



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc.**

250 N Water Ste 300  
Wichita KS 67202

ATTN: Larry Nicholson

### **Lundgren B #1-36**

### **36-14s-30w Grove,KS**

Start Date: 2014.10.31 @ 09:25:09

End Date: 2014.10.31 @ 17:00:48

Job Ticket #: 58581                      DST #: 1

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

Printed: 2014.11.10 @ 11:26:16



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58581

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2014.10.31 @ 09:25:09

## GENERAL INFORMATION:

Formation: **Torento & Lansing A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:00:19

Time Test Ended: 17:00:48

Test Type: Conventional Bottom Hole (Initial)

Tester: James Geier

Unit No: 69

Interval: **3690.00 ft (KB) To 3734.00 ft (KB) (TVD)**

Reference Elevations: 2667.00 ft (KB)

Total Depth: 3734.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 8365 Outside**

Press@RunDepth: 155.38 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: 09:25:09

End Time:

17:00:48

Time On Btm: 2014.10.31 @ 10:59:34

Time Off Btm: 2014.10.31 @ 15:06:49

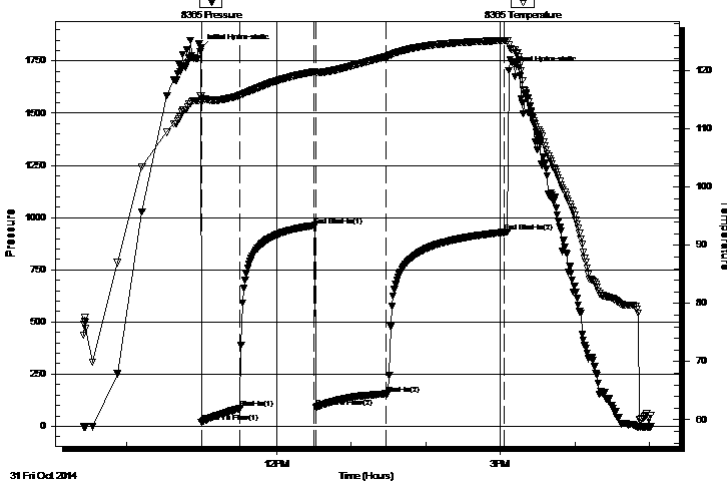
TEST COMMENT: IF: Blow 1 3/4 " @ end

IS: No return

FF: Blow 3/4"

FS: No return

Pressure vs. Time



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1811.90         | 115.71       | Initial Hydro-static |
| 1           | 20.15           | 115.22       | Open To Flow (1)     |
| 32          | 85.58           | 115.75       | Shut-In(1)           |
| 91          | 961.59          | 119.78       | End Shut-In(1)       |
| 93          | 90.80           | 119.63       | Open To Flow (2)     |
| 149         | 155.38          | 122.37       | Shut-In(2)           |
| 244         | 929.81          | 125.17       | End Shut-In(2)       |
| 248         | 1703.96         | 124.37       | Final Hydro-static   |

## Recovery

| Length (ft) | Description               | Volume (bbl) |
|-------------|---------------------------|--------------|
| 124.00      | w m c o 40% w 50% m 10% o | 1.74         |
| 124.00      | w m c o 65% w 30% m 5% o  | 1.74         |
|             |                           |              |
|             |                           |              |
|             |                           |              |

## Gas Rates

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



**TRILOBITE TESTING, INC**

## DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

**36-14s-30w Grove, KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

ATTN: Larry Nicholson

Job Ticket: 58581

**DST#: 1**

Test Start: 2014.10.31 @ 09:25:09

### GENERAL INFORMATION:

Formation: **Torento & Lansing A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:00:19

Time Test Ended: 17:00:48

Test Type: Conventional Bottom Hole (Initial)

Tester: James Geier

Unit No: 69

**Interval: 3690.00 ft (KB) To 3734.00 ft (KB) (TVD)**

Reference Elevations: 2667.00 ft (KB)

Total Depth: 3734.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 8522 Outside**

Press@RunDepth: 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: 09:25:44

End Time:

17:01:23

Time On Btm:

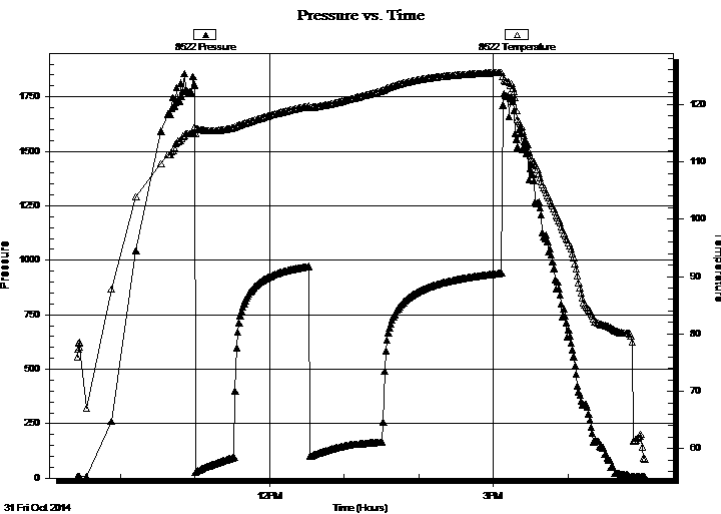
Time Off Btm:

TEST COMMENT: IF: Blow 1 3/4 " @ end

IS: No return

FF: Blow 3/4"

FS: No return



### PRESSURE SUMMARY

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

### Recovery

| Length (ft) | Description               | Volume (bbl) |
|-------------|---------------------------|--------------|
| 124.00      | w m c o 40% w 50% m 10% o | 1.74         |
| 124.00      | w m c o 65% w 30% m 5% o  | 1.74         |
|             |                           |              |
|             |                           |              |
|             |                           |              |

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58581

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2014.10.31 @ 09:25:09

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3390.00 ft | Diameter: 2.25 inches | Volume: 16.67 bbl              | Tool Weight:           | 2500.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: inches      | Volume: 0.00 bbl               | Weight set on Packer:  | 25000.00 lb |
| Drill Collar:             | Length: 279.00 ft  | Diameter: 3.80 inches | Volume: 3.91 bbl               | Weight to Pull Loose:  | 90000.00 lb |
|                           |                    |                       | <u>Total Volume: 20.58 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 6.00 ft            |                       |                                | String Weight: Initial | 64000.00 lb |
| Depth to Top Packer:      | 3690.00 ft         |                       |                                | Final                  | 66000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 44.00 ft           |                       |                                |                        |             |
| Tool Length:              | 71.00 ft           |                       |                                |                        |             |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                        |             |

Tool Comments:

## Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Shut In Tool     | 5.00        |            | Inside   | 3668.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3673.00    |                               |
| Jars             | 5.00        |            |          | 3678.00    |                               |
| Safety Joint     | 3.00        |            |          | 3681.00    |                               |
| Packer           | 5.00        |            |          | 3686.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 3690.00    |                               |
| Stubb            | 1.00        |            |          | 3691.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3692.00    |                               |
| Drill Pipe       | 31.00       |            |          | 3723.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3724.00    |                               |
| Recorder         | 0.00        | 8365       | Outside  | 3724.00    |                               |
| Recorder         | 0.00        | 8522       | Outside  | 3724.00    |                               |
| Perforations     | 7.00        |            |          | 3731.00    |                               |
| Blank Spacing    | 0.00        |            |          | 3731.00    |                               |
| Bullnose         | 3.00        |            |          | 3734.00    | 44.00 Bottom Packers & Anchor |

**Total Tool Length: 71.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58581

**DST#: 1**

ATTN: Larry Nicholson

Test Start: 2014.10.31 @ 09:25:09

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

29000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.75 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description               | Volume<br>bbl |
|--------------|---------------------------|---------------|
| 124.00       | w m c o 40% w 50% m 10% o | 1.739         |
| 124.00       | w m c o 65% w 30% m 5% o  | 1.739         |

Total Length: 248.00 ft      Total Volume: 3.478 bbl

Num Fluid Samples: 0

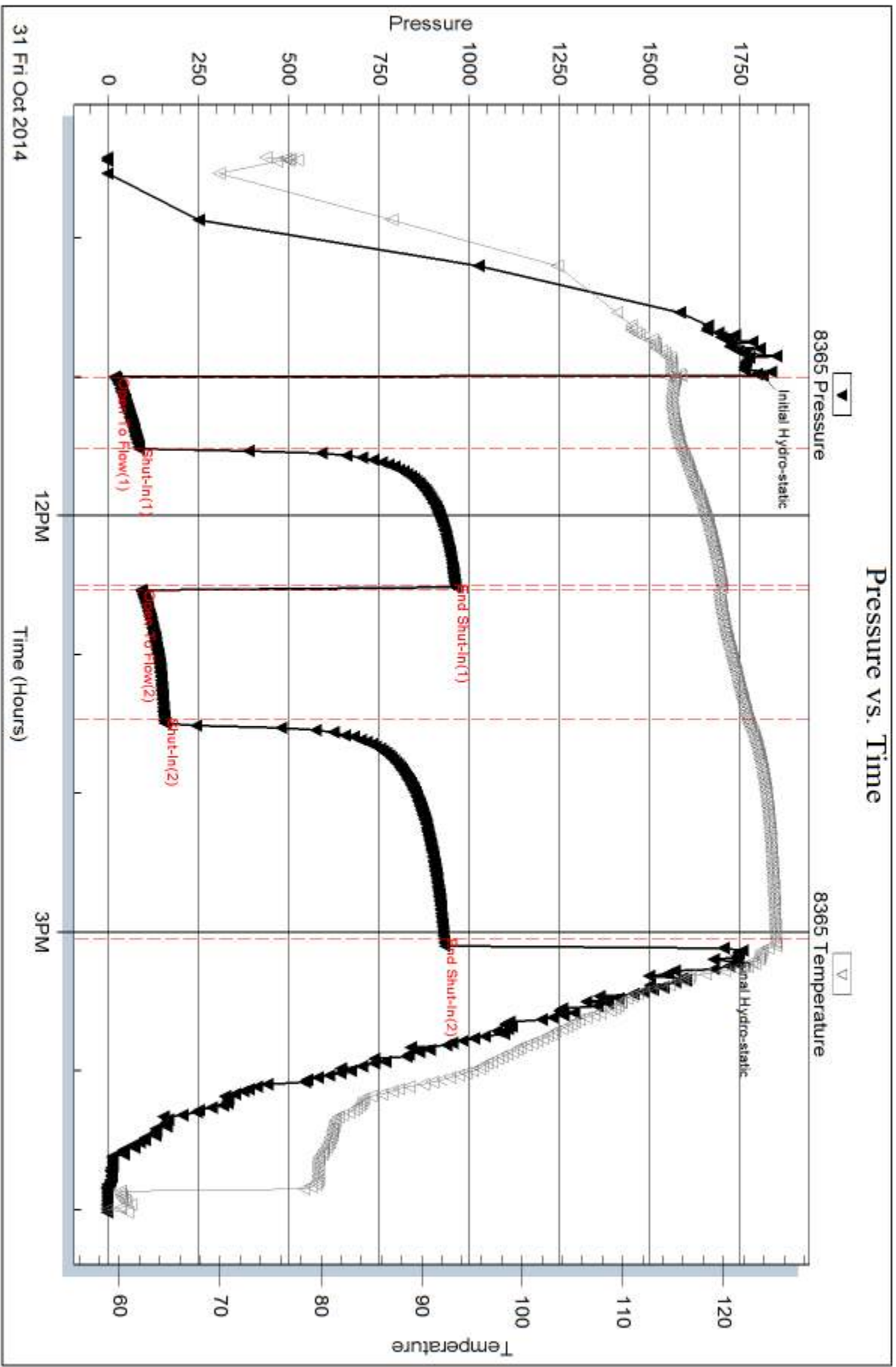
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rW .36 @ 45

