TRILOBITE TESTING, INC.

# DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson, Marc Dow

## Fabrizius #1-2

## 2-14s-22w Trego

Start Date: 2017.02.09 @ 03:55:06
End Date: 2017.02.09 @ 12:11:00
Job Ticket #: 64090 DST #: 1

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

Printed: 2017.02.10 @ 09:55:39

# DRILL STEM TEST REPORT

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**2-14s-22w Trego**

**Fabrizius #1-2**

Job Ticket: 64090 **DST#: 1**

Test Start: 2017.02.09 @ 03:55:06

## GENERAL INFORMATION:

Formation: **Conglomerate Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:24:01
Time Test Ended: 12:11:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Ray Schw ager
Unit No: 77

**Interval: 4073.00 ft (KB) To 4135.00 ft (KB) (TVD)**
Total Depth: 4135.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

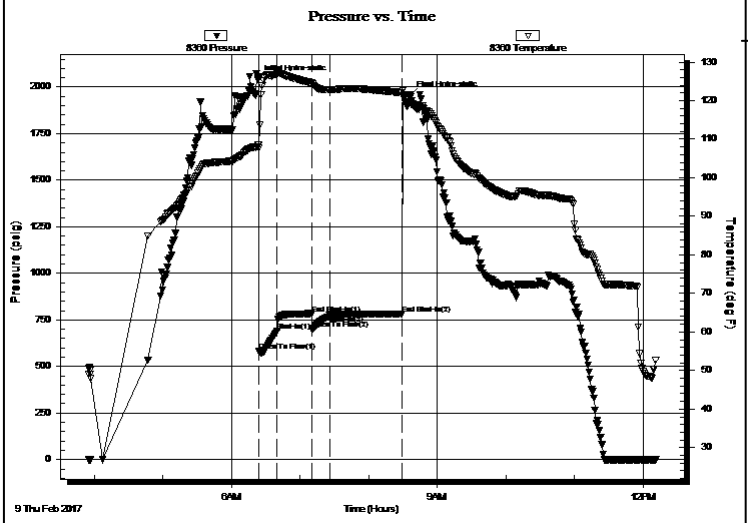
Reference Elevations: 2303.00 ft (KB)
2295.00 ft (CF)
KB to GR/CF: 8.00 ft

**Serial #: 8360** **Inside**

Press@RunDepth: 775.66 psig @ 4079.00 ft (KB)
Start Date: 2017.02.09 End Date: 2017.02.09
Start Time: 03:55:06 End Time: 12:11:00

Capacity: 8000.00 psig
Last Calib.: 2017.02.09
Time On Btm: 2017.02.09 @ 06:23:16
Time Off Btm: 2017.02.09 @ 08:35:45

TEST COMMENT: 15-IFP-BOB in 30 sec
30-ISIP-2"bl bk
15-FFP-BOB thru-out
60-FSIP-1/4" bl bk




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2041.18 | 108.43 | Initial Hydro-static |
| 1 | 582.05 | 107.69 | Open To Flow (1) |
| 17 | 689.87 | 126.90 | Shut-In(1) |
| 47 | 782.61 | 124.58 | End Shut-In(1) |
| 47 | 700.43 | 124.53 | Open To Flow (2) |
| 63 | 775.66 | 122.79 | Shut-In(2) |
| 126 | 782.87 | 122.04 | End Shut-In(2) |
| 133 | 1956.06 | 119.65 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 124.00 | GMO 15%G10%M75%O | 0.88 |
| 1966.00 | CO | 26.29 |
| 0.00 | 510'GIP | 0.00 |
| | | |
| | | |
| | | |

## Gas Rates

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

# DRILL STEM TEST REPORT

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**2-14s-22w Trego**

**Fabrizius #1-2**

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Total Depth: 4135.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

