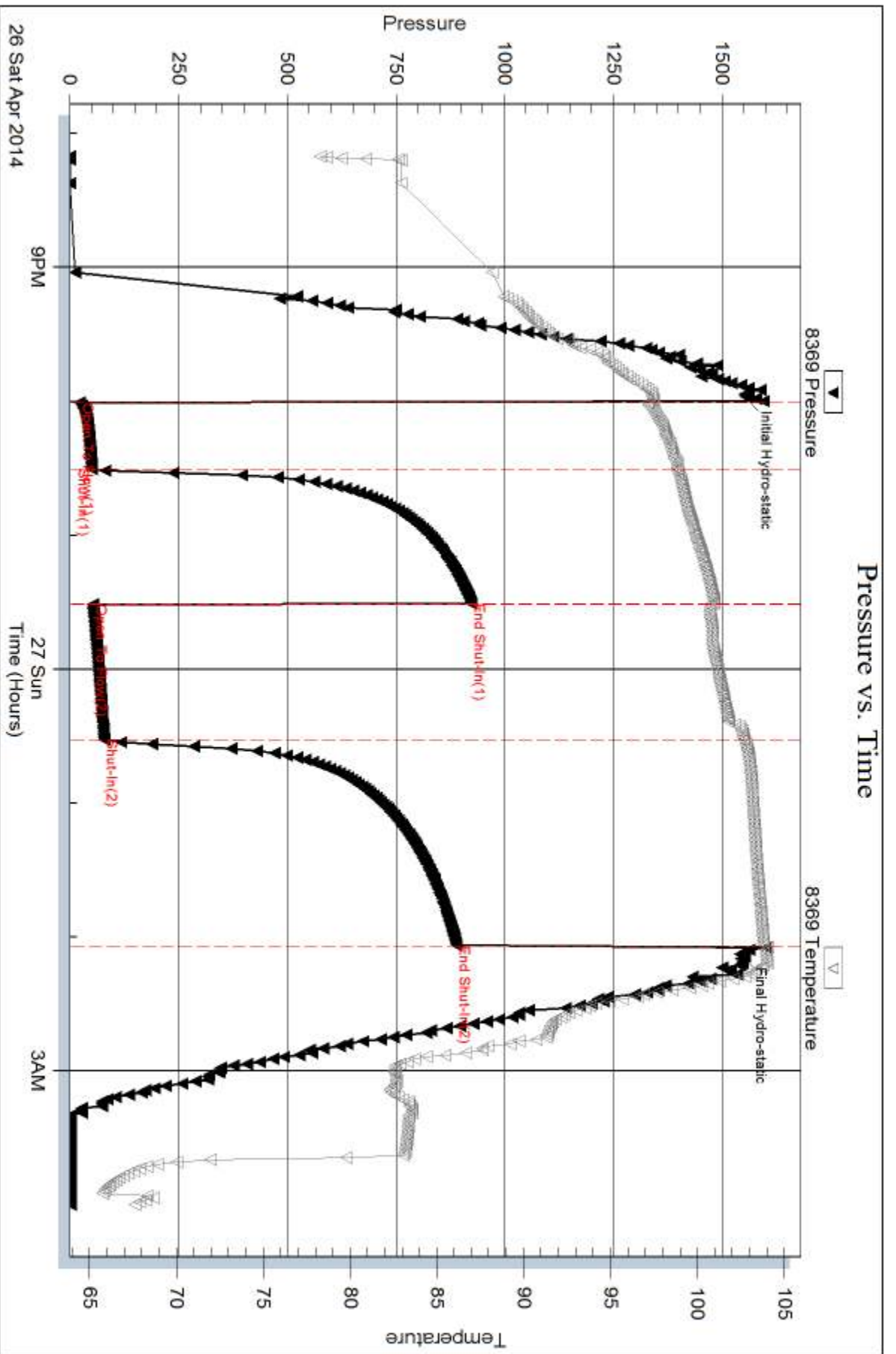
Serial #: 8369

Inside

Murfin Drilling Co Inc

Oelkers "A" #1-2

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 55332

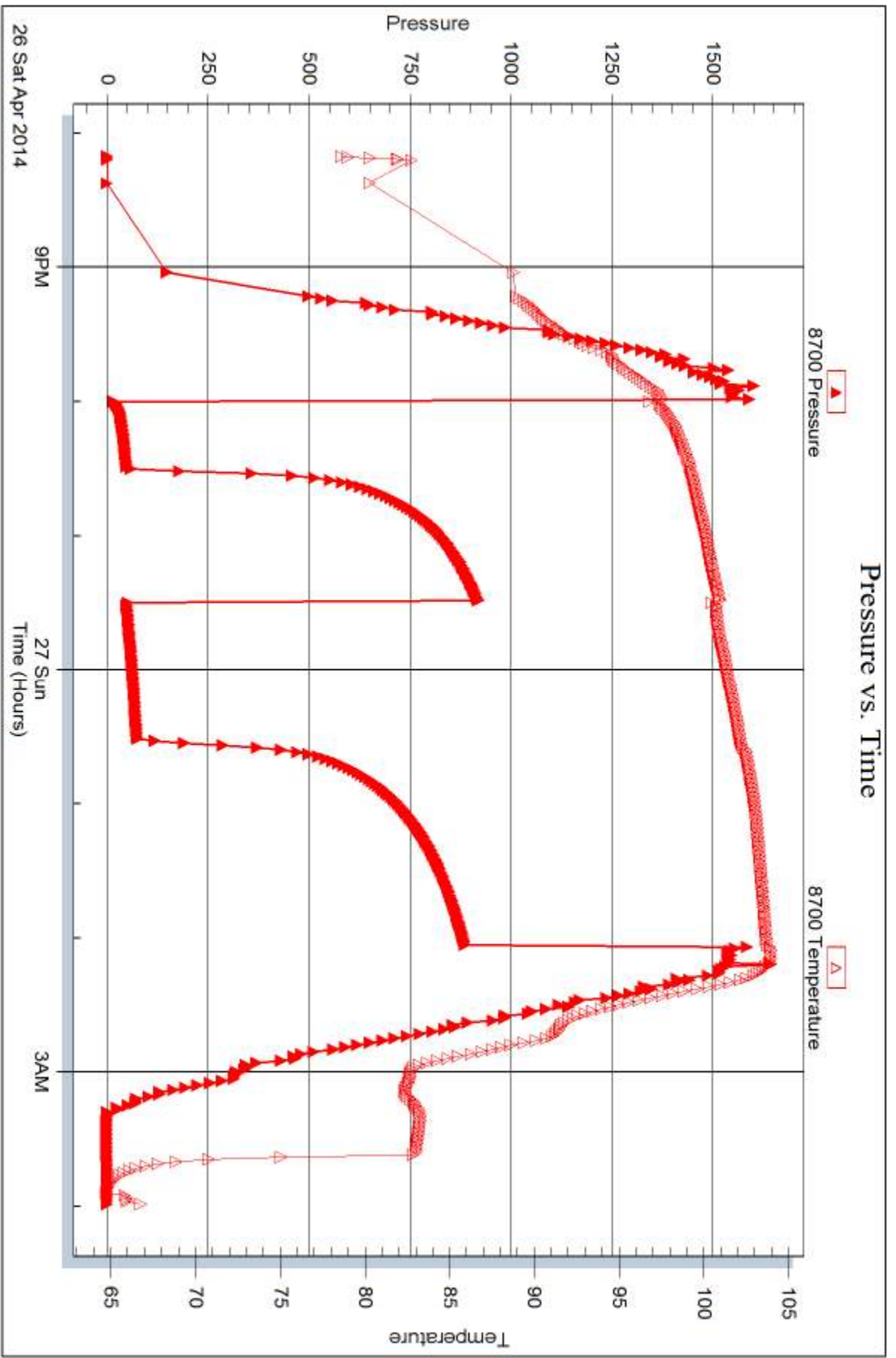
Printed: 2014.05.01 @ 15:15:22

Serial #: 8700

Outside Murfin Drilling Co Inc

Oelkers "A" #1-2

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 55332

Printed: 2014.05.01 @ 15:15:22



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300  
Wichita Ks 67202-1216

ATTN: Tim Pierce

**Oelkers "A"#1-2**

**2-16s-19w Rush,KS**

Start Date: 2014.04.27 @ 13:36:02

End Date: 2014.04.27 @ 19:54:11

Job Ticket #: 55333                      DST #: 2

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

Printed: 2014.05.01 @ 15:14:58





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita Ks 67202-1216  
 ATTN: Tim Pierce

**2-16s-19w Rush,KS**  
**Oelkers "A" #1-2**  
 Job Ticket: 55333 **DST#: 2**  
 Test Start: 2014.04.27 @ 13:36:02

## GENERAL INFORMATION:

Formation: **LKC D-F**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 15:27:27  
 Time Test Ended: 19:54:11  
 Interval: **3356.00 ft (KB) To 3408.00 ft (KB) (TVD)**  
 Total Depth: 3408.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ray Schwager  
 Unit No: 70  
 Reference Elevations: 2022.00 ft (KB)  
 2017.00 ft (CF)  
 KB to GR/CF: 5.00 ft

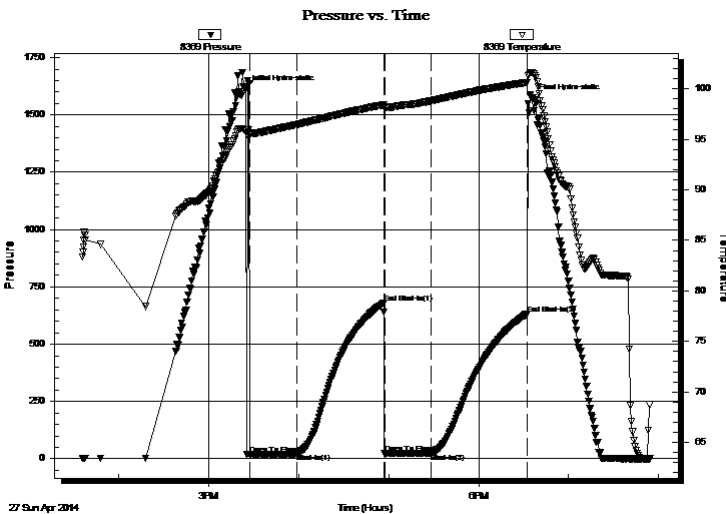
## Serial #: 8369

Inside

Press@RunDepth: 25.20 psig @ 3358.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.04.27 End Date: 2014.04.27 Last Calib.: 2014.04.27  
 Start Time: 13:36:02 End Time: 19:54:11 Time On Btm: 2014.04.27 @ 15:24:42  
 Time Off Btm: 2014.04.27 @ 18:35:41

TEST COMMENT: 30-IFP-surface bl , died in 23 min  
 60-ISIP-no bl  
 30-FFP-no bl  
 60-FSIP-no bl

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1612.27         | 95.91        | Initial Hydro-static |
| 3           | 18.33           | 95.56        | Open To Flow (1)     |
| 34          | 22.51           | 96.46        | Shut-In(1)           |
| 92          | 680.45          | 98.43        | End Shut-In(1)       |
| 93          | 22.24           | 98.24        | Open To Flow (2)     |
| 124         | 25.20           | 98.82        | Shut-In(2)           |
| 188         | 632.54          | 100.64       | End Shut-In(2)       |
| 191         | 1572.63         | 101.63       | Final Hydro-static   |

## Recovery

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

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita Ks 67202-1216  
 ATTN: Tim Pierce