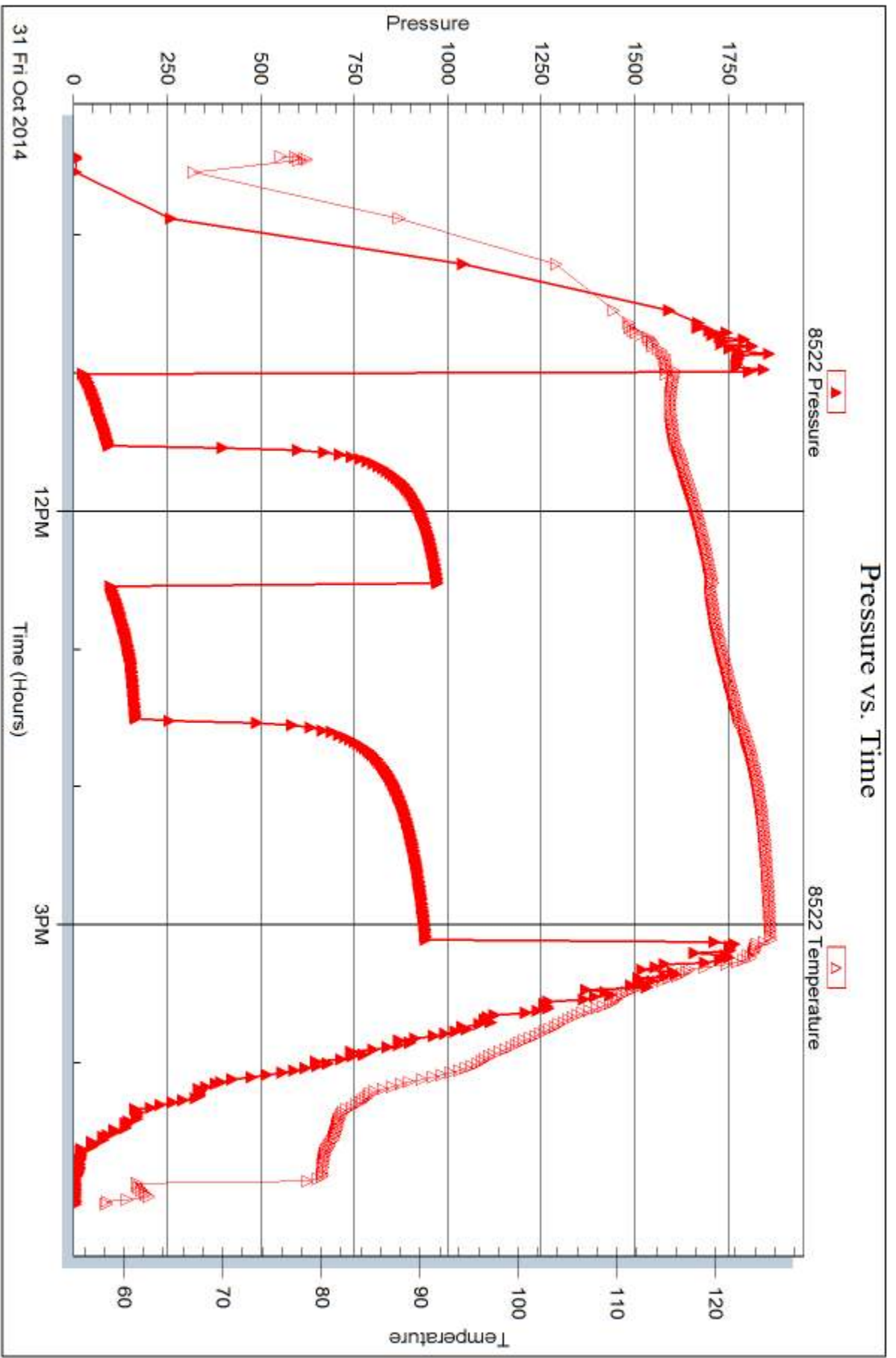


Serial #: 8522

Outside Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 58581

Printed: 2014.11.10 @ 11:26:17



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc.**

250 N Water Ste 300  
Wichita KS 67202

ATTN: Larry Nicholson

### **Lundgren B #1-36**

### **36-14s-30w Grove,KS**

Start Date: 2014.11.01 @ 00:57:54

End Date: 2014.11.01 @ 08:03:18

Job Ticket #: 58582                      DST #: 2

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

Printed: 2014.11.10 @ 11:25:53





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

**36-14s-30w Grove, KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58582

**DST#: 2**

ATTN: Larry Nicholson

Test Start: 2014.11.01 @ 00:57:54

## GENERAL INFORMATION:

Formation: **LKC B - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:55:19

Time Test Ended: 08:03:18

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 69

**Interval: 3744.00 ft (KB) To 3775.00 ft (KB) (TVD)**

Reference Elevations: 2667.00 ft (KB)

Total Depth: 3775.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 8365 Outside**

Press@RunDepth: 27.44 psig @ 3745.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.01

End Date:

2014.11.01

Last Calib.:

2014.11.01

Start Time: 00:57:54

End Time:

08:03:18

Time On Btm:

2014.11.01 @ 02:54:34

Time Off Btm:

2014.11.01 @ 06:08:34

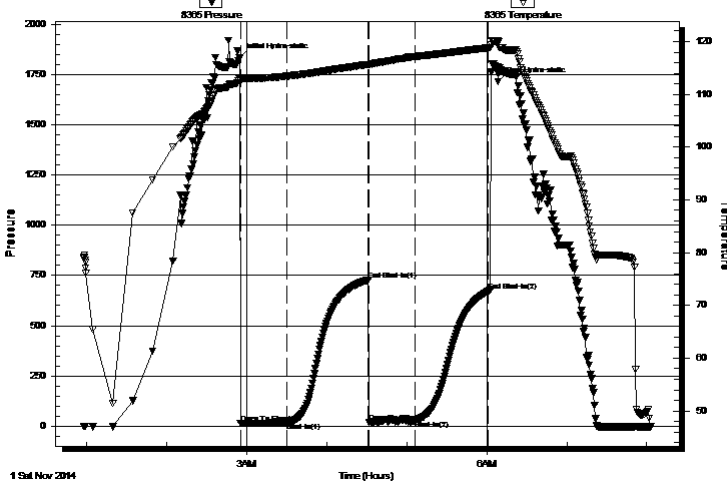
TEST COMMENT: IF: 30 Weak blow / died after 10 min.

IS: 60 No return

FF: 30 No blow

FS: 60 No return

Pressure vs. Time



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1832.03         | 112.85       | Initial Hydro-static |
| 1           | 14.17           | 112.75       | Open To Flow (1)     |
| 36          | 17.00           | 113.44       | Shut-In(1)           |
| 97          | 728.29          | 115.65       | End Shut-In(1)       |
| 98          | 19.08           | 115.57       | Open To Flow (2)     |
| 132         | 27.44           | 117.14       | Shut-In(2)           |
| 187         | 671.96          | 118.80       | End Shut-In(2)       |
| 194         | 1714.84         | 120.04       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 2.00        | mud 100% m  | 0.03         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* 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.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58582

**DST#: 2**

ATTN: Larry Nicholson

Test Start: 2014.11.01 @ 00:57:54

## GENERAL INFORMATION:

Formation: **LKC B - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:55:19

Time Test Ended: 08:03:18

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 69

**Interval: 3744.00 ft (KB) To 3775.00 ft (KB) (TVD)**

Reference Elevations: 2667.00 ft (KB)

Total Depth: 3775.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 8522 Outside**

Press@RunDepth: psig @ 3745.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.01 End Date: 2014.11.01

Last Calib.: 2014.11.01

Start Time: 00:57:27 End Time: 08:02:51

Time On Btm:

Time Off Btm:

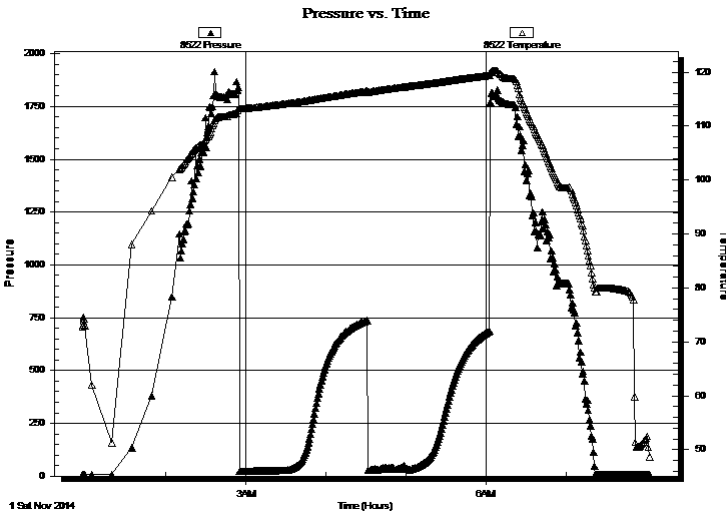
TEST COMMENT: IF: 30 Weak blow / died after 10 min.

IS: 60 No return

FF: 30 No blow

FS: 60 No return

## PRESSURE SUMMARY



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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 2.00        | mud 100% m  | 0.03         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

## 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.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58582

**DST#: 2**

ATTN: Larry Nicholson

Test Start: 2014.11.01 @ 00:57:54

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3450.00 ft | Diameter: 2.25 inches | Volume: 16.97 bbl              | Tool Weight:           | 2500.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: inches      | Volume: 0.00 bbl               | Weight set on Packer:  | 25000.00 lb |
| Drill Collar:             | Length: 279.00 ft  | Diameter: 3.80 inches | Volume: 3.91 bbl               | Weight to Pull Loose:  | 90000.00 lb |
|                           |                    |                       | <u>Total Volume: 20.88 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 13.00 ft           |                       |                                | String Weight: Initial | 66000.00 lb |
| Depth to Top Packer:      | 3744.00 ft         |                       |                                | Final                  | lb          |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 31.00 ft           |                       |                                |                        |             |
| Tool Length:              | 59.00 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        |            |          | 3717.00    |                               |
| Shut In Tool     | 5.00        |            | Inside   | 3722.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3727.00    |                               |
| Jars             | 5.00        |            |          | 3732.00    |                               |
| Safety Joint     | 3.00        |            |          | 3735.00    |                               |
| Packer           | 5.00        |            |          | 3740.00    | 28.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 3744.00    |                               |
| Stubb            | 1.00        |            |          | 3745.00    |                               |
| Recorder         | 0.00        | 8365       | Outside  | 3745.00    |                               |
| Recorder         | 0.00        | 8522       | Outside  | 3745.00    |                               |
| Perforations     | 27.00       |            |          | 3772.00    |                               |
| Blank Spacing    | 0.00        |            |          | 3772.00    |                               |
| Bullnose         | 3.00        |            |          | 3775.00    | 31.00 Bottom Packers & Anchor |

**Total Tool Length: 59.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58582

**DST#: 2**

ATTN: Larry Nicholson

Test Start: 2014.11.01 @ 00:57:54

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.56 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 2.00         | mud 100% m  | 0.028         |

Total Length: 2.00 ft      Total Volume: 0.028 bbl

Num Fluid Samples: 0

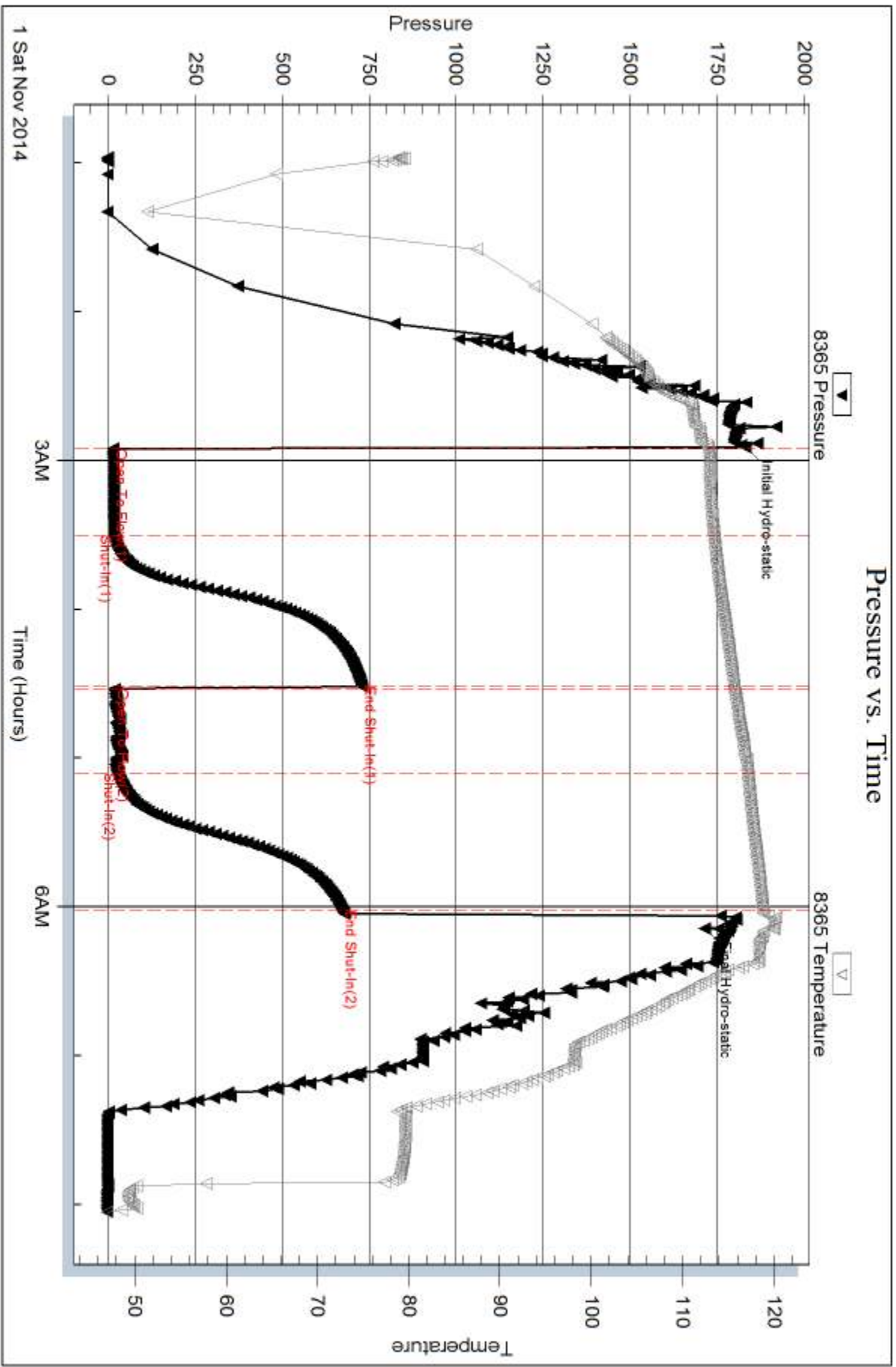
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

