



## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Company**

PO Box 1019  
Hays KS 67601

ATTN: Al Downing

**24-14s-19w Ellis,KS**

**Wilma Shoendaller #2-24**

Start Date: 2013.10.09 @ 08:10:00

End Date: 2013.10.09 @ 15:19:00

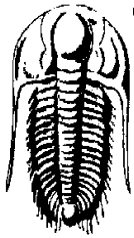
Job Ticket #: 54863                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.16 @ 09:42:27



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Company

**Wilma Shoendaller #2-24**

PO Box 1019  
Hays KS 67601

**24-14s-19w Ellis,KS**

ATTN: Al Dow ning

Job Ticket: 54863

**DST#: 1**

Test Start: 2013.10.09 @ 08:10:00

## GENERAL INFORMATION:

Formation: " D "

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:10:45

Time Test Ended: 15:19:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Bob Hamel

Unit No: 44

**Interval: 3476.00 ft (KB) To 3500.00 ft (KB) (TVD)**

Reference Elevations: 2127.00 ft (KB)

Total Depth: 3500.00 ft (KB) (TVD)

2119.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8875 Outside**

Press @RunDepth: 653.31 psig @ 3477.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.09 End Date: 2013.10.09

Last Calib.: 2013.10.09

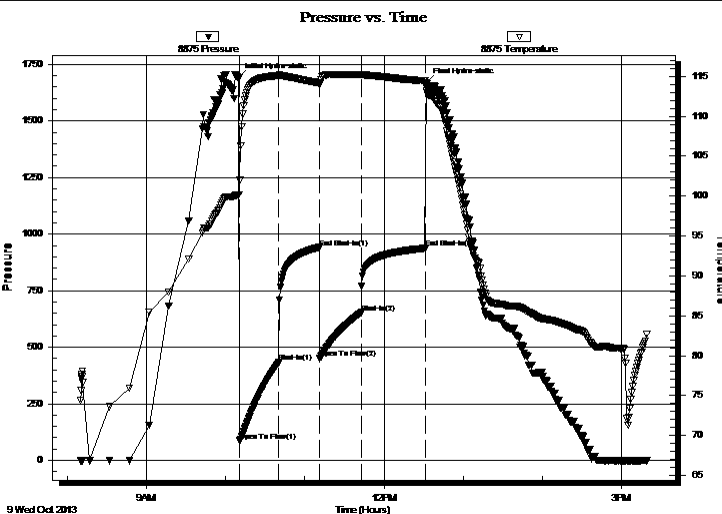
Start Time: 08:10:05 End Time: 15:18:59

Time On Btm: 2013.10.09 @ 10:10:00

Time Off Btm: 2013.10.09 @ 12:32:00

**TEST COMMENT:** I.F. - 30 - B.O.B. in 19 min  
I.S.I - 30 - W.S.B.B. @ 8 min  
F.F. - 30 - B.O.B. in 3 min  
F.S.I. 45 - No B.B.

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1689.41         | 100.12       | Initial Hydro-static |
| 1           | 86.49           | 101.99       | Open To Flow (1)     |
| 31          | 432.62          | 115.10       | Shut-In(1)           |
| 61          | 940.82          | 114.20       | End Shut-In(1)       |
| 62          | 450.13          | 114.01       | Open To Flow (2)     |
| 93          | 653.31          | 115.21       | Shut-In(2)           |
| 141         | 937.20          | 114.40       | End Shut-In(2)       |
| 142         | 1669.65         | 113.27       | Final Hydro-static   |

## Recovery

| Length (ft) | Description    | Volume (bbl) |
|-------------|----------------|--------------|
| 1335.00     | Water 100%     | 18.44        |
| 5.00        | Clean Oil 100% | 0.07         |
|             |                |              |
|             |                |              |
|             |                |              |