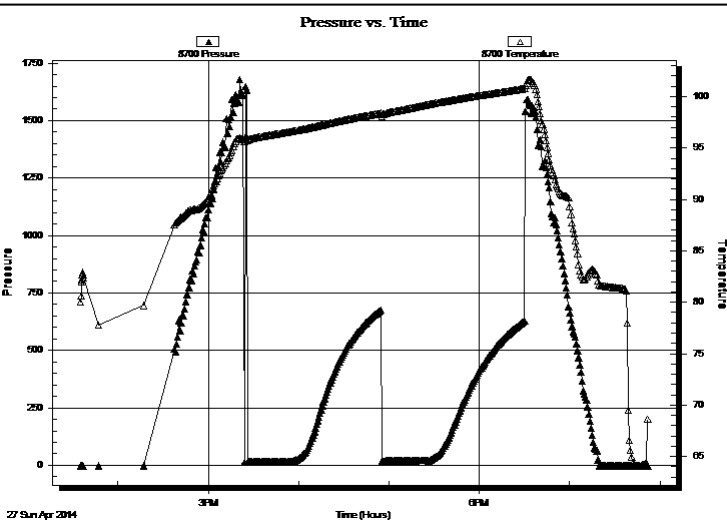
**2-16s-19w Rush,KS**  
**Oelkers "A"#1-2**  
 Job Ticket: 55333 **DST#: 2**  
 Test Start: 2014.04.27 @ 13:36:02

## GENERAL INFORMATION:

Formation: **LKC D-F**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 15:27:27  
 Time Test Ended: 19:54:11  
 Interval: **3356.00 ft (KB) To 3408.00 ft (KB) (TVD)**  
 Total Depth: 3408.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ray Schwager  
 Unit No: 70  
 Reference Elevations: 2022.00 ft (KB)  
 2017.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8700 Outside**  
 Press@RunDepth: psig @ 3358.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.04.27 End Date: 2014.04.27 Last Calib.: 2014.04.27  
 Start Time: 13:35:19 End Time: 19:52:13 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30-IFP-surface bl , died in 23 min  
 60-ISIP-no bl  
 30-FFP-no bl  
 60-FSIP-no bl



## PRESSURE SUMMARY

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

## Recovery

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

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**2-16s-19w Rush,KS**

250 N. Water STE 300  
Wichita Ks 67202-1216

**Oelkers "A" #1-2**

Job Ticket: 55333

**DST#: 2**

ATTN: Tim Pierce

Test Start: 2014.04.27 @ 13:36:02

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3329.00 ft | Diameter: 3.80 inches | Volume: 46.70 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: 30.00 ft   | Diameter: 2.25 inches | Volume: 0.15 bbl               | Weight to Pull Loose: 65000.00 lb  |
|                           |                    |                       | <u>Total Volume: 46.85 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 24.00 ft           |                       |                                | String Weight: Initial 50000.00 lb |
| Depth to Top Packer:      | 3356.00 ft         |                       |                                | Final 50000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 52.00 ft           |                       |                                |                                    |
| Tool Length:              | 73.00 ft           |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

## Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub  | 1.00        |            |          | 3336.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3341.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3346.00    |                               |
| Packer           | 5.00        |            |          | 3351.00    | 21.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3356.00    |                               |
| Stubb            | 1.00        |            |          | 3357.00    |                               |
| Perforations     | 1.00        |            |          | 3358.00    |                               |
| Recorder         | 0.00        | 8369       | Inside   | 3358.00    |                               |
| Recorder         | 0.00        | 8700       | Outside  | 3358.00    |                               |
| Blank Spacing    | 32.00       |            |          | 3390.00    |                               |
| Perforations     | 15.00       |            |          | 3405.00    |                               |
| Bullnose         | 3.00        |            |          | 3408.00    | 52.00 Bottom Packers & Anchor |

**Total Tool Length: 73.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc

**2-16s-19w Rush,KS**

250 N. Water STE 300  
Wichita Ks 67202-1216

**Oelkers "A" #1-2**

Job Ticket: 55333

**DST#: 2**

ATTN: Tim Pierce

Test Start: 2014.04.27 @ 13:36:02

### 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:

bbbl

Water Loss: 8.73 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

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

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

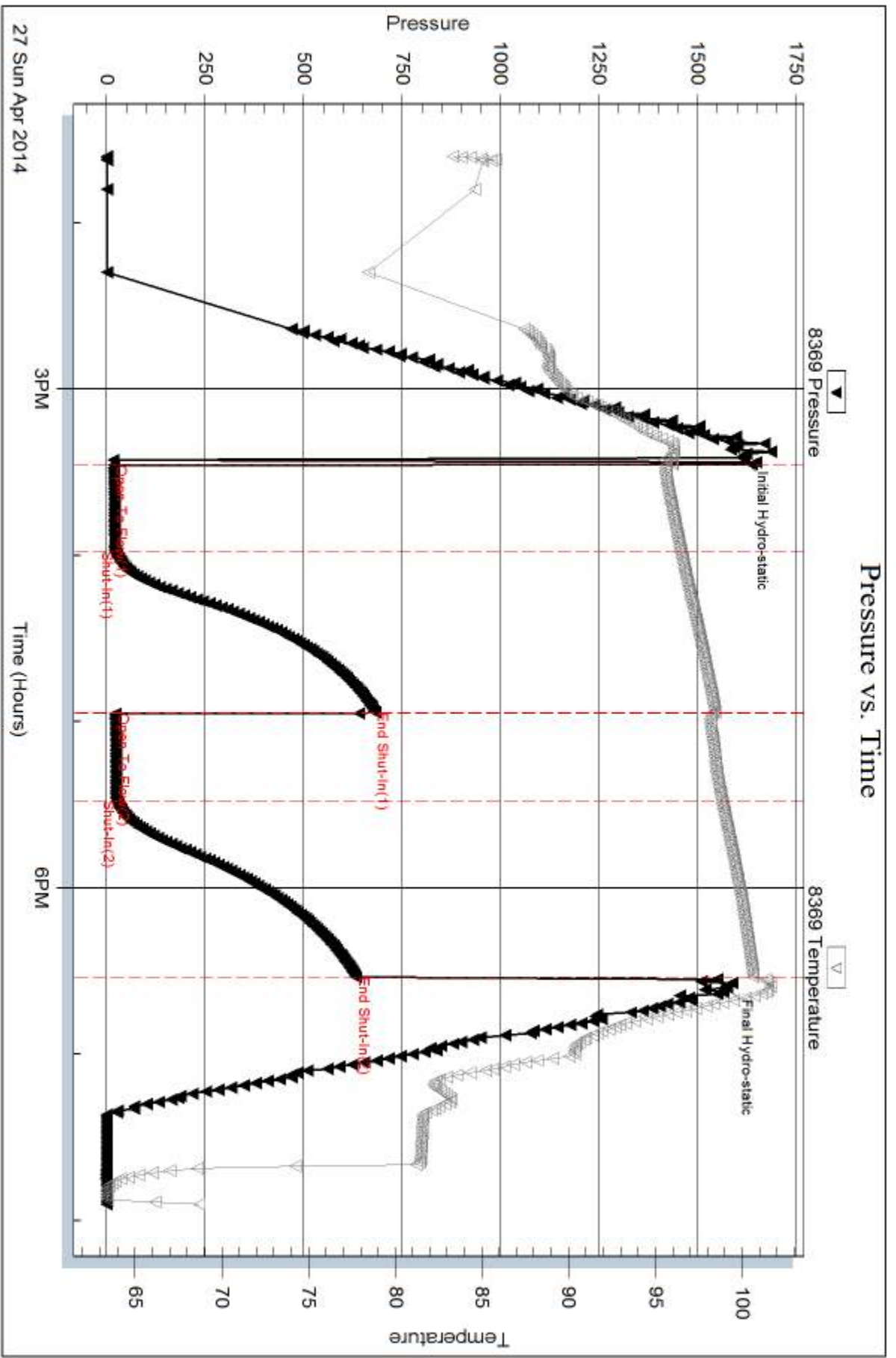
Num Gas Bombs: 0

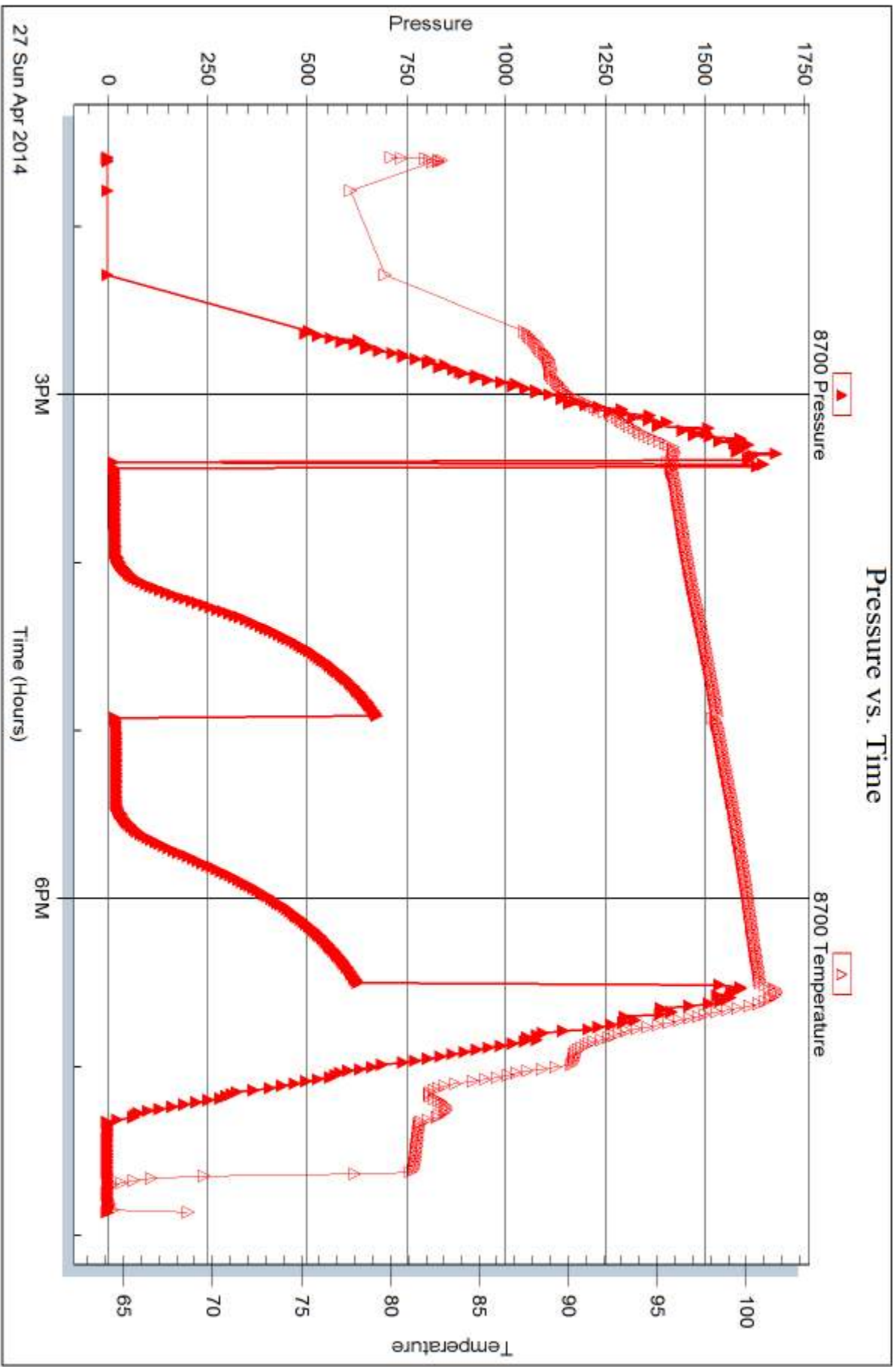
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





27 Sun Apr 2014



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300  
Wichita Ks 67202-1216

ATTN: Tim Pierce

### **Oelkers "A"#1-2**

### **2-16s-19w Rush,KS**

Start Date: 2014.04.28 @ 10:40:17

End Date: 2014.04.29 @ 00:35:57

Job Ticket #: 55334                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.05.01 @ 15:14:29



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita Ks 67202-1216  
 ATTN: Tim Pierce