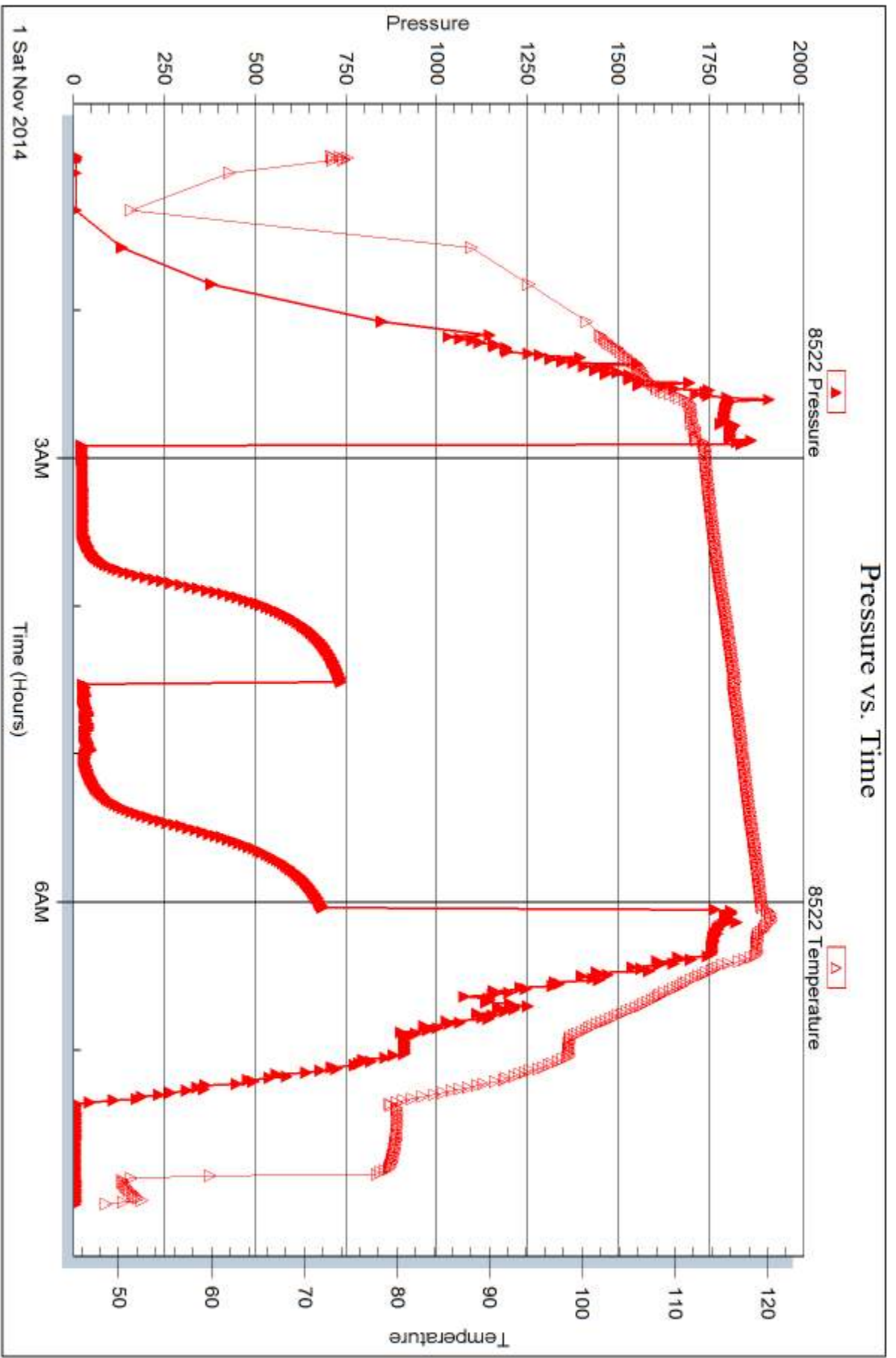


Serial #: 8522

Outside Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc.**

250 N Water Ste 300  
Wichita KS 67202

ATTN: Larry Nicholson

### **Lundgren B #1-36**

### **36-14s-30w Grove,KS**

Start Date: 2014.11.02 @ 01:45:41

End Date: 2014.11.02 @ 09:38:20

Job Ticket #: 58583                      DST #: 3

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

Printed: 2014.11.10 @ 11:25:30

Murfin Drilling Co Inc.  
36-14s-30w Grove,KS  
Lundgren B #1-36  
DST # 3  
KC H I J  
2014.11.02



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

**36-14s-30w Grove, KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

ATTN: Larry Nicholson

Job Ticket: 58583

**DST#: 3**

Test Start: 2014.11.02 @ 01:45:41

## GENERAL INFORMATION:

Formation: **KC HIJ**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:34:21

Time Test Ended: 09:38:20

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 69

**Interval: 3900.00 ft (KB) To 3968.00 ft (KB) (TVD)**

Reference Elevations: 2667.00 ft (KB)

Total Depth: 3968.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8365 Outside**

Press@RunDepth: 189.87 psig @ 3934.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.02

End Date:

2014.11.02

Last Calib.:

2014.11.02

Start Time: 01:45:41

End Time:

09:38:20

Time On Btm:

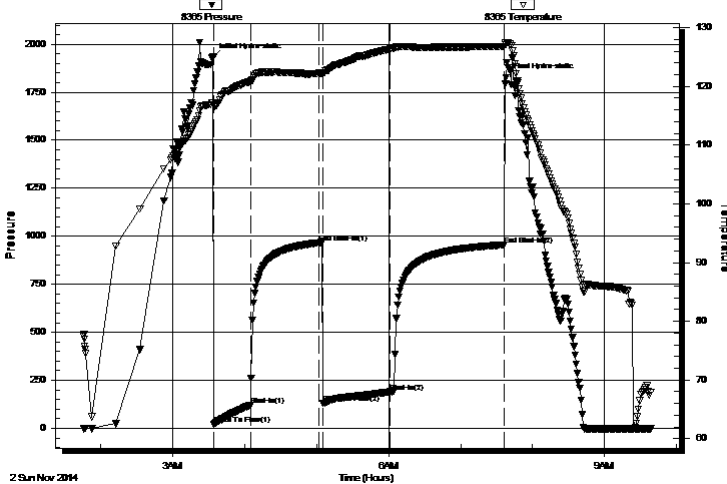
2014.11.02 @ 03:33:36

Time Off Btm:

2014.11.02 @ 07:37:36

TEST COMMENT: IF: 30 2" blow  
IS: 60 No return  
FF: 60 2 1/2 " blow  
FS: 90 No return

Pressure vs. Time



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1932.12         | 117.26       | Initial Hydro-static |
| 1           | 20.51           | 116.66       | Open To Flow (1)     |
| 32          | 120.64          | 120.82       | Shut-In(1)           |
| 88          | 965.63          | 122.23       | End Shut-In(1)       |
| 92          | 131.35          | 122.12       | Open To Flow (2)     |
| 148         | 189.87          | 126.35       | Shut-In(2)           |
| 243         | 955.67          | 126.83       | End Shut-In(2)       |
| 244         | 1826.44         | 127.13       | Final Hydro-static   |

## Recovery

| Length (ft) | Description       | Volume (bbl) |
|-------------|-------------------|--------------|
| 217.00      | w c m 60% w 40% m | 3.04         |
| 217.00      | w c m 80% w 20% m | 1.63         |
|             |                   |              |
|             |                   |              |
|             |                   |              |

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

**36-14s-30w Grove, KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

ATTN: Larry Nicholson

Job Ticket: 58583

**DST#: 3**

Test Start: 2014.11.02 @ 01:45:41

### GENERAL INFORMATION:

Formation: **KC HIJ**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:34:21

Time Test Ended: 09:38:20

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 69

**Interval: 3900.00 ft (KB) To 3968.00 ft (KB) (TVD)**

Reference Elevations: 2667.00 ft (KB)

Total Depth: 3968.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8522 Outside**

Press@RunDepth: psig @ 3934.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.01

End Date: 2014.11.01

Last Calib.: 2014.11.02

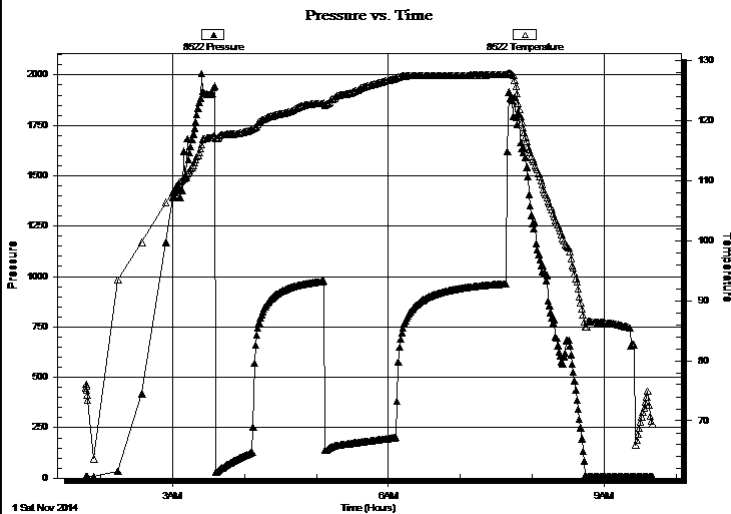
Start Time: 01:47:31

End Time: 09:40:10

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 30 2" blow  
IS: 60 No return  
FF: 60 2 1/2 " blow  
FS: 90 No return



### PRESSURE SUMMARY

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

### Recovery

| Length (ft) | Description       | Volume (bbl) |
|-------------|-------------------|--------------|
| 217.00      | w c m 60% w 40% m | 3.04         |
| 217.00      | w c m 80% w 20% m | 1.63         |
|             |                   |              |
|             |                   |              |
|             |                   |              |
|             |                   |              |

### 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.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58583

**DST#: 3**

ATTN: Larry Nicholson

Test Start: 2014.11.02 @ 01:45:41

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3611.00 ft | Diameter: 2.25 inches | Volume: 17.76 bbl              | Tool Weight:           | 2500.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: inches      | Volume: 0.00 bbl               | Weight set on Packer:  | 25000.00 lb |
| Drill Collar:             | Length: 279.00 ft  | Diameter: 3.80 inches | Volume: 3.91 bbl               | Weight to Pull Loose:  | 90000.00 lb |
|                           |                    |                       | <u>Total Volume: 21.67 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 17.00 ft           |                       |                                | String Weight: Initial | 69000.00 lb |
| Depth to Top Packer:      | 3900.00 ft         |                       |                                | Final                  | 70000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 68.00 ft           |                       |                                |                        |             |
| Tool Length:              | 95.00 ft           |                       |                                |                        |             |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                        |             |

Tool Comments:

## Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Shut In Tool     | 5.00        |            | Inside   | 3878.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3883.00    |                               |
| Jars             | 5.00        |            |          | 3888.00    |                               |
| Safety Joint     | 3.00        |            |          | 3891.00    |                               |
| Packer           | 5.00        |            |          | 3896.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 3900.00    |                               |
| Stubb            | 1.00        |            |          | 3901.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3902.00    |                               |
| Drill Pipe       | 31.00       |            |          | 3933.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3934.00    |                               |
| Recorder         | 0.00        | 8365       | Outside  | 3934.00    |                               |
| Recorder         | 0.00        | 8522       | Outside  | 3934.00    |                               |
| Perforations     | 31.00       |            |          | 3965.00    |                               |
| Blank Spacing    | 0.00        |            |          | 3965.00    |                               |
| Bullnose         | 3.00        |            |          | 3968.00    | 68.00 Bottom Packers & Anchor |

**Total Tool Length: 95.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58583

**DST#: 3**

ATTN: Larry Nicholson

Test Start: 2014.11.02 @ 01:45:41

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

30000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.96 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description       | Volume<br>bbf |
|--------------|-------------------|---------------|
| 217.00       | w c m 60% w 40% m | 3.044         |
| 217.00       | w c m 80% w 20% m | 1.632         |

