



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays KS 67601

ATTN: Marc Downing

**17-21S-20W Pawnee,KS**

**Thompson-Nuckolls Unit #1-17**

Start Date: 2019.02.20 @ 22:30:00

End Date: 2019.02.21 @ 08:03:15

Job Ticket #: 57094                      DST #: 1

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

Printed: 2019.02.26 @ 08:33:48



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Company

**Thompson-Nuckolls Unit #1-17**

PO Box 1019  
Hays KS 67601

**17-21S-20W Pawnee,KS**

Job Ticket: 57094

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2019.02.20 @ 22:30:00

## GENERAL INFORMATION:

Formation: **Miss**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:47:15

Time Test Ended: 08:03:15

Test Type: Conventional Bottom Hole (Initial)

Tester:

Unit No: 67

**Interval: 4187.00 ft (KB) To 4239.00 ft (KB) (TVD)**

Reference Elevations: 2110.00 ft (KB)

Total Depth: 4239.00 ft (KB) (TVD)

2103.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

**Serial #: 8018**

**Inside**

Press@RunDepth: 30.58 psig @ 4188.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.02.20

End Date:

2019.02.21

Last Calib.: 2019.02.21

Start Time: 22:30:05

End Time:

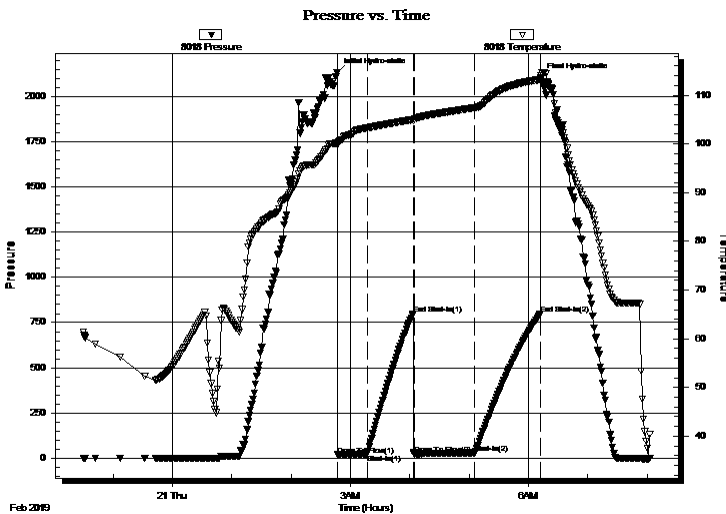
08:03:15

Time On Btm: 2019.02.21 @ 02:46:30

Time Off Btm: 2019.02.21 @ 06:12:30

TEST COMMENT: 30-IF-BOB 5 min  
45-ISI-No Return  
60-FF-BOB right aw ay  
60-FSI-No Return

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2132.09         | 100.24       | Initial Hydro-static |
| 1           | 19.32           | 99.87        | Open To Flow (1)     |
| 31          | 24.62           | 103.28       | Shut-In(1)           |
| 77          | 798.48          | 104.98       | End Shut-In(1)       |
| 78          | 22.78           | 104.93       | Open To Flow (2)     |
| 140         | 30.58           | 107.42       | Shut-In(2)           |
| 206         | 795.71          | 113.20       | End Shut-In(2)       |
| 206         | 2105.19         | 113.54       | Final Hydro-static   |

## Recovery

| Length (ft) | Description            | Volume (bbl) |
|-------------|------------------------|--------------|
| 40.00       | Mud W/oil specks 100%M | 0.57         |
| 0.00        | 1200' GIP              | 0.00         |
|             |                        |              |
|             |                        |              |
|             |                        |              |

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Company

**Thompson-Nuckolls Unit #1-17**

PO Box 1019  
Hays KS 67601

**17-21S-20W Pawnee,KS**

Job Ticket: 57094

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2019.02.20 @ 22:30:00

## Tool Information

|                            |                    |                       |                      |                        |             |
|----------------------------|--------------------|-----------------------|----------------------|------------------------|-------------|
| Drill Pipe:                | Length: 4187.00 ft | Diameter: 3.82 inches | Volume: 59.35 bbl    | Tool Weight:           | 2500.00 lb  |
| Heavy Wt. Pipe:            | Length: ft         | Diameter: 2.75 inches | Volume: - bbl        | Weight set on Packer:  | 30000.00 lb |
| Drill Collar:              | Length: 0.00 ft    | Diameter: 2.25 inches | Volume: 0.00 bbl     | Weight to Pull Loose:  | 80000.00 lb |
|                            |                    |                       | <u>Total Volume:</u> | Tool Chased            | ft          |
| Drill Pipe Above KB:       | 27.00 ft           |                       |                      | String Weight: Initial | 49000.00 lb |
| Depth to Top Packer:       | 4187.00 ft         |                       |                      | Final                  | 50000.00 lb |
| Depth to Bottom Packer:    | ft                 |                       |                      |                        |             |
| Interval betw een Packers: | 52.00 ft           |                       |                      |                        |             |
| Tool Length:               | 79.00 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         |            |          | 4161.00    |                               |
| Shut In Tool              | 5.00         |            |          | 4166.00    |                               |
| Hydraulic tool            | 5.00         |            |          | 4171.00    |                               |
| Jars                      | 5.00         |            |          | 4176.00    |                               |
| Safety Joint              | 2.00         |            |          | 4178.00    |                               |
| Packer                    | 5.00         |            |          | 4183.00    | 27.00 Bottom Of Top Packer    |
| Packer                    | 4.00         |            |          | 4187.00    |                               |
| Stubb                     | 1.00         |            |          | 4188.00    |                               |
| Recorder                  | 0.00         | 8018       | Inside   | 4188.00    |                               |
| Recorder                  | 0.00         | 8675       | Outside  | 4188.00    |                               |
| Perforations              | 1.00         |            |          | 4189.00    |                               |
| Change Over Sub           | 1.00         |            |          | 4190.00    |                               |
| Drill Pipe                | 32.00        |            |          | 4222.00    |                               |
| Change Over Sub           | 1.00         |            |          | 4223.00    |                               |
| Perforations              | 13.00        |            |          | 4236.00    |                               |
| Bullnose                  | 3.00         |            |          | 4239.00    | 52.00 Bottom Packers & Anchor |
| <b>Total Tool Length:</b> | <b>79.00</b> |            |          |            |                               |



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing-Nelson Oil Company

**Thompson-Nuckolls Unit #1-17**

PO Box 1019  
Hays KS 67601

**17-21S-20W Pawnee,KS**

Job Ticket: 57094

**DST#: 1**

ATTN: Marc Downing

Test Start: 2019.02.20 @ 22:30:00

## 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: 52.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

| Length<br>ft | Description            | Volume<br>bbbl |
|--------------|------------------------|----------------|
| 40.00        | Mud W/oil specks 100%M | 0.567          |
| 0.00         | 1200' GIP              | 0.000          |