**2-16s-19w Rush,KS**  
**Oelkers "A" #1-2**  
 Job Ticket: 55334 **DST#: 3**  
 Test Start: 2014.04.28 @ 10:40:17

## GENERAL INFORMATION:

Formation: **LKC H-K**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:52:42  
 Time Test Ended: 00:35:57  
 Interval: **3447.00 ft (KB) To 3544.00 ft (KB) (TVD)**  
 Total Depth: 3544.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ray Schwager  
 Unit No: 70  
 Reference Elevations: 2022.00 ft (KB)  
 2017.00 ft (CF)  
 KB to GR/CF: 5.00 ft

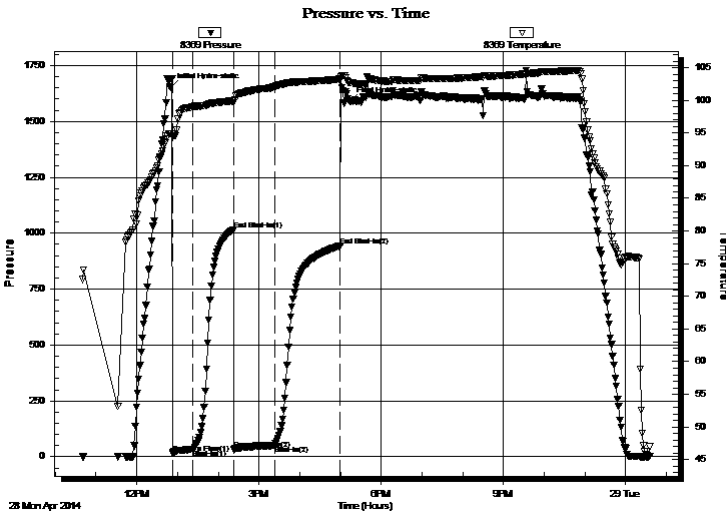
## Serial #: 8369

Inside

Press@RunDepth: 51.43 psig @ 3451.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.04.28 End Date: 2014.04.29 Last Calib.: 1899.12.30  
 Start Time: 10:40:17 End Time: 00:35:57 Time On Btm: 2014.04.28 @ 12:50:12  
 Time Off Btm: 2014.04.28 @ 17:14:11

TEST COMMENT: 30-IFP-w k bl thru-out 1/4" to 2 1/2" bl  
 60-ISIP-no bl  
 60-FFP-w k to a fr bl 1 1/2" to 4 1/2" bl  
 90-FSIP-no bl

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1651.64         | 94.89        | Initial Hydro-static |
| 3           | 16.92           | 94.47        | Open To Flow (1)     |
| 33          | 33.79           | 99.02        | Shut-In(1)           |
| 93          | 1016.42         | 99.94        | End Shut-In(1)       |
| 93          | 33.35           | 99.67        | Open To Flow (2)     |
| 153         | 51.43           | 102.11       | Shut-In(2)           |
| 250         | 943.99          | 103.24       | End Shut-In(2)       |
| 264         | 1587.63         | 102.73       | Final Hydro-static   |

## Recovery

| Length (ft) | Description        | Volume (bbl) |
|-------------|--------------------|--------------|
| 0.00        | 230'GIP            | 0.00         |
| 63.00       | O&GCM 10%G10%O80%M | 0.61         |
| 20.00       | SOCM5%O95%M        | 0.28         |
|             |                    |              |
|             |                    |              |

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**2-16s-19w Rush,KS**

250 N. Water STE 300  
Wichita Ks 67202-1216

**Oelkers "A" #1-2**

Job Ticket: 55334

**DST#: 3**

ATTN: Tim Pierce

Test Start: 2014.04.28 @ 10:40:17

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3421.00 ft | Diameter: 3.80 inches | Volume: 47.99 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: 30.00 ft   | Diameter: 2.25 inches | Volume: 0.15 bbl               | Weight to Pull Loose: 60000.00 lb  |
|                           |                    |                       | <u>Total Volume: 48.14 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 25.00 ft           |                       |                                | String Weight: Initial 50000.00 lb |
| Depth to Top Packer:      | 3447.00 ft         |                       |                                | Final 50000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 97.00 ft           |                       |                                |                                    |
| Tool Length:              | 118.00 ft          |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

## Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub  | 1.00        |            |          | 3427.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3432.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3437.00    |                               |
| Packer           | 5.00        |            |          | 3442.00    | 21.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3447.00    |                               |
| Stubb            | 1.00        |            |          | 3448.00    |                               |
| Perforations     | 3.00        |            |          | 3451.00    |                               |
| Recorder         | 0.00        | 8369       | Inside   | 3451.00    |                               |
| Recorder         | 0.00        | 8700       | Outside  | 3451.00    |                               |
| Blank Spacing    | 65.00       |            |          | 3516.00    |                               |
| Perforations     | 25.00       |            |          | 3541.00    |                               |
| Bullnose         | 3.00        |            |          | 3544.00    | 97.00 Bottom Packers & Anchor |

**Total Tool Length: 118.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**2-16s-19w Rush,KS**

250 N. Water STE 300  
Wichita Ks 67202-1216

**Oelkers "A" #1-2**

Job Ticket: 55334

**DST#: 3**

ATTN: Tim Pierce

Test Start: 2014.04.28 @ 10:40:17

## 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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.74 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description        | Volume<br>bbl |
|--------------|--------------------|---------------|
| 0.00         | 230'GIP            | 0.000         |
| 63.00        | O&GCM 10%G10%O80%M | 0.610         |
| 20.00        | SOCM5%O95%M        | 0.281         |

Total Length: 83.00 ft      Total Volume: 0.891 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

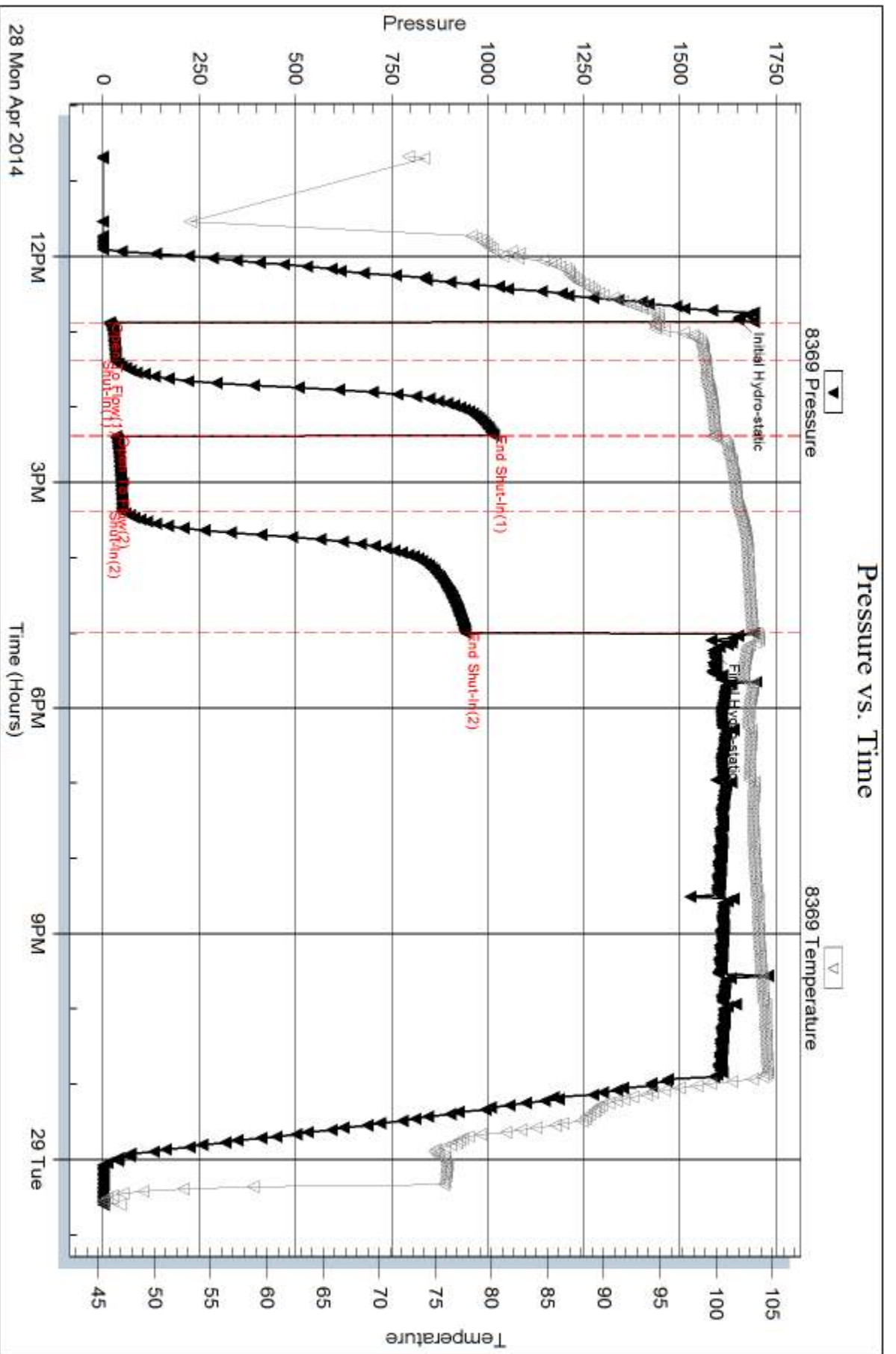
Serial #: 8369

Inside

Murfin Drilling Co Inc

Oelkers "A" #1-2

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 55334

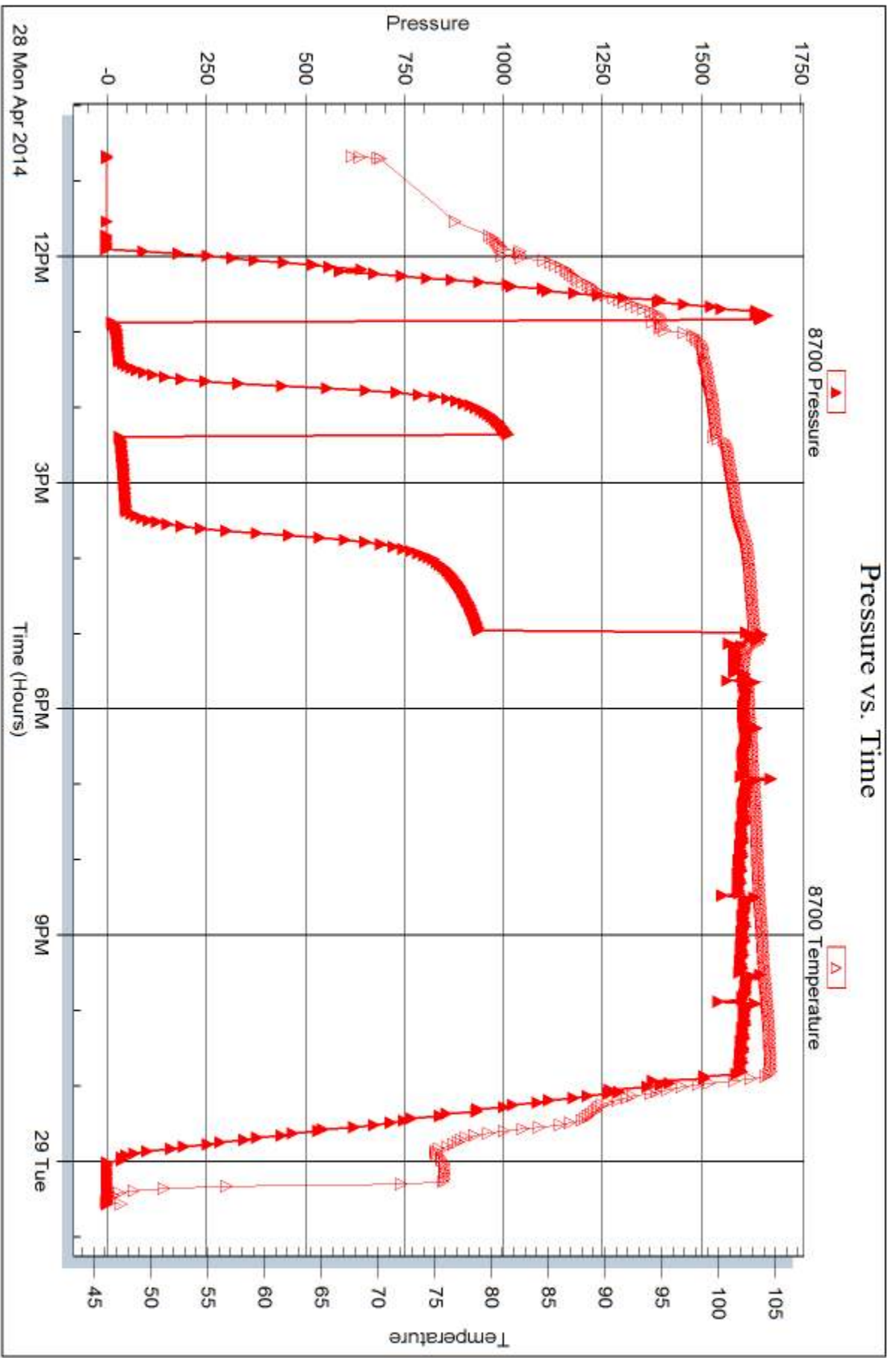
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Serial #: 8700

