



## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum, Inc.**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

ATTN: Bob Elder

### **Hag-Hoff #1-33**

#### **33-9s-35w Thomas,KS**

Start Date: 2014.01.27 @ 06:27:00

End Date: 2014.01.27 @ 14:26:00

Job Ticket #: 56713                      DST #: 1

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

Printed: 2014.02.04 @ 11:45:21



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum, Inc.  
88 Inverness CIR E. Unit F104  
Englewood, CO 80112  
ATTN: Bob Elder

**33-9s-35w Thomas,KS**  
**Hag-Hoff #1-33**  
Job Ticket: 56713      **DST#: 1**  
Test Start: 2014.01.27 @ 06:27:00

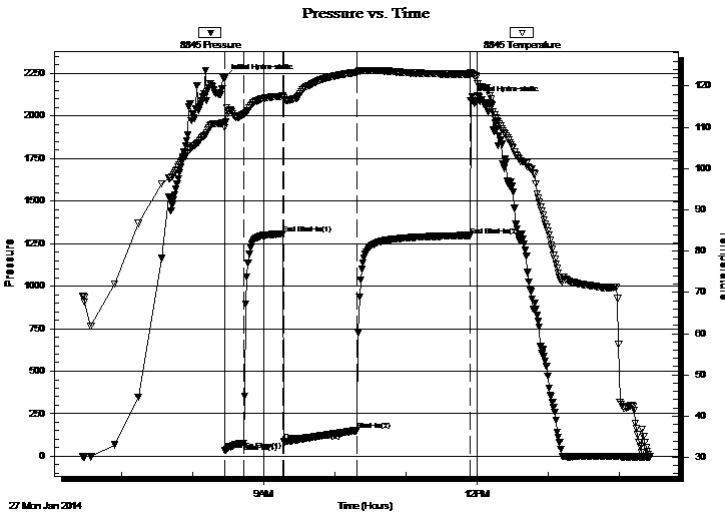
## GENERAL INFORMATION:

Formation: **LKC " H "**  
Deviated: No Whipstock: ft (KB)      Test Type: Conventional Bottom Hole (Initial)  
Time Tool Opened: 08:27:00      Tester: Sam Esparza  
Time Test Ended: 14:26:00      Unit No: 71  
**Interval: 4374.00 ft (KB) To 4412.00 ft (KB) (TVD)**      Reference Elevations: 3366.00 ft (KB)  
Total Depth: 4412.00 ft (KB) (TVD)      3361.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Good      KB to GR/CF: 5.00 ft

**Serial #: 8845      Outside**  
Press@RunDepth: 151.96 psig @ 4375.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.01.27      End Date: 2014.01.27      Last Calib.: 2014.01.27  
Start Time: 06:27:05      End Time: 14:25:59      Time On Btm: 2014.01.27 @ 08:26:45  
Time Off Btm: 2014.01.27 @ 11:54:45

TEST COMMENT: IF: 6" Blow.  
IS: No Return.  
FF: BOB @ 30 min.  
FS: No Return.

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2222.15         | 111.11       | Initial Hydro-static |
| 1           | 34.47           | 109.88       | Open To Flow (1)     |
| 17          | 77.83           | 113.18       | Shut-In(1)           |
| 50          | 1306.80         | 117.53       | End Shut-In(1)       |
| 50          | 85.67           | 117.06       | Open To Flow (2)     |
| 112         | 151.96          | 123.32       | Shut-In(2)           |
| 208         | 1298.05         | 122.80       | End Shut-In(2)       |
| 208         | 2091.26         | 123.14       | Final Hydro-static   |

## Recovery

| Length (ft) | Description          | Volume (bbl) |
|-------------|----------------------|--------------|
| 120.00      | GOMCW 5g 5o 10m 80w  | 0.59         |
| 60.00       | GOMCW 5g 10o 25m 60w | 0.81         |
| 60.00       | GOCM 5g 35o 60m      | 0.84         |
| 55.00       | GO 10g 90o           | 0.77         |
|             |                      |              |
|             |                      |              |

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum, Inc.

**33-9s-35w Thomas, KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56713 **DST#: 1**

ATTN: Bob Elder

Test Start: 2014.01.27 @ 06:27:00

## GENERAL INFORMATION:

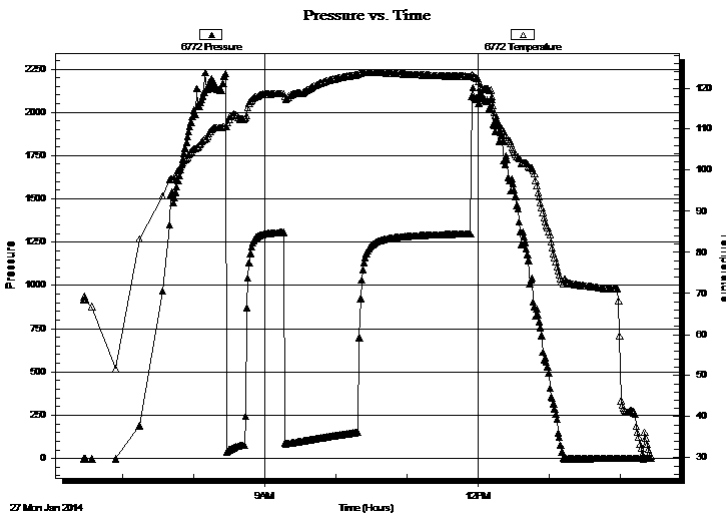
Formation: **LKC " H "**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 08:27:00  
 Time Test Ended: 14:26:00  
 Interval: **4374.00 ft (KB) To 4412.00 ft (KB) (TVD)**  
 Total Depth: 4412.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Sam Esparza  
 Unit No: 71  
 Reference Elevations: 3366.00 ft (KB)  
 3361.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6772** **Outside**

Press@RunDepth: psig @ 4375.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.27 End Date: 2014.01.27 Last Calib.: 2014.01.27  
 Start Time: 06:27:05 End Time: 14:25:59 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF: 6" Blow.  
 IS: No Return.  
 FF: BOB @ 30 min.  
 FS: No Return.

## PRESSURE SUMMARY



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

## Recovery

| Length (ft) | Description          | Volume (bbl) |
|-------------|----------------------|--------------|
| 120.00      | GOMCW 5g 5o 10m 80w  | 0.59         |
| 60.00       | GOMCW 5g 10o 25m 60w | 0.81         |
| 60.00       | GOCM 5g 35o 60m      | 0.84         |
| 55.00       | GO 10g 90o           | 0.77         |
|             |                      |              |
|             |                      |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum, Inc.

**33-9s-35w Thomas,KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56713

**DST#: 1**

ATTN: Bob Elder

Test Start: 2014.01.27 @ 06:27:00

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 4253.00 ft | Diameter: 3.80 inches | Volume: 59.66 bbl              | Tool Weight:           | 2000.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer:  | 30000.00 lb |
| Drill Collar:             | Length: 123.00 ft  | Diameter: 2.25 inches | Volume: 0.60 bbl               | Weight to Pull Loose:  | 95000.00 lb |
|                           |                    |                       | <u>Total Volume: 60.26 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 30.00 ft           |                       |                                | String Weight: Initial | 54000.00 lb |
| Depth to Top Packer:      | 4374.00 ft         |                       |                                | Final                  | 58000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 38.00 ft           |                       |                                |                        |             |
| Tool Length:              | 66.00 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        |            |          | 4347.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4352.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4357.00    |                               |
| Jars             | 5.00        |            |          | 4362.00    |                               |
| Safety Joint     | 3.00        |            |          | 4365.00    |                               |
| Packer           | 5.00        |            |          | 4370.00    | 28.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4374.00    |                               |
| Stubb            | 1.00        |            |          | 4375.00    |                               |
| Recorder         | 0.00        | 6772       | Outside  | 4375.00    |                               |
| Recorder         | 0.00        | 8845       | Outside  | 4375.00    |                               |
| Perforations     | 32.00       |            |          | 4407.00    |                               |
| Bullnose         | 5.00        |            |          | 4412.00    | 38.00 Bottom Packers & Anchor |

**Total Tool Length: 66.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Norstar Petroleum, Inc.

**33-9s-35w Thomas,KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56713

**DST#: 1**

ATTN: Bob Elder

Test Start: 2014.01.27 @ 06:27:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

24 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

64000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description          | Volume<br>bbbl |
|--------------|----------------------|----------------|
| 120.00       | GOMCW 5g 5o 10m 80w  | 0.590          |
| 60.00        | GOMCW 5g 10o 25m 60w | 0.814          |
| 60.00        | GOCM 5g 35o 60m      | 0.842          |
| 55.00        | GO 10g 90o           | 0.772          |

Total Length: 295.00 ft      Total Volume: 3.018 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

