



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson , Marc Do

McClellan #1-21

21-9s-21w Graham,KS

Start Date: 2017.03.01 @ 05:50:11

End Date: 2017.03.01 @ 11:51:35

Job Ticket #: 64097 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.03.01 @ 15:07:09

Downing-Nelson Oil Co Inc
21-9s-21w Graham,KS
McClellan #1-21
DST # 1
Arbuckle
2017.03.01



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

21-9s-21w Graham,KS

PO Box 1019
Hays KS 67601

McClellan #1-21

Job Ticket: 64097

DST#: 1

ATTN: Ron Nelson , Marc Do

Test Start: 2017.03.01 @ 05:50:11

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:55:51

Time Test Ended: 11:51:35

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 77

Interval: 3723.00 ft (KB) To 3795.00 ft (KB) (TVD)

Reference Elevations: 2260.00 ft (KB)

Total Depth: 3795.00 ft (KB) (TVD)

2252.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8360

Inside

Press@RunDepth: 721.70 psig @ 3729.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.03.01

End Date:

2017.03.01

Last Calib.:

2017.03.01

Start Time: 05:50:11

End Time:

11:51:35

Time On Btm:

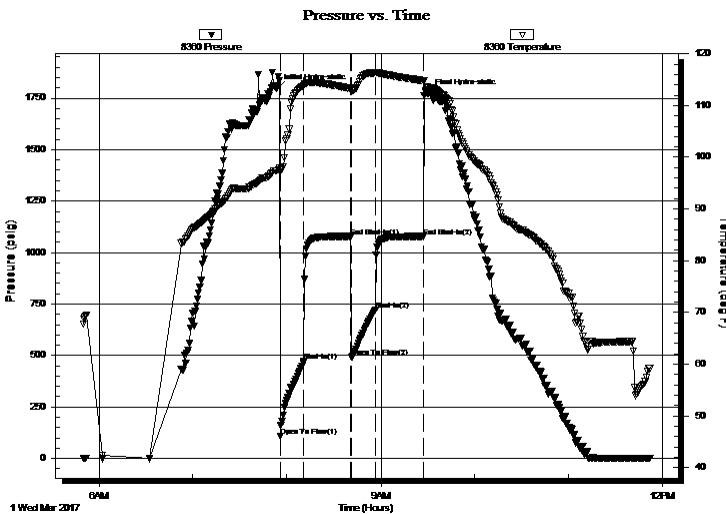
2017.03.01 @ 07:53:36

Time Off Btm:

2017.03.01 @ 09:30:36

TEST COMMENT: 15-IFP-BOB in 30 sec
30-IFP-no bl
15-FFP-BOB in 30 sec
30-FSIP-no bl

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1797.33 | 97.43 | Initial Hydro-static |
| 3 | 107.32 | 97.19 | Open To Flow (1) |
| 18 | 470.11 | 113.90 | Shut-In(1) |
| 48 | 1078.45 | 113.28 | End Shut-In(1) |
| 48 | 491.94 | 113.06 | Open To Flow (2) |
| 63 | 721.70 | 116.32 | Shut-In(2) |
| 94 | 1077.81 | 114.78 | End Shut-In(2) |
| 97 | 1771.31 | 113.52 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 1295.00 | Water | 16.44 |
| 265.00 | MW 40%M60%W | 3.72 |
| | | |
| | | |
| | | |

Gas Rates

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



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Reference Elevations: 2260.00 ft (KB)

Total Depth: 3795.00 ft (KB) (TVD)

2252.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6751 Outside

Press@RunDepth: psig @ 3729.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.03.01

End Date:

2017.03.01

Last Calib.:

2017.03.01

Start Time: 05:50:13

End Time:

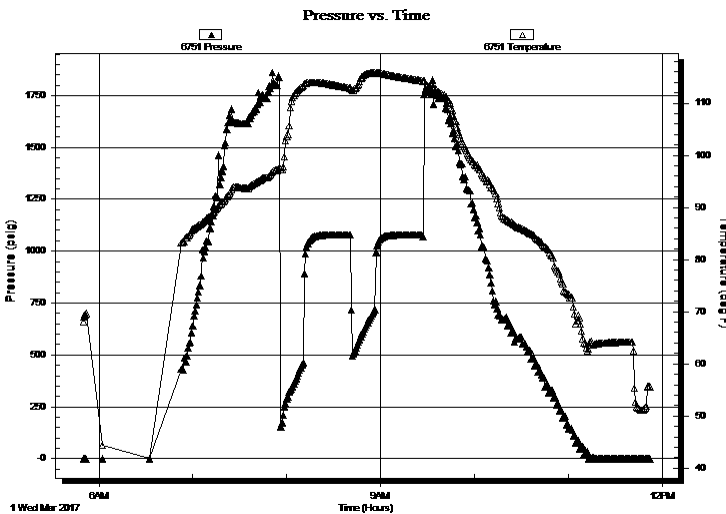
11:51:37

Time On Btm:

Time Off Btm:

TEST COMMENT: 15-IFP-BOB in 30 sec
30-IFP-no bl
15-FFP-BOB in 30 sec
30-FSIP-no bl

PRESSURE SUMMARY



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

Recovery

Gas Rates

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 1295.00 | Water | 16.44 |
| 265.00 | MW 40%M60%W | 3.72 |
| | | |
| | | |
| | | |
| | | |

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

21-9s-21w Graham,KS

PO Box 1019
Hays KS 67601

McClellan #1-21

Job Ticket: 64097

DST#: 1

ATTN: Ron Nelson , Marc Do

Test Start: 2017.03.01 @ 05:50:11

Tool Information

| | | | | |
|----------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3465.00 ft | Diameter: 3.80 inches | Volume: 48.60 bbl | Tool Weight: 2200.00 lb |
| Heavy Wt. Pipe: | Length: 248.00 ft | Diameter: 2.70 inches | Volume: 1.76 bbl | Weight set on Packer: 25000.00 lb |
| Drill Collar: | Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight to Pull Loose: 75000.00 lb |
| | | | <u>Total Volume: 50.36 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 11.00 ft | | | String Weight: Initial 55000.00 lb |
| Depth to Top Packer: | 3723.00 ft | | | Final 60000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval betw een Packers: | 72.00 ft | | | |
| Tool Length: | 93.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

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

| | | | | | |
|-----------------|-------|------|---------|---------|-------------------------------|
| Change Over Sub | 1.00 | | | 3703.00 | |
| Shut In Tool | 5.00 | | | 3708.00 | |
| Hydraulic tool | 5.00 | | | 3713.00 | |
| Packer | 5.00 | | | 3718.00 | 21.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3723.00 | |
| Stubb | 1.00 | | | 3724.00 | |
| Perforations | 5.00 | | | 3729.00 | |
| Recorder | 0.00 | 8360 | Inside | 3729.00 | |
| Recorder | 0.00 | 6751 | Outside | 3729.00 | |
| Blank Spacing | 33.00 | | | 3762.00 | |
| Perforations | 30.00 | | | 3792.00 | |
| Bullnose | 3.00 | | | 3795.00 | 72.00 Bottom Packers & Anchor |

Total Tool Length: 93.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

21-9s-21w Graham,KS

PO Box 1019
Hays KS 67601

McClellan #1-21

Job Ticket: 64097

DST#: 1

ATTN: Ron Nelson , Marc Do

Test Start: 2017.03.01 @ 05:50:11

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:

26000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------|---------------|
| 1295.00 | Water | 16.443 |
| 265.00 | MW 40%M60%W | 3.717 |