Total Length: 434.00 ft      Total Volume: 4.676 bbf

Num Fluid Samples: 0

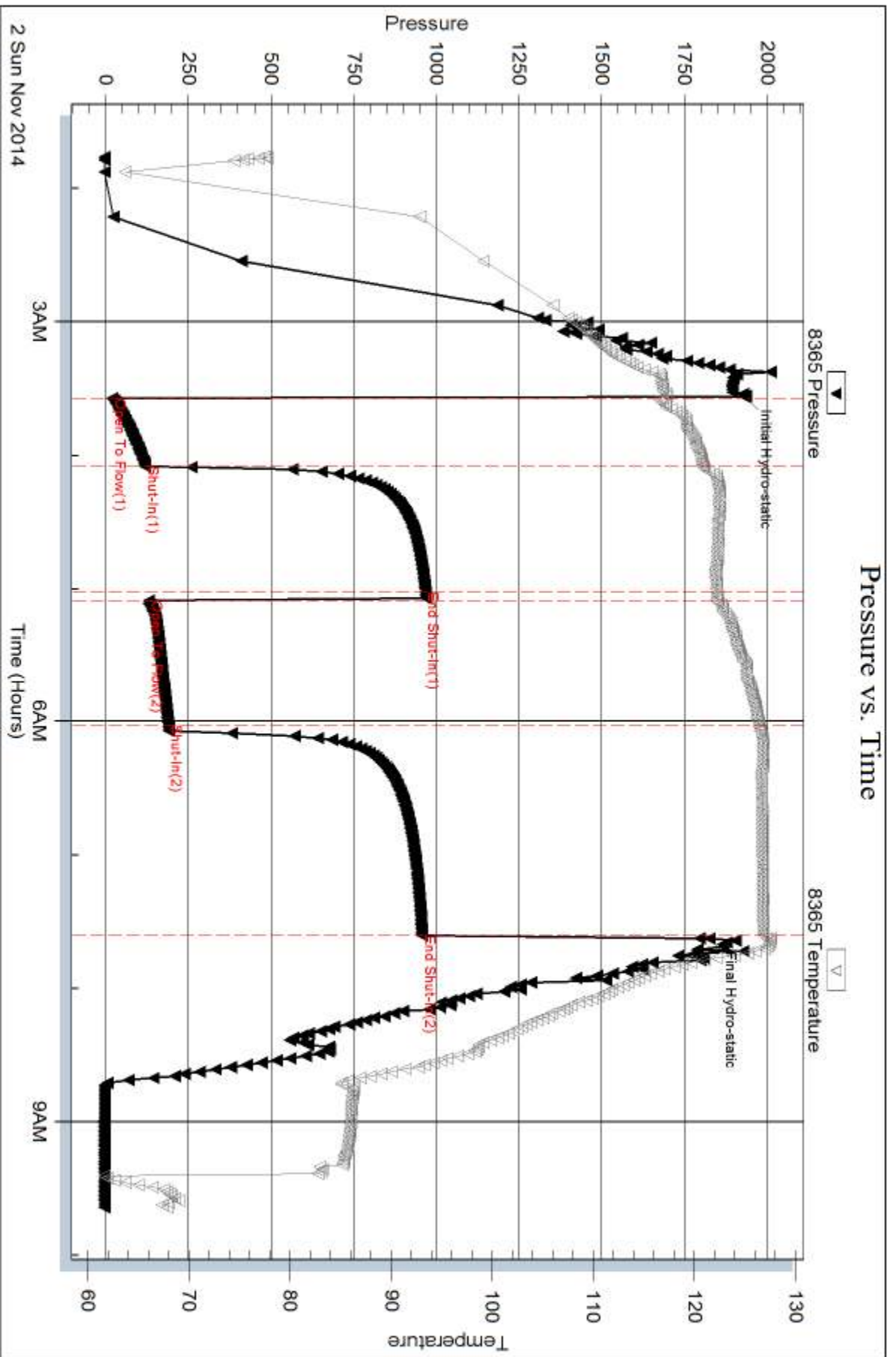
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW 24 @ 60\*f =30000

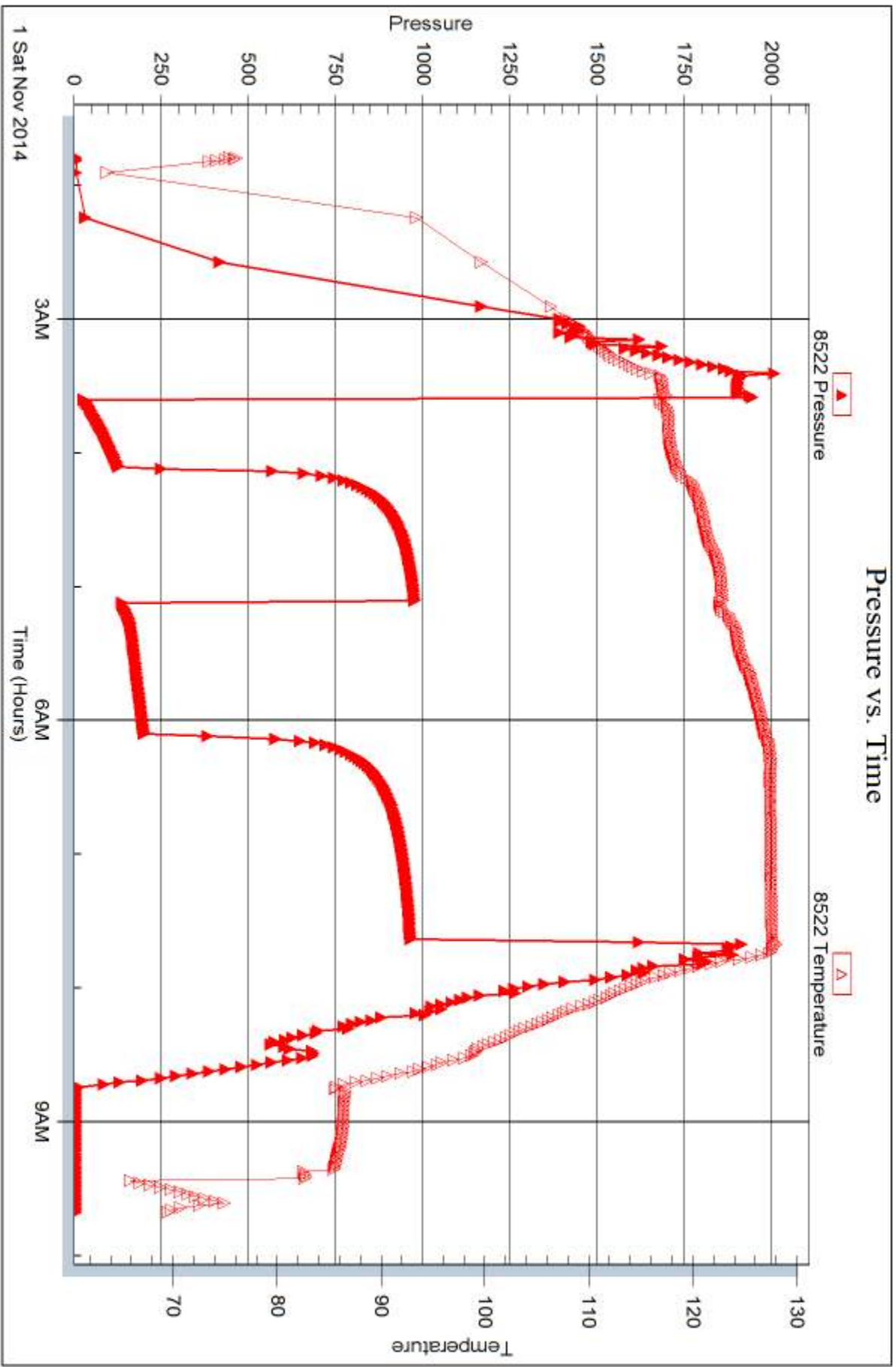


Serial #: 8522

Outside Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc.**

250 N Water Ste 300  
Wichita KS 67202

ATTN: Larry Nicholson

### **Lundgren B #1-36**

### **36-14s-30w Grove,KS**

Start Date: 2014.11.02 @ 19:23:34

End Date: 2014.11.03 @ 04:12:29

Job Ticket #: 58584                      DST #: 4

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

Printed: 2014.11.10 @ 11:25:03



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

**36-14s-30w Grove, KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58584

**DST#: 4**

ATTN: Larry Nicholson

Test Start: 2014.11.02 @ 19:23:34

## GENERAL INFORMATION:

Formation: **KC K & L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:31:14

Time Test Ended: 04:12:29

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 69

**Interval: 3963.00 ft (KB) To 4039.00 ft (KB) (TVD)**

Reference Elevations: 2667.00 ft (KB)

Total Depth: 4039.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 8365 Outside**

Press@RunDepth: 531.00 psig @ 3996.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.02

End Date:

2014.11.03

Last Calib.:

2014.11.03

Start Time: 19:23:34

End Time:

04:12:29

Time On Btm:

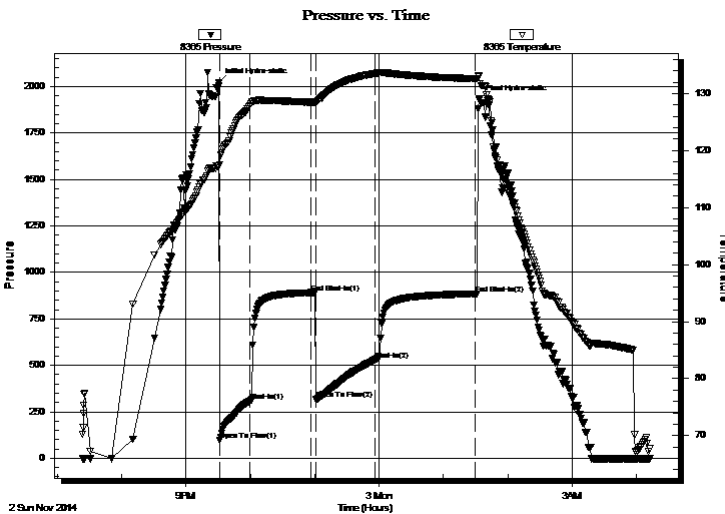
2014.11.02 @ 21:30:29

Time Off Btm:

2014.11.03 @ 01:32:59

**TEST COMMENT:** IF: 30 Bob in 5 min.  
IS: 60 No return  
FF: 60 Bob in 6 min.  
FS: 90 With blow back 1 "

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2018.60         | 117.28       | Initial Hydro-static |
| 1           | 98.56           | 117.51       | Open To Flow (1)     |
| 29          | 308.05          | 127.93       | Shut-In(1)           |
| 86          | 891.35          | 128.48       | End Shut-In(1)       |
| 91          | 315.71          | 128.31       | Open To Flow (2)     |
| 146         | 531.00          | 133.53       | Shut-In(2)           |
| 239         | 885.14          | 132.66       | End Shut-In(2)       |
| 243         | 1927.43         | 133.09       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                       | Volume (bbl) |
|-------------|-----------------------------------|--------------|
| 405.00      | w c m 90% w 10% m                 | 4.53         |
| 374.00      | g w m c o 20% g 30% w 30% m 20% o | 1.84         |
| 374.00      | g m c o 30% g 10% m 60% o         | 1.84         |
| 0.00        | G I P 1652'                       | 0.00         |
|             |                                   |              |
|             |                                   |              |

\* 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.

**36-14s-30w Grove, KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

ATTN: Larry Nicholson

Job Ticket: 58584

**DST#: 4**

Test Start: 2014.11.02 @ 19:23:34

### GENERAL INFORMATION:

Formation: **KC K & L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:31:14

Time Test Ended: 04:12:29

Interval: **3963.00 ft (KB) To 4039.00 ft (KB) (TVD)**

Total Depth: 4039.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Test Type: Conventional Bottom Hole (Reset)

Tester: James Geier

Unit No: 69

Reference Elevations: 2667.00 ft (KB)

2656.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8522 Outside**

Press@RunDepth: psig @ 3996.00 ft (KB)

Start Date: 2014.11.02

End Date:

2014.11.03

Start Time: 19:23:41

End Time:

04:12:36

Capacity: 8000.00 psig

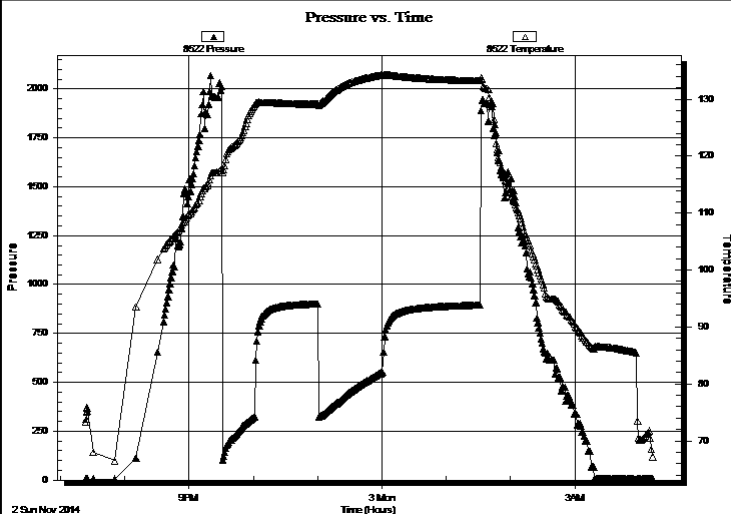
Last Calib.:

2014.11.03

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 30 Bob in 5 min.  
IS: 60 No return  
FF: 60 Bob in 6 min.  
FS: 90 With blow back 1 "