Outside Murfin Drilling Co Inc

Oelkers "A" #1-2

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 55334

Printed: 2014.05.01 @ 15:14:30



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300  
Wichita Ks 67202-1216

ATTN: Tim Pierce

**Oelkers "A"#1-2**

**2-16s-19w Rush,KS**

Start Date: 2014.04.29 @ 11:30:20

End Date: 2014.04.29 @ 17:36:14

Job Ticket #: 55335                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.05.01 @ 15:10:34



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita Ks 67202-1216  
 ATTN: Tim Pierce

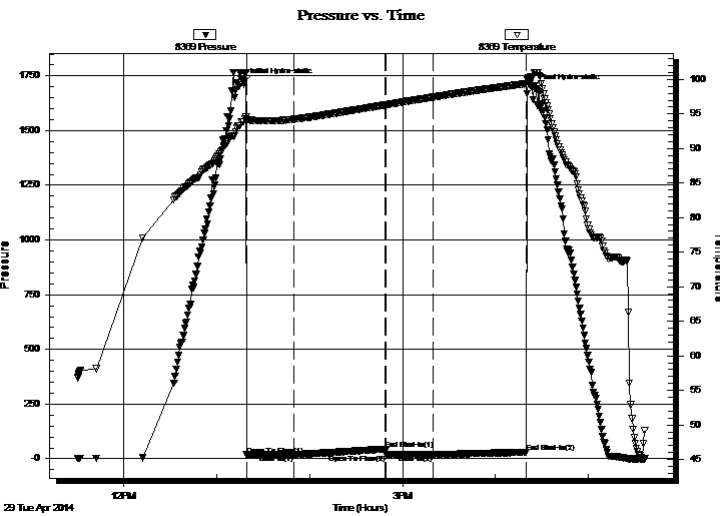
**2-16s-19w Rush,KS**  
**Oelkers "A" #1-2**  
 Job Ticket: 55335 **DST#: 4**  
 Test Start: 2014.04.29 @ 11:30:20

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 13:19:15 Tester: Ray Schwager  
 Time Test Ended: 17:36:14 Unit No: 70  
 Interval: **3557.00 ft (KB) To 3596.00 ft (KB) (TVD)** Reference Elevations: 2022.00 ft (KB)  
 Total Depth: 3596.00 ft (KB) (TVD) 2017.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 8369 Inside**  
 Press@RunDepth: 19.38 psig @ 3564.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.04.29 End Date: 2014.04.29 Last Calib.: 2014.04.29  
 Start Time: 11:30:20 End Time: 17:36:14 Time On Btm: 2014.04.29 @ 13:17:15  
 Time Off Btm: 2014.04.29 @ 16:23:44

TEST COMMENT: 30-IFP-w k bl thru-out 1/8" to 1/4" bl  
 60-ISIP-no bl  
 30-FFP-no bl  
 60-FSIP-no bl



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1718.01         | 93.90        | Initial Hydro-static |
| 2           | 18.10           | 93.91        | Open To Flow (1)     |
| 33          | 18.10           | 94.24        | Shut-In(1)           |
| 92          | 44.64           | 96.31        | End Shut-In(1)       |
| 92          | 18.70           | 96.32        | Open To Flow (2)     |
| 123         | 19.38           | 97.44        | Shut-In(2)           |
| 183         | 30.02           | 99.39        | End Shut-In(2)       |
| 187         | 1694.11         | 100.38       | Final Hydro-static   |

## Recovery

| Length (ft) | Description   | Volume (bbl) |
|-------------|---------------|--------------|
| 5.00        | SOCM 5% O95%M | 0.02         |
|             |               |              |
|             |               |              |
|             |               |              |
|             |               |              |

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**2-16s-19w Rush,KS**

250 N. Water STE 300  
Wichita Ks 67202-1216

**Oelkers "A" #1-2**

Job Ticket: 55335

**DST#: 4**

ATTN: Tim Pierce

Test Start: 2014.04.29 @ 11:30:20

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3521.00 ft | Diameter: 3.80 inches | Volume: 49.39 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: 30.00 ft   | Diameter: 2.25 inches | Volume: 0.15 bbl               | Weight to Pull Loose: 60000.00 lb  |
|                           |                    |                       | <u>Total Volume: 49.54 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 15.00 ft           |                       |                                | String Weight: Initial 51000.00 lb |
| Depth to Top Packer:      | 3557.00 ft         |                       |                                | Final 51000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 39.00 ft           |                       |                                |                                    |
| Tool Length:              | 60.00 ft           |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

## Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub  | 1.00        |            |          | 3537.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3542.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3547.00    |                               |
| Packer           | 5.00        |            |          | 3552.00    | 21.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3557.00    |                               |
| Stubb            | 1.00        |            |          | 3558.00    |                               |
| Perforations     | 6.00        |            |          | 3564.00    |                               |
| Recorder         | 0.00        | 8369       | Inside   | 3564.00    |                               |
| Recorder         | 0.00        | 8700       | Outside  | 3564.00    |                               |
| Perforations     | 29.00       |            |          | 3593.00    |                               |
| Bullnose         | 3.00        |            |          | 3596.00    | 39.00 Bottom Packers & Anchor |

**Total Tool Length: 60.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc

**2-16s-19w Rush,KS**

250 N. Water STE 300  
Wichita Ks 67202-1216

**Oelkers "A" #1-2**

Job Ticket: 55335

**DST#: 4**

ATTN: Tim Pierce

Test Start: 2014.04.29 @ 11:30:20

### 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:

bbbl

Water Loss: 7.96 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description    | Volume<br>bbl |
|--------------|----------------|---------------|
| 5.00         | SOCM 5% O95% M | 0.025         |

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

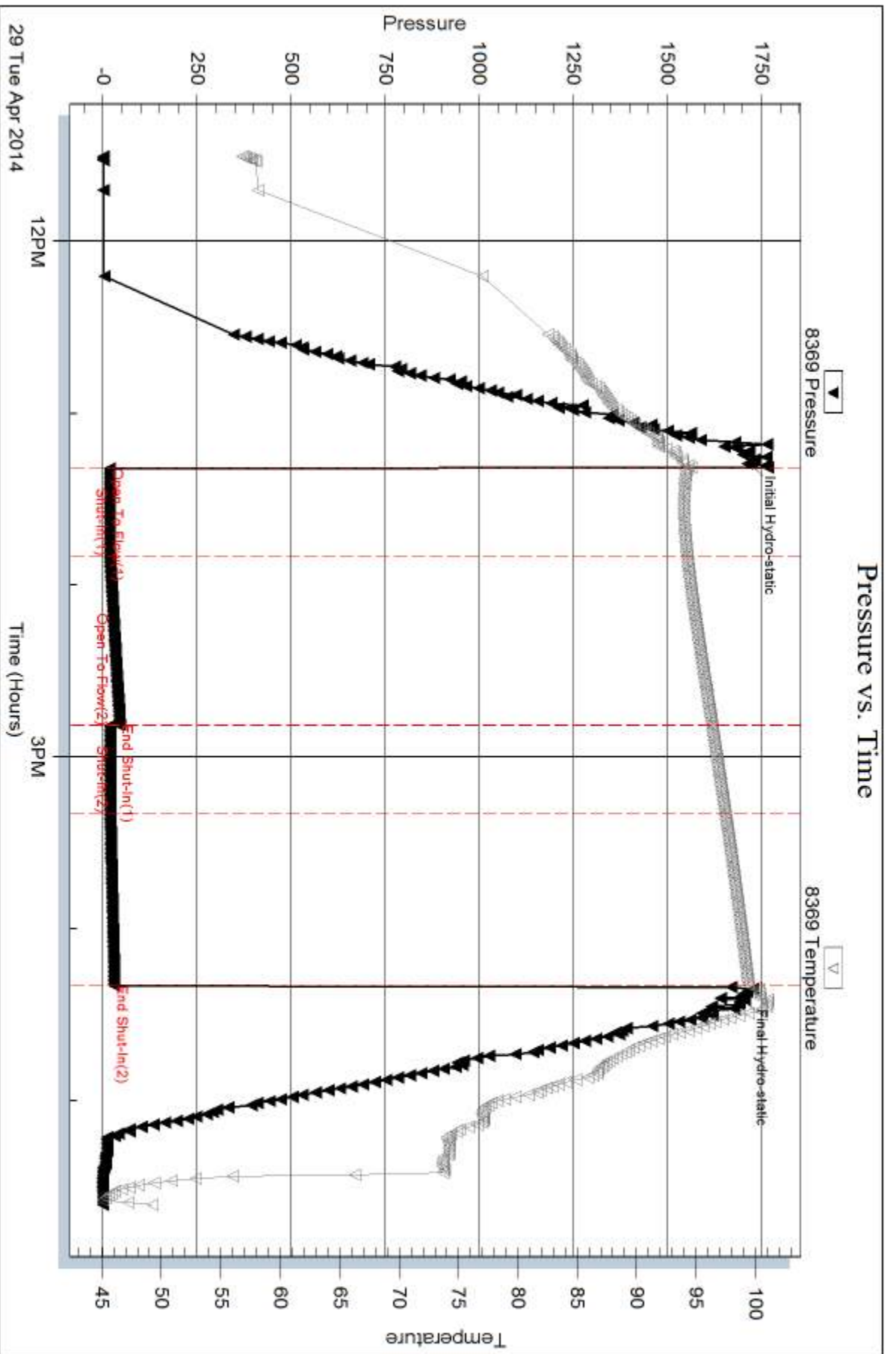
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