Total Length: 1560.00 ft Total Volume: 20.160 bbl

Num Fluid Samples: 0

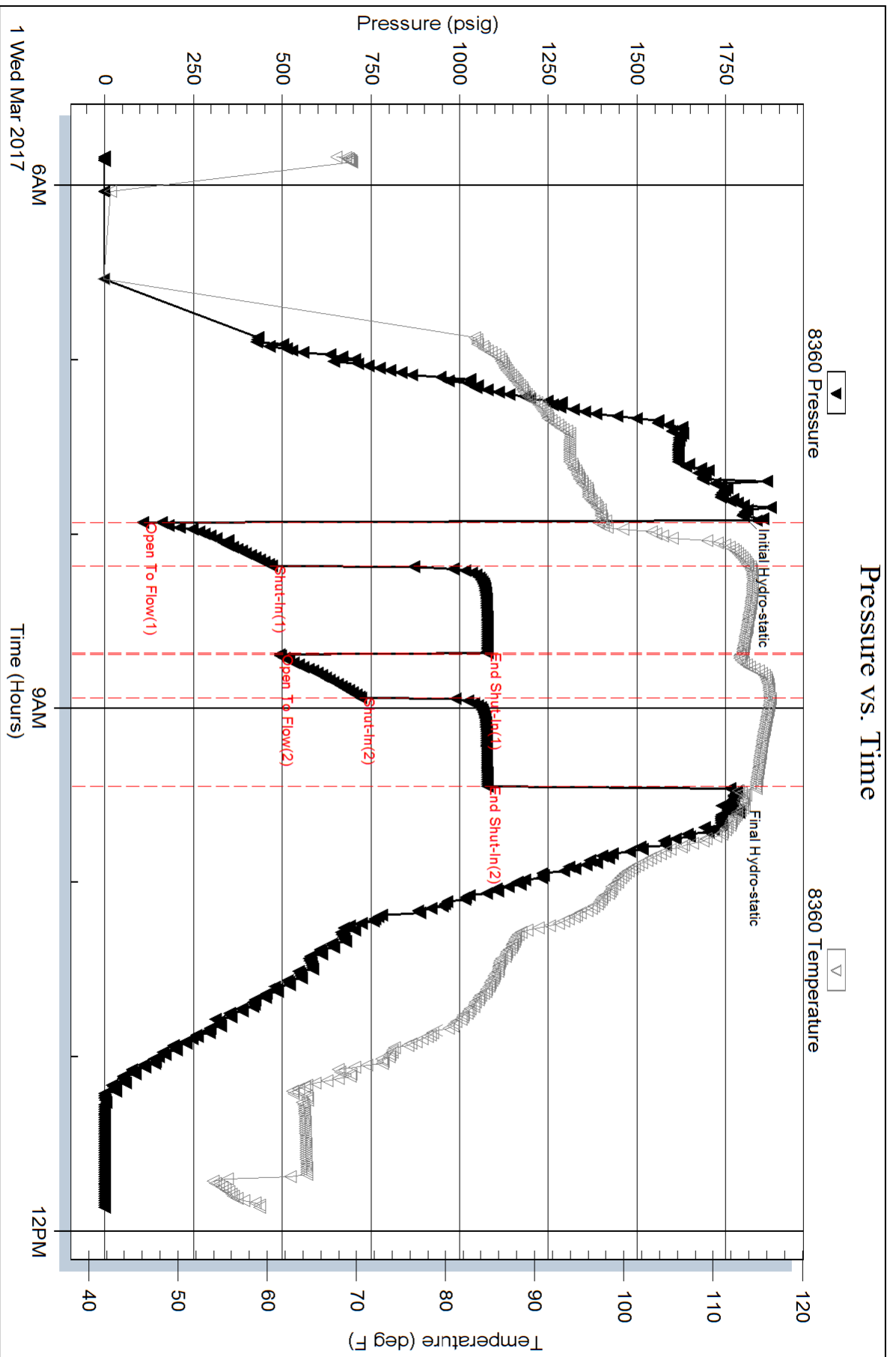
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .3@60F