Total Length: 40.00 ft      Total Volume: 0.567 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

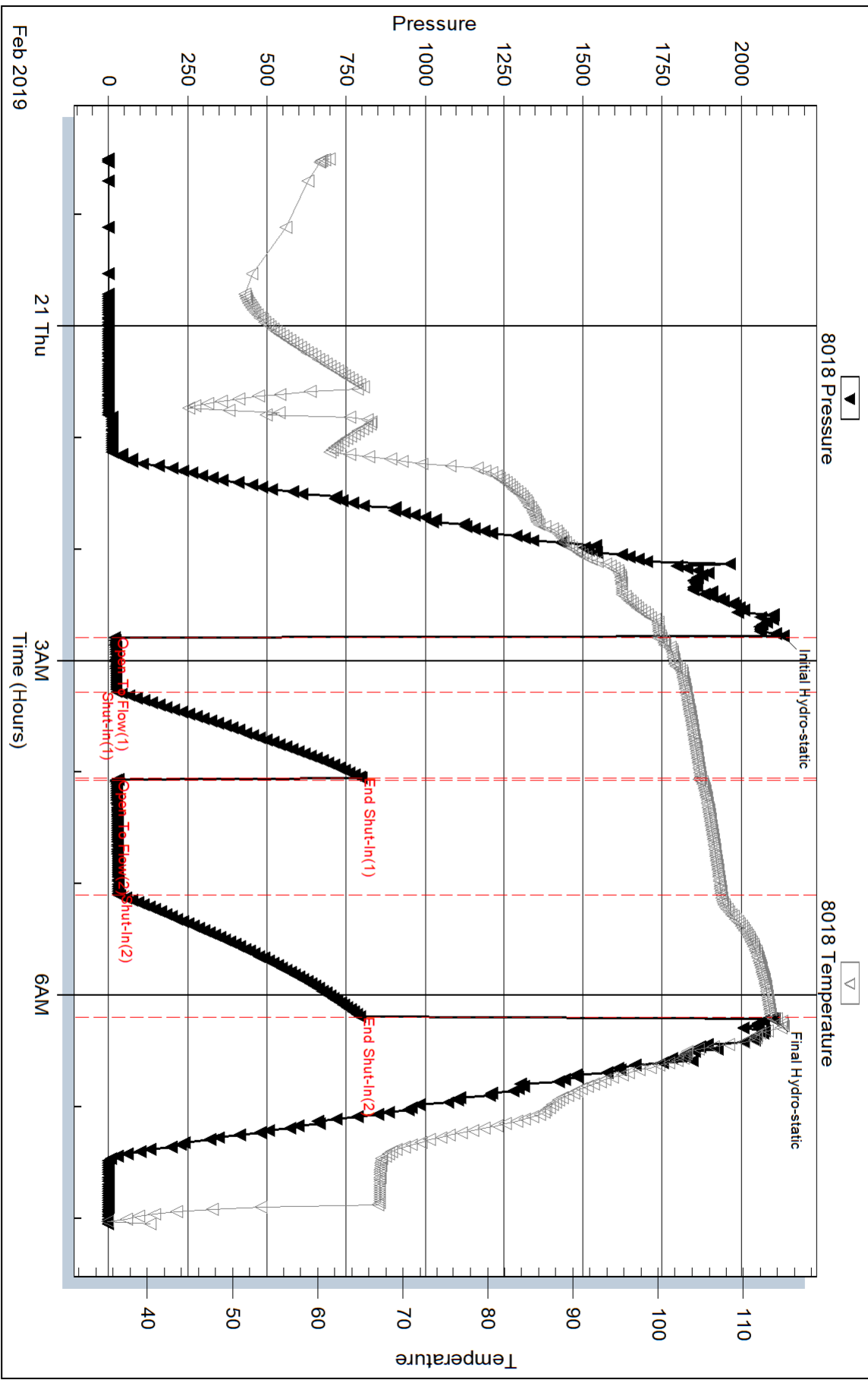
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1.5#LCM