### PRESSURE SUMMARY

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

### Recovery

| Length (ft) | Description                       | Volume (bbl) |
|-------------|-----------------------------------|--------------|
| 405.00      | w c m 90% w 10% m                 | 4.53         |
| 374.00      | g w m c o 20% g 30% w 30% m 20% o | 1.84         |
| 374.00      | g m c o 30% g 10% m 60% o         | 1.84         |
| 0.00        | G I P 1652'                       | 0.00         |
|             |                                   |              |

\* 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.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58584

**DST#: 4**

ATTN: Larry Nicholson

Test Start: 2014.11.02 @ 19:23:34

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3673.00 ft | Diameter: 2.25 inches | Volume: 18.06 bbl              | Tool Weight:           | 2500.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: inches      | Volume: 0.00 bbl               | Weight set on Packer:  | 25000.00 lb |
| Drill Collar:             | Length: 279.00 ft  | Diameter: 3.80 inches | Volume: 3.91 bbl               | Weight to Pull Loose:  | 90000.00 lb |
|                           |                    |                       | <u>Total Volume: 21.97 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 16.00 ft           |                       |                                | String Weight: Initial | 65000.00 lb |
| Depth to Top Packer:      | 3963.00 ft         |                       |                                | Final                  | 69000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 76.00 ft           |                       |                                |                        |             |
| Tool Length:              | 103.00 ft          |                       |                                |                        |             |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                        |             |

Tool Comments:

## Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Shut In Tool     | 5.00        |            | Inside   | 3941.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 3946.00    |                               |
| Jars             | 5.00        |            |          | 3951.00    |                               |
| Safety Joint     | 3.00        |            |          | 3954.00    |                               |
| Packer           | 5.00        |            |          | 3959.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 3963.00    |                               |
| Stubb            | 1.00        |            |          | 3964.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3965.00    |                               |
| Drill Pipe       | 30.00       |            |          | 3995.00    |                               |
| Change Over Sub  | 1.00        |            |          | 3996.00    |                               |
| Recorder         | 0.00        | 8365       | Outside  | 3996.00    |                               |
| Recorder         | 0.00        | 8522       | Outside  | 3996.00    |                               |
| Perforations     | 40.00       |            |          | 4036.00    |                               |
| Blank Spacing    | 0.00        |            |          | 4036.00    |                               |
| Bullnose         | 3.00        |            |          | 4039.00    | 76.00 Bottom Packers & Anchor |

**Total Tool Length: 103.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58584

**DST#: 4**

ATTN: Larry Nicholson

Test Start: 2014.11.02 @ 19:23:34

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

39000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description                       | Volume<br>bbl |
|--------------|-----------------------------------|---------------|
| 405.00       | w c m 90% w 10% m                 | 4.533         |
| 374.00       | g w m c o 20% g 30% w 30% m 20% o | 1.839         |
| 374.00       | g m c o 30% g 10% m 60% o         | 1.839         |
| 0.00         | G I P 1652'                       | 0.000         |

Total Length: 1153.00 ft Total Volume: 8.211 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

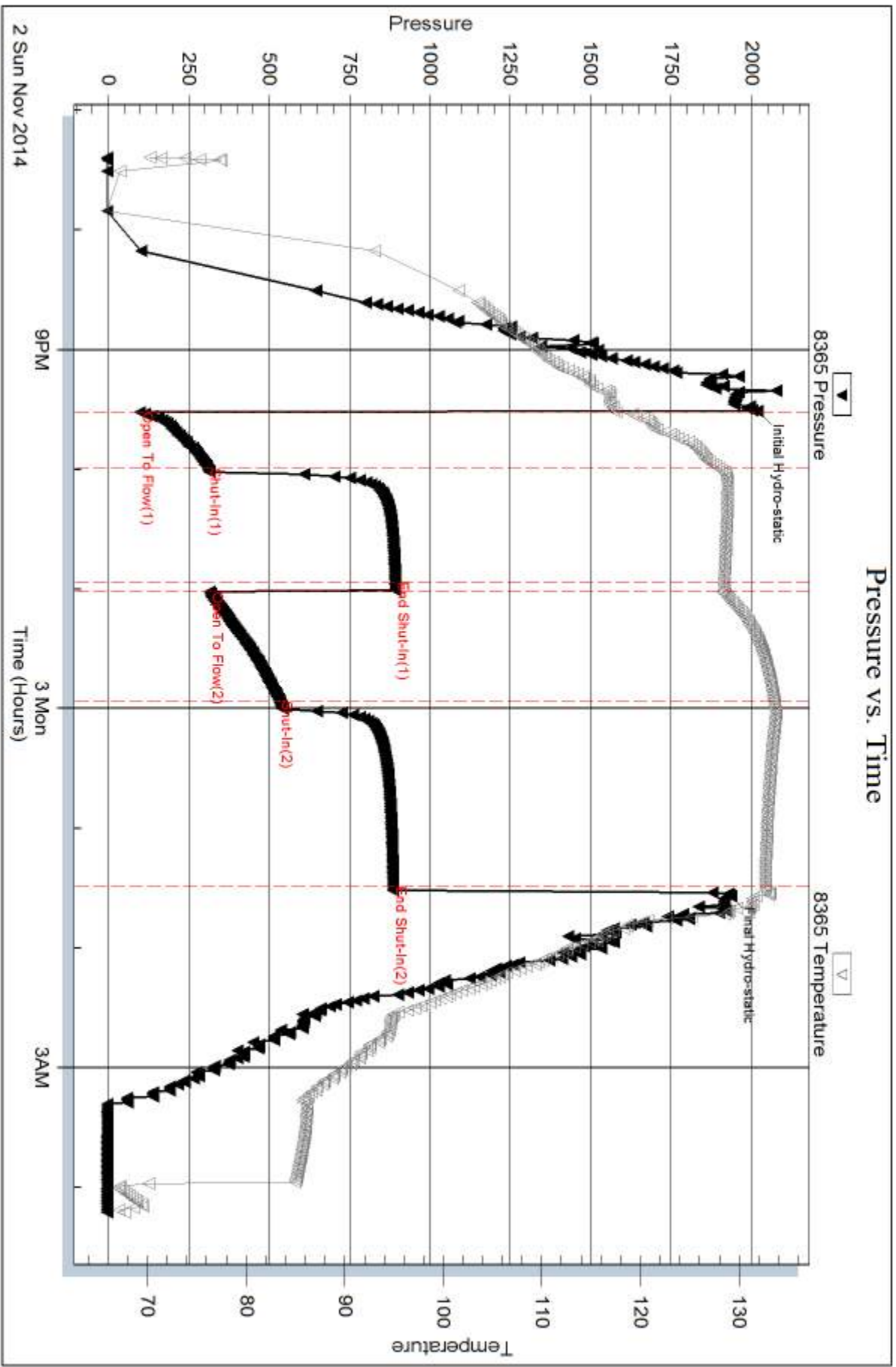
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .23@ 55\*f =39000

Gravity .29 @ 65\*f = 30

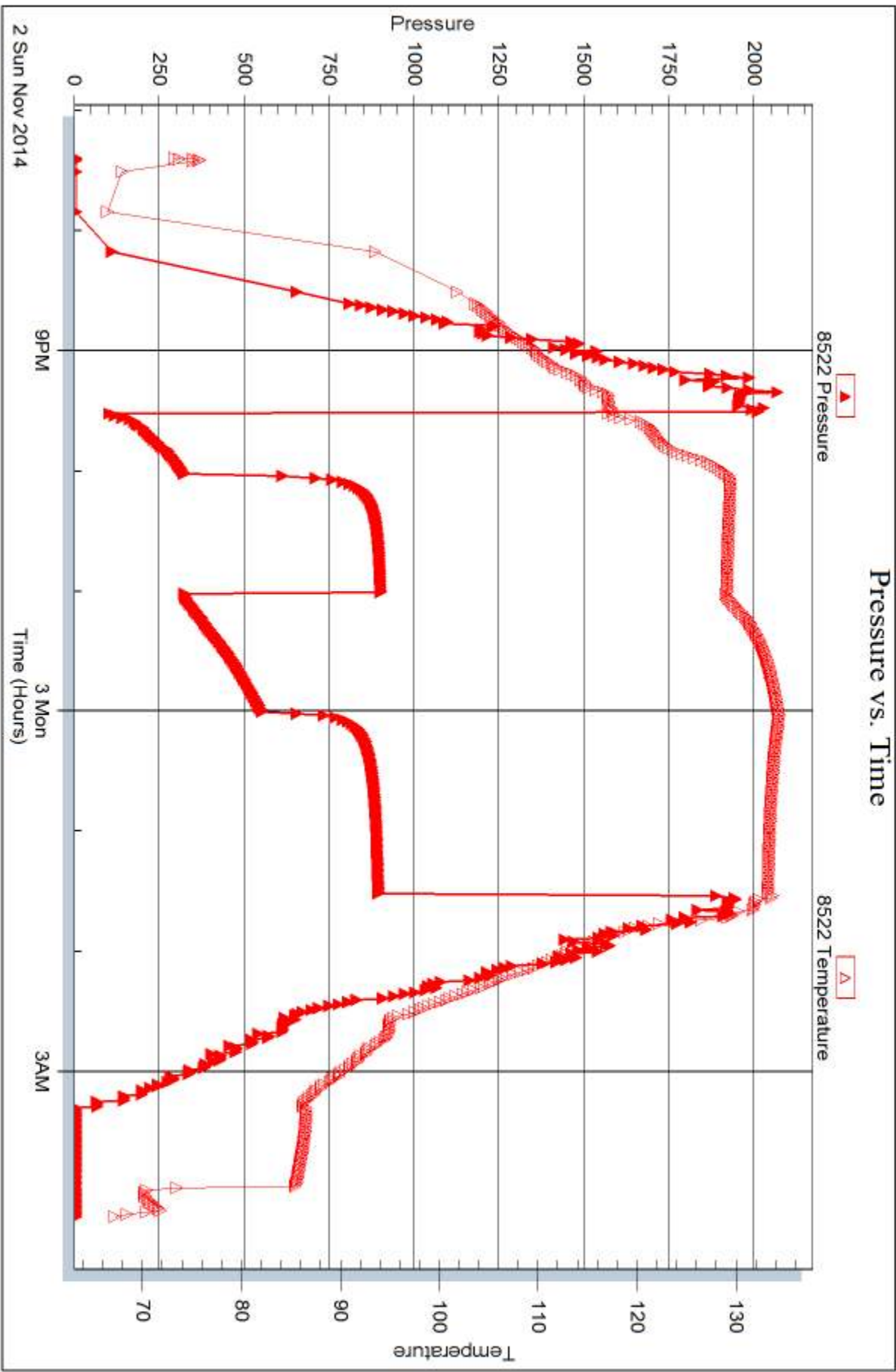


Serial #: 8522

Outside Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 58584

Printed: 2014.11.10 @ 11:25:04



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc.**

250 N Water Ste 300  
Wichita KS 67202

ATTN: Larry Nicholson

### **Lundgren B #1-36**

### **36-14s-30w Grove,KS**

Start Date: 2014.11.03 @ 22:52:00

End Date: 2014.11.04 @ 07:52:00

Job Ticket #: 58585                      DST #: 5

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

Printed: 2014.11.10 @ 11:24:40

Murfin Drilling Co Inc. 36-14s-30w Grove,KS Lundgren B #1-36 DST # 5 Pawnee - Lower Pawnee 2014.11.10



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58585

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2014.11.03 @ 22:52:00

## GENERAL INFORMATION:

Formation: **Pawnee - Lower Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:52:45

Time Test Ended: 07:52:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

**Interval: 4259.00 ft (KB) To 4221.00 ft (KB) (TVD)**

Reference Elevations: 2667.00 ft (KB)

Total Depth: 4221.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8365**

**Inside**

Press@RunDepth: 161.71 psig @ 4160.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.03

End Date:

2014.11.04

Last Calib.:

2014.11.04

Start Time:

22:52:05

End Time:

07:52:00

Time On Btm:

2014.11.04 @ 00:52:30

Time Off Btm:

2014.11.04 @ 04:56:45

## TEST COMMENT:

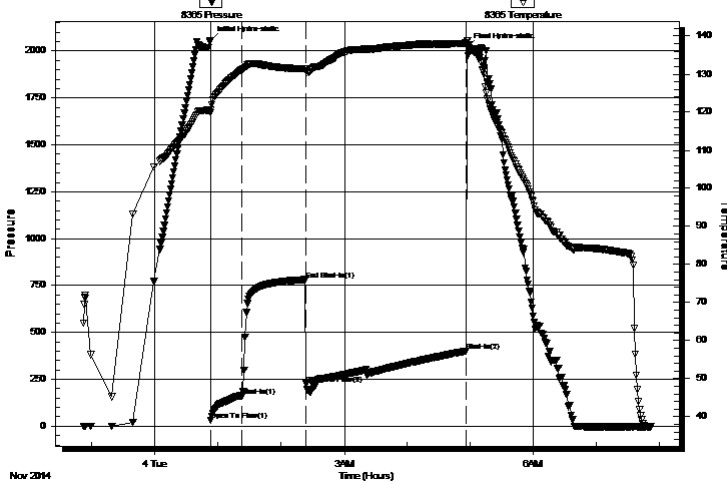
30- IF: BOB @ 7 min.