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Company

**Wilma Shoendaller #2-24**

PO Box 1019  
Hays KS 67601

**24-14s-19w Ellis,KS**

Job Ticket: 54863

**DST#: 1**

ATTN: Al Dow ning

Test Start: 2013.10.09 @ 08:10:00

## Tool Information

|                            |                    |                       |                                |                                    |
|----------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:                | Length: 3455.00 ft | Diameter: 3.80 inches | Volume: 48.46 bbl              | Tool Weight: 2000.00 lb            |
| Heavy Wt. Pipe:            | Length: 0.00 ft    | Diameter: 2.70 inches | Volume: 0.00 bbl               | Weight set on Packer: 22000.00 lb  |
| Drill Collar:              | Length: 32.00 ft   | Diameter: 2.25 inches | Volume: 0.16 bbl               | Weight to Pull Loose: 60000.00 lb  |
|                            |                    |                       | <u>Total Volume: 48.62 bbl</u> | Tool Chased 3.00 ft                |
| Drill Pipe Above KB:       | 30.00 ft           |                       |                                | String Weight: Initial 52000.00 lb |
| Depth to Top Packer:       | 3476.00 ft         |                       |                                | Final 58000.00 lb                  |
| Depth to Bottom Packer:    | ft                 |                       |                                |                                    |
| Interval betw een Packers: | 24.00 ft           |                       |                                |                                    |
| Tool Length:               | 43.00 ft           |                       |                                |                                    |
| Number of Packers:         | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|----------------|
|------------------|-------------|------------|----------|------------|----------------|

|                           |              |      |         |         |                               |
|---------------------------|--------------|------|---------|---------|-------------------------------|
| Shut In Tool              | 5.00         |      |         | 3462.00 |                               |
| Hydraulic tool            | 5.00         |      |         | 3467.00 |                               |
| Packer                    | 5.00         |      |         | 3472.00 | 19.00 Bottom Of Top Packer    |
| Packer                    | 4.00         |      |         | 3476.00 |                               |
| Stubb                     | 1.00         |      |         | 3477.00 |                               |
| Recorder                  | 0.00         | 6669 | Inside  | 3477.00 |                               |
| Recorder                  | 0.00         | 8875 | Outside | 3477.00 |                               |
| Perforations              | 20.00        |      |         | 3497.00 |                               |
| Bullnose                  | 3.00         |      |         | 3500.00 | 24.00 Bottom Packers & Anchor |
| <b>Total Tool Length:</b> | <b>43.00</b> |      |         |         |                               |



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Company

**Wilma Shoendaller #2-24**

PO Box 1019  
Hays KS 67601

**24-14s-19w Ellis,KS**

Job Ticket: 54863

**DST#: 1**

ATTN: Al Dow ning

Test Start: 2013.10.09 @ 08:10:00

## 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: 54.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description    | Volume<br>bbl |
|--------------|----------------|---------------|
| 1335.00      | Water 100%     | 18.435        |
| 5.00         | Clean Oil 100% | 0.070         |

Total Length: 1340.00 ft      Total Volume: 18.505 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: R.W. .055 @ 82.3 DEG. WTR. SAL. 135,000