# Pressure vs. Time

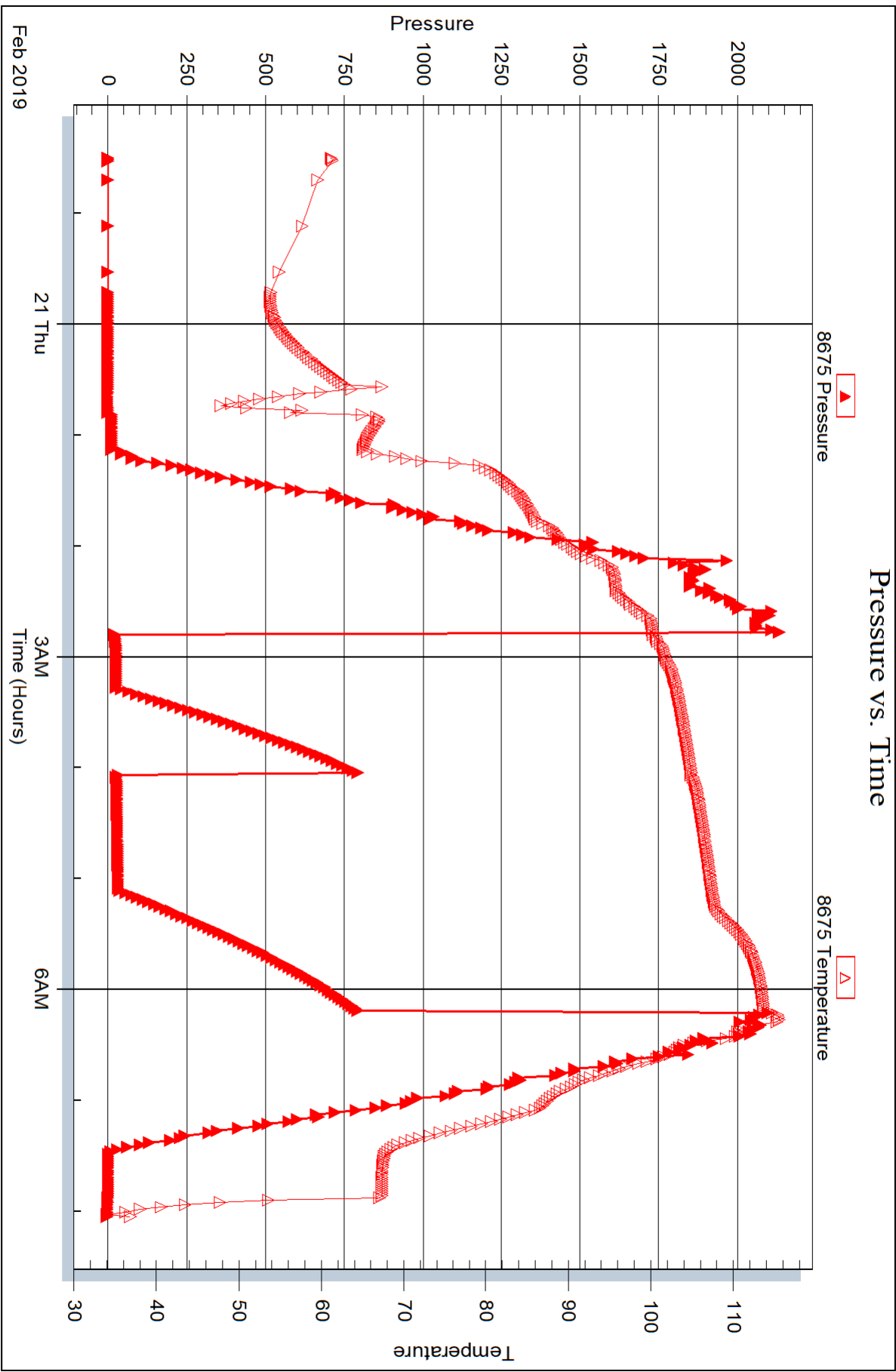


Serial #: 8675

Outside Dow nng-Nelson Oil Company

17-21S-20W Pawnee, KS

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 57094

Printed: 2019.02.26 @ 08:33:49



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays KS 67601

ATTN: Marc Downing

**17-21S-20W Pawnee,KS**

**Thompson-Nuckolls Unit #1-17**

Start Date: 2019.02.21 @ 14:40:00

End Date: 2019.02.21 @ 20:49:30

Job Ticket #: 57095                      DST #: 2

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

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

Printed: 2019.02.26 @ 08:34:31





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Company

**Thompson-Nuckolls Unit #1-17**

PO Box 1019  
Hays KS 67601

**17-21S-20W Pawnee,KS**

ATTN: Marc Dow ning

Job Ticket: 57095

**DST#: 2**

Test Start: 2019.02.21 @ 14:40:00

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:32:30

Time Test Ended: 20:49:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J Staab

Unit No: 67

**Interval: 4238.00 ft (KB) To 4251.00 ft (KB) (TVD)**

Reference Elevations: 2110.00 ft (KB)

Total Depth: 4251.00 ft (KB) (TVD)

2103.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

**Serial #: 8018**

**Inside**

Press@RunDepth: 83.40 psig @ 4239.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.02.21

End Date:

2019.02.21

Last Calib.:

2019.02.21

Start Time: 14:40:05

End Time:

20:49:29

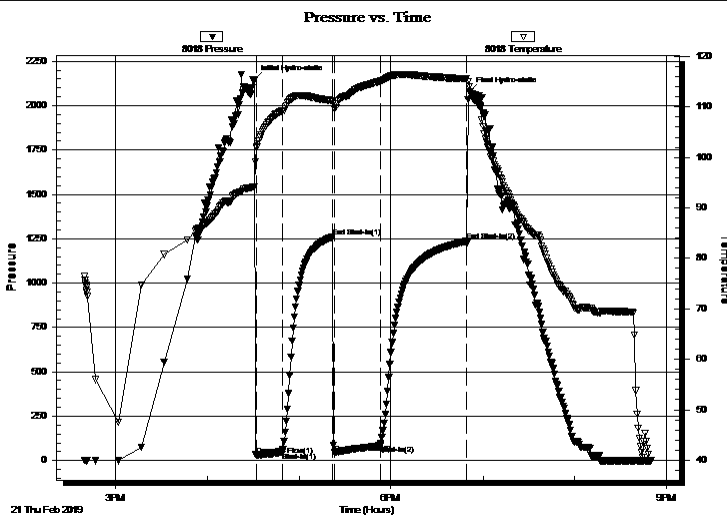
Time On Btm:

2019.02.21 @ 16:30:45

Time Off Btm:

2019.02.21 @ 18:51:00

**TEST COMMENT:** 15-IF-BOB 30 Secs; Built to 140"  
30-ISI-Surface Return Blow  
30-FF-BOB right aw ay; Built to 202"  
60-FSI-Surface Built to 3 1/2"



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2144.27         | 94.12        | Initial Hydro-static |
| 2           | 27.59           | 102.15       | Open To Flow (1)     |
| 19          | 47.56           | 109.20       | Shut-In(1)           |
| 51          | 1260.03         | 111.25       | End Shut-In(1)       |
| 53          | 43.66           | 109.67       | Open To Flow (2)     |
| 83          | 83.40           | 115.11       | Shut-In(2)           |
| 139         | 1236.23         | 115.56       | End Shut-In(2)       |
| 141         | 2077.66         | 114.04       | Final Hydro-static   |

## Recovery

| Length (ft) | Description         | Volume (bbl) |
|-------------|---------------------|--------------|
| 90.00       | GMCO 40%G 40%O 20%M | 1.28         |
| 110.00      | GO 50%G 50%O        | 1.56         |
| 0.00        | 4051' 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**

Dow ning-Nelson Oil Company

**Thompson-Nuckolls Unit #1-17**

PO Box 1019  
Hays KS 67601

**17-21S-20W Pawnee,KS**

Job Ticket: 57095

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2019.02.21 @ 14:40:00

## Tool Information

|                            |                    |                       |                      |                        |             |
|----------------------------|--------------------|-----------------------|----------------------|------------------------|-------------|
| Drill Pipe:                | Length: 4219.00 ft | Diameter: 3.82 inches | Volume: 59.81 bbl    | Tool Weight:           | 2500.00 lb  |
| Heavy Wt. Pipe:            | Length: ft         | Diameter: 2.75 inches | Volume: - bbl        | Weight set on Packer:  | 25000.00 lb |
| Drill Collar:              | Length: 0.00 ft    | Diameter: 2.25 inches | Volume: 0.00 bbl     | Weight to Pull Loose:  | 62000.00 lb |
|                            |                    |                       | <u>Total Volume:</u> | Tool Chased            | ft          |
| Drill Pipe Above KB:       | 8.00 ft            |                       |                      | String Weight: Initial | 50000.00 lb |
| Depth to Top Packer:       | 4238.00 ft         |                       |                      | Final                  | 51000.00 lb |
| Depth to Bottom Packer:    | ft                 |                       |                      |                        |             |
| Interval betw een Packers: | 13.00 ft           |                       |                      |                        |             |
| Tool Length:               | 40.00 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        |            |          | 4212.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4217.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4222.00    |                               |
| Jars             | 5.00        |            |          | 4227.00    |                               |
| Safety Joint     | 2.00        |            |          | 4229.00    |                               |
| Packer           | 5.00        |            |          | 4234.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4238.00    |                               |
| Stubb            | 1.00        |            |          | 4239.00    |                               |
| Recorder         | 0.00        | 8018       | Inside   | 4239.00    |                               |
| Recorder         | 0.00        | 8675       | Outside  | 4239.00    |                               |
| Perforations     | 9.00        |            |          | 4248.00    |                               |
| Bullnose         | 3.00        |            |          | 4251.00    | 13.00 Bottom Packers & Anchor |