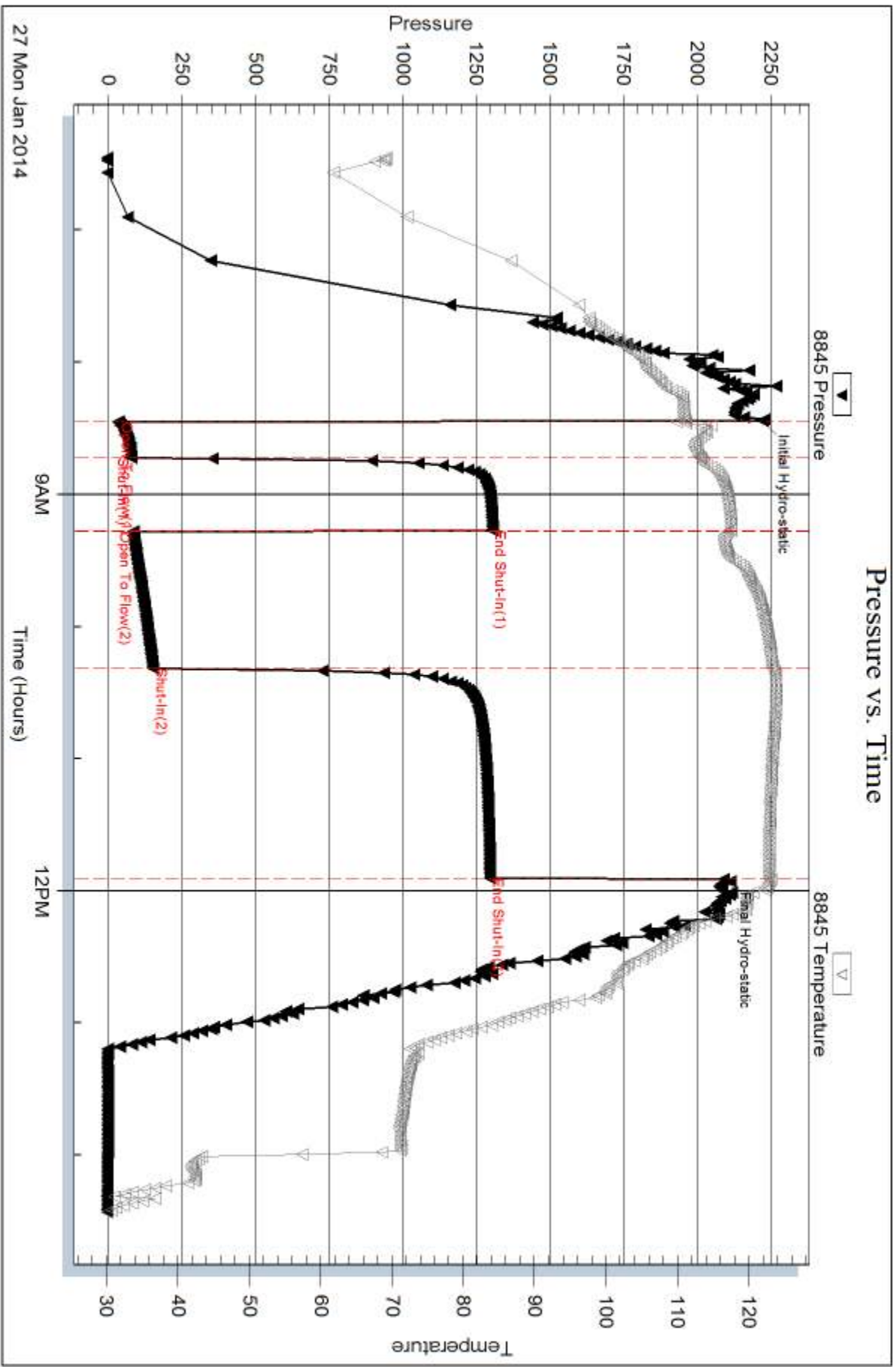
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil API: 22 @ 40 degrees= 24deg API

Water Salinity: .262 @ 30 degrees= 64,000 ppm

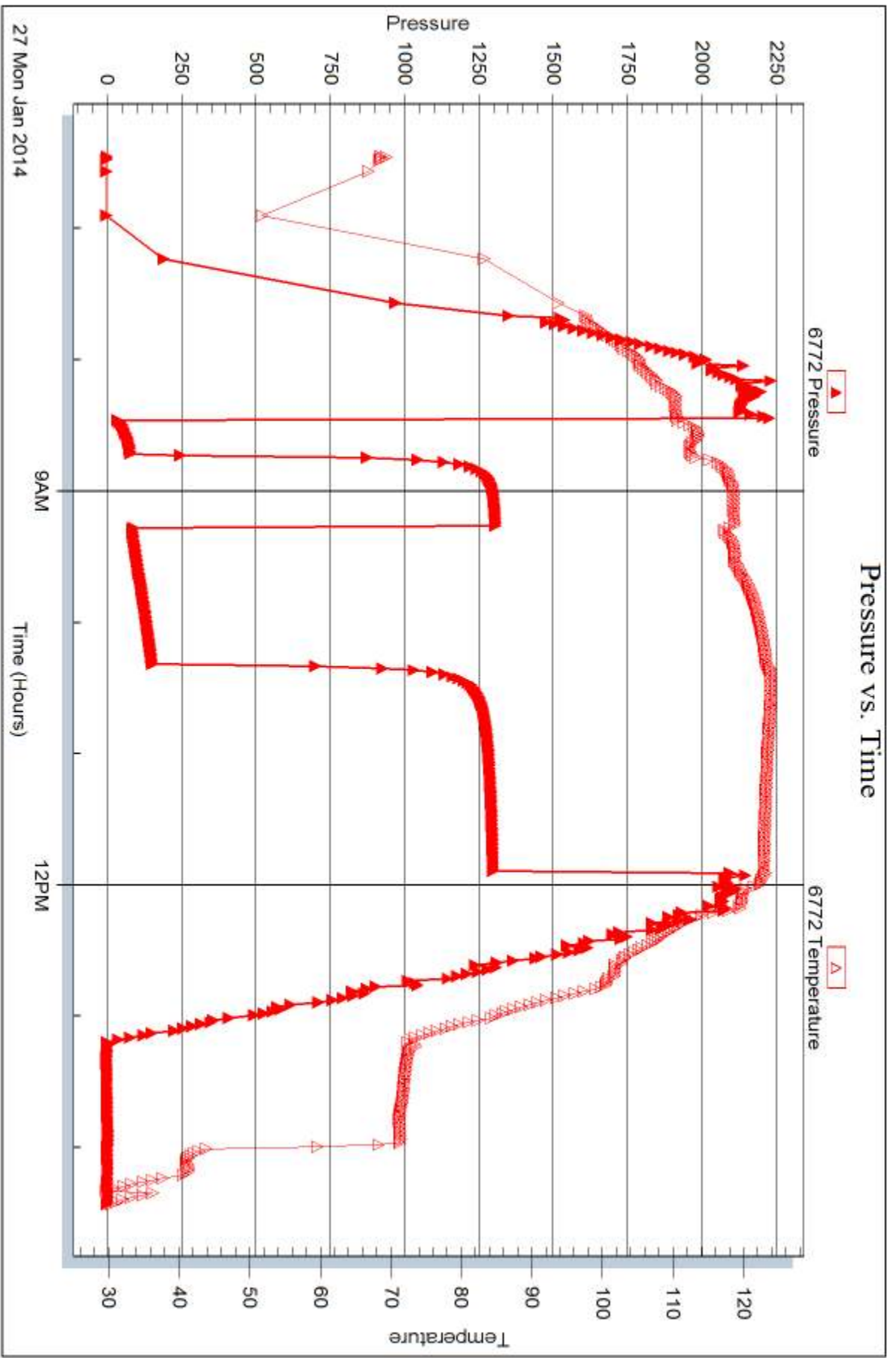


Serial #: 6772

Outside Norstar Petroleum, Inc.

Hag-Hoff #1-33

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 56713

Printed: 2014.02.04 @ 11:45:23



## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum, Inc.**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

ATTN: Bob Elder

### **Hag-Hoff #1-33**

#### **33-9s-35w Thomas,KS**

Start Date: 2014.01.27 @ 23:53:00

End Date: 2014.01.28 @ 07:49:15

Job Ticket #: 56714                      DST #: 2

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

Printed: 2014.02.04 @ 11:44:46

Norstar Petroleum, Inc. 33-9s-35w Thomas,KS Hag-Hoff #1-33 DST # 2 LKC "I & J" 2014.01.27





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum, Inc.

**33-9s-35w Thomas,KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56714

**DST#: 2**

ATTN: Bob Elder

Test Start: 2014.01.27 @ 23:53:00

## GENERAL INFORMATION:

Formation: **LKC "I & J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:49:15

Time Test Ended: 07:49:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Sam Esparza

Unit No: 71

**Interval: 4408.00 ft (KB) To 4456.00 ft (KB) (TVD)**

Reference Elevations: 3366.00 ft (KB)

Total Depth: 4456.00 ft (KB) (TVD)

3361.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 106.42 psig @ 4409.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.27

End Date:

2014.01.28

Last Calib.:

2014.01.28

Start Time: 23:53:05

End Time:

07:49:14

Time On Btm:

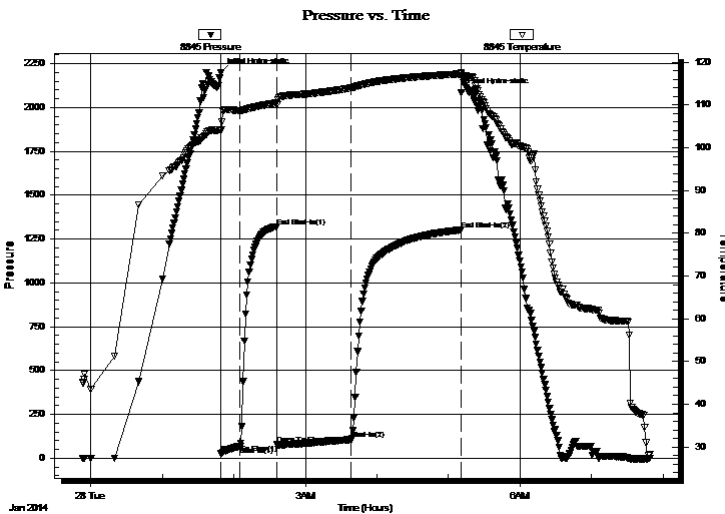
2014.01.28 @ 01:49:00

Time Off Btm:

2014.01.28 @ 05:10:45

**TEST COMMENT:** IF: 5 1/2" Blow.  
IS: Weak Surface Return.  
FF: BOB @ 32 min.  
FS: 1/4" Return

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2198.91         | 104.33       | Initial Hydro-static |
| 1           | 26.24           | 104.11       | Open To Flow (1)     |
| 17          | 69.95           | 108.68       | Shut-In(1)           |
| 47          | 1320.95         | 110.49       | End Shut-In(1)       |
| 48          | 77.76           | 110.14       | Open To Flow (2)     |
| 110         | 106.42          | 113.98       | Shut-In(2)           |
| 202         | 1301.54         | 117.27       | End Shut-In(2)       |
| 202         | 2085.30         | 117.64       | Final Hydro-static   |

## Recovery

| Length (ft) | Description      | Volume (bbl) |
|-------------|------------------|--------------|
| 90.00       | GO 15g 85o       | 0.44         |
| 120.00      | GOCM 10g 30o 60m | 1.38         |
| 0.00        | 120' GIP         | 0.00         |
|             |                  |              |
|             |                  |              |

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum, Inc.