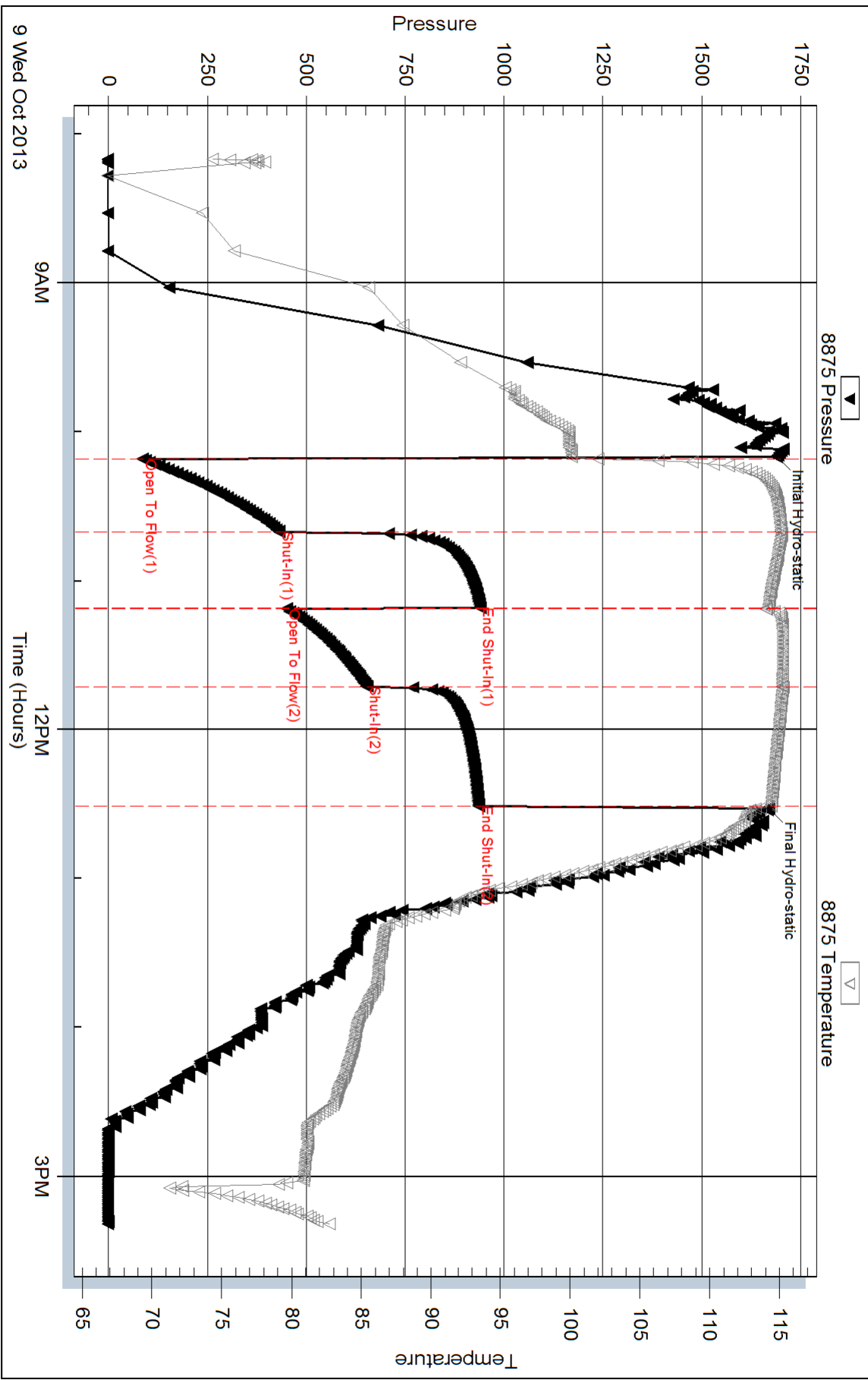
Serial #: 8875

Outside Dow n/mg-Nelson Oil Company

24-14s-19w Ellis, KS

DST Test Number: 1

### Pressure vs. Time



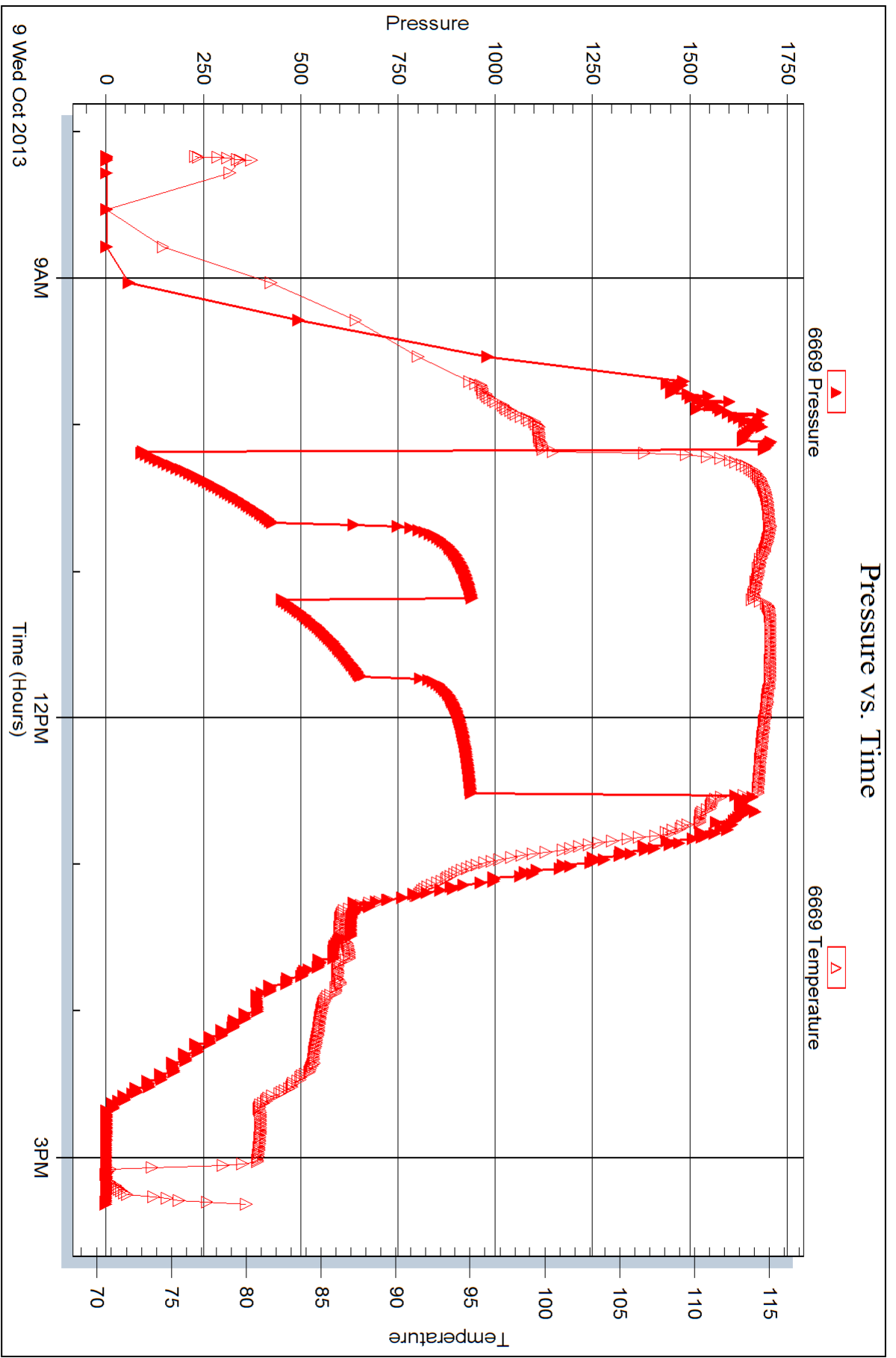
Serial #: 6669

Inside

Dow n/mg-Nelson Oil Company

24-14s-19w Ellis, KS

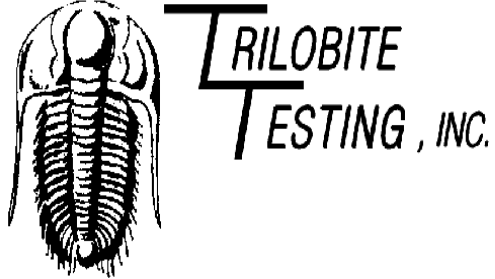
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 54863