**Total Tool Length: 40.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Company

**Thompson-Nuckolls Unit #1-17**

PO Box 1019  
Hays KS 67601

**17-21S-20W Pawnee,KS**

Job Ticket: 57095      **DST#: 2**

ATTN: Marc Dow ning

Test Start: 2019.02.21 @ 14:40:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 53.00 sec/qt  
Water Loss: 8.79 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 4500.00 ppm  
Filter Cake: inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: 33 deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

| Length<br>ft | Description         | Volume<br>bbl |
|--------------|---------------------|---------------|
| 90.00        | GMCO 40%G 40%O 20%M | 1.276         |
| 110.00       | GO 50%G 50%O        | 1.559         |
| 0.00         | 4051' GIP           | 0.000         |

Total Length: 200.00 ft      Total Volume: 2.835 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: 2#LCM

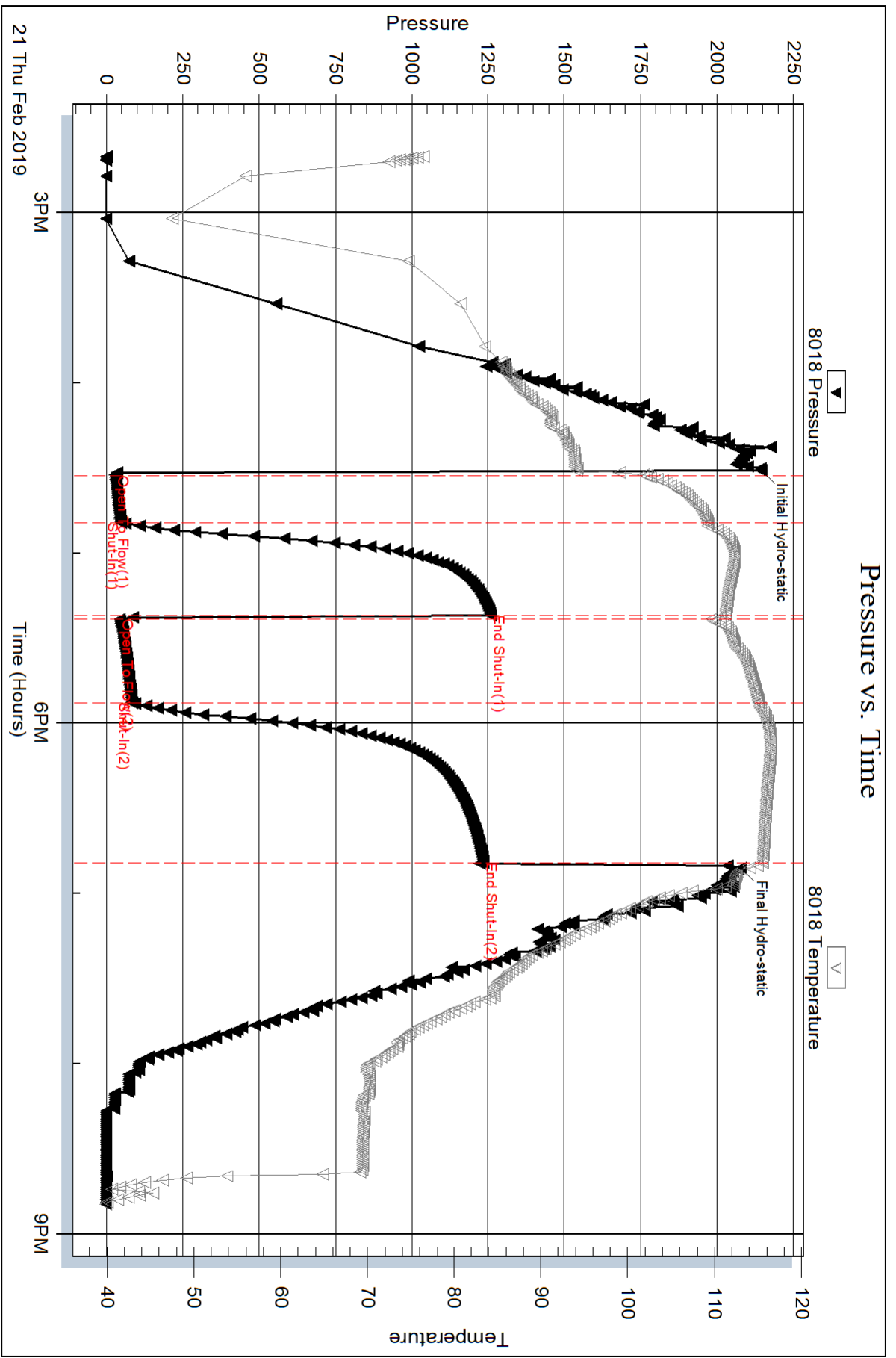
Serial #: 8018

Inside

Doming-Nelson Oil Company

17-21S-20W Pawnee, KS

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 57095

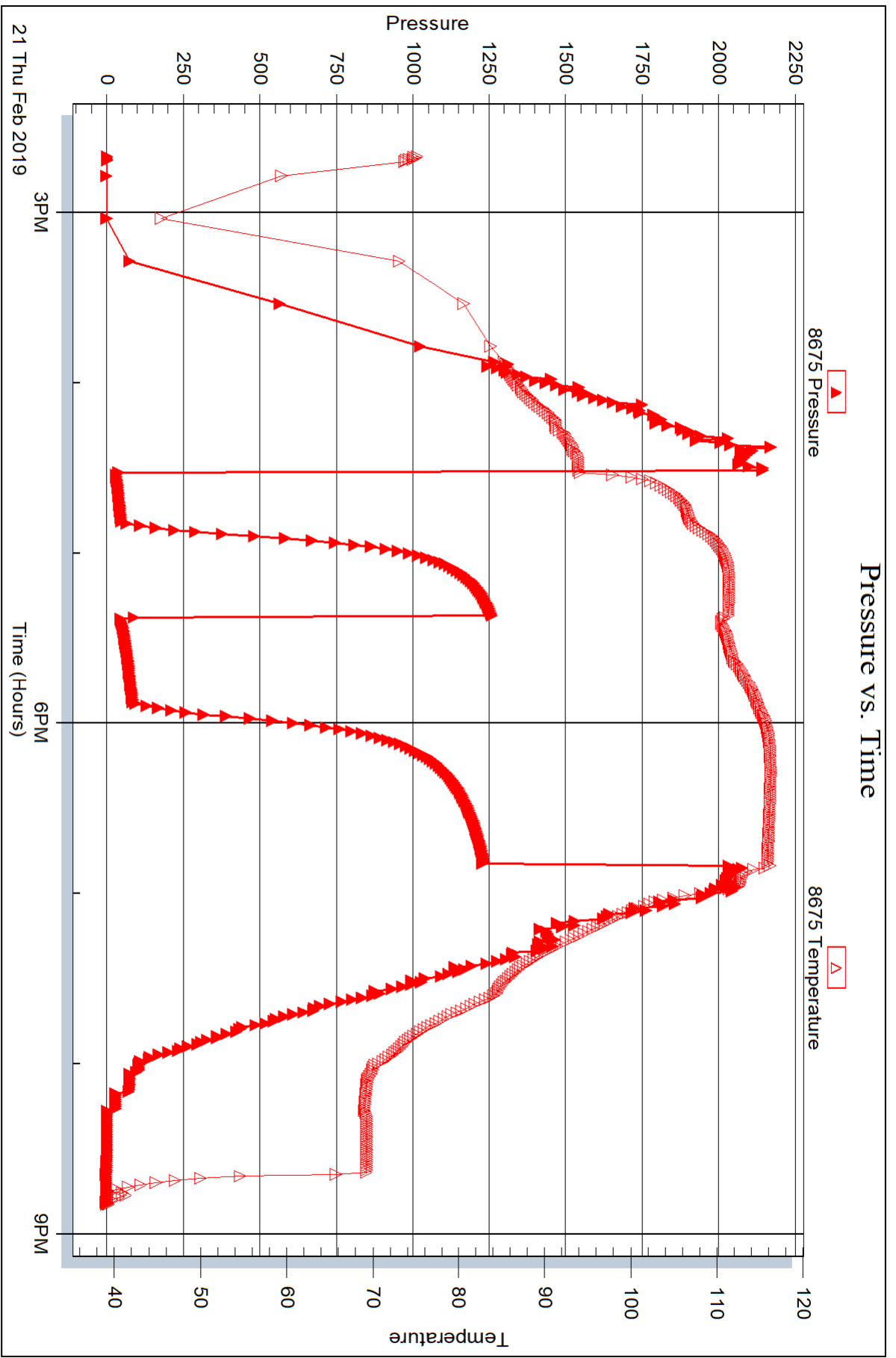
Printed: 2019.02.26 @ 08:34:32

Serial #: 8675

Outside Dow nng-Nelson Oil Company

17-21S-20W Pawnee, KS

DST Test Number: 2





## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays KS 67601

ATTN: Marc Downing

**17-21S-20W Pawnee,KS**

**Thompson-Nuckolls Unit #1-17**

Start Date: 2019.02.22 @ 02:38:00

End Date: 2019.02.22 @ 09:41:30

Job Ticket #: 2/22                      DST #: 3

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

Printed: 2019.02.26 @ 08:29:58



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Company

**Thompson-Nuckolls Unit #1-17**

PO Box 1019  
Hays KS 67601

**17-21S-20W Pawnee,KS**

ATTN: Marc Dow ning

Job Ticket: 2/22

**DST#: 3**

Test Start: 2019.02.22 @ 02:38:00