**33-9s-35w Thomas,KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56714

**DST#: 2**

ATTN: Bob Elder

Test Start: 2014.01.27 @ 23:53:00

## GENERAL INFORMATION:

Formation: **LKC "I & J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:49:15

Time Test Ended: 07:49:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Sam Esparza

Unit No: 71

**Interval: 4408.00 ft (KB) To 4456.00 ft (KB) (TVD)**

Reference Elevations: 3366.00 ft (KB)

Total Depth: 4456.00 ft (KB) (TVD)

3361.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 6772 Inside**

Press@RunDepth: psig @ 4409.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.27

End Date:

2014.01.28

Last Calib.:

2014.01.28

Start Time: 23:53:05

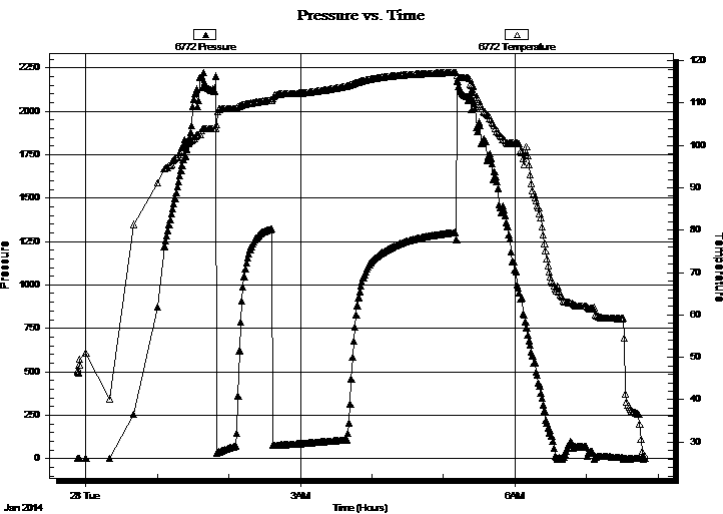
End Time:

07:49:29

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 5 1/2" Blow.  
IS: Weak Surface Return.  
FF: BOB @ 32 min.  
FS: 1/4" Return



## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description      | Volume (bbl) |
|-------------|------------------|--------------|
| 90.00       | GO 15g 85o       | 0.44         |
| 120.00      | GOCM 10g 30o 60m | 1.38         |
| 0.00        | 120' GIP         | 0.00         |
|             |                  |              |
|             |                  |              |

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum, Inc.

**33-9s-35w Thomas,KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56714

**DST#: 2**

ATTN: Bob Elder

Test Start: 2014.01.27 @ 23:53:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4283.00 ft | Diameter: 3.80 inches | Volume: 60.08 bbl              | Tool Weight: 2000.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 30000.00 lb  |
| Drill Collar:             | Length: 123.00 ft  | Diameter: 2.25 inches | Volume: 0.60 bbl               | Weight to Pull Loose: 80000.00 lb  |
|                           |                    |                       | <u>Total Volume: 60.68 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 26.00 ft           |                       |                                | String Weight: Initial 54000.00 lb |
| Depth to Top Packer:      | 4408.00 ft         |                       |                                | Final 56000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 48.00 ft           |                       |                                |                                    |
| Tool Length:              | 76.00 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        |            |          | 4381.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4386.00    |                               |
| Hydraulic tool   | 5.00        |            | Inside   | 4391.00    |                               |
| Jars             | 5.00        |            |          | 4396.00    |                               |
| Safety Joint     | 3.00        |            |          | 4399.00    |                               |
| Packer           | 5.00        |            |          | 4404.00    | 28.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4408.00    |                               |
| Stubb            | 1.00        |            |          | 4409.00    |                               |
| Recorder         | 0.00        | 6772       | Inside   | 4409.00    |                               |
| Recorder         | 0.00        | 8845       | Outside  | 4409.00    |                               |
| Perforations     | 9.00        |            |          | 4418.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4419.00    |                               |
| Drill Pipe       | 31.00       |            |          | 4450.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4451.00    |                               |
| Bullnose         | 5.00        |            |          | 4456.00    | 48.00 Bottom Packers & Anchor |

**Total Tool Length: 76.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Norstar Petroleum, Inc.

**33-9s-35w Thomas,KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56714

**DST#: 2**

ATTN: Bob Elder

Test Start: 2014.01.27 @ 23:53:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

25 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 9900.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description      | Volume<br>bbbl |
|--------------|------------------|----------------|
| 90.00        | GO 15g 85o       | 0.443          |
| 120.00       | GOCM 10g 30o 60m | 1.383          |
| 0.00         | 120' GIP         | 0.000          |

Total Length: 210.00 ft      Total Volume: 1.826 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

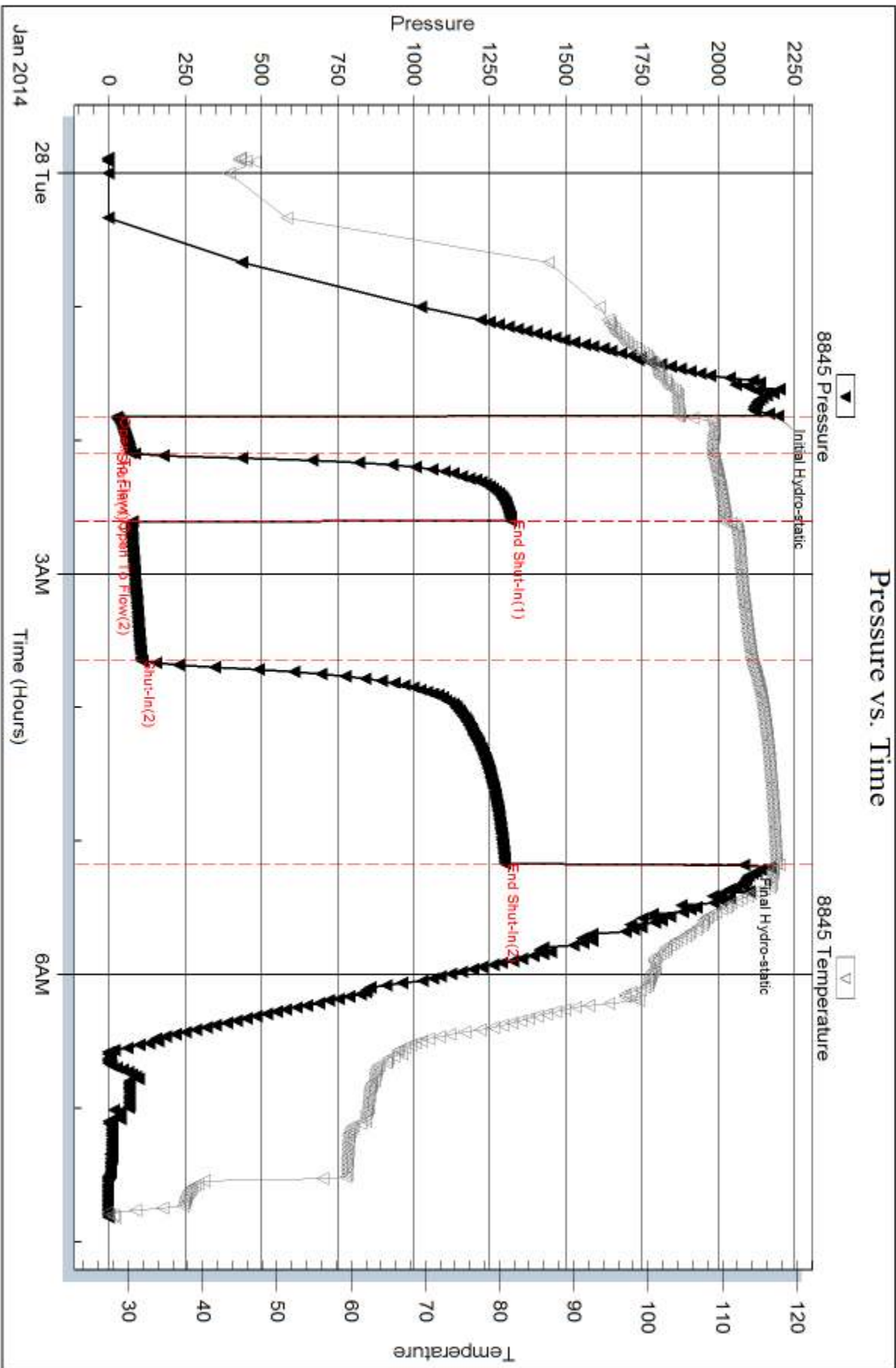
Recovery Comments: Oil API: 22 @ 30 degrees= 25 deg API

Serial #: 8845

Outside Norstar Petroleum, Inc.