60-ISI: 3" return, receded to Surface.

60- FF: BOB @ 7 min.

90- FS: BOB @ 10 min, Gas to surface @ 45 min. -----tool did not close

Pressure vs. Time



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2056.98         | 120.54       | Initial Hydro-static |
| 1           | 31.48           | 119.80       | Open To Flow (1)     |
| 31          | 161.71          | 131.13       | Shut-In(1)           |
| 91          | 781.78          | 131.35       | End Shut-In(1)       |
| 92          | 225.76          | 130.80       | Open To Flow (2)     |
| 244         | 401.83          | 138.15       | Shut-In(2)           |
| 245         | 2020.72         | 138.78       | Final Hydro-static   |

## Recovery

| Length (ft) | Description          | Volume (bbl) |
|-------------|----------------------|--------------|
| 280.00      | gmco 30g 15m 55o     | 3.92         |
| 320.00      | gmco 20g 10m 70o     | 1.57         |
| 350.00      | gsmco 35g 5m 60o     | 1.72         |
| 0.00        | 2910' GIP to surface | 0.00         |
|             |                      |              |
|             |                      |              |

\* 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.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58585

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2014.11.03 @ 22:52:00

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3860.00 ft | Diameter: 2.25 inches | Volume: 18.98 bbl              | Tool Weight:           | 2500.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: inches      | Volume: 0.00 bbl               | Weight set on Packer:  | 25000.00 lb |
| Drill Collar:             | Length: 279.00 ft  | Diameter: 3.80 inches | Volume: 3.91 bbl               | Weight to Pull Loose:  | 87000.00 lb |
|                           |                    |                       | <u>Total Volume: 22.89 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 7.00 ft            |                       |                                | String Weight: Initial | 68000.00 lb |
| Depth to Top Packer:      | 4159.00 ft         |                       |                                | Final                  | 70000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 62.00 ft           |                       |                                |                        |             |
| Tool Length:              | 89.00 ft           |                       |                                |                        |             |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                        |             |

Tool Comments:

## Tool Description

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

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub  | 1.00        |            |          | 4133.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4138.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4143.00    |                               |
| Jars             | 5.00        |            |          | 4148.00    |                               |
| Safety Joint     | 2.00        |            |          | 4150.00    |                               |
| Packer           | 5.00        |            |          | 4155.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4159.00    |                               |
| Stubb            | 1.00        |            |          | 4160.00    |                               |
| Recorder         | 0.00        | 8365       | Inside   | 4160.00    |                               |
| Recorder         | 0.00        | 8522       | Outside  | 4160.00    |                               |
| Perforations     | 25.00       |            |          | 4185.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4186.00    |                               |
| Drill Pipe       | 31.00       |            |          | 4217.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4218.00    |                               |
| Bullnose         | 3.00        |            |          | 4221.00    | 62.00 Bottom Packers & Anchor |

**Total Tool Length: 89.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58585

**DST#: 5**

ATTN: Larry Nicholson

Test Start: 2014.11.03 @ 22:52:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description          | Volume<br>bbbl |
|--------------|----------------------|----------------|
| 280.00       | gmco 30g 15m 55o     | 3.919          |
| 320.00       | gmco 20g 10m 70o     | 1.574          |
| 350.00       | gsmco 35g 5m 60o     | 1.721          |
| 0.00         | 2910' GIP to surface | 0.000          |

Total Length: 950.00 ft

Total Volume: 7.214 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

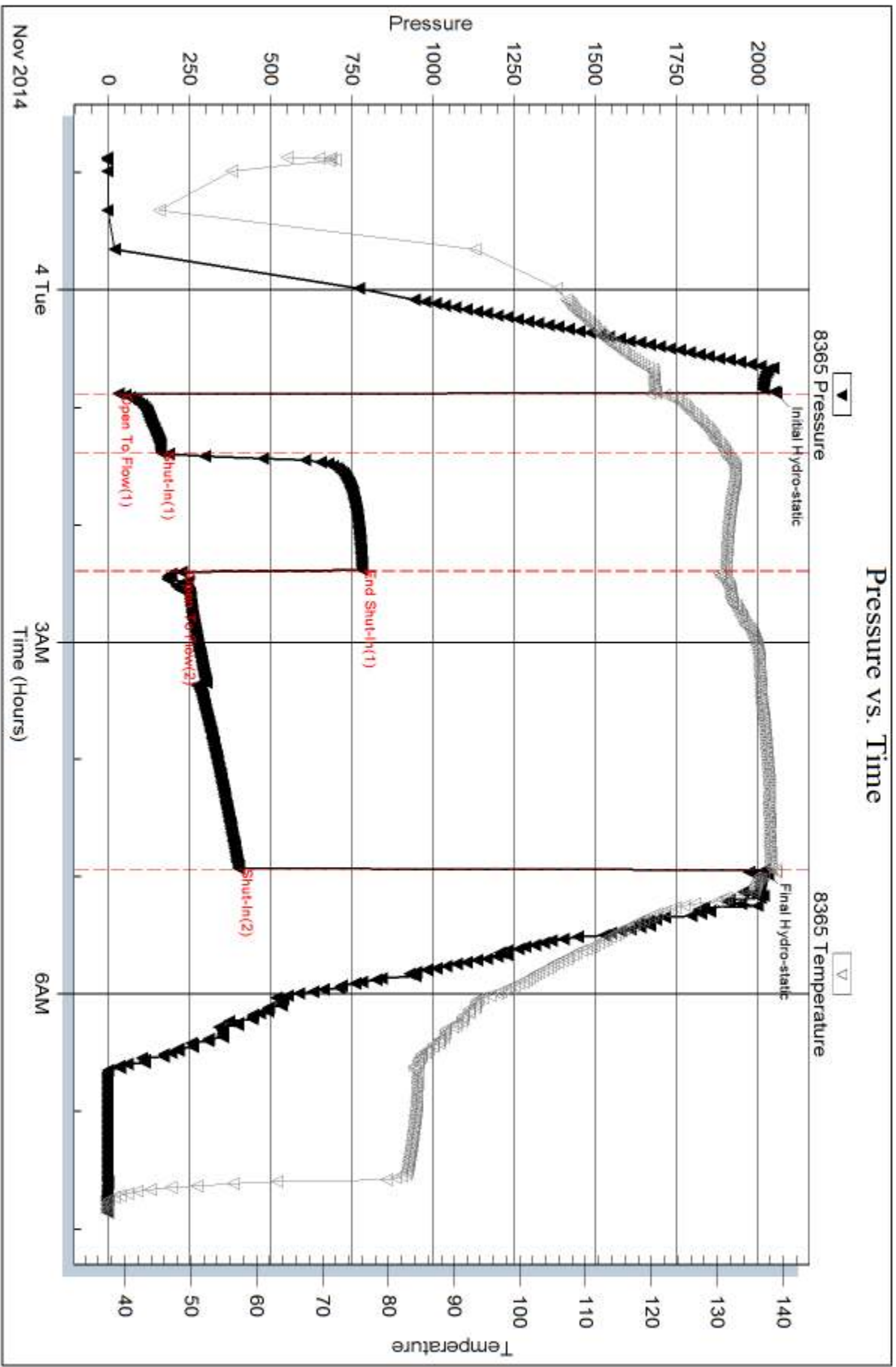
Serial #: 8365

Inside

Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 58585

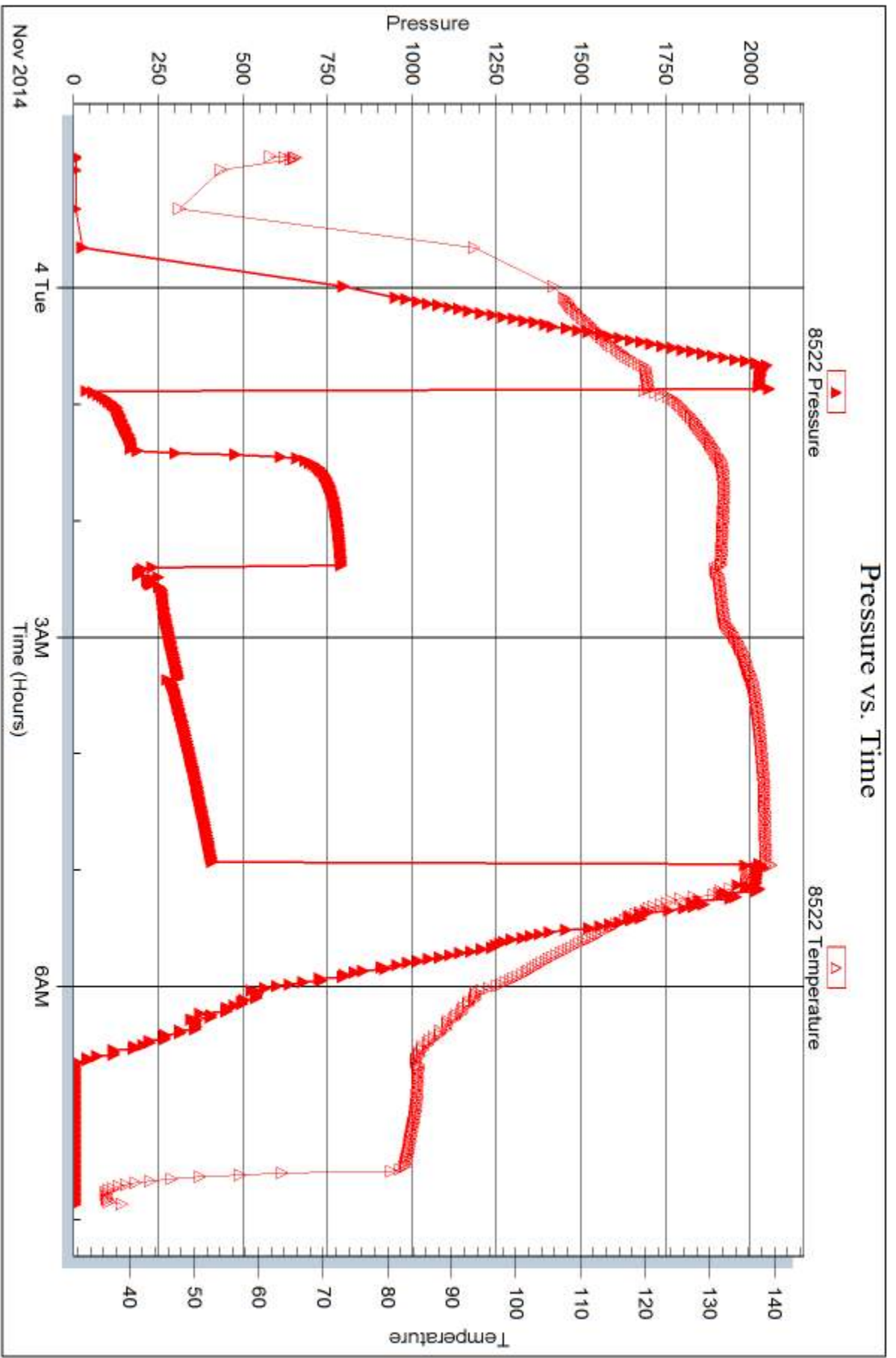
Printed: 2014.11.10 @ 11:24:42

Serial #: 8522

Outside Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 58585

Printed: 2014.11.10 @ 11:24:42



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc.**

250 N Water Ste 300  
Wichita KS 67202

ATTN: Larry Nicholson

### **Lundgren B #1-36**

### **36-14s-30w Grove,KS**

Start Date: 2014.11.04 @ 20:04:00

End Date: 2014.11.05 @ 04:02:38

Job Ticket #: 58586                      DST #: 6

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

Printed: 2014.11.10 @ 11:23:55



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58586

**DST#: 6**

ATTN: Larry Nicholson

Test Start: 2014.11.04 @ 20:04:00

## GENERAL INFORMATION:

Formation: **Ft Scott - Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:16:00

Time Test Ended: 04:02:38

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

**Interval: 4217.00 ft (KB) To 4316.00 ft (KB) (TVD)**

Reference Elevations: 2667.00 ft (KB)

Total Depth: 4316.00 ft (KB) (TVD)

2656.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8365**

**Inside**

Press@RunDepth: 35.71 psig @ 4218.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.04

End Date:

2014.11.05

Last Calib.: 2014.11.05

Start Time: 20:04:05

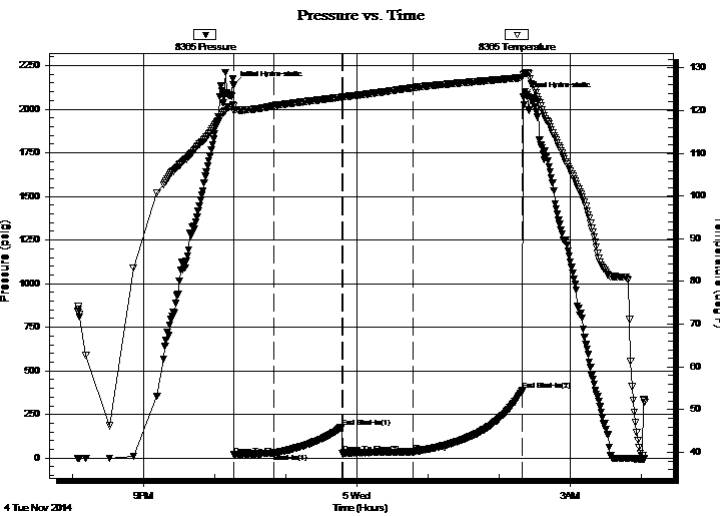
End Time:

04:02:37

Time On Btm: 2014.11.04 @ 22:15:30

Time Off Btm: 2014.11.05 @ 02:19:45

TEST COMMENT: 30- IF: 1 1/2" blow .  
60- IS: No return.  
60- FF: 1" blow .  
90- FS: No return.