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:47:45

Time Test Ended: 09:41:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J Staab

Unit No: 67

**Interval: 4251.00 ft (KB) To 4257.00 ft (KB) (TVD)**

Reference Elevations: 2110.00 ft (KB)

Total Depth: 4257.00 ft (KB) (TVD)

2103.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

**Serial #: 8018**

**Inside**

Press@RunDepth: 127.16 psig @ 4252.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.02.22

End Date:

2019.02.22

Last Calib.:

2019.02.22

Start Time: 02:38:05

End Time:

09:41:29

Time On Btm:

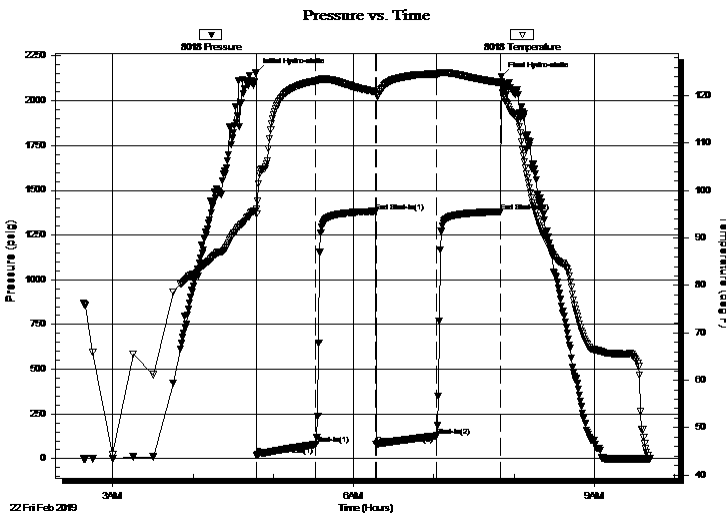
2019.02.22 @ 04:47:30

Time Off Btm:

2019.02.22 @ 07:50:30

**TEST COMMENT:** 45-IF-BOB 13 mins; Built to 26"  
45-ISI-Surface Built to 1/4"  
45-FF-BOB 20 mins; Built to 22"  
45-FSI-Surface Blow

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2158.50         | 96.04        | Initial Hydro-static |
| 1           | 19.46           | 95.15        | Open To Flow (1)     |
| 45          | 79.38           | 123.14       | Shut-In(1)           |
| 89          | 1381.85         | 120.85       | End Shut-In(1)       |
| 90          | 78.98           | 120.28       | Open To Flow (2)     |
| 135         | 127.16          | 124.60       | Shut-In(2)           |
| 183         | 1380.02         | 122.79       | End Shut-In(2)       |
| 183         | 2134.67         | 122.88       | Final Hydro-static   |

## Recovery

| Length (ft) | Description               | Volume (bbl) |
|-------------|---------------------------|--------------|
| 170.00      | SMCW 3%M 97%W             | 2.41         |
| 30.00       | GWCM 10%G 10%W 80%M       | 0.43         |
| 30.00       | GOCWM 10%G 10%O 10%W 70%M | 0.43         |
| 10.00       | GO 50%G 50%O              | 0.14         |
| 0.00        | 360' GIP                  | 0.00         |