Hag-Hoff #1-33

DST Test Number: 2



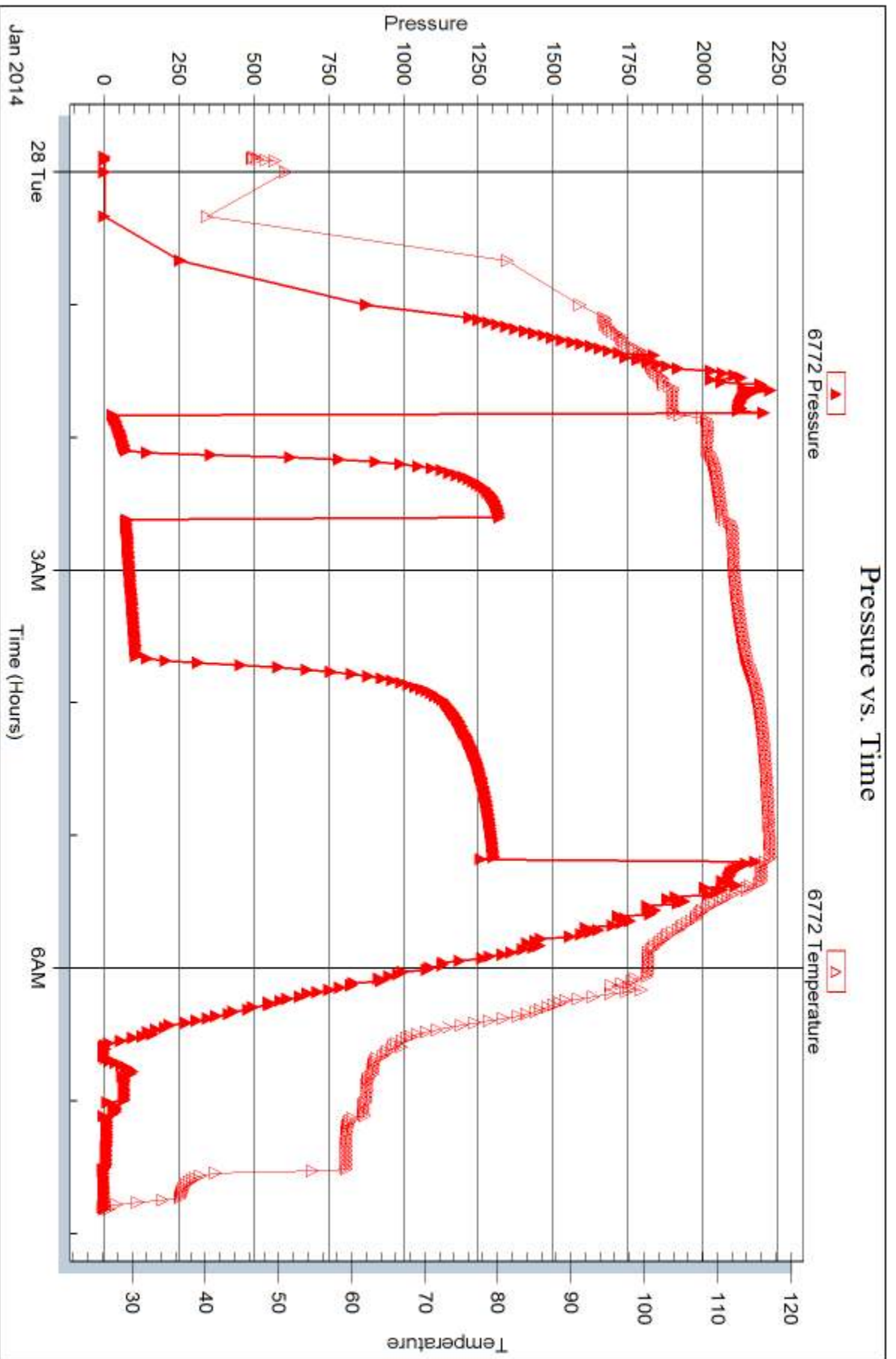
Serial #: 6772

Inside

Norstar Petroleum, Inc.

Hag-Hoff #1-33

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 56714

Printed: 2014.02.04 @ 11:44:49



## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum, Inc.**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

ATTN: Bob Elder

### **Hag-Hoff #1-33**

#### **33-9s-35w Thomas,KS**

Start Date: 2014.01.28 @ 15:22:00

End Date: 2014.01.28 @ 21:50:30

Job Ticket #: 56715                      DST #: 3

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

Printed: 2014.02.04 @ 11:44:23



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum, Inc.

**33-9s-35w Thomas,KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56715

**DST#: 3**

ATTN: Bob Elder

Test Start: 2014.01.28 @ 15:22:00

## GENERAL INFORMATION:

Formation: **LKC " K "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:07:15

Time Test Ended: 21:50:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Sam Esparza

Unit No: 71

**Interval: 4460.00 ft (KB) To 4490.00 ft (KB) (TVD)**

Reference Elevations: 3366.00 ft (KB)

Total Depth: 4490.00 ft (KB) (TVD)

3361.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 90.99 psig @ 4461.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.28

End Date:

2014.01.28

Last Calib.:

2014.01.28

Start Time: 15:22:05

End Time:

21:50:29

Time On Btm:

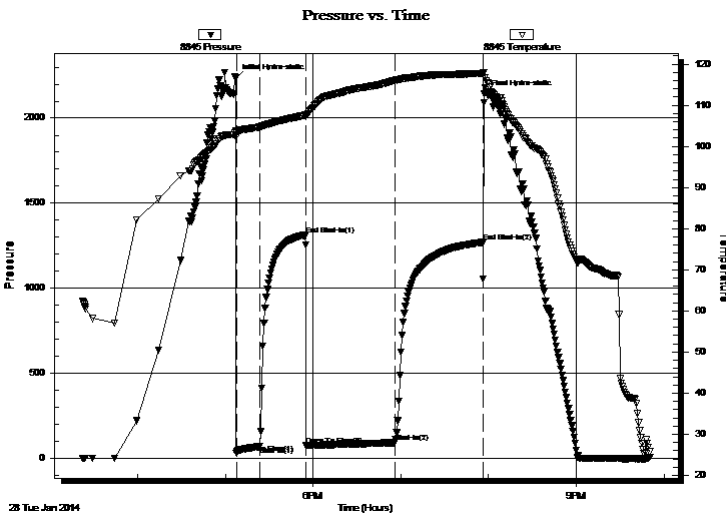
2014.01.28 @ 17:07:00

Time Off Btm:

2014.01.28 @ 19:56:45

**TEST COMMENT:** IF: 2 3/4" Blow .  
IS: No Return.  
FF: 5 1/4" Blow .  
FS: Weak Surface Return.

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2232.10         | 103.69       | Initial Hydro-static |
| 1           | 30.21           | 102.40       | Open To Flow (1)     |
| 17          | 67.97           | 104.73       | Shut-In(1)           |
| 48          | 1312.75         | 107.57       | End Shut-In(1)       |
| 48          | 76.32           | 107.34       | Open To Flow (2)     |
| 109         | 90.99           | 116.02       | Shut-In(2)           |
| 169         | 1269.84         | 117.72       | End Shut-In(2)       |
| 170         | 2141.52         | 117.98       | Final Hydro-static   |

## Recovery

| Length (ft) | Description          | Volume (bbl) |
|-------------|----------------------|--------------|
| 120.00      | GOWCM 5g 10o 20w 65m | 0.59         |
| 30.00       | GOCM 5g 20o 75m      | 0.39         |
| 10.00       | GO 5g 95o            | 0.14         |
|             |                      |              |
|             |                      |              |

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum, Inc.  
88 Inverness CIR E Unit F104  
Englewood, CO 80112  
ATTN: Bob Elder

**33-9s-35w Thomas,KS**  
**Hag-Hoff #1-33**  
Job Ticket: 56715 **DST#: 3**  
Test Start: 2014.01.28 @ 15:22:00

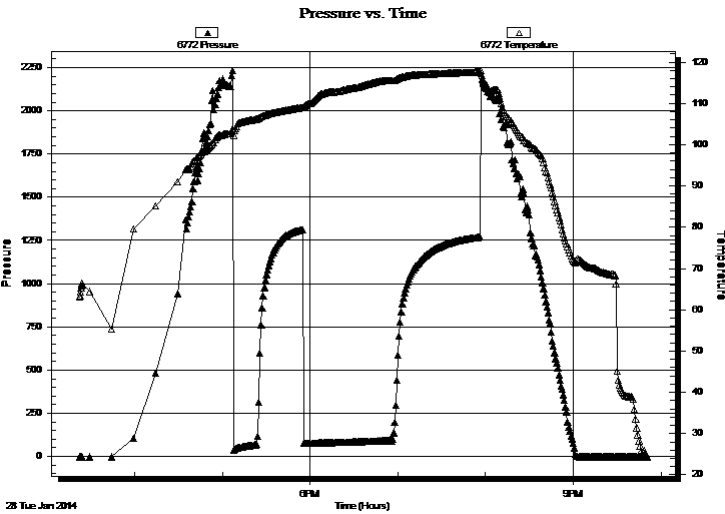
**GENERAL INFORMATION:**

Formation: **LKC " K "**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 17:07:15 Tester: Sam Esparza  
 Time Test Ended: 21:50:30 Unit No: 71  
**Interval: 4460.00 ft (KB) To 4490.00 ft (KB) (TVD)**  
 Reference Elevations: 3366.00 ft (KB)  
 Total Depth: 4490.00 ft (KB) (TVD) 3361.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good KB to GR/CF: 5.00 ft

**Serial #: 6772 Outside**

Press@RunDepth: psig @ 4461.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.28 End Date: 2014.01.28 Last Calib.: 2014.01.28  
 Start Time: 15:22:05 End Time: 21:50:44 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF: 2 3/4" Blow .  
 IS: No Return.  
 FF: 5 1/4" Blow .  
 FS: Weak Surface Return.



**PRESSURE SUMMARY**

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

**Recovery**

| Length (ft) | Description          | Volume (bbl) |
|-------------|----------------------|--------------|
| 120.00      | GOWCM 5g 10o 20w 65m | 0.59         |
| 30.00       | GOCM 5g 20o 75m      | 0.39         |
| 10.00       | GO 5g 95o            | 0.14         |
|             |                      |              |
|             |                      |              |

**Gas Rates**

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum, Inc.