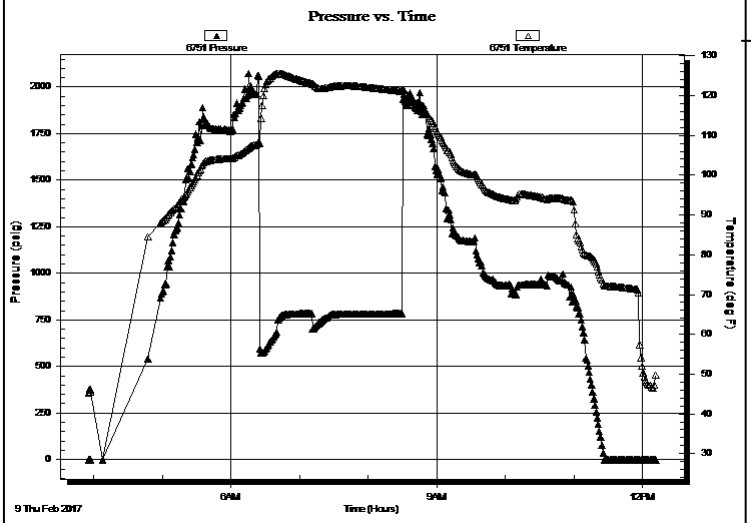
Reference Elevations: 2303.00 ft (KB)
2295.00 ft (CF)
KB to GR/CF: 8.00 ft

**Serial #: 6751** **Outside**

Press@RunDepth: psig @ 4079.00 ft (KB)
Start Date: 2017.02.09 End Date: 2017.02.09
Start Time: 03:55:46 End Time: 12:12:10

Capacity: 8000.00 psig
Last Calib.: 2017.02.09
Time On Btm:
Time Off Btm:

TEST COMMENT: 15-IFP-BOB in 30 sec
30-ISIP-2"bl bk
15-FFP-BOB thru-out
60-FSIP-1/4" bl bk




## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 124.00 | GMO 15%G10%M75%O | 0.88 |
| 1966.00 | CO | 26.29 |
| 0.00 | 510'GIP | 0.00 |
| | | |
| | | |
| | | |

## Gas Rates

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

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co Inc

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson, Marc Dow

**2-14s-22w Trego**

**Fabrizius #1-2**

Job Ticket: 64090 **DST#: 1**

Test Start: 2017.02.09 @ 03:55:06

## Tool Information

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 3745.00 ft | Diameter: | 3.80 | inches | Volume: | 52.53 | bbl | |
| Heavy Wt. Pipe: | Length: | 310.00 ft | Diameter: | 2.70 | inches | Volume: | 2.20 | bbl | |
| Drill Collar: | Length: | 0.00 ft | Diameter: | 0.00 | inches | Volume: | 0.00 | bbl | |
| | | | | | | Total Volume: | 54.73 | bbl | |

| | |
|---|---|
| Drill Pipe Above KB: | 11.00 ft |
| Depth to Top Packer: | 4073.00 ft |
| Depth to Bottom Packer: | ft |
| Interval betw een Packers: | 62.00 ft |
| Tool Length: | 91.00 ft |
| Number of Packers: | 2 Diameter: 6.75 inches |

| | | |
|---|---|---|
| Tool Weight: | | 2200.00 lb |
| Weight set on Packer: | | 25000.00 lb |
| Weight to Pull Loose: | | 75000.00 lb |
| Tool Chased | | 0.00 ft |
| String Weight: | Initial | 56000.00 lb |
| | Final | 61000.00 lb |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths | |
|---|---|---|---|---|---|---|
| Change Over Sub | 1.00 | | | 4045.00 | | |
| Shut In Tool | 5.00 | | | 4050.00 | | |
| Hydraulic tool | 5.00 | | | 4055.00 | | |
| Jars | 5.00 | | | 4060.00 | | |
| Safety Joint | 3.00 | | | 4063.00 | | |
| Packer | 5.00 | | | 4068.00 | 29.00 | Bottom Of Top Packer |
| Packer | 5.00 | | | 4073.00 | | |
| Stubb | 1.00 | | | 4074.00 | | |
| Perforations | 5.00 | | | 4079.00 | | |
| Recorder | 0.00 | 8360 | Inside | 4079.00 | | |
| Recorder | 0.00 | 6751 | Outside | 4079.00 | | |
| Blank Spacing | 33.00 | | | 4112.00 | | |
| Perforations | 20.00 | | | 4132.00 | | |
| Bullnose | 3.00 | | | 4135.00 | 62.00 | Bottom Packers & Anchor |
| **Total Tool Length:** | **91.00** | | | | | |