Printed: 2013.10.16 @ 09:42:29



## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Company**

PO Box 1019  
Hays KS 67601

ATTN: Al Downing

**24-14s-19w Ellis,KS**

**Wilma Shoendaller #2-24**

Start Date: 2013.10.10 @ 05:05:05

End Date: 2013.10.10 @ 10:02:29

Job Ticket #: 54864                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.16 @ 09:40:55





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Company

**Wilma Shoendaller #2-24**

PO Box 1019  
Hays KS 67601

**24-14s-19w Ellis,KS**

Job Ticket: 54864

**DST#: 2**

ATTN: Al Dow ning

Test Start: 2013.10.10 @ 05:05:05

## GENERAL INFORMATION:

Formation: **LKC. "I - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:32:00

Time Test Ended: 10:02:29

Test Type: Conventional Bottom Hole (Reset)

Tester: BOB Hamel

Unit No: 44

**Interval: 3587.00 ft (KB) To 3630.00 ft (KB) (TVD)**

Reference Elevations: 2127.00 ft (KB)

Total Depth: 3630.00 ft (KB) (TVD)

2119.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6669 Inside**

Press @ Run Depth: 15.65 psig @ 3591.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.10

End Date:

2013.10.10

Last Calib.: 2013.10.10

Start Time: 05:05:05

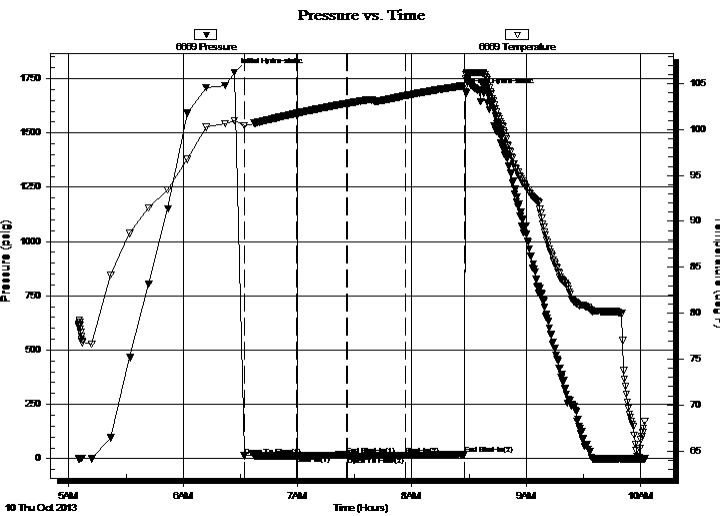
End Time:

10:02:29

Time On Btm: 2013.10.10 @ 06:27:00

Time Off Btm: 2013.10.10 @ 08:28:30

**TEST COMMENT:** I.F. - 30 - 1/4 " blow built to 1/2 " in 30 min  
I.S.I - 30 - No B.B.  
F.F. - 30 - No blow @ 10 min flushed tool-no blow  
F.S.I. - 30 - No B.B.



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1778.57         | 100.95       | Initial Hydro-static |
| 5           | 13.26           | 100.46       | Open To Flow (1)     |
| 33          | 13.54           | 101.76       | Shut-In(1)           |
| 59          | 17.73           | 102.85       | End Shut-In(1)       |
| 60          | 11.28           | 102.86       | Open To Flow (2)     |
| 90          | 15.65           | 103.69       | Shut-In(2)           |
| 121         | 20.81           | 104.79       | End Shut-In(2)       |
| 122         | 1686.95         | 106.00       | Final Hydro-static   |

## Recovery

| Length (ft) | Description              | Volume (bbl) |
|-------------|--------------------------|--------------|
| 5.00        | MUD / WITH A SCUM OF OIL | 0.02         |
|             |                          |              |
|             |                          |              |
|             |                          |              |
|             |                          |              |