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2137.80         | 120.99       | Initial Hydro-static |
| 1           | 18.58           | 120.03       | Open To Flow (1)     |
| 34          | 28.00           | 121.09       | Shut-In(1)           |
| 92          | 178.80          | 123.12       | End Shut-In(1)       |
| 92          | 24.93           | 123.18       | Open To Flow (2)     |
| 152         | 35.71           | 125.32       | Shut-In(2)           |
| 244         | 387.12          | 127.71       | End Shut-In(2)       |
| 245         | 2069.52         | 128.46       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 30.00       | ocm 10o 90m | 0.42         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* 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.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58586

**DST#: 6**

ATTN: Larry Nicholson

Test Start: 2014.11.04 @ 20:04:00

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3925.00 ft | Diameter: 2.25 inches | Volume: 19.30 bbl              | Tool Weight:           | 2500.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: inches      | Volume: 0.00 bbl               | Weight set on Packer:  | 25000.00 lb |
| Drill Collar:             | Length: 279.00 ft  | Diameter: 3.80 inches | Volume: 3.91 bbl               | Weight to Pull Loose:  | 85000.00 lb |
|                           |                    |                       | <u>Total Volume: 23.21 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 14.00 ft           |                       |                                | String Weight: Initial | 68000.00 lb |
| Depth to Top Packer:      | 4217.00 ft         |                       |                                | Final                  | 68000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 99.00 ft           |                       |                                |                        |             |
| Tool Length:              | 126.00 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        |            |          | 4191.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4196.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4201.00    |                               |
| Jars             | 5.00        |            |          | 4206.00    |                               |
| Safety Joint     | 2.00        |            |          | 4208.00    |                               |
| Packer           | 5.00        |            |          | 4213.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4217.00    |                               |
| Stubb            | 1.00        |            |          | 4218.00    |                               |
| Recorder         | 0.00        | 8365       | Inside   | 4218.00    |                               |
| Recorder         | 0.00        | 8522       | Outside  | 4218.00    |                               |
| Perforations     | 30.00       |            |          | 4248.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4249.00    |                               |
| Drill Pipe       | 63.00       |            |          | 4312.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4313.00    |                               |
| Bullnose         | 3.00        |            |          | 4316.00    | 99.00 Bottom Packers & Anchor |

**Total Tool Length: 126.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc.

**36-14s-30w Grove,KS**

250 N Water Ste 300  
Wichita KS 67202

**Lundgren B #1-36**

Job Ticket: 58586

**DST#: 6**

ATTN: Larry Nicholson

Test Start: 2014.11.04 @ 20:04:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 30.00        | ocm 10o 90m | 0.421         |

Total Length: 30.00 ft      Total Volume: 0.421 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



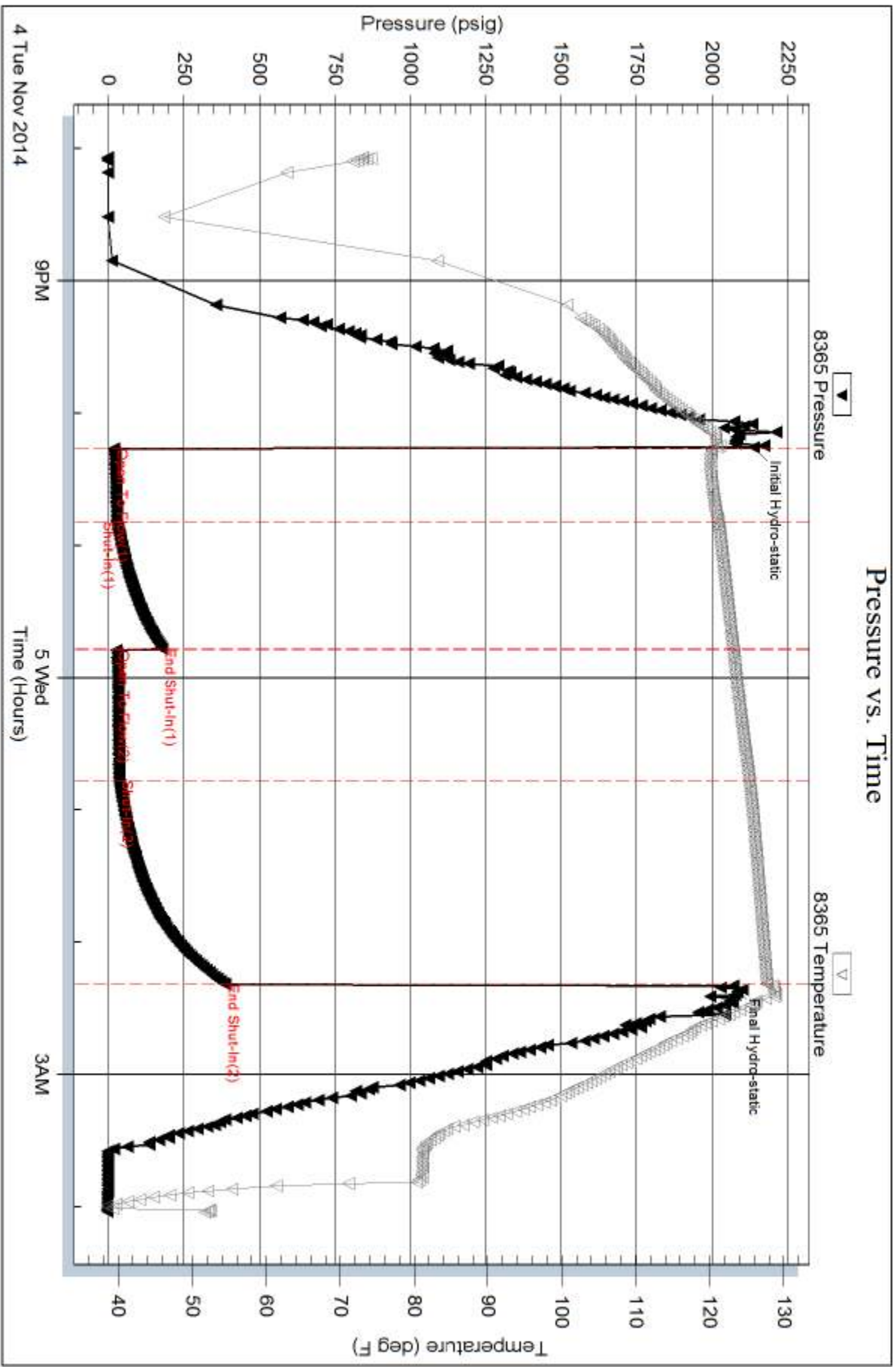
Serial #: 8365

Inside

Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 58586

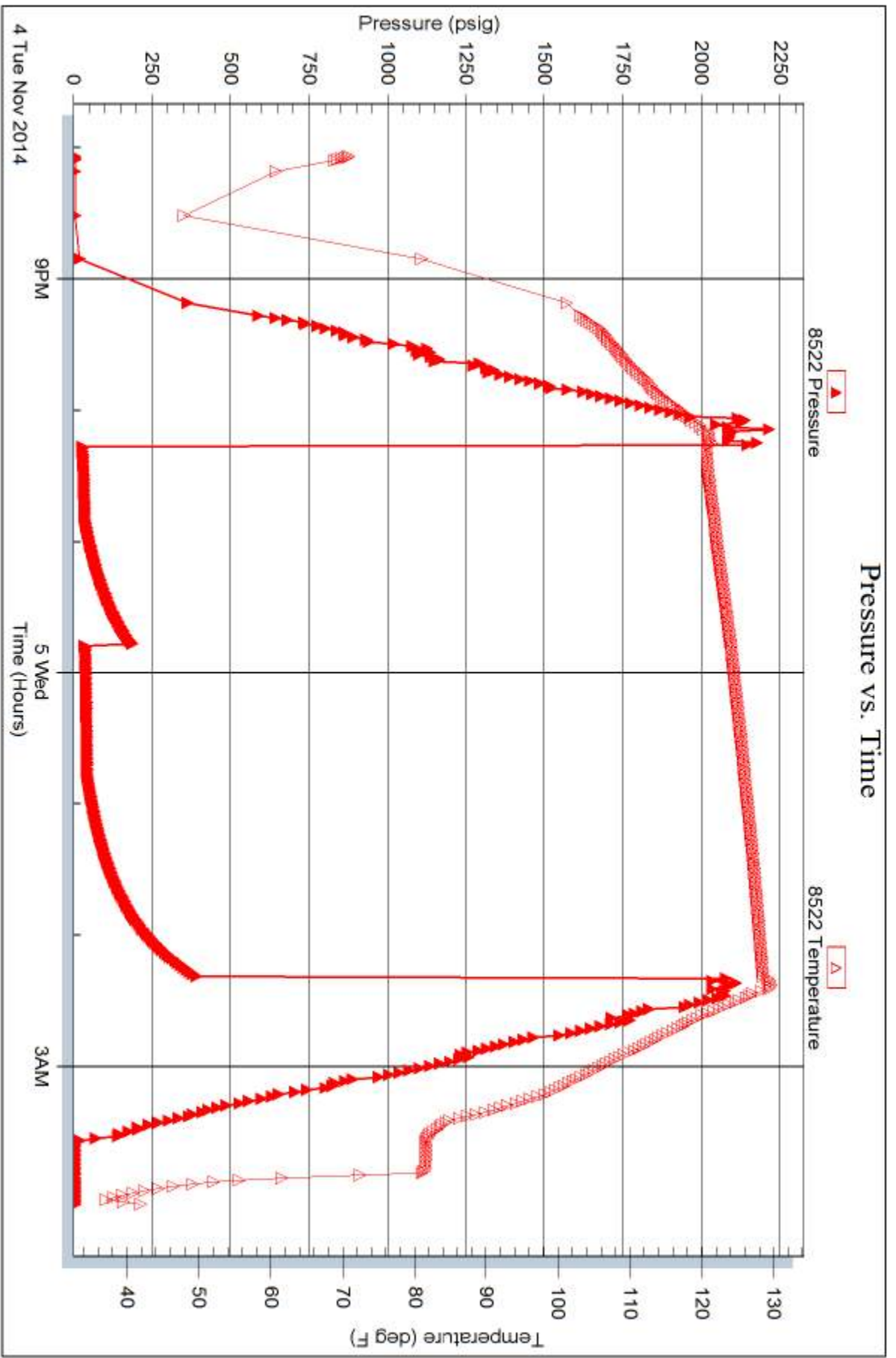
Printed: 2014.11.10 @ 11:23:56

Serial #: 8522

Outside Murfin Drilling Co Inc.