**33-9s-35w Thomas,KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56715

**DST#: 3**

ATTN: Bob Elder

Test Start: 2014.01.28 @ 15:22:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4314.00 ft | Diameter: 3.80 inches | Volume: 60.51 bbl              | Tool Weight: 2000.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 30000.00 lb  |
| Drill Collar:             | Length: 123.00 ft  | Diameter: 2.25 inches | Volume: 0.60 bbl               | Weight to Pull Loose: 90000.00 lb  |
|                           |                    |                       | <u>Total Volume: 61.11 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 5.00 ft            |                       |                                | String Weight: Initial 56000.00 lb |
| Depth to Top Packer:      | 4460.00 ft         |                       |                                | Final 57000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 30.00 ft           |                       |                                |                                    |
| Tool Length:              | 58.00 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        |            |          | 4433.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4438.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4443.00    |                               |
| Jars             | 5.00        |            |          | 4448.00    |                               |
| Safety Joint     | 3.00        |            |          | 4451.00    |                               |
| Packer           | 5.00        |            |          | 4456.00    | 28.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4460.00    |                               |
| Stubb            | 1.00        |            |          | 4461.00    |                               |
| Recorder         | 0.00        | 6772       | Outside  | 4461.00    |                               |
| Recorder         | 0.00        | 8845       | Outside  | 4461.00    |                               |
| Perforations     | 24.00       |            |          | 4485.00    |                               |
| Bullnose         | 5.00        |            |          | 4490.00    | 30.00 Bottom Packers & Anchor |

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Norstar Petroleum, Inc.

**33-9s-35w Thomas,KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56715

**DST#: 3**

ATTN: Bob Elder

Test Start: 2014.01.28 @ 15:22:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 9000.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description          | Volume<br>bbbl |
|--------------|----------------------|----------------|
| 120.00       | GOWCM 5g 10o 20w 65m | 0.590          |
| 30.00        | GOCM 5g 20o 75m      | 0.393          |
| 10.00        | GO 5g 95o            | 0.140          |

Total Length: 160.00 ft      Total Volume: 1.123 bbl

Num Fluid Samples: 0

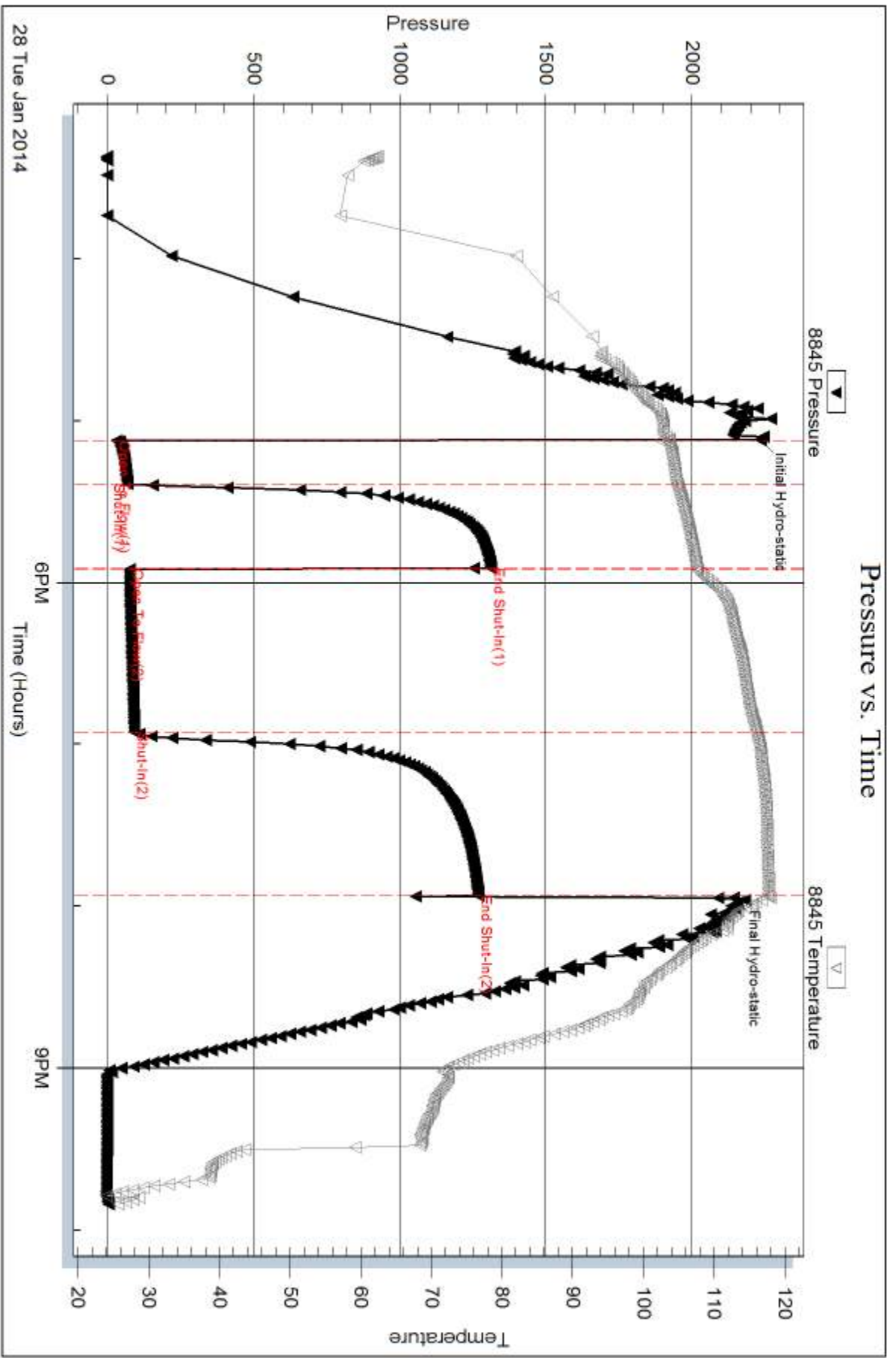
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil API: 29 @ 30 degrees= 32 deg API

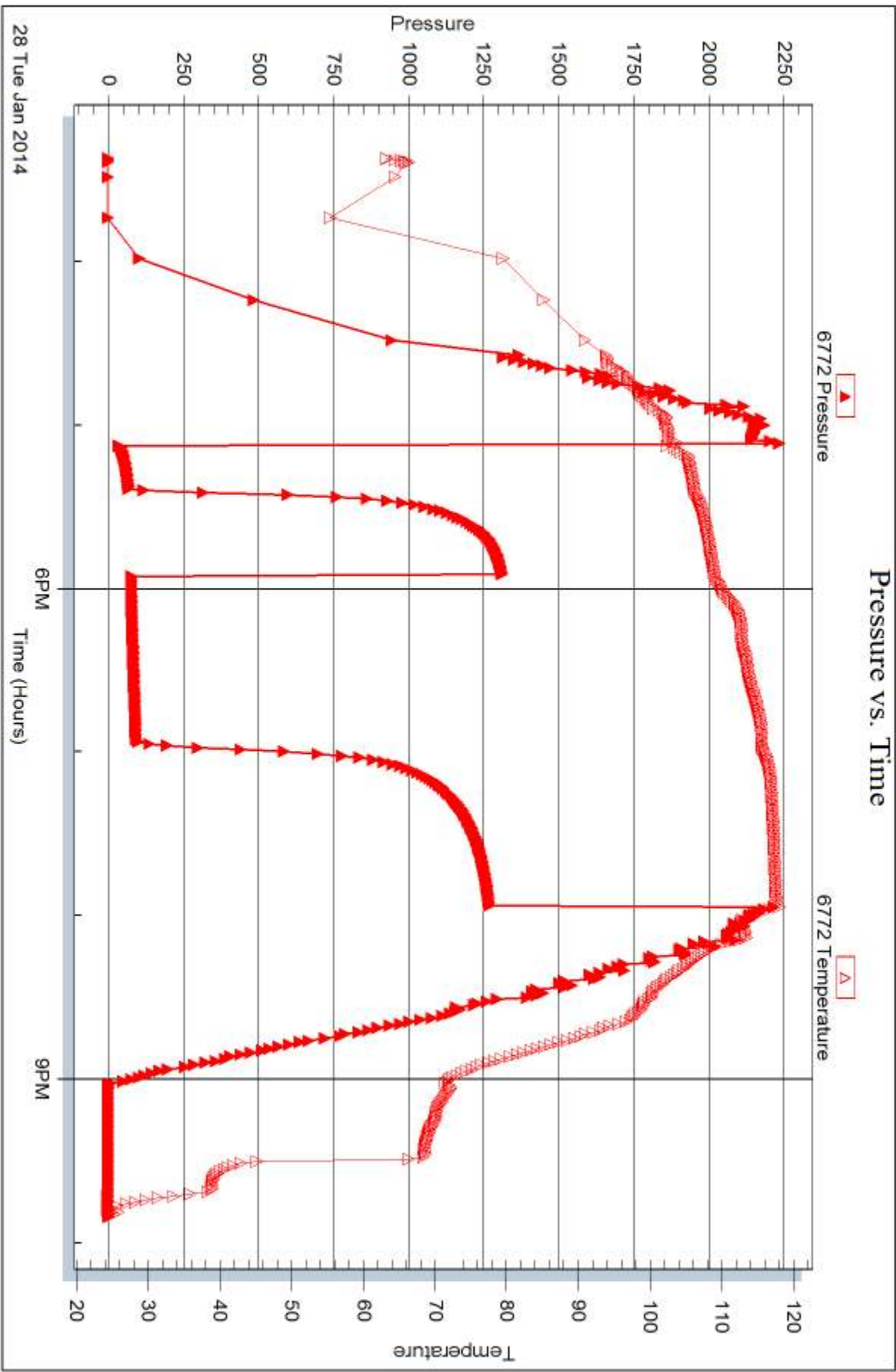


Serial #: 6772

Outside Norstar Petroleum, Inc.