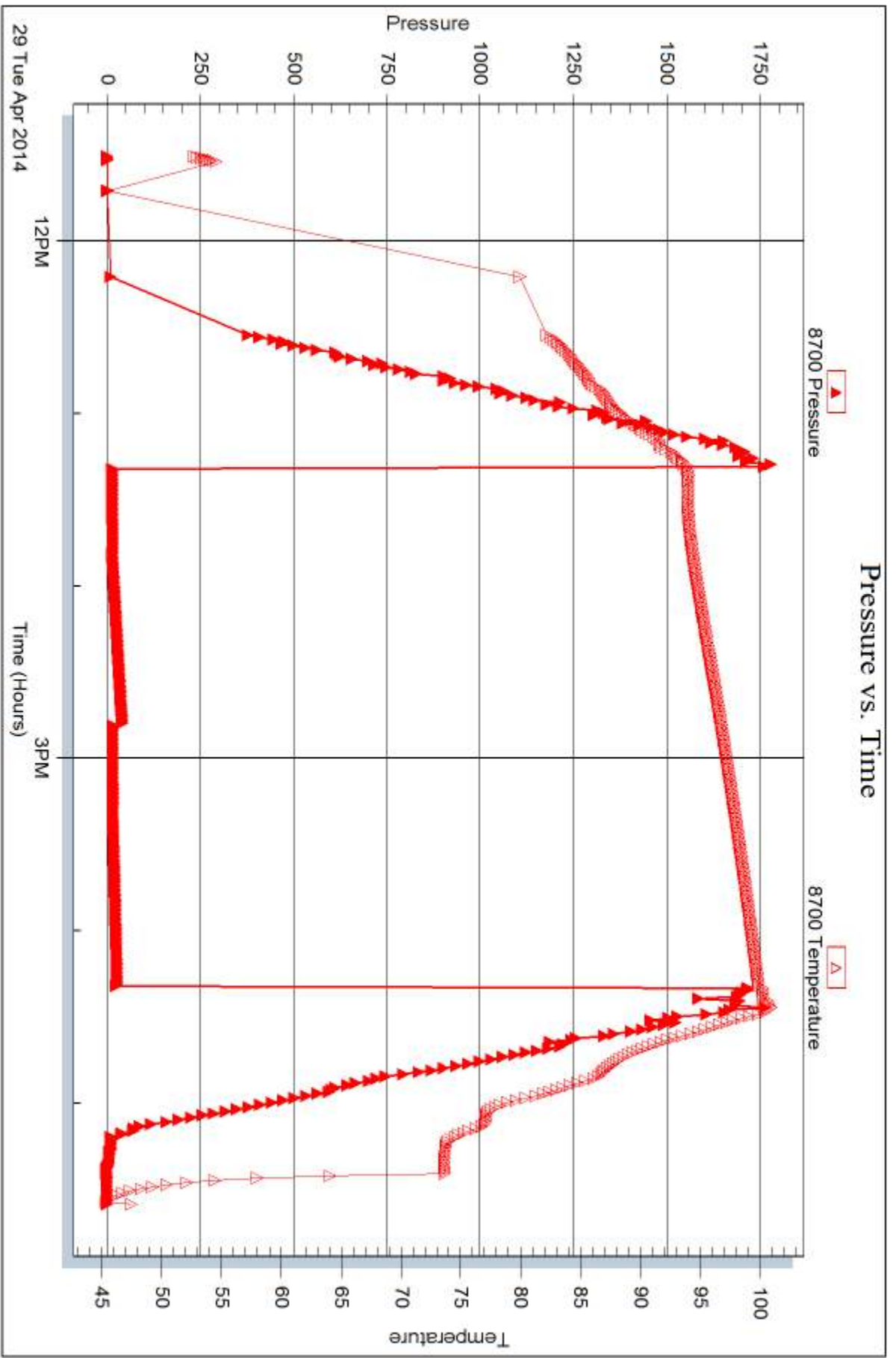


Serial #: 8700

Outside Murfin Drilling Co Inc

Oelkers "A" #1-2

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 55335

Printed: 2014.05.01 @ 15:10:35



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300  
Wichita Ks 67202-1216

ATTN: Tim Pierce

**Oelkers "A"#1-2**

**2-16s-19w Rush,KS**

Start Date: 2014.04.29 @ 00:29:00

End Date: 2014.04.29 @ 08:35:30

Job Ticket #: 58882                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.05.01 @ 15:10:08



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita Ks 67202-1216  
 ATTN: Tim Pierce

**2-16s-19w Rush, KS**  
**Oelkers "A" #1-2**  
 Job Ticket: 58882 **DST#: 5**  
 Test Start: 2014.04.29 @ 00:29:00

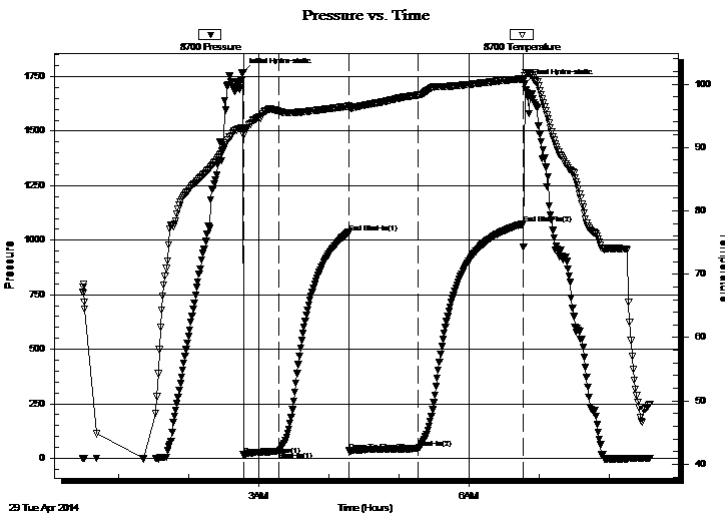
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 02:46:45 Tester: Phillip Gage  
 Time Test Ended: 08:35:30 Unit No: 70  
 Interval: **3559.00 ft (KB) To 3616.00 ft (KB) (TVD)** Reference Elevations: 2022.00 ft (KB)  
 Total Depth: 3616.00 ft (KB) (TVD) 2017.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 8700 Outside**  
 Press@RunDepth: 45.67 psig @ 3581.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.04.29 End Date: 2014.04.29 Last Calib.: 2014.04.30  
 Start Time: 00:29:05 End Time: 08:35:29 Time On Btm: 2014.04.29 @ 02:46:30  
 Time Off Btm: 2014.04.29 @ 06:47:45

TEST COMMENT: 30-IF-Built to 3 1/4"  
 60-ISI-No Return  
 60-FF-Built to 4 1/2"  
 90-FSI-No Return

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1768.94         | 92.94        | Initial Hydro-static |
| 1           | 16.38           | 91.96        | Open To Flow (1)     |
| 31          | 32.05           | 95.68        | Shut-In(1)           |
| 91          | 1034.95         | 96.50        | End Shut-In(1)       |
| 91          | 34.48           | 96.19        | Open To Flow (2)     |
| 151         | 45.67           | 98.28        | Shut-In(2)           |
| 240         | 1074.42         | 100.83       | End Shut-In(2)       |
| 242         | 1718.75         | 101.33       | Final Hydro-static   |

## Recovery

| Length (ft) | Description      | Volume (bbl) |
|-------------|------------------|--------------|
| 63.00       | VSOCM, 5%o, 95%m | 0.61         |
| 15.00       | OCM, 20%o, 80%m  | 0.21         |
| 15.00       | O, 100%          | 0.21         |
|             |                  |              |
|             |                  |              |

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**2-16s-19w Rush,KS**

250 N. Water STE 300  
Wichita Ks 67202-1216

**Oelkers "A" #1-2**

Job Ticket: 58882

**DST#: 5**

ATTN: Tim Pierce

Test Start: 2014.04.29 @ 00:29:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3511.00 ft | Diameter: 3.80 inches | Volume: 49.25 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: 30.00 ft   | Diameter: 2.25 inches | Volume: 0.15 bbl               | Weight to Pull Loose: 53000.00 lb  |
|                           |                    |                       | <u>Total Volume: 49.40 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 3.00 ft            |                       |                                | String Weight: Initial 51000.00 lb |
| Depth to Top Packer:      | 3559.00 ft         |                       |                                | Final 51000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 57.00 ft           |                       |                                |                                    |
| Tool Length:              | 78.00 ft           |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

## Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub  | 1.00        |            |          | 3539.00    |                               |
| Shut In Tool     | 5.00        |            |          | 3544.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3549.00    |                               |
| Packer           | 5.00        |            |          | 3554.00    | 21.00 Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3559.00    |                               |
| Stubb            | 1.00        |            |          | 3560.00    |                               |
| Perforations     | 20.00       |            |          | 3580.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3581.00    |                               |
| Recorder         | 0.00        | 8369       | Inside   | 3581.00    |                               |
| Recorder         | 0.00        | 8700       | Outside  | 3581.00    |                               |
| Drill Pipe       | 31.00       |            |          | 3612.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3613.00    |                               |
| Bullnose         | 3.00        |            |          | 3616.00    | 57.00 Bottom Packers & Anchor |

**Total Tool Length: 78.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc

**2-16s-19w Rush,KS**

250 N. Water STE 300  
Wichita Ks 67202-1216

**Oelkers "A" #1-2**

Job Ticket: 58882

**DST#: 5**

ATTN: Tim Pierce

Test Start: 2014.04.29 @ 00:29:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 51.00 sec/qt  
Water Loss: 8.78 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 5000.00 ppm  
Filter Cake: 2.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: 39 deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

| Length<br>ft | Description      | Volume<br>bbl |
|--------------|------------------|---------------|
| 63.00        | VSOCM, 5%o, 95%m | 0.610         |
| 15.00        | OCM, 20%o, 80%m  | 0.210         |
| 15.00        | O, 100%          | 0.210         |

Total Length: 93.00 ft      Total Volume: 1.030 bbl

Num Fluid Samples: 0

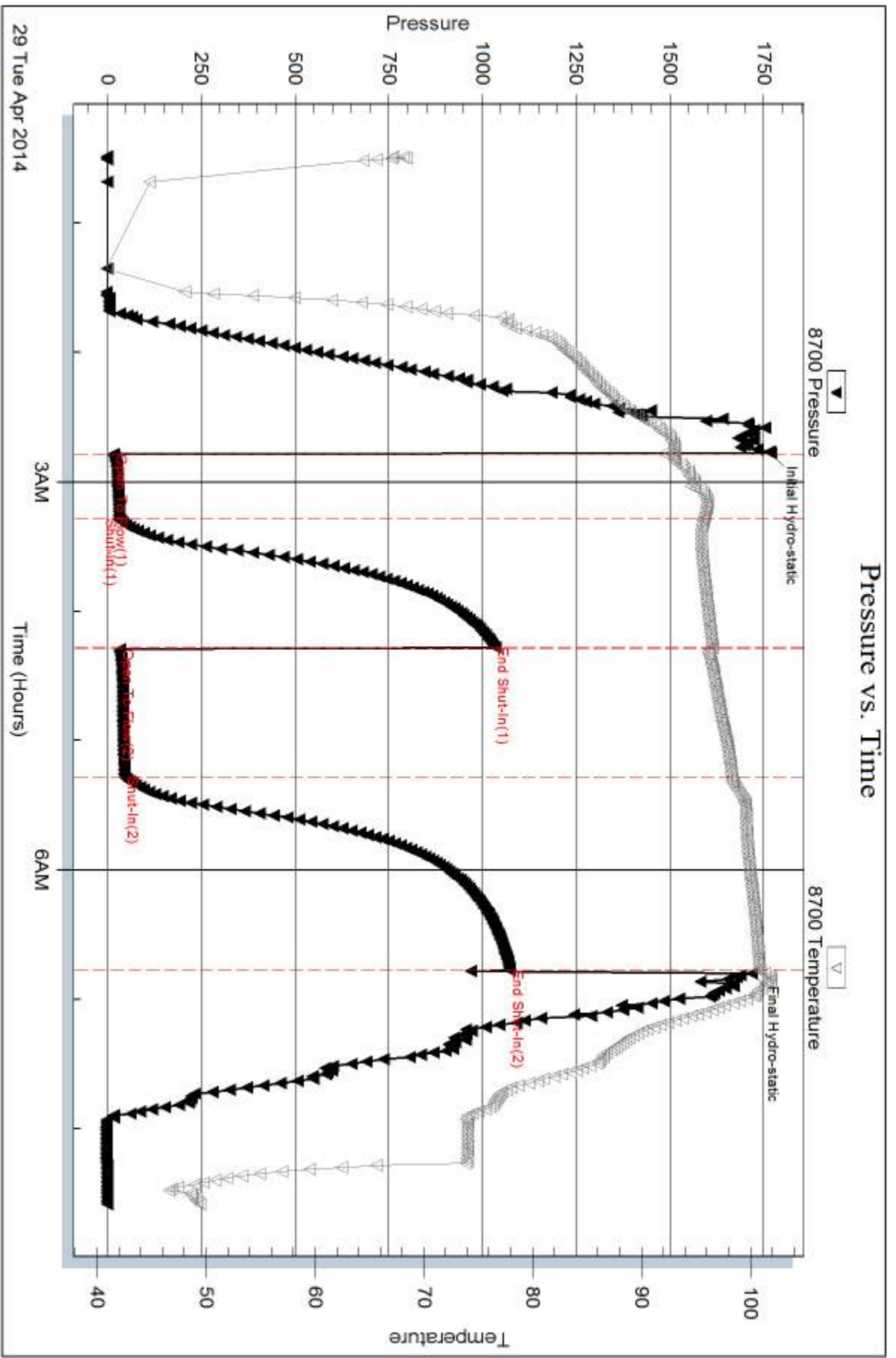
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