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co Inc

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson, Marc Dow

**2-14s-22w Trego**

**Fabrizius #1-2**

Job Ticket: 64090 **DST#: 1**

Test Start: 2017.02.09 @ 03:55:06

## Mud and Cushion Information

| | | | | | |
|---|---|---|---|---|---|
| Mud Type: | Gel Chem | Cushion Type: | | Oil API: | 34 deg API |
| Mud Weight: | 9.00 lb/gal | Cushion Length: | ft | Water Salinity: | ppm |
| Viscosity: | 46.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 8.75 in³ | Gas Cushion Type: | | | |
| Resistivity: | ohm.m | Gas Cushion Pressure: | psig | | |
| Salinity: | 3000.00 ppm | | | | |
| Filter Cake: | 1.00 inches | | | | |

## Recovery Information

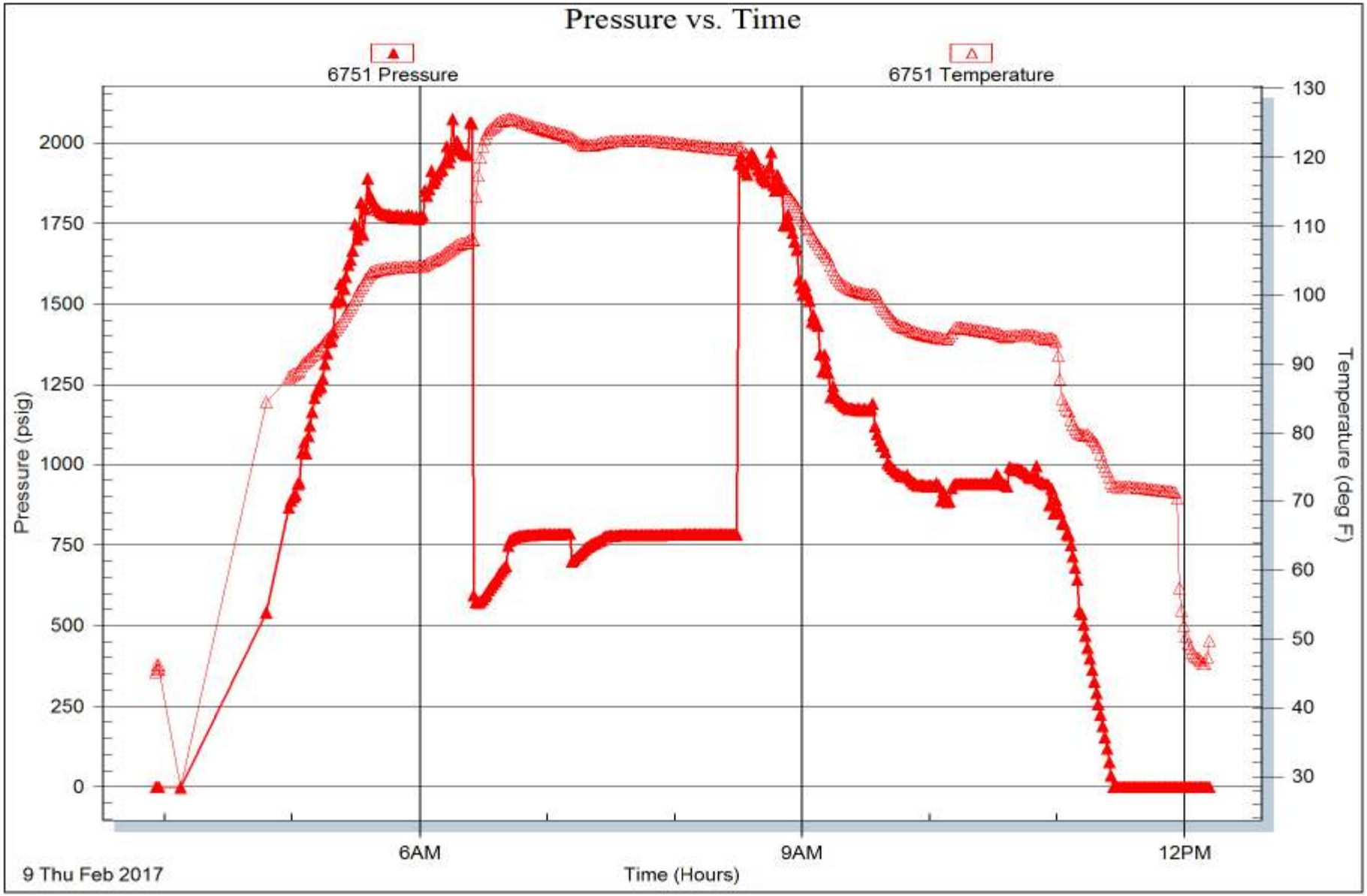
Recovery Table

| Length ft | Description | Volume bbl |
|---|---|---|
| 124.00 | GMO 15%G10%M75%O | 0.878 |
| 1966.00 | CO | 26.286 |
| 0.00 | 510'GIP | 0.000 |

Total Length: 2090.00 ft Total Volume: 27.164 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 6751 **Outside** Dow ning-Nelson Oil Co Inc Fabrizius #1-2 DST Test Number: 1




Trilobite Testing, Inc Ref. No: 64090 Printed: 2017.02.10 @ 09:55:59

# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

## Test Ticket

NO. 64090

Well Name & No. Fabrizius 1-2 Test No. 1 Date 2-9-2012

Company Downing-Nelson Oil Co Inc Elevation 2303 KB 2295 GL

Address Po Box 1019 Hays, Ks 67601

Co. Rep / Geo. Marc Downing Rig Discovery rig 2

Location: Sec. 2 Twp. 14S Rge. 22W Co. Trego State Ks

Interval Tested 4023-4135 Zone Tested Congl. Sd.