Hag-Hoff #1-33

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 56715

Printed: 2014.02.04 @ 11:44:26



## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum, Inc.**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

ATTN: Bob Elder

### **Hag-Hoff #1-33**

#### **33-9s-35w Thomas,KS**

Start Date: 2014.01.30 @ 06:58:00

End Date: 2014.01.30 @ 13:08:45

Job Ticket #: 56716                      DST #: 4

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

Printed: 2014.02.04 @ 11:43:37



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum, Inc.

**33-9s-35w Thomas,KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56716

**DST#: 4**

ATTN: Bob Elder

Test Start: 2014.01.30 @ 06:58:00

## GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:52:15

Time Test Ended: 13:08:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Sam Esparza

Unit No: 71

**Interval: 4745.00 ft (KB) To 4830.00 ft (KB) (TVD)**

Reference Elevations: 3366.00 ft (KB)

Total Depth: 4830.00 ft (KB) (TVD)

3361.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 36.33 psig @ 4746.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.30

End Date: 2014.01.30

Last Calib.: 2014.01.30

Start Time: 06:58:05

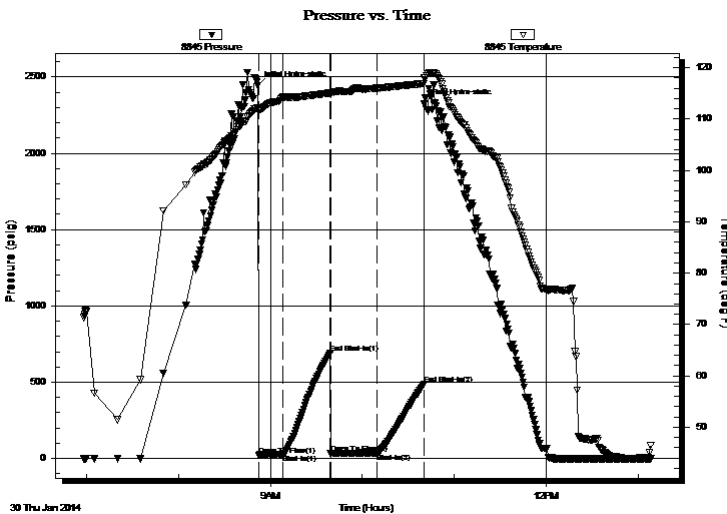
End Time: 13:08:44

Time On Btm: 2014.01.30 @ 08:51:45

Time Off Btm: 2014.01.30 @ 10:40:30

TEST COMMENT: IF: 1 1/2" Blow .  
IS: No Return.  
FF: No Blow .  
FS: No Return.

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2443.47         | 112.25       | Initial Hydro-static |
| 1           | 22.57           | 111.61       | Open To Flow (1)     |
| 17          | 28.59           | 114.26       | Shut-In(1)           |
| 48          | 689.11          | 115.11       | End Shut-In(1)       |
| 48          | 31.19           | 114.76       | Open To Flow (2)     |
| 78          | 36.33           | 116.02       | Shut-In(2)           |
| 109         | 485.76          | 116.93       | End Shut-In(2)       |
| 109         | 2322.92         | 118.03       | Final Hydro-static   |

## Recovery

| Length (ft) | Description            | Volume (bbl) |
|-------------|------------------------|--------------|
| 10.00       | Mud 100m ( Oil Spots ) | 0.05         |
|             |                        |              |
|             |                        |              |
|             |                        |              |
|             |                        |              |

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Norstar Petroleum, Inc.  
88 Inverness CIR E. Unit F104  
Englewood, CO 80112  
ATTN: Bob Elder

**33-9s-35w Thomas,KS**

**Hag-Hoff #1-33**

Job Ticket: 56716      **DST#: 4**

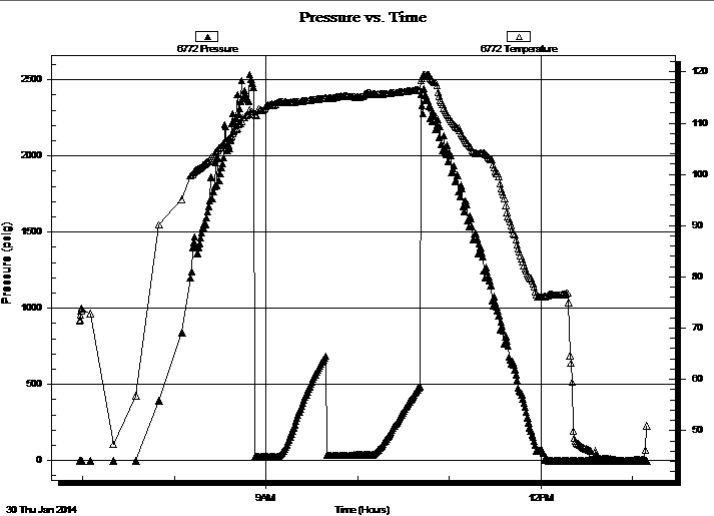
Test Start: 2014.01.30 @ 06:58:00

## GENERAL INFORMATION:

|   |   |
|---|---|
| Formation: <b>Johnson</b>                                 | Test Type: Conventional Bottom Hole (Reset) |
| Deviated: No Whipstock:          ft (KB)                  | Tester: Sam Esparza                         |
| Time Tool Opened: 08:52:15                                | Unit No: 71                                 |
| Time Test Ended: 13:08:45                                 | Reference Elevations: 3366.00 ft (KB)       |
| <b>Interval: 4745.00 ft (KB) To 4830.00 ft (KB) (TVD)</b> | 3361.00 ft (CF)                             |
| Total Depth: 4830.00 ft (KB) (TVD)                        | KB to GR/CF: 5.00 ft                        |
| Hole Diameter: 7.88 inches                                | Hole Condition: Good                        |

|  |                         |
|--|-------------------------|
| <b>Serial #: 6772      Inside</b>                | Capacity: 8000.00 psig  |
| Press@RunDepth:          psig @ 4746.00 ft (KB)  | Last Calib.: 2014.01.30 |
| Start Date: 2014.01.30      End Date: 2014.01.30 | Time On Btm:            |
| Start Time: 06:58:05      End Time: 13:08:59     | Time Off Btm:           |

TEST COMMENT: IF: 1 1/2" Blow.  
IS: No Return.  
FF: No Blow.  
FS: No Return.



## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description            | Volume (bbl) |
|-------------|------------------------|--------------|
| 10.00       | Mud 100m ( Oil Spots ) | 0.05         |
|             |                        |              |
|             |                        |              |
|             |                        |              |
|             |                        |              |

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum, Inc.

**33-9s-35w Thomas,KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56716

**DST#: 4**

ATTN: Bob Elder

Test Start: 2014.01.30 @ 06:58:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4599.00 ft | Diameter: 3.80 inches | Volume: 64.51 bbl              | Tool Weight: 2000.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 30000.00 lb  |
| Drill Collar:             | Length: 123.00 ft  | Diameter: 2.25 inches | Volume: 0.60 bbl               | Weight to Pull Loose: 95000.00 lb  |
|                           |                    |                       | <u>Total Volume: 65.11 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 5.00 ft            |                       |                                | String Weight: Initial 65000.00 lb |
| Depth to Top Packer:      | 4745.00 ft         |                       |                                | Final 65000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 85.00 ft           |                       |                                |                                    |
| Tool Length:              | 113.00 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        |            |          | 4718.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4723.00    |                               |
| Hydraulic tool   | 5.00        |            | Inside   | 4728.00    |                               |
| Jars             | 5.00        |            |          | 4733.00    |                               |
| Safety Joint     | 3.00        |            |          | 4736.00    |                               |
| Packer           | 5.00        |            |          | 4741.00    | 28.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4745.00    |                               |
| Stubb            | 1.00        |            |          | 4746.00    |                               |
| Recorder         | 0.00        | 6772       | Inside   | 4746.00    |                               |
| Recorder         | 0.00        | 8845       | Outside  | 4746.00    |                               |
| Perforations     | 14.00       |            |          | 4760.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4761.00    |                               |
| Drill Pipe       | 63.00       |            |          | 4824.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4825.00    |                               |
| Bullnose         | 5.00        |            |          | 4830.00    | 85.00 Bottom Packers & Anchor |

**Total Tool Length: 113.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Norstar Petroleum, Inc.

**33-9s-35w Thomas,KS**

88 Inverness CIR E. Unit F104  
Englewood, CO 80112

**Hag-Hoff #1-33**

Job Ticket: 56716

**DST#: 4**

ATTN: Bob Elder

Test Start: 2014.01.30 @ 06:58:00

## 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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 12000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description            | Volume<br>bbl |
|--------------|------------------------|---------------|
| 10.00        | Mud 100m ( Oil Spots ) | 0.049         |