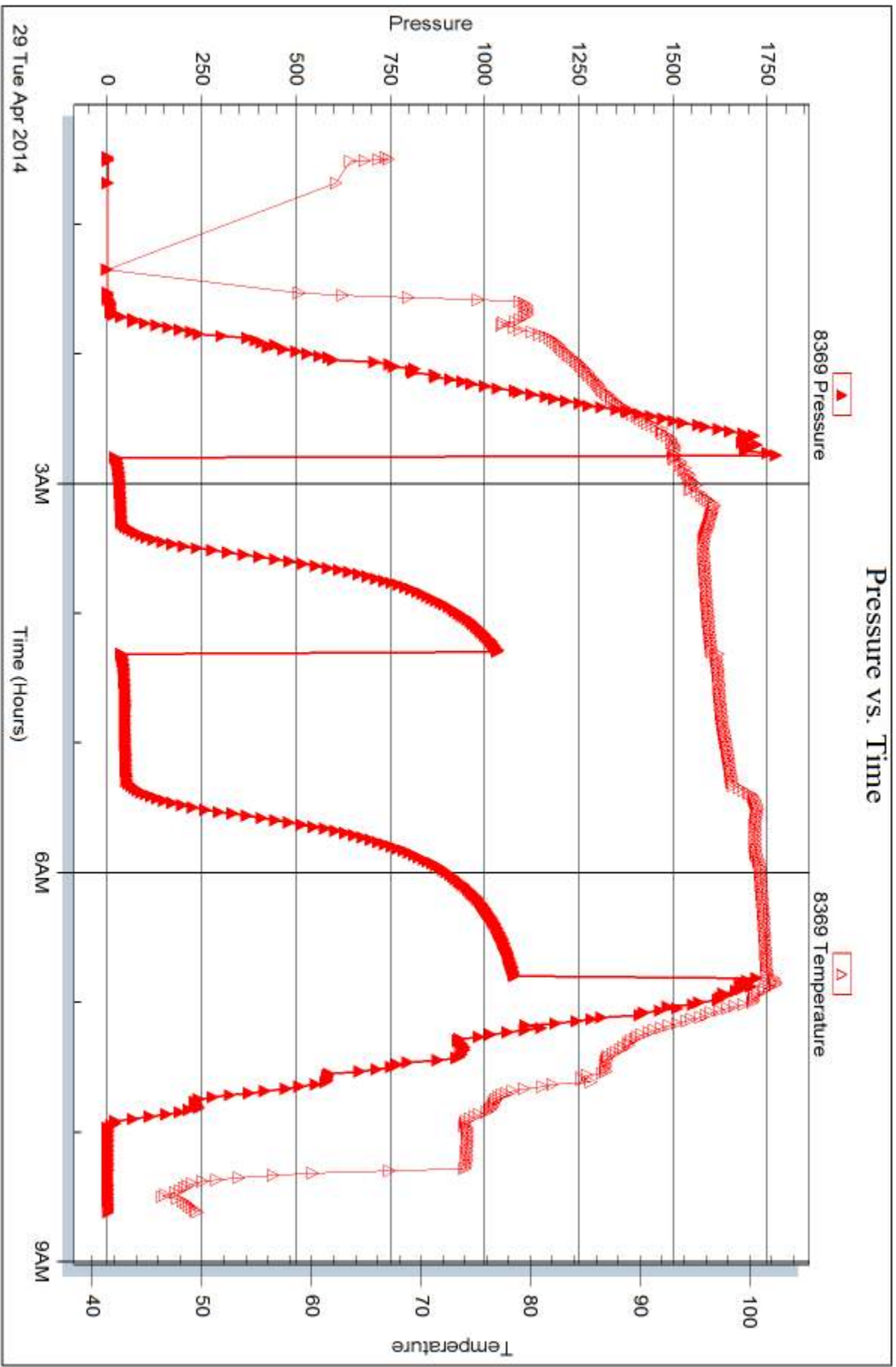
Serial #: 8369

Inside

Murfin Drilling Co Inc

Oelkers "A" #1-2

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 58882

Printed: 2014.05.01 @ 15:10:09



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300  
Wichita Ks 67202-1216

ATTN: Tim Pierce

**Oelkers "A"#1-2**

**2-16s-19w Rush,KS**

Start Date: 2014.04.30 @ 13:39:00

End Date: 2014.04.30 @ 20:23:15

Job Ticket #: 58883                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.05.01 @ 15:09:20



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita Ks 67202-1216  
 ATTN: Tim Pierce

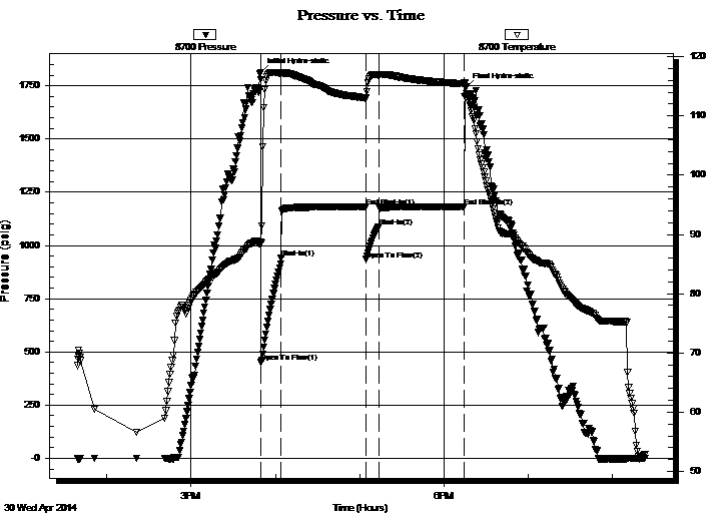
**2-16s-19w Rush,KS**  
**Oelkers "A" #1-2**  
 Job Ticket: 58883 **DST#: 6**  
 Test Start: 2014.04.30 @ 13:39:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 15:50:00 Tester: Phillip Gage  
 Time Test Ended: 20:23:15 Unit No: 70  
 Interval: **3616.00 ft (KB) To 3626.00 ft (KB) (TVD)** Reference Elevations: 2022.00 ft (KB)  
 Total Depth: 3626.00 ft (KB) (TVD) 2017.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 8700 Outside**  
 Press@RunDepth: 1088.70 psig @ 3617.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.04.30 End Date: 2014.04.30 Last Calib.: 2014.04.30  
 Start Time: 13:39:05 End Time: 20:23:14 Time On Btm: 2014.04.30 @ 15:49:45  
 Time Off Btm: 2014.04.30 @ 18:15:45

**TEST COMMENT:** 15-IF-BOB in 30 Secs.  
 60-ISI-Weak surface blow at 7 mins, died at 13 mins.  
 10-FF-BOB in 30 Secs.  
 60-FSI-NO Return



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1813.02         | 88.72        | Initial Hydro-static |
| 1           | 453.24          | 88.58        | Open To Flow (1)     |
| 15          | 942.56          | 117.19       | Shut-In(1)           |
| 75          | 1182.16         | 113.01       | End Shut-In(1)       |
| 75          | 934.01          | 112.87       | Open To Flow (2)     |
| 84          | 1088.70         | 116.90       | Shut-In(2)           |
| 145         | 1182.26         | 115.40       | End Shut-In(2)       |
| 146         | 1741.63         | 114.97       | Final Hydro-static   |

## Recovery

| Length (ft) | Description    | Volume (bbl) |
|-------------|----------------|--------------|
| 1953.00     | W, 100%w       | 27.12        |
| 504.00      | MW, 30%w, 70%w | 7.07         |
|             |                |              |
|             |                |              |
|             |                |              |

\* Recovery from multiple tests

## Gas Rates

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



# TRILOBITE TESTING, INC

## DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita Ks 67202-1216  
 ATTN: Tim Pierce

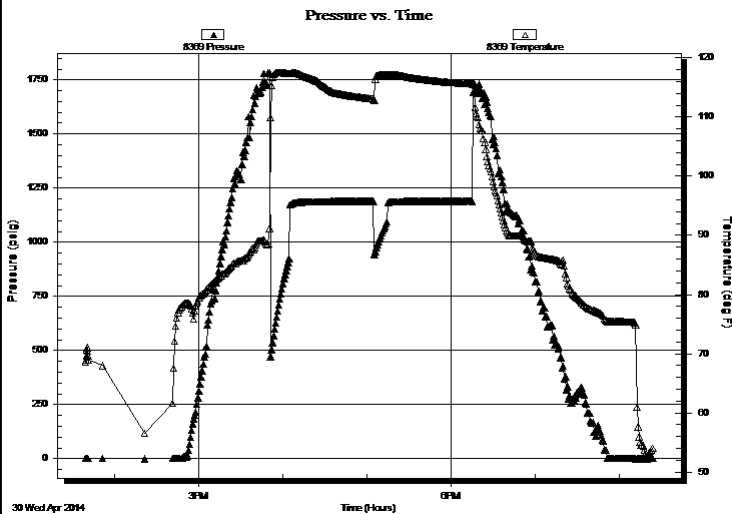
**2-16s-19w Rush,KS**  
**Oelkers "A" #1-2**  
 Job Ticket: 58883 **DST#: 6**  
 Test Start: 2014.04.30 @ 13:39:00

### GENERAL INFORMATION:

**Formation:** **Arbuckle**  
**Deviated:** No **Whipstock:** ft (KB)  
**Time Tool Opened:** 15:50:00  
**Time Test Ended:** 20:23:15  
**Interval:** **3616.00 ft (KB) To 3626.00 ft (KB) (TVD)**  
**Total Depth:** 3626.00 ft (KB) (TVD)  
**Hole Diameter:** 7.88 inches **Hole Condition:** Fair  
**Test Type:** Conventional Bottom Hole (Reset)  
**Tester:** Phillip Gage  
**Unit No:** 70  
**Reference Elevations:** 2022.00 ft (KB)  
 2017.00 ft (CF)  
**KB to GR/CF:** 5.00 ft

**Serial #: 8369** **Inside**  
**Press@RunDepth:** psig @ 3617.00 ft (KB) **Capacity:** 8000.00 psig  
**Start Date:** 2014.04.30 **End Date:** 2014.04.30 **Last Calib.:** 2014.04.30  
**Start Time:** 13:39:05 **End Time:** 20:24:29 **Time On Btm:**  
**Time Off Btm:**

**TEST COMMENT:** 15-IF-BOB in 30 Secs.  
 60-ISI-Weak surface blow at 7 mins, died at 13 mins.  
 10-FF-BOB in 30 Secs.  
 60-FSI-NO Return



### PRESSURE SUMMARY

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

### Recovery

| Length (ft) | Description    | Volume (bbl) |
|-------------|----------------|--------------|
| 1953.00     | W, 100%w       | 27.12        |
| 504.00      | MW, 30%w, 70%w | 7.07         |
|             |                |              |
|             |                |              |
|             |                |              |
|             |                |              |
|             |                |              |
|             |                |              |

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**2-16s-19w Rush,KS**

250 N. Water STE 300  
Wichita Ks 67202-1216

**Oelkers "A" #1-2**

Job Ticket: 58883

**DST#: 6**

ATTN: Tim Pierce

Test Start: 2014.04.30 @ 13:39:00

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3573.00 ft | Diameter: 3.80 inches | Volume: 50.12 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: 30.00 ft   | Diameter: 2.25 inches | Volume: 0.15 bbl               | Weight to Pull Loose:  | 62000.00 lb |
|                           |                    |                       | <u>Total Volume: 50.27 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 8.00 ft            |                       |                                | String Weight: Initial | 50000.00 lb |
| Depth to Top Packer:      | 3616.00 ft         |                       |                                | Final                  | 61000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 10.00 ft           |                       |                                |                        |             |
| Tool Length:              | 31.00 ft           |                       |                                |                        |             |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                        |             |
| Tool Comments:            |                    |                       |                                |                        |             |