Anchor Length 62 Drill Pipe Run 3745 Mud Wt. 9.2

Top Packer Depth 4068 Drill Collars Run — Vis 46

Bottom Packer Depth 4073 Wt. Pipe Run 310 WL 8.8

Total Depth 4135 Chlorides 3000 ppm System LCM 1#

Blow Description IFP - BOB in 30 sec
ISIP - 2" Blow Back
FFP - BOB Thru-out
FSIP - ¼" Blow Back

| | | | | | |
|---|---|---|---|---|---|
| Rec 510 | Feet of GIP | %gas | %oil | %water | %mud |
| Rec 1966 | Feet of CO | %gas | %oil | %water | %mud |
| Rec 124 | Feet of MCO | 15 %gas | 75 %oil | %water 10 | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

Rec Total 2090 BHT 122 Gravity 34 API RW — @ — °F Chlorides — ppm

| | | | |
|---|---|---|---|
| (A) Initial Hydrostatic 2041 | ☑ Test 1150 | T-On Location 0315 | |
| (B) First Initial Flow 582 | ☑ Jars 250 | T-Started 0355 | |
| (C) First Final Flow 689 | ☑ Safety Joint 75 | T-Open 0625 | |
| (D) Initial Shut-In 782 | ☐ Circ Sub | T-Pulled 0825 | |
| (E) Second Initial Flow 700 | ☐ Hourly Standby | T-Out 1211 | |
| (F) Second Final Flow 725 | ☑ Mileage 71RT 53.25+53.25 | Comments Released 1830 9th Back To Rig To Load Tools | |
| (G) Final Shut-In 782 | ☐ Sampler | | |
| (H) Final Hydrostatic 1956 | ☐ Straddle | ☐ Ruined Shale Packer | |
| | ☐ Shale Packer | ☐ Ruined Packer | |
| Initial Open 15 | ☐ Extra Packer | ☐ Extra Copies | |
| Initial Shut-In 30 | ☐ Extra Recorder | Sub Total 0 | |
| Final Flow 15 | ☐ Day Standby | Total 1581.50 | |
| Final Shut-In 60 | ☐ Accessibility | MP/DST Disc't | |
| | Sub Total 1581.50 | | |

Approved By _____ Our Representative Ray Schwager Thank You