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Company

**Thompson-Nuckolls Unit #1-17**

PO Box 1019  
Hays KS 67601

**17-21S-20W Pawnee,KS**

ATTN: Marc Dow ning

Job Ticket: 2/22

**DST#: 3**

Test Start: 2019.02.22 @ 02:38:00

## Tool Information

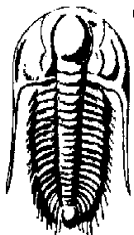
|                            |                    |                       |                            |                                    |
|----------------------------|--------------------|-----------------------|----------------------------|------------------------------------|
| Drill Pipe:                | Length: 4256.00 ft | Diameter: 3.82 inches | Volume: 60.33 bbl          | Tool Weight: 2500.00 lb            |
| Heavy Wt. Pipe:            | Length: ft         | Diameter: 2.75 inches | Volume: - bbl              | Weight set on Packer: 25000.00 lb  |
| Drill Collar:              | Length: 0.00 ft    | Diameter: 2.25 inches | Volume: 0.00 bbl           | Weight to Pull Loose: 62000.00 lb  |
|                            |                    |                       | <u>Total Volume: - bbl</u> | Tool Chased ft                     |
| Drill Pipe Above KB:       | 32.00 ft           |                       |                            | String Weight: Initial 50000.00 lb |
| Depth to Top Packer:       | 4251.00 ft         |                       |                            | Final 52000.00 lb                  |
| Depth to Bottom Packer:    | ft                 |                       |                            |                                    |
| Interval betw een Packers: | 6.00 ft            |                       |                            |                                    |
| Tool Length:               | 33.00 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        |            |          | 4225.00    |                              |
| Shut In Tool     | 5.00        |            |          | 4230.00    |                              |
| Hydraulic tool   | 5.00        |            |          | 4235.00    |                              |
| Jars             | 5.00        |            |          | 4240.00    |                              |
| Safety Joint     | 2.00        |            |          | 4242.00    |                              |
| Packer           | 5.00        |            |          | 4247.00    | 27.00 Bottom Of Top Packer   |
| Packer           | 4.00        |            |          | 4251.00    |                              |
| Stubb            | 1.00        |            |          | 4252.00    |                              |
| Recorder         | 0.00        | 8018       | Inside   | 4252.00    |                              |
| Recorder         | 0.00        | 8675       | Outside  | 4252.00    |                              |
| Perforations     | 2.00        |            |          | 4254.00    |                              |
| Bullnose         | 3.00        |            |          | 4257.00    | 6.00 Bottom Packers & Anchor |

**Total Tool Length: 33.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing-Nelson Oil Company

**Thompson-Nuckolls Unit #1-17**

PO Box 1019  
Hays KS 67601

**17-21S-20W Pawnee,KS**

Job Ticket: 2/22      **DST#: 3**

ATTN: Marc Downing

Test Start: 2019.02.22 @ 02:38:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 53.00 sec/qt  
Water Loss: 8.78 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 4500.00 ppm  
Filter Cake: inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: 33 deg API  
Water Salinity: 61000 ppm

## Recovery Information

Recovery Table

| Length<br>ft | Description               | Volume<br>bbl |
|--------------|---------------------------|---------------|
| 170.00       | SMCW 3%M 97%W             | 2.410         |
| 30.00        | GWCM 10%G 10%W 80%M       | 0.425         |
| 30.00        | GOCWM 10%G 10%O 10%W 70%M | 0.425         |
| 10.00        | GO 50%G 50%O              | 0.142         |
| 0.00         | 360' GIP                  | 0.000         |

Total Length: 240.00 ft      Total Volume: 3.402 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: 2#LCM  
RW=.264@35F