## Tool Description

| Tool Description          | Length (ft)  | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|---------------------------|--------------|------------|----------|------------|-------------------------------|
| Change Over Sub           | 1.00         |            |          | 3596.00    |                               |
| Shut In Tool              | 5.00         |            |          | 3601.00    |                               |
| Hydraulic tool            | 5.00         |            |          | 3606.00    |                               |
| Packer                    | 5.00         |            |          | 3611.00    | 21.00 Bottom Of Top Packer    |
| Packer                    | 5.00         |            |          | 3616.00    |                               |
| Stubb                     | 1.00         |            |          | 3617.00    |                               |
| Recorder                  | 0.00         | 8369       | Inside   | 3617.00    |                               |
| Recorder                  | 0.00         | 8700       | Outside  | 3617.00    |                               |
| Perforations              | 6.00         |            |          | 3623.00    |                               |
| Bullnose                  | 3.00         |            |          | 3626.00    | 10.00 Bottom Packers & Anchor |
| <b>Total Tool Length:</b> | <b>31.00</b> |            |          |            |                               |



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc

**2-16s-19w Rush,KS**

250 N. Water STE 300  
Wichita Ks 67202-1216

**Oelkers "A" #1-2**

Job Ticket: 58883

**DST#: 6**

ATTN: Tim Pierce

Test Start: 2014.04.30 @ 13:39:00

### 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:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description    | Volume<br>bbl |
|--------------|----------------|---------------|
| 1953.00      | W, 100%w       | 27.122        |
| 504.00       | MW, 30%m, 70%w | 7.070         |

Total Length: 2457.00 ft      Total Volume: 34.192 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

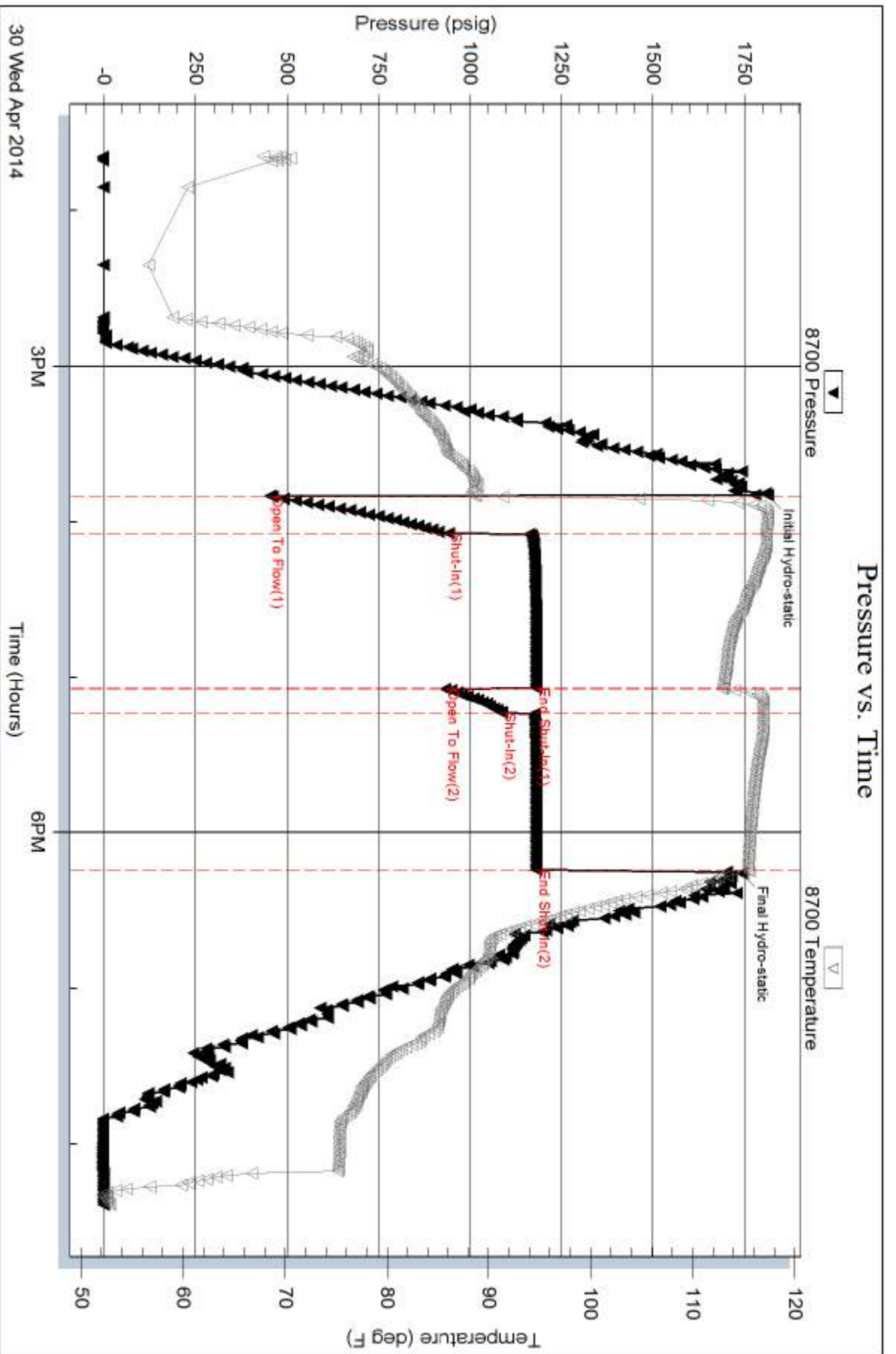
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .18 @ 51 degrees = 64,000 Salinity





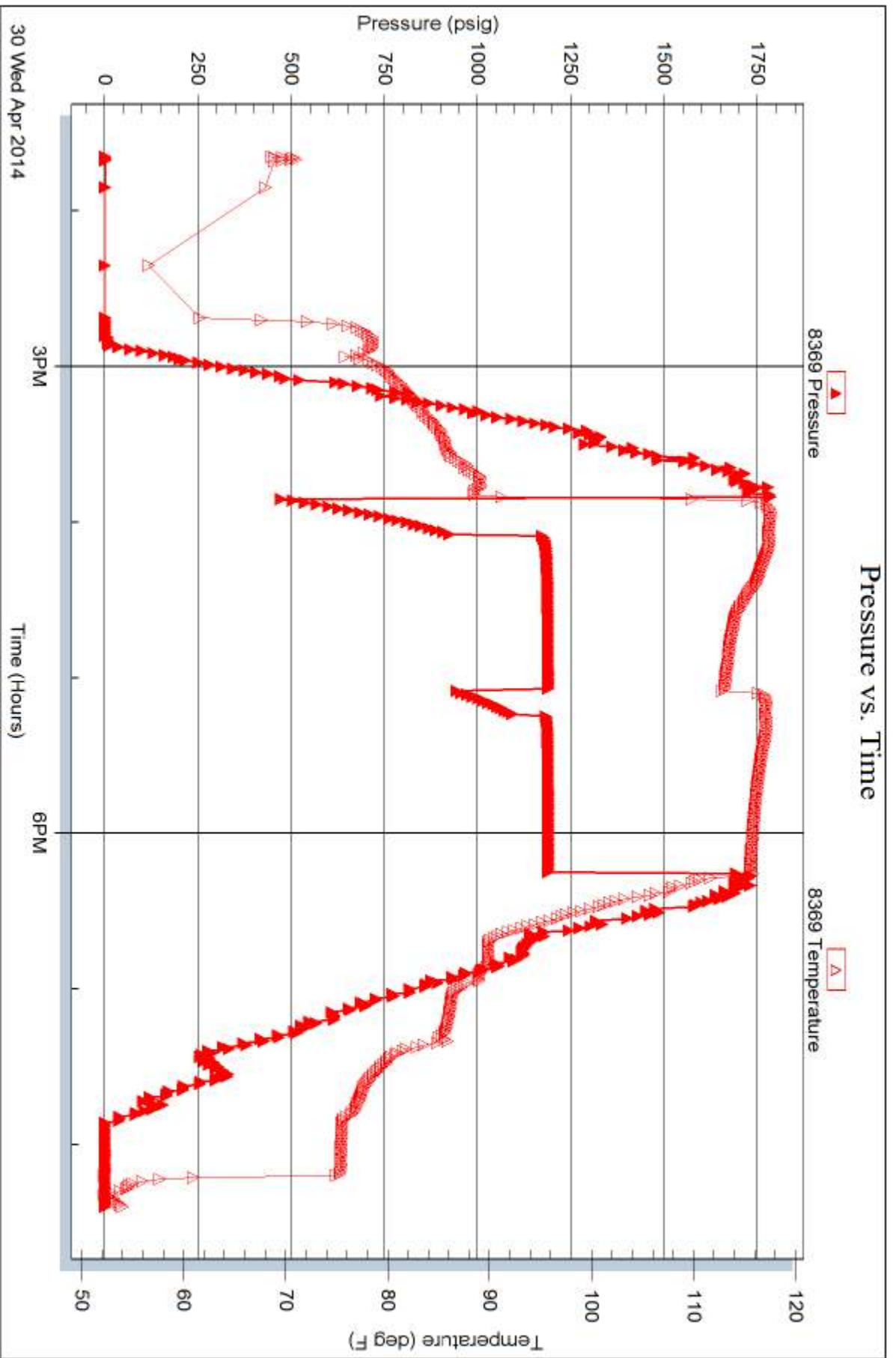
Serial #: 8369

Inside

Murfin Drilling Co Inc

Oelkers "A" #1-2

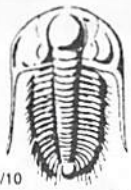
DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 58883

Printed: 2014.05.01 @ 15:09:21



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55332

Well Name & No. Oelkers "A" # 1-2 Test No. 1 Date 4-26-14  
 Company Murfin Drilling Co Inc Elevation 2022 KB 2017 GL  
 Address 250 N. WATER STE 300 WICHITA, Ks 67202-1216  
 Co. Rep / Geo. Tim Pierce Rig Murfin rig 16  
 Location: Sec. 2 Twp. 16<sup>s</sup> Rge. 19<sup>w</sup> Co. Rush State Ks

Interval Tested 3272-3358 Zone Tested TORONTO - LKC A-B  
 Anchor Length 86 Drill Pipe Run 3235 Mud Wt. 8.9  
 Top Packer Depth 3267 Drill Collars Run 30 Vis 53  
 Bottom Packer Depth 3272 Wt. Pipe Run - WL 8  
 Total Depth 3358 Chlorides 3000 ppm System LCM 2#  
 Blow Description IFP - WEAK TO A FAIR BLOW 1/4" TO 3 1/2" BLOW  
ISIP - NO BLOW  
FFP - WEAK BLOW THROUGHOUT SURFACE TO 1/2" BLOW  
FSIP - NO BLOW

| Rec        | Feet of            | %gas | %oil      | %water    | %mud |
|------------|--------------------|------|-----------|-----------|------|
| <u>125</u> | <u>WM</u>          |      | <u>45</u> | <u>55</u> |      |
|            | <u>w/show foil</u> |      |           |           |      |
|            |                    |      |           |           |      |
|            |                    |      |           |           |      |
|            |                    |      |           |           |      |

Rec Total 125 BHT 103 Gravity - API RW .2 @ 60 °F Chlorides 42000 ppm  
 (A) Initial Hydrostatic 1552  Test 1150 T-On Location 1935  
 (B) First Initial Flow 23  Jars 250 T-Started 2010  
 (C) First Final Flow 50  Safety Joint 75 T-Open 2200  
 (D) Initial Shut-In 923  Circ Sub \_\_\_\_\_ T-Pulled 0200  
 (E) Second Initial Flow 54  Hourly Standby \_\_\_\_\_ T-Out 0400  
 (F) Second Final Flow 79  Mileage 4 RT 68.20  
 (G) Final Shut-In 890  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1541  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Sub Total 0  
 Total 1543.20  
 MP/DST Disc't \_\_\_\_\_