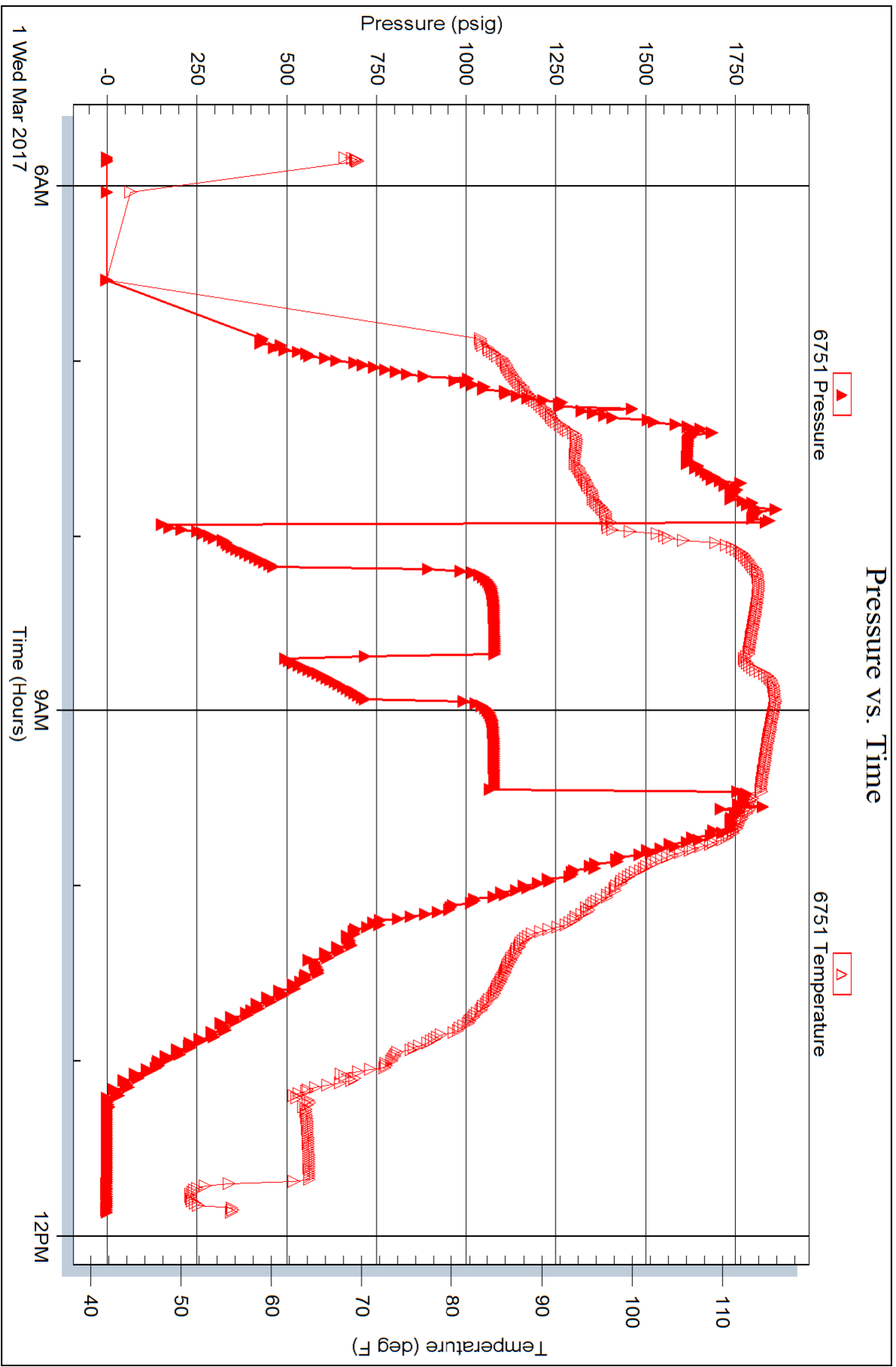
Serial #: 6751

Outside

Dow nting-Nelson Oil Co Inc

McClellan #1-21

DST Test Number: 1





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64097

Well Name & No. McClellan #1-21 Test No. 1 Date 3-1-17
 Company Downing-Nelson Oil Co Inc Elevation 2260 KB 2252 GL
 Address PO Box 1019 Hays, Ks 67601
 Co. Rep / Geo. MARC DOWNING Rig DISCOVERY rig 2
 Location: Sec. 21 Twp. 9th Rge. 21st Co. GRAHAM State Ks

Interval Tested 3723-3795 Zone Tested Arbuckle
 Anchor Length 72 Drill Pipe Run 3465 Mud Wt. 8.8
 Top Packer Depth 3718 Drill Collars Run - Vis 58
 Bottom Packer Depth 3723 Wt. Pipe Run 248 WL 7.6
 Total Depth 3795 Chlorides 2000 ppm System LCM 1#

Blow Description TFP - BOB IN 30 sec.
ISTP - NO BLOW
FFP - BOB IN 30 sec
FSTP - NO BLOW

| Rec | Feet of | %gas | %oil | %water | %mud |
|-------------|--------------|------|------|-----------|-----------|
| <u>265</u> | <u>MW</u> | | | <u>60</u> | <u>40</u> |
| <u>1295</u> | <u>WATER</u> | | | | |
| | | | | | |
| | | | | | |

Rec Total 1560 BHT 114 Gravity - API RW 3 @ 60 °F Chlorides 26000 ppm

(A) Initial Hydrostatic 1797 Test 1050 T-On Location 0310
 (B) First Initial Flow 107 Jars _____ T-Started 0550
 (C) First Final Flow 407 Safety Joint _____ T-Open 0755
 (D) Initial Shut-In 1078 Circ Sub _____ T-Pulled 0925
 (E) Second Initial Flow 491 Hourly Standby _____ T-Out 1151
 (F) Second Final Flow 721 Mileage 90 RT 67.50 Comments _____
 (G) Final Shut-In 1077 Sampler _____
 (H) Final Hydrostatic 1721 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 15 Ruined Shale Packer _____
 Initial Shut-In 30 Ruined Packer _____
 Final Flow 15 Extra Copies _____
 Final Shut-In 30 Sub Total 0
 Total 1117.50
 Sub Total 1117.50 MP/DST Disc't _____

Approved By _____ Our Representative RAY SCHWAGER *thank you*

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.