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

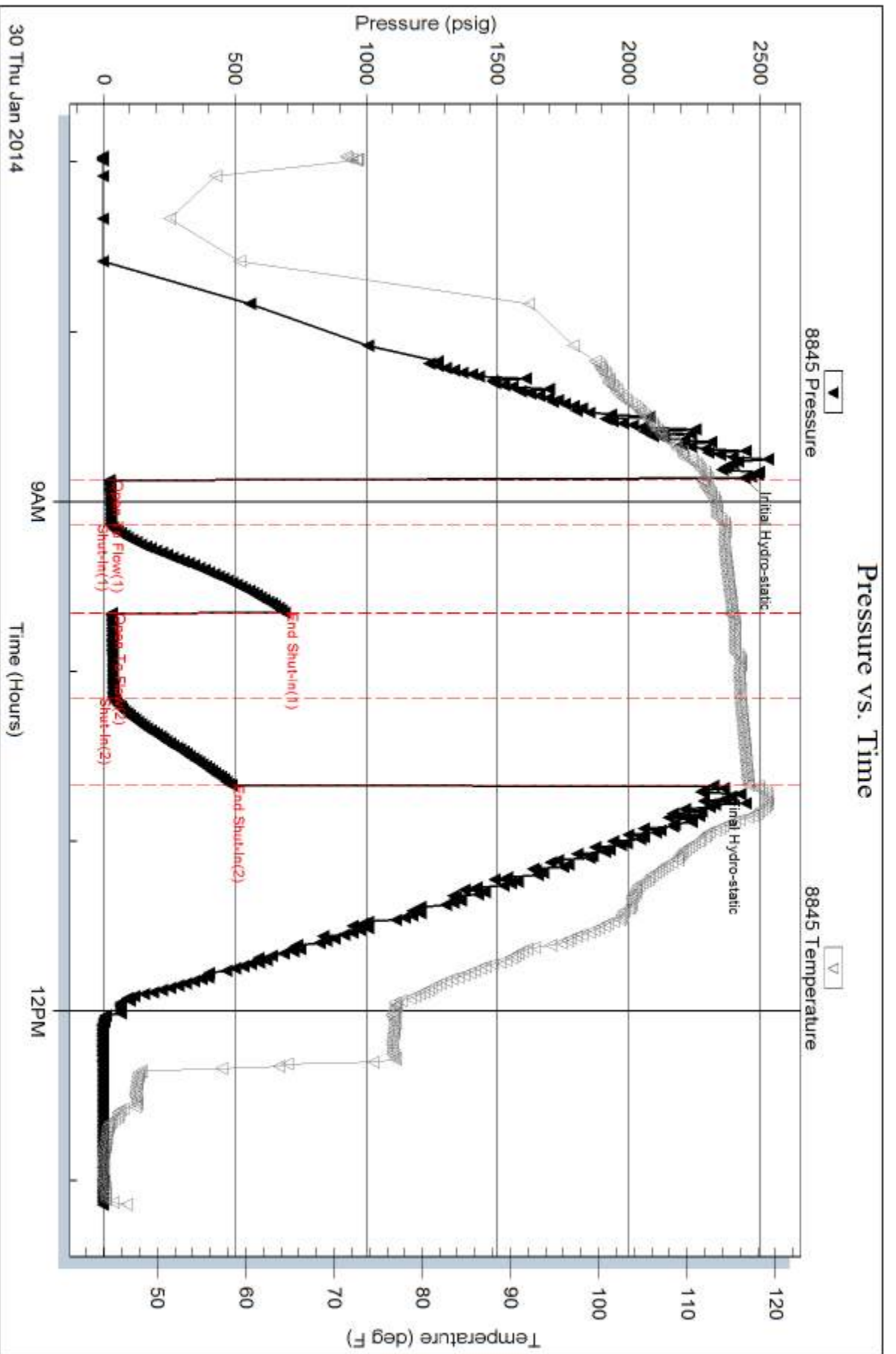
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



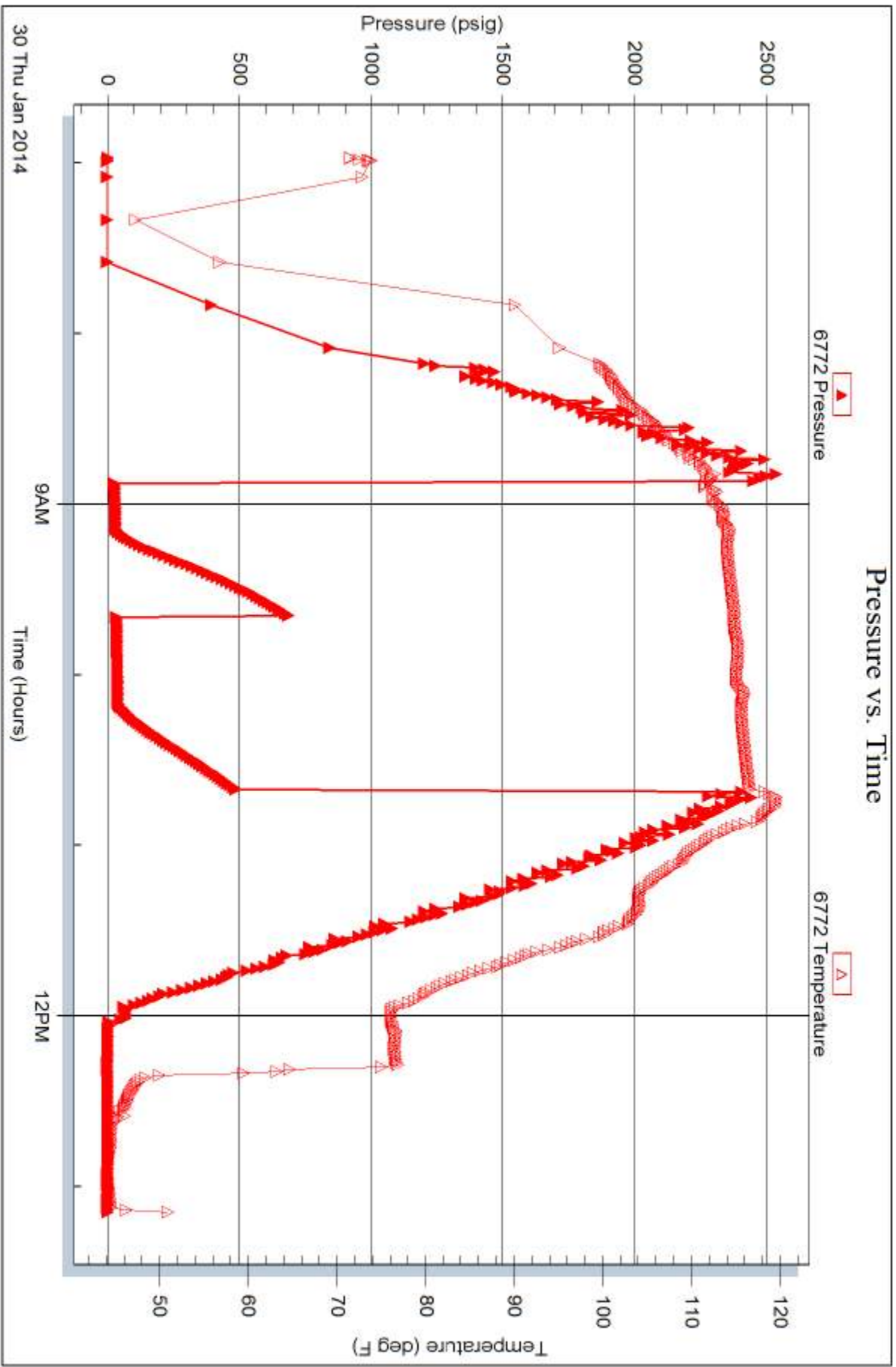
Serial #: 6772

Inside

Norstar Petroleum, Inc.

Hag-Hoff #1-33

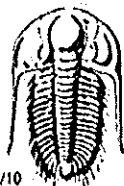
DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 56716

Printed: 2014.02.04 @ 11:43:39



# TRIOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 56713

Well Name & No. Hag-Hoff #1-33 Test No. 1 Date 1/27/14  
 Company Norstar Petroleum, Inc. Elevation 3366 KB 3361 GL  
 Address 88 Inverness Cir E. Unit F104 Englewood, CO 80112  
 Co. Rep / Geo. Bob Elder Rig WW #8  
 Location; Sec. 33 Twp. 9S Rge. 35W Co. Thomas State KS

Interval Tested 4374-4412 Zone Tested LKC "H"  
 Anchor Length 38' Drill Pipe Run 4253 Mud Wt. 9.1  
 Top Packer Depth 4370 Drill Collars Run 123 Vis 58  
 Bottom Packer Depth 4374 Wt. Pipe Run Ø WL 7.6  
 Total Depth 4412 Chlorides 8000 ppm System LCM 2

Blow Description IF: 6" Blow.  
ISI: No Return.  
EF: BOB @ 30 min.  
FSI: No Return.

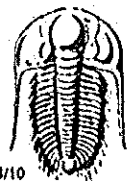
| Rec | Foot of | %gas | %oil | %water | %mud |
|-----|---------|------|------|--------|------|
| 55  | 90      | 10   | 90   |        |      |
| 60  | 60m     | 5    | 35   |        | 60   |
| 60  | 60msw   | 5    | 10   | 60     | 25   |
| 120 | 60msw   | 5    | 0.5  | 80     | 10   |

Rec Total 293 BHT 123 Gravity 24 API RW 262 @ 30 °F Chlorides 64,000 ppm  
 (A) Initial Hydrostatic 222  Test 1250 T-On Location 5:20  
 (B) First Initial Flow 34  Jars 250 T-Started 6:27  
 (C) First Final Flow 78  Safety Joint 75 T-Open 8:27  
 (D) Initial Shut-In 1307  Circ Sub N/C T-Pulled 11:54 *wanted on chiller & pull!*  
 (E) Second Initial Flow 86  Hourly Standby T-Out 14:26  
 (F) Second Final Flow 152  Mileage 172 R/T 266.60 Comments Gravity: 22 @ 40 = 24  
 (G) Final Shut-In 1298  Sampler Stayed in colby, KS  
 (H) Final Hydrostatic 2091  Straddle  Ruined Shale Packer  
 Shale Packer  Ruined Packer  
 Extra Packer  Extra Copies

Initial Open 15  Extra Recorder  
 Initial Shut-In 30  Day Standby  
 Final Flow 60  Accessibility  
 Final Shut-In 90 Sub Total 1841.60  
 Sub Total 1841.60 MP/DST Disc't