Approved By Tim Pierce Our Representative RAY SCHWAGN Thank you

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. **55333**

Well Name & No. Oelkers "A" #1-2 Test No. 2 Date 4-27-14  
 Company Murfin Drilling Co Inc Elevation 2022 KB 2017 GL  
 Address 250 N. WATER, STE 300 WICHITA, KS 67202-1216  
 Co. Rep / Geo. Tim Pierce Rig MURFIN rig 16  
 Location: Sec. 2 Twp. 16<sup>s</sup> Rge. 19<sup>w</sup> Co. Rush State Ks

Interval Tested 3356-3408 Zone Tested LKC D, E, F  
 Anchor Length 52 Drill Pipe Run 3329 Mud Wt. 9.2  
 Top Packer Depth 3351 Drill Collars Run 30 Vis 53  
 Bottom Packer Depth 3356 Wt. Pipe Run — WL 8.8  
 Total Depth 3408 Chlorides 4000 ppm System LCM 1 1/2 #

Blow Description TFP - SURFACE Blow, died in 23min  
ISIP - NO Blow  
FFP - NO Blow  
FSIP - NO Blow

| Rec      | Feet of    | %gas | %oil | %water | %mud |
|----------|------------|------|------|--------|------|
| <u>5</u> | <u>Mud</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 |

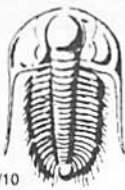
Rec Total 5 BHT 100 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1612  Test 1150 T-On Location 1320  
 (B) First Initial Flow 18  Jars — T-Started 1335  
 (C) First Final Flow 22  Safety Joint — T-Open 1525  
 (D) Initial Shut-In 680  Circ Sub — T-Pulled 1825  
 (E) Second Initial Flow 22  Hourly Standby — T-Out 1954  
 (F) Second Final Flow 25  Mileage 48 RT 68.20 Comments —  
 (G) Final Shut-In 632  Sampler —  
 (H) Final Hydrostatic 1572  Straddle —  Ruined Shale Packer —

Initial Open 30  Shale Packer —  Ruined Packer —  
 Initial Shut-In 60  Extra Packer —  Extra Copies —  
 Final Flow 30  Extra Recorder — Sub Total 0  
 Final Shut-In 60  Day Standby — Total 1218.20  
 Accessibility — MP/DST Disc't —  
 Sub Total 1218.20

Approved By Tim Pierce Our Representative Ray Schwager **THANK YOU**

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. 55334

Well Name & No. Oelkers "A" #1-2 Test No. 3 Date 4-28-14  
 Company MURFIN DRILLING Co Inc Elevation 2022 KB 2017 GL  
 Address 250 N. WATER, STE 300 WICHITA, KS 67202-1216  
 Co. Rep / Geo. Tim Pierce Rig MURFIN rig 16  
 Location: Sec. 2 Twp. 16<sup>s</sup> Rge. 19<sup>w</sup> Co. Rush State Ks

Interval Tested 3447-3544 Zone Tested LKC H-K  
 Anchor Length 97 Drill Pipe Run 3421 Mud Wt. 9  
 Top Packer Depth 3442 Drill Collars Run 30 Vis 55  
 Bottom Packer Depth 3447 Wt. Pipe Run - WL 8.8  
 Total Depth 3544 Chlorides 4000 ppm System LCM 1 1/2 #  
 Blow Description IFP - WEAK BLOW THRU-OUT 1/4" TO 2 1/2" BLOW  
ISIP - NO BLOW  
FFP - WEAK TO A FAIR BLOW 1 1/2" TO 4 1/2" BLOW  
FSIP - NO BLOW

| Rec        | Feet of      | %gas      | %oil      | %water    | %mud |
|------------|--------------|-----------|-----------|-----------|------|
| <u>230</u> | <u>GIP</u>   |           |           |           |      |
| <u>63</u>  | <u>0+6CM</u> | <u>10</u> | <u>10</u> | <u>80</u> |      |
| <u>20</u>  | <u>50CM</u>  | <u>5</u>  |           | <u>95</u> |      |
|            |              |           |           |           |      |
|            |              |           |           |           |      |

Rec Total 83 BHT 103 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1651  Test 1150 T-On Location 1015  
 (B) First Initial Flow 16  Jars - T-Started 1040  
 (C) First Final Flow 33  Safety Joint - T-Open 1250  
 (D) Initial Shut-In 1016  Circ Sub - T-Pulled 1650  
 (E) Second Initial Flow 33  Hourly Standby 4.75h 475 T-Out 2035  
 (F) Second Final Flow 51  Mileage 44 RT 68.20  
 (G) Final Shut-In 943  Sampler -  
 (H) Final Hydrostatic 1587  Straddle -  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility

Sub Total 1693.20 Total 1693.20 MP/DST Disc't -

Approved By Tim Pierce Our Representative RAY SCHWAGER *Thank you*

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. **55335**

Well Name & No. Oelkers 'A' #1-2 Test No. 4 Date 4-29-14  
 Company Murfin Drilling Co Inc Elevation 2022 KB 2017 GL  
 Address 250 N. WATER, STE 300 WICHITA, Ks 67202-1216  
 Co. Rep / Geo. Tim Pierce Rig Murfin rig 16  
 Location: Sec. 2 Twp. 16' Rge. 19<sup>w</sup> Co. Rush State Ks

Interval Tested 3557-3596 Zone Tested Arbuckle  
 Anchor Length 39 Drill Pipe Run 3521 Mud Wt. 9.3  
 Top Packer Depth 3552 Drill Collars Run 30 Vis 52  
 Bottom Packer Depth 3557 Wt. Pipe Run - WL 8  
 Total Depth 3596 Chlorides 5000 ppm System LCM 2#

Blow Description IFP - WEAK BLOW THRU-OUT 1/8 TO 1/4" BLOW  
ISIP - NO BLOW  
FFP - NO BLOW  
FSTIP - NO BLOW

| Rec      | Feet of     | %gas     | %oil | %water    | %mud |
|----------|-------------|----------|------|-----------|------|
| <u>5</u> | <u>50CM</u> | <u>5</u> |      | <u>95</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 5 BHT 99 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1718  Test 1150 T-On Location 1105  
 (B) First Initial Flow 18  Jars - T-Started 1130  
 (C) First Final Flow 18  Safety Joint - T-Open 1315  
 (D) Initial Shut-In 44  Circ Sub - T-Pulled 1615  
 (E) Second Initial Flow 18  Hourly Standby - T-Out 1736  
 (F) Second Final Flow 19  Mileage 44 RT 68.20  
 (G) Final Shut-In 30  Sampler -  
 (H) Final Hydrostatic 1694  Straddle -

Initial Open 30  Shale Packer -  Ruined Shale Packer -  
 Initial Shut-In 60  Extra Packer -  Ruined Packer -  
 Final Flow 30  Extra Recorder -  Extra Copies -  
 Final Shut-In 60  Day Standby - Sub Total 0  
 Total 1218.20  
 Sub Total 1218.20  Accessibility - MP/DST Disc't -

Approved By Tim Pierce Our Representative Ray Schwager **THANK YOU**

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. 58882

Well Name & No. Oelkers "A" #1-2 Test No. 5 Date 4-30-14  
 Company Marfin Drilling Co Inc Elevation 2022 KB 2017 GL  
 Address 250 N. Water, Ste 300 Wichita, KS 67202-1216  
 Co. Rep / Geo. Tim Prance Rig Marfin Rig 16  
 Location: Sec. 2 Twp. 16s Rge. 19w Co. Rush State Ks

Interval Tested 3559 - 3616 Zone Tested Arbuckle  
 Anchor Length 57' Drill Pipe Run 3511 Mud Wt. 9.3  
 Top Packer Depth 3554 Drill Collars Run 30 Vis 51  
 Bottom Packer Depth 3559 Wt. Pipe Run 0 WL 8.8  
 Total Depth 3616 Chlorides 5,000 ppm System LCM 2#

Blow Description FF- Built to 3 1/4"  
FSI- No Return  
FF- Built to 4 1/2"  
FSI- No Return.

| Rec       | Feet of      | %gas       | %oil | %water    | %mud |
|-----------|--------------|------------|------|-----------|------|
| <u>63</u> | <u>VSOCM</u> | <u>5</u>   |      | <u>95</u> |      |
| <u>15</u> | <u>OCM</u>   | <u>30</u>  |      | <u>80</u> |      |
| <u>15</u> | <u>0</u>     | <u>100</u> |      |           |      |
|           |              |            |      |           |      |
|           |              |            |      |           |      |

Rec Total 93 BHT 101 Gravity 39 API RW @ ° F Chlorides ppm  
 (A) Initial Hydrostatic 1768  Test 1150 T-On Location 00:26  
 (B) First Initial Flow 16  Jars \_\_\_\_\_ T-Started 00:29  
 (C) First Final Flow 32  Safety Joint \_\_\_\_\_ T-Open 02:48  
 (D) Initial Shut-In 1034  Circ Sub \_\_\_\_\_ T-Pulled 06:48  
 (E) Second Initial Flow 34  Hourly Standby \_\_\_\_\_ T-Out 08:33  
 (F) Second Final Flow 45  Mileage 44 RT 68.20 Comments \_\_\_\_\_  
 (G) Final Shut-In 1074  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1718  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 60  Day Standby \_\_\_\_\_ Total 1218.20  
 Final Flow 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90 Sub Total 1218.20

Approved By \_\_\_\_\_ Our Representative Phillip Goy "Thank you"  
 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 of 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. 58883

Well Name & No. Delkers "A" #1-2 Test No. 6 Date 4-30-14  
 Company Martin Drilling Co Inc Elevation 2022 KB 2017 GL  
 Address 250 N. Water Stc 300 Wichita, KS 67202-1216  
 Co. Rep / Geo. Tim Pierce Rig Martin Rig 16  
 Location: Sec. 2 Twp. 16s Rge. 19w Co. Rush State ks

Interval Tested 3616-3626 Zone Tested Arbuckle  
 Anchor Length 10' Drill Pipe Run 3573 Mud Wt. 9.4  
 Top Packer Depth 3611 Drill Collars Run 30 Vis 53  
 Bottom Packer Depth 3616 Wt. Pipe Run 0 WL 10.4  
 Total Depth 3626 Chlorides 5,000 ppm System LCM 2#

Blow Description IF- BOB in 30 secs  
ISI- Weak surface blow started at 7mins, died at 13 mins.  
FF- BOB in 30 secs  
FSI No Return

| Rec         | Feet of   | %gas | %oil | %water     | %mud      |
|-------------|-----------|------|------|------------|-----------|
| <u>1953</u> | <u>W</u>  |      |      | <u>100</u> |           |
| <u>504</u>  | <u>MW</u> |      |      | <u>70</u>  | <u>30</u> |
|             |           |      |      |            |           |
|             |           |      |      |            |           |
|             |           |      |      |            |           |

Rec Total 2457 BHT 116 Gravity — API RW 118 @ 51 °F Chlorides 64,000 ppm

(A) Initial Hydrostatic 1813  Test 1150 T-On Location 13:38  
 (B) First Initial Flow 453  Jars \_\_\_\_\_ T-Started 13:39  
 (C) First Final Flow 942  Safety Joint \_\_\_\_\_ T-Open 15:50  
 (D) Initial Shut-In 1182  Circ Sub \_\_\_\_\_ T-Pulled ~~18:20~~ 18:15  
 (E) Second Initial Flow 934  Hourly Standby \_\_\_\_\_ T-Out 20:25  
 (F) Second Final Flow 1088  Mileage 44 RT 68.20 Comments \_\_\_\_\_  
 (G) Final Shut-In 1182  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1741  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_

Initial Open 15  
 Initial Shut-In 60  
 Final Flow ~~18~~ 10  
 Final Shut-In 60  
 Sub Total 1218.20  
 Total 1218.20  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Phil Lee "Thank You"

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