Lundgren B #1-36

DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 58586

Printed: 2014.11.10 @ 11:23:56



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58581

4/10

Well Name & No. Lundgren B. 1-36 Test No. 1 Date 10/31/14  
 Company Mun Fin drlg INC. Elevation 3667 KB 2656 GL  
 Address 250 N WATSON STE 300 WICHITA KS 67202  
 Co. Rep / Geo. Lanny Nicholson Rig Mun Fin 21  
 Location: Sec. 36 Twp. 14 Rge. 30 Co. Boyer State KS

Interval Tested 3690 - 3734 Zone Tested TORONTO / LANSING  
 Anchor Length 44 Drill Pipe Run 3390 Mud Wt. 8.8  
 Top Packer Depth 3685 Drill Collars Run 279 Vis 60  
 Bottom Packer Depth 3690 Wt. Pipe Run 0 WL 6.8  
 Total Depth 3734 Chlorides 2000 ppm System LCM 5

Blow Description IP: Blow 1 3/4 @ END  
ISI: NO RETURN  
FF: 3/4" blow  
FST: NO RETURN

| Rec        | Feet of        | %gas      | %oil      | %water    | %mud     |
|------------|----------------|-----------|-----------|-----------|----------|
| <u>124</u> | <u>W M @ 0</u> | <u>10</u> | <u>40</u> | <u>50</u> | <u>0</u> |
| <u>124</u> | <u>W M @ 0</u> | <u>5</u>  | <u>65</u> | <u>30</u> | <u>0</u> |
| Rec        | Feet of        | %gas      | %oil      | %water    | %mud     |
| Rec        | Feet of        | %gas      | %oil      | %water    | %mud     |

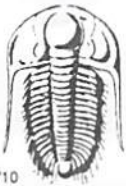
Rec Total 248 BHT 124 Gravity — API RW 36 @ 45 F Chlorides 500 ppm  
 (A) Initial Hydrostatic 1811  Test 1150 T-On Location 0845  
 (B) First Initial Flow 20  Jars 250 T-Started 0925  
 (C) First Final Flow 85  Safety Joint 75 T-Open 1100  
 (D) Initial Shut-In 961  Circ Sub T-Pulled 1500  
 (E) Second Initial Flow 90  Hourly Standby T-Out 1700  
 (F) Second Final Flow 155  Mileage 2014 124 Comments  
 (G) Final Shut-In 929  Sampler  
 (H) Final Hydrostatic 1703  Straddle  Ruined Shale Packer  
 Shale Packer  Ruined Packer  
 Extra Packer  Extra Copies  
 Extra Recorder Sub Total 01599  
 Day Standby Total  
 Accessibility MP/DST Disc't  
 Sub Total 1599

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

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58582

4/10

Well Name & No. Lundgren B 1-36 Test No. 2 Date 11/1/14  
 Company Muefin dely Inc Elevation 2667 KB 2656 GL  
 Address 250 N Water Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Larry Nicholson Rig Muefin 21  
 Location: Sec. 36 Twp. 14 Rge. 30 Co. Cove State KS

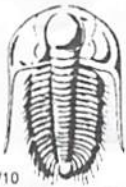
Interval Tested 3744 — 3775 Zone Tested Landing B & D  
 Anchor Length 31 Drill Pipe Run 3450 Mud Wt. 8.9  
 Top Packer Depth 3740 Drill Collars Run 279 Vis 60  
 Bottom Packer Depth 3744 Wt. Pipe Run 0 WL 5.4  
 Total Depth 3775 Chlorides 2000 ppm System LCM 6  
 Blow Description IF: Weak blow/died after 10min  
ISI: No Return  
FF: No blow  
FST: No Return

| Rec      | Feet of | %gas | %oil | %water     | %mud |
|----------|---------|------|------|------------|------|
| <u>2</u> |         |      |      | <u>100</u> |      |
|          |         |      |      |            |      |
|          |         |      |      |            |      |
|          |         |      |      |            |      |
|          |         |      |      |            |      |

Rec Total 2 BHT 120 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

|                                     |   |  |
|-------------------------------------|---|--|
| (A) Initial Hydrostatic <u>1832</u> | <input checked="" type="checkbox"/> Test <u>1150</u>              | T-On Location <u>030</u>                           |
| (B) First Initial Flow <u>14</u>    | <input checked="" type="checkbox"/> Jars <u>250</u>               | T-Started <u>057</u>                               |
| (C) First Final Flow <u>17</u>      | <input checked="" type="checkbox"/> Safety Joint <u>75</u>        | T-Open <u>0300</u>                                 |
| (D) Initial Shut-In <u>728</u>      | <input checked="" type="checkbox"/> Circ Sub <u>N/C</u>           | T-Pulled <u>0600</u>                               |
| (E) Second Initial Flow <u>19</u>   | <input type="checkbox"/> Hourly Standby _____                     | T-Out <u>0800</u>                                  |
| (F) Second Final Flow <u>27</u>     | <input checked="" type="checkbox"/> Mileage <u>20%</u> <u>124</u> | Comments _____                                     |
| (G) Final Shut-In <u>671</u>        | <input type="checkbox"/> Sampler _____                            |  |
| (H) Final Hydrostatic <u>1714</u>   | <input type="checkbox"/> Straddle _____                           | <input type="checkbox"/> Ruined Shale Packer _____ |
|                                     | <input type="checkbox"/> Shale Packer _____                       | <input type="checkbox"/> Ruined Packer _____       |
| Initial Open <u>30</u>              | <input type="checkbox"/> Extra Packer _____                       | <input type="checkbox"/> Extra Copies _____        |
| Initial Shut-In <u>60</u>           | <input type="checkbox"/> Extra Recorder _____                     | Sub Total <u>0</u>                                 |
| Final Flow <u>30</u>                | <input type="checkbox"/> Day Standby _____                        | Total <u>1599</u>                                  |
| Final Shut-In <u>60</u>             | <input type="checkbox"/> Accessibility _____                      | MP/DST Disc't _____                                |
|                                     | Sub Total <u>1599</u>   |  |

Approved By \_\_\_\_\_ Our Representative [Signature]  
 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. **58583**

Walt 785 623 1497

Well Name & No. Lundgren B 1-36 Test No. 3 Date 11/2/14  
 Company Murfin Drilling Inc Co Elevation 2667 KB 2656 GL  
 Address 250 N WATER Ste 300 Wichita KS 67202  
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21  
 Location: Sec. 36 Twp. 14 Rge. 30 Co. Cove State KS

Interval Tested 3900 - 3968 Zone Tested KANSAS City H-I-J  
 Anchor Length 60 Drill Pipe Run 3611 Mud Wt. 9.1  
 Top Packer Depth 3896 Drill Collars Run 279 Vis 52  
 Bottom Packer Depth 3900 Wt. Pipe Run 0 WL 6.0  
 Total Depth 3968 Chlorides 1700 ppm System LCM 6

Blow Description IF: 2" blow  
ISL: No RETURN  
FF: 2 1/2" blow  
FSL: No RETURN

| Rec        | Feet of    | %gas | %oil      | %water    | %mud |
|------------|------------|------|-----------|-----------|------|
| <u>217</u> | <u>WCM</u> |      | <u>60</u> | <u>40</u> |      |
| <u>217</u> | <u>WCM</u> |      | <u>80</u> | <u>20</u> |      |
| Rec        | Feet of    | %gas | %oil      | %water    | %mud |
| Rec        | Feet of    | %gas | %oil      | %water    | %mud |

Rec Total 434 BHT 127 Gravity — API RW 24 @ 60° F Chlorides 3000 ppm

(A) Initial Hydrostatic 1932  Test 1150 T-On Location 0230 TC  
 (B) First Initial Flow 20  Jars 250 T-Started 0145  
 (C) First Final Flow 120  Safety Joint 75 T-Open 0335  
 (D) Initial Shut-In 965  Circ Sub N/C T-Pulled 0735  
 (E) Second Initial Flow 131  Hourly Standby \_\_\_\_\_ T-Out 0938  
 (F) Second Final Flow 189  Mileage 20 3/4 124  
 (G) Final Shut-In 955  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1874  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90  
 Sub Total 1599  
 Total 1599  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative [Signature]  
 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 of 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. 58584

Well Name & No. Lundgren B 1-36 Test No. 4 Date 11/2/14  
 Company Murfin Drilling Co Inc Elevation 2667 KB 2656 GL  
 Address 250 N WATER STE 300 WICHITA KS 67202  
 Co. Rep / Geo. LARRY NICHOLSON Rig Murfin 21  
 Location: Sec. 36 Twp. 14 Rge. 30 Co. Gove State KS

Interval Tested 3963 - 4039 Zone Tested KC K & L  
 Anchor Length 74 Drill Pipe Run 3673 Mud Wt. 9.0  
 Top Packer Depth 3959 Drill Collars Run 279 Vis 60  
 Bottom Packer Depth 3963 Wt. Pipe Run 0 WL 610  
 Total Depth 4039 Chlorides 2700 ppm System LCM 7

Blow Description IP: BOB in 5min  
ISI: NO RETURN  
FF: BOB in 6min  
FST: WITH BLOW BACK 1"

| Rec        | Feet of          | %gas      | %oil      | %water    | %mud      |
|------------|------------------|-----------|-----------|-----------|-----------|
| <u>405</u> | <u>NCM</u>       |           |           | <u>90</u> | <u>10</u> |
| <u>374</u> | <u>gnmco</u>     | <u>20</u> | <u>20</u> | <u>30</u> | <u>30</u> |
| <u>374</u> | <u>gnco</u>      | <u>30</u> | <u>60</u> |           | <u>10</u> |
|            | <u>BTP 1652'</u> |           |           |           |           |

Rec Total 1153 BHT 133 Gravity 30 API RW 23 @ 55° F Chlorides 39000 ppm

(A) Initial Hydrostatic 2018  Test 1250 T-On Location 1900  
 (B) First Initial Flow 98  Jars 250 T-Started 1923  
 (C) First Final Flow 308  Safety Joint 75 T-Open 2130  
 (D) Initial Shut-In 891  Circ Sub MC T-Pulled 0130  
 (E) Second Initial Flow 315  Hourly Standby T-Out 0430  
 (F) Second Final Flow 531  Mileage 80% 124 Comments \_\_\_\_\_  
 (G) Final Shut-In 885  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1927  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1699  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90  
 Sub Total 1699

Approved By [Signature] Our Representative [Signature]  
 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. **58585**

Well Name & No. Lundgron B 1-36 Test No. 5 Date 11/4/2014  
 Company Murfin Drilling, Inc. Elevation 2667 KB 2656 GL  
 Address 250 N Water Ste 300 Wichita, KS 67202  
 Co. Rep / Geo. Larry Nicholson Rig Murfin 21  
 Location: Sec. 36 Twp. 14s Rge. 30w Co. Cove State KS

Interval Tested 4159-4221 Zone Tested Dawnee - Lower Dawnee  
 Anchor Length 62 Drill Pipe Run 3860 Mud Wt. 90  
 Top Packer Depth 4154 Drill Collars Run 279 Vis 50  
 Bottom Packer Depth 4159 Wt. Pipe Run 0 WL 614  
 Total Depth 4221 Chlorides 2200 ppm System LCM 2#

Blow Description IF: BOB@ 7 min  
ISI: 3" return, receded to surface  
FF: BOB@ 7 min.  
FSI: BOB return @ 10 min. Gas to surface in 45 min

| Rec        | Feet of                      | %gas      | %oil      | %water    | %mud |
|------------|------------------------------|-----------|-----------|-----------|------|
| <u>350</u> | <u>GSMCO</u>                 | <u>35</u> | <u>60</u> | <u>5</u>  |      |
| <u>320</u> | <u>CMCO</u>                  | <u>20</u> | <u>70</u> | <u>10</u> |      |
| <u>280</u> | <u>GMCO</u>                  | <u>30</u> | <u>65</u> | <u>15</u> |      |
|            | <u>2910 GIW (To surface)</u> |           |           |           |      |

Rec Total 950 BHT 138 Gravity 35 API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 2057  Test 1250 T-On Location 2315 10/3  
 (B) First Initial Flow 31  Jars 250 T-Started 2352  
 (C) First Final Flow 162  Safety Joint 75 T-Open 0053  
 (D) Initial Shut-In 782  Circ Sub \_\_\_\_\_ T-Pulled 0453  
 (E) Second Initial Flow 226  Hourly Standby \_\_\_\_\_ T-Out 0752  
 (F) Second Final Flow 402  Mileage 80 RT x 2 124  
 (G) Final Shut-In \_\_\_\_\_  Sampler 124  
 (H) Final Hydrostatic 2021  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 1823  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative

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. **58586**

4/10

Well Name & No. Lundgron B 1-36 Test No. 6 Date 11/5/2014  
 Company Morton Drilling, Inc Elevation 2667 KB 2056 GL  
 Address 250 N Water Ste 300 Wichita, Ks 67202  
 Co. Rep / Geo. Larry Nicholas Rig Morton 21  
 Location: Sec. 36 Twp. 14s Rge. 30w Co. Gore State Ks

Interval Tested 4217 - 4316 Zone Tested ft Scott Cherokee Johnson  
 Anchor Length 99 Drill Pipe Run 3925 Mud Wt. 9.2  
 Top Packer Depth 4212 Drill Collars Run 279 Vis 50  
 Bottom Packer Depth 4217 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4316 Chlorides 1800 ppm System LCM 4#

Blow Description IF : 1 1/2" blow  
ISI: No return.  
FP : 1" blow  
FSI: No return

| Rec       | Feet of    | %gas | %oil      | %water | %mud      |
|-----------|------------|------|-----------|--------|-----------|
| <u>30</u> | <u>0cm</u> |      | <u>10</u> |        | <u>90</u> |
| Rec       | Feet of    | %gas | %oil      | %water | %mud      |
| Rec       | Feet of    | %gas | %oil      | %water | %mud      |
| Rec       | Feet of    | %gas | %oil      | %water | %mud      |

Rec Total 30 BHT 128 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2138  Test 1250 T-On Location 1930  
 (B) First Initial Flow 19  Jars 250 T-Started 2004  
 (C) First Final Flow 179 28  Safety Joint 75 T-Open 2217  
 (D) Initial Shut-In 25 179  Circ Sub N/C T-Pulled 02 17 14/5  
 (E) Second Initial Flow 36 25  Hourly Standby — T-Out 0 403  
 (F) Second Final Flow 387 36  Mileage 80 RT 124  
 (G) Final Shut-In 387  Sampler —  
 (H) Final Hydrostatic 2 070  Straddle —

Initial Open 30  Ruined Shale Packer —  
 Initial Shut-In 66  Ruined Packer —  
 Final Flow 60  Extra Packer —  
 Final Shut-In 90  Extra Recorder —  
 Day Standby — Sub Total 0  
 Accessibility — Total 1699  
 Sub Total 1699 MP/DST Disc't —

Approved By \_\_\_\_\_ Our Representative [Signature]

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