Approved By [Signature] Our Representative [Signature]

Triobite 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. 56714

Well Name & No. Hag-Hoff #1-33 Test No. 2 Date 1/27/14  
 Company Norstar Petroleum, Inc. Elevation 3366 KB 3361 GL  
 Address 88 Inverness CIR E Unit F104 Englewood, CO 80112  
 Co. Rep / Geo. BOB ELDER Rig WW #8  
 Location: Sec. 33 Twp. 9S Rge. 35W Co. Thomas State KS

Interval Tested 4408-4456 Zone Tested LKC "I & J"  
 Anchor Length 48' Drill Pipe Run 4283' Mud Wt. 9.1  
 Top Packer Depth 4104 Drill Collars Run 123 Vis 62  
 Bottom Packer Depth 4408 Wt. Pipe Run Ø WL 8.0  
 Total Depth 4456 Chlorides 9900 ppm System LCM 2

Blow Description IF: 5 1/2" Blow.  
Test: Weak Surface Return.  
IF: BOB @ 32 min.  
FST: 4" Return.

| Rec | Feet of    | %gas | %oil | %water | %mud |
|-----|------------|------|------|--------|------|
| 90  | 60         | 15   | 85   |        |      |
| 120 | 60m        | 10   | 30   |        | 60   |
|     | 120' G.I.P |      |      |        |      |
|     |            |      |      |        |      |
|     |            |      |      |        |      |

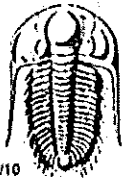
Rec Total 210 BHT 117 Gravity 25 API RW - @ - °F Chlorides - ppm

|                         |             |  |                       |  |                              |
|-------------------------|-------------|--|-----------------------|--|------------------------------|
| (A) Initial Hydrostatic | <u>2199</u> | <input checked="" type="checkbox"/> Test         | <u>1250</u>           | T-On Location                                | <u>23:20</u>                 |
| (B) First Initial Flow  | <u>26</u>   | <input checked="" type="checkbox"/> Jars         | <u>250</u>            | T-Started                                    | <u>23:53</u>                 |
| (C) First Final Flow    | <u>70</u>   | <input checked="" type="checkbox"/> Safety Joint | <u>75</u>             | T-Open                                       | <u>1:49</u>                  |
| (D) Initial Shut-In     | <u>1321</u> | <input checked="" type="checkbox"/> Circ Sub     | <u>N/C</u>            | T-Pulled                                     | <u>5:10</u>                  |
| (E) Second Initial Flow | <u>78</u>   | <input type="checkbox"/> Hourly Standby          |                       | T-Out  | <u>7:49</u>                  |
| (F) Second Final Flow   | <u>106</u>  | <input checked="" type="checkbox"/> Mileage      | <u>172 R/T</u> 266.60 | Comments                                     | <u>Gravity: 22 @ 30 @ 25</u> |
| (G) Final Shut-In       | <u>1302</u> | <input type="checkbox"/> Sampler                 |                       |  | <u>Stayed in colby, KS</u>   |
| (H) Final Hydrostatic   | <u>2085</u> | <input type="checkbox"/> Straddle                |                       | <input type="checkbox"/> Ruined Shale Packer |                              |

|                 |           |   |  |  |                |
|-----------------|-----------|---|--|--|----------------|
| Initial Open    | <u>15</u> | <input type="checkbox"/> Shale Packer   |  | <input type="checkbox"/> Ruined Packer |                |
| Initial Shut-In | <u>30</u> | <input type="checkbox"/> Extra Packer   |  | <input type="checkbox"/> Extra Copies  |                |
| Final Flow      | <u>60</u> | <input type="checkbox"/> Extra Recorder |  | Sub Total                              | <u>0</u>       |
| Final Shut-In   | <u>90</u> | <input type="checkbox"/> Day Standby    |  | Total                                  | <u>1841.60</u> |
|                 |           | <input type="checkbox"/> Accessibility  |  | 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 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. 56715

Well Name & No. Hag-Hoff #1-33 Test No. 3 Date 1/28/14  
 Company Norstar Petroleum, Inc. Elevation 3366 KB 3361 GL  
 Address 88 Inverness CIR E Unit F104 Englewood, CO 80112  
 Co. Rep / Geo. Bob Elder Rig CW #8  
 Location: Sec. 33 Twp. 9S Rge. 35W Co. Thomas State KS

Interval Tested 4460-4490 Zone Tested LKC "K"  
 Anchor Length 30 Drill Pipe Run 4314 Mud Wt. 9.1  
 Top Packer Depth 4456 Drill Collars Run 123 Vis 62  
 Bottom Packer Depth 4460 Wt. Pipe Run Ø WL 7.2  
 Total Depth 4490 Chlorides 9000 ppm System LCM 2

Blow Description IF: 2 3/4" Blow.  
FSD: No Return.  
IF: 5 1/4" Blow  
FSD: Weak Surface Return.

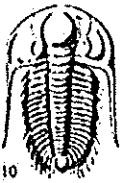
| Rec        | Feet of     | %gas     | %oil      | %water    | %mud      |
|------------|-------------|----------|-----------|-----------|-----------|
| <u>10</u>  | <u>90</u>   | <u>5</u> | <u>95</u> |           |           |
| <u>30</u>  | <u>60cm</u> | <u>5</u> | <u>20</u> |           | <u>75</u> |
| <u>120</u> | <u>60cm</u> | <u>5</u> | <u>10</u> | <u>20</u> | <u>65</u> |
| Rec        | Feet of     | %gas     | %oil      | %water    | %mud      |
| Rec        | Feet of     | %gas     | %oil      | %water    | %mud      |

Rec Total 160 BHT 118 Gravity 32 API RW - @ - °F Chlorides - ppm

|                                     |   |  |
|-------------------------------------|---|--|
| (A) Initial Hydrostatic <u>2232</u> | <input checked="" type="checkbox"/> Test <u>1250</u>              | T-On Location <u>14:50</u>                   |
| (B) First Initial Flow <u>30</u>    | <input checked="" type="checkbox"/> Jars <u>250</u>               | T-Started <u>15:22</u>                       |
| (C) First Final Flow <u>68</u>      | <input checked="" type="checkbox"/> Safety Joint <u>75</u>        | T-Open <u>17:08</u>                          |
| (D) Initial Shut-In <u>1313</u>     | <input checked="" type="checkbox"/> Circ Sub <u>N/C</u>           | T-Pulled <u>19:58</u>                        |
| (E) Second Initial Flow <u>76</u>   | <input type="checkbox"/> Hourly Standby                           | T-Out <u>21:50</u>                           |
| (F) Second Final Flow <u>91</u>     | <input checked="" type="checkbox"/> Mileage <u>172 RTT</u> 266.60 | Comments <u>Gravity: 29 @ 30"</u>            |
| (G) Final Shut-In <u>1270</u>       | <input type="checkbox"/> Sampler                                  | <u>32</u>                                    |
| (H) Final Hydrostatic <u>2142</u>   | <input type="checkbox"/> Straddle                                 | <u>Stayed in colby</u>                       |
| Initial Open <u>15</u>              | <input type="checkbox"/> Shale Packer                             | <input type="checkbox"/> Ruined Shale Packer |
| Initial Shut-In <u>30</u>           | <input type="checkbox"/> Extra Packer                             | <input type="checkbox"/> Ruined Packer       |
| Final Flow <u>60</u>                | <input type="checkbox"/> Extra Recorder                           | Sub Total <u>0</u>                           |
| Final Shut-In <u>60</u>             | <input type="checkbox"/> Day Standby                              | Total <u>1841.60</u>                         |
|                                     | <input type="checkbox"/> Accessibility                            | MP/DST Disc't                                |
|                                     | Sub Total <u>1841.60</u>  |  |

Approved By Bob Elder Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 56716

Well Name & No. Hag-Hoff #1-33 Test No. 4 Date 1/30/14  
 Company Norstar Petroleum, Inc. Elevation 3366 KB 3361 GL  
 Address 88 Inverness CIR E Unit F104 Englewood, CO 80112  
 Co. Rep / Geo. Bob Elder Rig NW #8  
 Location: Sec. 33 Twp. 9S Rge. 35W Co. Thomas State KS

Interval Tested 4745-4830 Zone Tested Johnson  
 Anchor Length 85' Drill Pipe Run 4599 Mud Wt. 9.3  
 Top Packer Depth 4741 Drill Collars Run 123 Vis 60  
 Bottom Packer Depth 4745 Wt. Pipe Run Ø WL 8.8  
 Total Depth 4830 Chlorides 12,000 ppm System LCM 2

Blow Description IF: 1 1/2" Blow.  
ISI: No Return.  
FF: No Blow.  
FSP: No Return.

| Rec       | Feet of                    | %gas | %oil | %water     | %mud |
|-----------|----------------------------|------|------|------------|------|
| <u>10</u> | <u>Mud (oil &amp; gas)</u> |      |      | <u>100</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 10 BHT 117 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm  
 (A) Initial Hydrostatic 2443  Test 1250 T-On Location 6:15  
 (B) First Initial Flow 23  Jars 250 T-Started 6:58  
 (C) First Final Flow 29  Safety Joint 75 T-Open 8:53  
 (D) Initial Shut-In 689  Circ Sub N/C T-Pulled 10:41  
 (E) Second Initial Flow 31  Hourly Standby X8 T-Out 13:09  
 (F) Second Final Flow 36  Mileage 172 RT 266.60 Comments loaded tools  
 (G) Final Shut-In 486  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2323  Straddle \_\_\_\_\_

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer 320  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Initial Open 15  Day Standby X1 1d 8.5h Sub Total 283.33  
 Initial Shut-In 30  Accessibility \_\_\_\_\_ Total 2444.93  
 Final Flow 30 MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 30 Sub Total 1841.60

Approved By [Signature] Our Representative [Signature]

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