Serial #: 8018

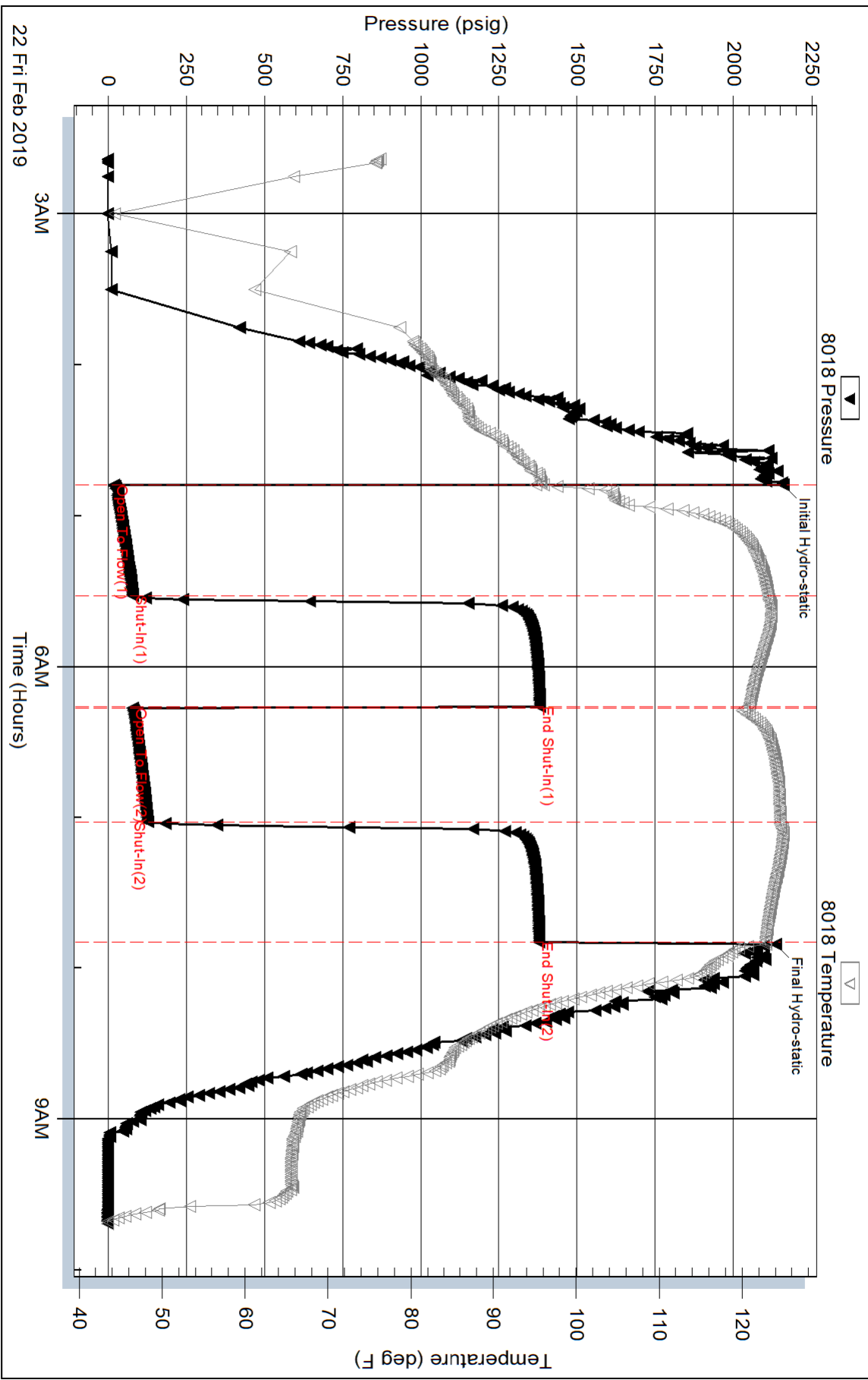
Inside

Dow nting-Nelson Oil Company

17-21S-20W Pawnee, KS

DST Test Number: 3

# Pressure vs. Time

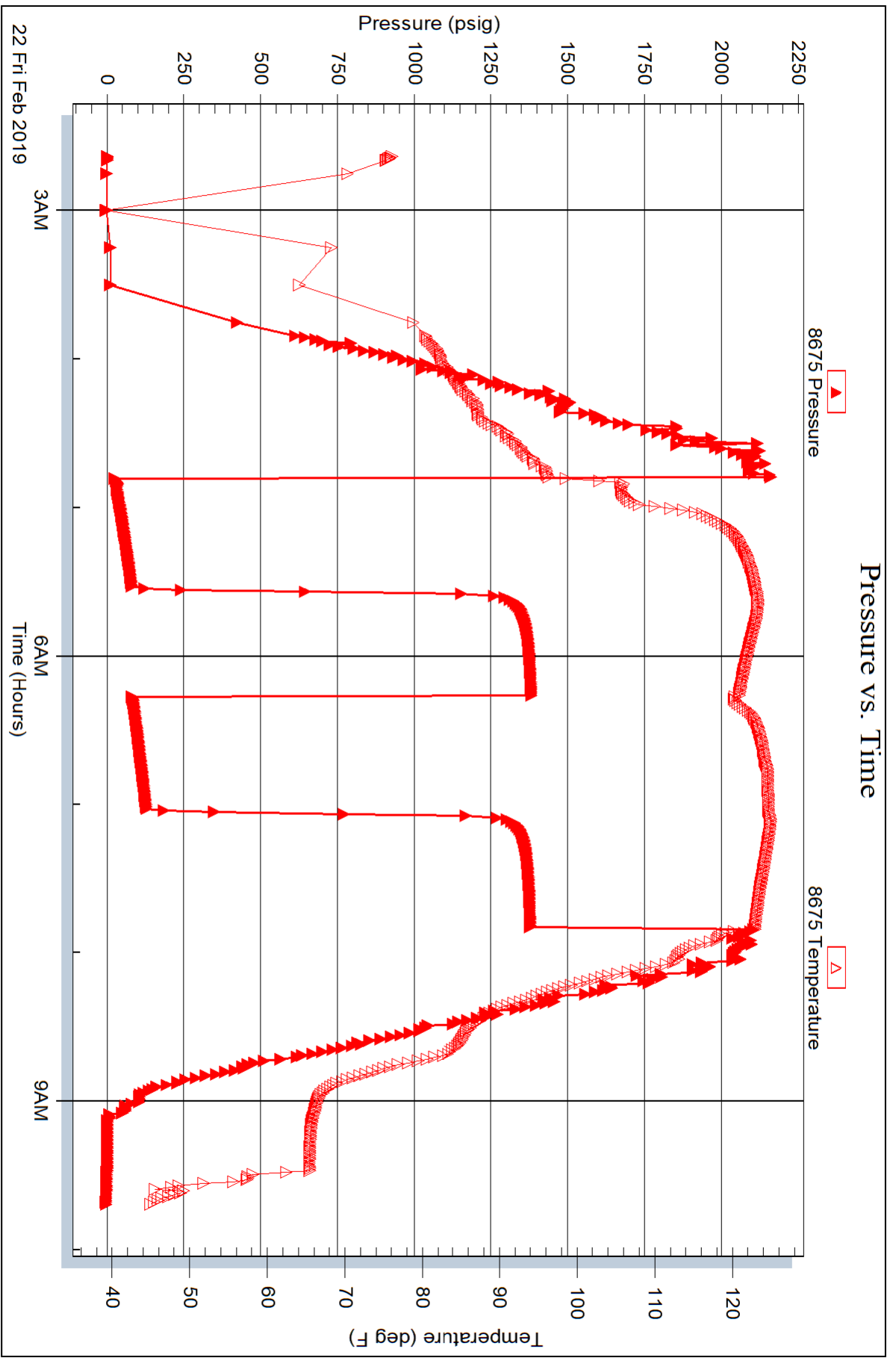


Serial #: 8675

Outside Dow nting-Nelson Oil Company

17-21S-20W Pawnee, KS

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 57094

Well Name & No. Thompson - Nuckolls Unit #1-17 Test No. 1 Date 2/20/2019  
 Company DNOCI Elevation — KB — GL —  
 Address PO. Box 1019 Hays KS 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery 4  
 Location: Sec. 17 Twp. 21 Rge. 20 Co. Pawnee State KS

Interval Tested 4187 - 4239 Zone Tested MISS  
 Anchor Length 52 Drill Pipe Run 4187 Mud Wt. 9.2  
 Top Packer Depth 4182 Drill Collars Run 0 Vis 52  
 Bottom Packer Depth 4187 Wt. Pipe Run 30K WL 8.8  
 Total Depth 4239 Chlorides 4500 ppm System LCM 1.5#  
 Blow Description IF - BOB 5 min  
ISI - NO Blow Back  
FF - BOB Right away  
IFI - NO Blow Back

| Rec        | Feet of                 | %gas       | %oil | %water | %mud |
|------------|-------------------------|------------|------|--------|------|
| <u>40'</u> | <u>Mud w/oil specks</u> |            |      |        |      |
|            | <u>1200' GIP</u>        | <u>100</u> |      |        |      |
|            |                         |            |      |        |      |
|            |                         |            |      |        |      |
|            |                         |            |      |        |      |

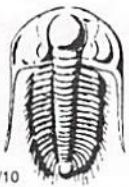
Rec Total 40' BHT 1139 Gravity — API RW — @ —° F Chlorides — ppm

|                                     |  |   |
|-------------------------------------|--|---|
| (A) Initial Hydrostatic <u>2132</u> | <input checked="" type="checkbox"/> Test <u>1300</u>         | T-On Location <u>9:55</u>                             |
| (B) First Initial Flow <u>19</u>    | <input checked="" type="checkbox"/> Jars <u>250</u>          | T-Started <u>10:30</u>                                |
| (C) First Final Flow <u>24</u>      | <input checked="" type="checkbox"/> Safety Joint <u>75</u>   | T-Open <u>02:45</u>                                   |
| (D) Initial Shut-In <u>798</u>      | <input type="checkbox"/> Circ Sub <u>—</u>                   | T-Pulled <u>06:05</u>                                 |
| (E) Second Initial Flow <u>22</u>   | <input type="checkbox"/> Hourly Standby <u>—</u>             | T-Out <u>08:00</u>                                    |
| (F) Second Final Flow <u>30</u>     | <input checked="" type="checkbox"/> Mileage <u>128</u> 108rt | Comments <u>—</u>                                     |
| (G) Final Shut-In <u>795</u>        | <input type="checkbox"/> Sampler <u>—</u>                    | <input type="checkbox"/> Ruined Shale Packer <u>—</u> |
| (H) Final Hydrostatic <u>2105</u>   | <input type="checkbox"/> Straddle <u>—</u>                   | <input type="checkbox"/> Ruined Packer <u>—</u>       |
| Initial Open <u>30</u>              | <input type="checkbox"/> Shale Packer <u>—</u>               | <input type="checkbox"/> Extra Copies <u>—</u>        |
| Initial Shut-In <u>45</u>           | <input type="checkbox"/> Extra Packer <u>—</u>               | Sub Total <u>0</u>                                    |
| Final Flow <u>60</u>                | <input type="checkbox"/> Extra Recorder <u>—</u>             | Total <u>1733</u>                                     |
| Final Shut-In <u>60</u>             | <input type="checkbox"/> Day Standby <u>—</u>                | MP/DST Disc't <u>X</u>                                |
|                                     | <input type="checkbox"/> Accessibility <u>—</u>              |   |
|                                     | Sub Total <u>1733</u>  |   |