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Company

**Wilma Shoendaller #2-24**

PO Box 1019  
Hays KS 67601

**24-14s-19w Ellis,KS**

Job Ticket: 54864

**DST#: 2**

ATTN: Al Dow ning

Test Start: 2013.10.10 @ 05:05:05

## Tool Information

|                            |                    |                       |                                |                                    |
|----------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:                | Length: 3565.00 ft | Diameter: 3.80 inches | Volume: 50.01 bbl              | Tool Weight: 2000.00 lb            |
| Heavy Wt. Pipe:            | Length: 0.00 ft    | Diameter: 2.70 inches | Volume: 0.00 bbl               | Weight set on Packer: 22000.00 lb  |
| Drill Collar:              | Length: 32.00 ft   | Diameter: 2.25 inches | Volume: 0.16 bbl               | Weight to Pull Loose: 58000.00 lb  |
|                            |                    |                       | <u>Total Volume: 50.17 bbl</u> | Tool Chased 5.00 ft                |
| Drill Pipe Above KB:       | 29.00 ft           |                       |                                | String Weight: Initial 52000.00 lb |
| Depth to Top Packer:       | 3587.00 ft         |                       |                                | Final 52000.00 lb                  |
| Depth to Bottom Packer:    | ft                 |                       |                                |                                    |
| Interval betw een Packers: | 43.00 ft           |                       |                                |                                    |
| Tool Length:               | 62.00 ft           |                       |                                |                                    |
| Number of Packers:         | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|----------------|
|------------------|-------------|------------|----------|------------|----------------|

|                 |       |      |         |         |                               |
|-----------------|-------|------|---------|---------|-------------------------------|
| Shut In Tool    | 5.00  |      |         | 3573.00 |                               |
| Hydraulic tool  | 5.00  |      |         | 3578.00 |                               |
| Packer          | 5.00  |      |         | 3583.00 | 19.00 Bottom Of Top Packer    |
| Packer          | 4.00  |      |         | 3587.00 |                               |
| Stubb           | 1.00  |      |         | 3588.00 |                               |
| Perforations    | 2.00  |      |         | 3590.00 |                               |
| Change Over Sub | 1.00  |      |         | 3591.00 |                               |
| Recorder        | 0.00  | 6669 | Inside  | 3591.00 |                               |
| Recorder        | 0.00  | 8875 | Outside | 3591.00 |                               |
| Drill Pipe      | 31.00 |      |         | 3622.00 |                               |
| Change Over Sub | 1.00  |      |         | 3623.00 |                               |
| Perforations    | 4.00  |      |         | 3627.00 |                               |
| Bullnose        | 3.00  |      |         | 3630.00 | 43.00 Bottom Packers & Anchor |

**Total Tool Length: 62.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Company

**Wilma Shoendaller #2-24**

PO Box 1019  
Hays KS 67601

**24-14s-19w Ellis,KS**

Job Ticket: 54864

**DST#: 2**

ATTN: Al Dow ning

Test Start: 2013.10.10 @ 05:05:05

## 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: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description              | Volume<br>bbl |
|--------------|--------------------------|---------------|
| 5.00         | MUD / WITH A SCUM OF OIL | 0.025         |