Approved By \_\_\_\_\_ Our Representative Cash / Spencer

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. 57095

Well Name & No. Thompson-Nicholls Unit #1-17 Test No. 2 Date 02/21/2019  
 Company D.M.O. CD Elevation 2110 KB 2108 GL  
 Address PO BOX 1019 Hays KS 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery #4  
 Location: Sec. 17 Twp. 21s Rge. 20w Co. Lawrence State Ks

Interval Tested 4238 - 4251' Zone Tested Miss  
 Anchor Length 13 Drill Pipe Run \_\_\_\_\_ Mud Wt. \_\_\_\_\_  
 Top Packer Depth 4233' Drill Collars Run - Vis \_\_\_\_\_  
 Bottom Packer Depth 4238' Wt. Pipe Run - WL \_\_\_\_\_  
 Total Depth 4251' Chlorides \_\_\_\_\_ ppm System \_\_\_\_\_ LCM \_\_\_\_\_

Blow Description 1st - BOB 30 sec; Built to 140"  
2nd - Surface Return Blow  
3rd - BOB right away; Built to 202"  
4th - Surface Built to 3 1/2"

| Rec         | Feet of                  | %gas      | %oil      | %water    | %mud |
|-------------|--------------------------|-----------|-----------|-----------|------|
| <u>90'</u>  | <u>GMCO</u>              | <u>40</u> | <u>40</u> | <u>20</u> |      |
| <u>110'</u> | <u>GO</u>                | <u>50</u> | <u>50</u> |           |      |
| Rec _____   | Feet of <u>4051' GIP</u> | %gas      | %oil      | %water    | %mud |
| Rec _____   | Feet of _____            | %gas      | %oil      | %water    | %mud |
| Rec _____   | Feet of _____            | %gas      | %oil      | %water    | %mud |

Rec Total 200' BHT \_\_\_\_\_ Gravity 33° API RW \_\_\_\_\_ @ \_\_\_\_\_ F Chlorides \_\_\_\_\_ ppm

|                               |  |  |
|-------------------------------|--|--|
| (A) Initial Hydrostatic _____ | <input checked="" type="checkbox"/> Test <u>1300</u>               | T-On Location <u>14:05</u>                         |
| (B) First Initial Flow _____  | <input checked="" type="checkbox"/> Jars <u>250</u>                | T-Started <u>14:40</u>                             |
| (C) First Final Flow _____    | <input checked="" type="checkbox"/> Safety Joint <u>75</u>         | T-Open <u>16:25</u>                                |
| (D) Initial Shut-In _____     | <input type="checkbox"/> Circ Sub _____                            | T-Pulled <u>18:40</u>                              |
| (E) Second Initial Flow _____ | <input type="checkbox"/> Hourly Standby _____                      | T-Out <u>20:40</u>                                 |
| (F) Second Final Flow _____   | <input checked="" type="checkbox"/> Mileage <u>RSR7</u> <u>108</u> | Comments _____                                     |
| (G) Final Shut-In _____       | <input type="checkbox"/> Sampler _____                             |  |
| (H) Final Hydrostatic _____   | <input type="checkbox"/> Straddle _____                            | <input type="checkbox"/> Ruined Shale Packer _____ |
|                               | <input type="checkbox"/> Shale Packer _____                        | <input type="checkbox"/> Ruined Packer _____       |
|                               | <input type="checkbox"/> Extra Packer _____                        | <input type="checkbox"/> Extra Copies _____        |

Initial Open 15  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 60

Sub Total 1733  
 Total 1733  
 MP/DST Disc't X

Approved By \_\_\_\_\_ Our Representative Cash Spencer  
 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. 57096

4/10

Well Name & No. Thompson-Nicholls Unit #1-17 Test No. 3 Date 02/22/2019  
 Company DNOC Elevation 2110 KB 2103 GL  
 Address PO Box 1019 Hays KS 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery #4  
 Location: Sec. 17 Twp. 21S Rge. 20W Co. Lawrence State KS

Interval Tested 4251' - 4257' Zone Tested Mississippi  
 Anchor Length 6' Drill Pipe Run 4256' Mud Wt. 9.3  
 Top Packer Depth 4246' Drill Collars Run — Vis 53  
 Bottom Packer Depth 4257' Wt. Pipe Run — WL 8.8  
 Total Depth 4257' Chlorides 4500 ppm System LCM 2#

Blow Description 17- BOB 13 min; Built to 24"  
1st Surface Built to 4"  
77- BOB 20 min; Built to 22"  
78- Surface Blow

| Rec         | Feet of         | %gas       | %oil      | %water    | %mud |
|-------------|-----------------|------------|-----------|-----------|------|
| <u>170'</u> | <u>SMCW</u>     |            | <u>97</u> | <u>3</u>  |      |
| <u>30'</u>  | <u>19WCM</u>    | <u>10</u>  | <u>10</u> | <u>80</u> |      |
| <u>30'</u>  | <u>19WCM</u>    | <u>10</u>  | <u>10</u> | <u>70</u> |      |
| <u>10'</u>  | <u>310' JOP</u> | <u>50</u>  | <u>50</u> |           |      |
|             | <u>360' JOP</u> | <u>100</u> |           |           |      |

Rec Total 240' BHT 122° Gravity 33° API RW 26.4 @ 35° F Chlorides 61000 ppm

(A) Initial Hydrostatic 2158  Test 1300 T-On Location 02:15  
 (B) First Initial Flow 19  Jars 250 T-Started 02:38  
 (C) First Final Flow 79  Safety Joint 75 T-Open 04:48  
 (D) Initial Shut-In 1381  Circ Sub \_\_\_\_\_ T-Pulled 07:48  
 (E) Second Initial Flow 78  Hourly Standby \_\_\_\_\_ T-Out 09:40  
 (F) Second Final Flow 127  Mileage 128.27 108  
 (G) Final Shut-In 1380  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2134  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_

Initial Open 45 Sub Total 0  
 Initial Shut-In 45 Total 1733  
 Final Flow 45 MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 45 Sub Total 1733

Approved By \_\_\_\_\_ Our Representative Juan J. Garcia Thanks!

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.

785-259-0056