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

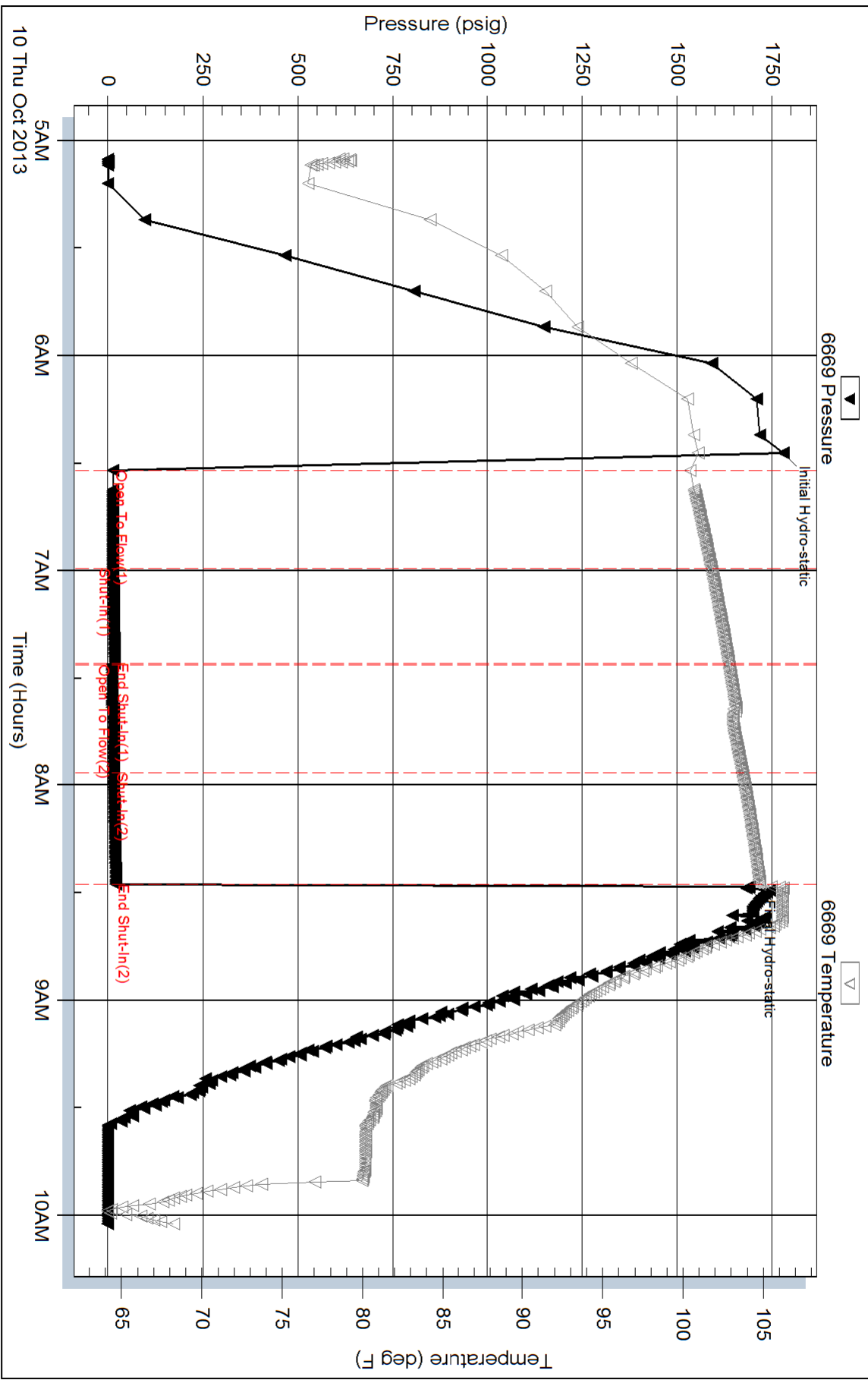
Serial #:

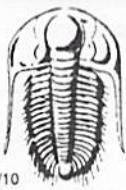
Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **54863**

Well Name & No. Wilma Schoendatter #2-24 Test No. 1 Date 10-9-13  
 Company Downing Nelson Elevation 2127 KB 2119 GL  
 Address P.O. Box 1019 / 111 West 10<sup>th</sup> Street Hays, 67601  
 Co. Rep / Geo. AL Downing Rig Discovery Rig 4  
 Location: Sec. 24 Twp. 14s Rge. 19w Co. Ellis State Ks.

Interval Tested 3476-3500 Zone Tested "D"  
 Anchor Length 24 Drill Pipe Run 3455 Mud Wt. 9  
 Top Packer Depth 3471 Drill Collars Run 32 Vis 54  
 Bottom Packer Depth 3476 Wt. Pipe Run \_\_\_\_\_ WL 8.0  
 Total Depth 3500 Chlorides 1000 ppm System LCM 1.1/2

Blow Description I.F. - 30 - 1/4 INT. Blow Bu.H to B.O.B. in 19 min.  
I.S.I - 30 - Weak Surface B.B. @ 8 min  
E.F. - 30 - 1/2 INT. Blow. Bu.H to B.O.B. in 3 min.  
E.S.I - 45 - No B.B.

| Rec         | Feet of      | %gas | %oil       | %water     | %mud |
|-------------|--------------|------|------------|------------|------|
| <u>5</u>    | <u>C/O</u>   |      | <u>100</u> |            |      |
| <u>1335</u> | <u>water</u> |      |            | <u>100</u> |      |
| _____       | _____        |      |            |            |      |
| _____       | _____        |      |            |            |      |
| _____       | _____        |      |            |            |      |

Rec Total 1340 BHT 113 Gravity \_\_\_\_\_ API RW .055 @ 82.03 F Chlorides 135,000 ppm  
 (A) Initial Hydrostatic 1,689  Test 1150 T-On Location 07:00:00  
 (B) First Initial Flow 86  Jars T-Started 08:10:00  
 (C) First Final Flow 433  Safety Joint T-Open 10:12:00  
 (D) Initial Shut-In 941  Circ Sub T-Pulled 12:27:00  
 (E) Second Initial Flow 450  Hourly Standby T-Out 15:20:00  
 (F) Second Final Flow 653  Mileage 10 R.T. 15.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 937  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1,670  Straddle \_\_\_\_\_

Initial Open 30  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 30  Ruined Packer \_\_\_\_\_  
 Final Flow 30  Extra Packer \_\_\_\_\_  
 Final Shut-In 45  Extra Recorder \_\_\_\_\_  
 Sub Total 0  
 Total 1165.50  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1165.50

Approved By \_\_\_\_\_ Our Representative Butt Name

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. 54864

Well Name & No. Wilma Schoendaller #2-24 Test No. 2 Date 10-10-13  
 Company Downing Nelson Elevation 2440 KB 2432 GL  
 Address P.O. Box 1019 / West 10<sup>th</sup> Street Hays 67601  
 Co. Rep / Geo. Al Downing Rig D. Discovery Rig 3  
 Location: Sec. 24 Twp. 14S Rge. 19W Co. Ellis State Ks.

Interval Tested 3587-3630 Zone Tested Lans "I-J"  
 Anchor Length 43 Drill Pipe Run 3565 Mud Wt. 9.0  
 Top Packer Depth 3582 Drill Collars Run 32 Vis 47  
 Bottom Packer Depth 3587 Wt. Pipe Run --- WL 8.8  
 Total Depth 3630 Chlorides 5000 ppm System LCM 1

Blow Description I.F. - 30 - 1/4 IN. Initial Blow Built to 1/2 in. 30 min.  
I.S.I - 30 - No B.B.  
F.F. - 30 - No Blow @ 10 min. flushed tool / surge / no blow  
F.S.I - 30 - No B.B.

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

Rec Total 5 BHT 105 Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic 1779  Test 1150 T-On Location 04:12:00  
 (B) First Initial Flow 13  Jars \_\_\_\_\_ T-Started 05:05:00  
 (C) First Final Flow 14  Safety Joint \_\_\_\_\_ T-Open 06:27:00  
 (D) Initial Shut-In 12  Circ Sub \_\_\_\_\_ T-Pulled 08:27:00  
 (E) Second Initial Flow 11  Hourly Standby \_\_\_\_\_ T-Out 10:02:29  
 (F) Second Final Flow 16  Mileage 10 RT 31.00 Comments loaded tools 10/11 9:32  
 (G) Final Shut-In 21  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1748  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 30  Day Standby \_\_\_\_\_ Total 1181  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 30 Sub Total 1181

Approved By \_\_\_\_\_ Our Representative B. J. Thomas

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.