



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1218634  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

|                                   |                 |   |
|-----------------------------------|-----------------|---|
| Spud Date or<br>Recompletion Date | Date Reached TD | Completion Date or<br>Recompletion Date |
|-----------------------------------|-----------------|---|

API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1218634

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

|   |  |                              |                                  |                                 |
|---|--|------------------------------|----------------------------------|---------------------------------|
| Drill Stem Tests Taken<br><i>(Attach Additional Sheets)</i> | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Log | Formation (Top), Depth and Datum | <input type="checkbox"/> Sample |
| Samples Sent to Geological Survey                           | <input type="checkbox"/> Yes <input type="checkbox"/> No | Name                         | Top                              | Datum                           |
| Cores Taken   | <input type="checkbox"/> Yes <input type="checkbox"/> No |                              |                                  |                                 |
| Electric Log Run  | <input type="checkbox"/> Yes <input type="checkbox"/> No |                              |                                  |                                 |
| List All E. Logs Run:                                       |  |                              |                                  |                                 |

| CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used  |                   |                           |                   |               |                |              |                            |
|---|-------------------|---------------------------|-------------------|---------------|----------------|--------------|----------------------------|
| Report all strings set-conductor, surface, intermediate, production, etc. |                   |                           |                   |               |                |              |                            |
| Purpose of String   | Size Hole Drilled | Size Casing Set (In O.D.) | Weight Lbs. / Ft. | Setting Depth | Type of Cement | # Sacks Used | Type and Percent Additives |
|   |                   |                           |                   |               |                |              |                            |
|   |                   |                           |                   |               |                |              |                            |
|   |                   |                           |                   |               |                |              |                            |

| ADDITIONAL CEMENTING / SQUEEZE RECORD   |                  |                |              |                            |
|---|------------------|----------------|--------------|----------------------------|
| Purpose:                                | Depth Top Bottom | Type of Cement | # Sacks Used | Type and Percent Additives |
| <input type="checkbox"/> Perforate      |                  |                |              |                            |
| <input type="checkbox"/> Protect Casing |                  |                |              |                            |
| <input type="checkbox"/> Plug Back TD   |                  |                |              |                            |
| <input type="checkbox"/> Plug Off Zone  |                  |                |              |                            |

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

| Shots Per Foot | PERFORATION RECORD - Bridge Plugs Set/Type<br>Specify Footage of Each Interval Perforated | Acid, Fracture, Shot, Cement Squeeze Record<br><i>(Amount and Kind of Material Used)</i> | Depth |
|----------------|---|--|-------|
|                |   |  |       |
|                |   |  |       |
|                |   |  |       |
|                |   |  |       |
|                |   |  |       |

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR: \_\_\_\_\_ Producing Method:  Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

| Estimated Production Per 24 Hours | Oil Bbls. | Gas Mcf | Water Bbls. | Gas-Oil Ratio | Gravity |
|-----------------------------------|-----------|---------|-------------|---------------|---------|
|                                   |           |         |             |               |         |

|  |  |   |
|--|--|---|
| <b>DISPOSITION OF GAS:</b><br><input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease<br><i>(If vented, Submit ACO-18.)</i> | <b>METHOD OF COMPLETION:</b><br><input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled<br><i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ | <b>PRODUCTION INTERVAL:</b><br>_____<br>_____ |
|--|--|---|

|           |                           |
|-----------|---------------------------|
| Form      | ACO1 - Well Completion    |
| Operator  | Downing-Nelson Oil Co Inc |
| Well Name | Norma Jean 1-22           |
| Doc ID    | 1218634                   |

All Electric Logs Run

|                             |
|-----------------------------|
|                             |
| Micro                       |
| Sonic                       |
| Dual Induction              |
| Compensated Density Neutron |



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays KS 67601

ATTN: Alan Downing

### **Norma Jean #1-22**

### **22-1s-33w Rawlins,KS**

Start Date: 2014.08.03 @ 15:28:15

End Date: 2014.08.03 @ 21:19:00

Job Ticket #: 59108                      DST #: 1

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

Printed: 2014.08.06 @ 15:50:56





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59108

**DST#: 1**

ATTN: Alan Dow ning

Test Start: 2014.08.03 @ 15:28:15

## GENERAL INFORMATION:

Formation: **LKC "E"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:26:00

Time Test Ended: 21:19:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Mike Roberts

Unit No: 65

**Interval: 4123.00 ft (KB) To 4170.00 ft (KB) (TVD)**

Reference Elevations: 3000.00 ft (KB)

Total Depth: 4123.00 ft (KB) (TVD)

2995.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8846**

**Inside**

Press@RunDepth: 33.02 psig @ 4125.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.03

End Date:

2014.08.03

Last Calib.:

2014.08.03

Start Time:

15:28:15

End Time:

21:19:00

Time On Btm:

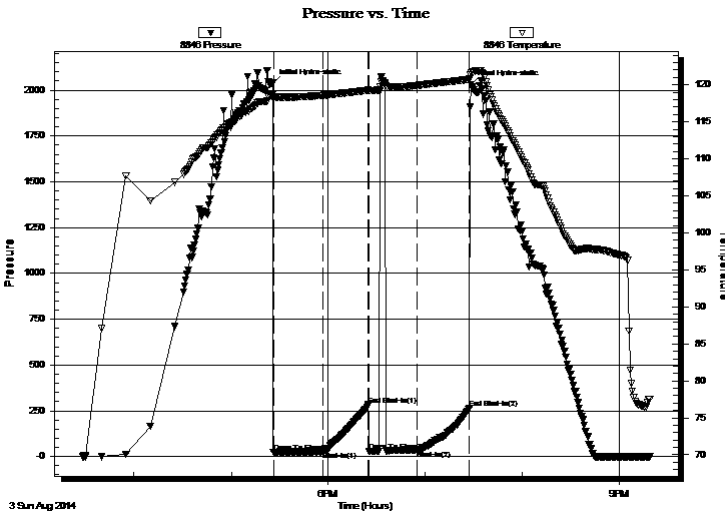
2014.08.03 @ 17:25:45

Time Off Btm:

2014.08.03 @ 19:28:15

TEST COMMENT: IF:Weak surface blow  
IS:No return blow  
FF:No blow ---flushed tool---w eak surface blow died in 10 min  
FS:No return blow

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2037.52         | 118.68       | Initial Hydro-static |
| 1           | 22.73           | 118.24       | Open To Flow (1)     |
| 31          | 28.12           | 118.57       | Shut-In(1)           |
| 59          | 282.71          | 119.27       | End Shut-In(1)       |
| 60          | 29.26           | 119.19       | Open To Flow (2)     |
| 90          | 33.02           | 119.92       | Shut-In(2)           |
| 122         | 264.84          | 120.75       | End Shut-In(2)       |
| 123         | 2032.19         | 121.59       | Final Hydro-static   |

## Recovery

## Gas Rates

| Length (ft) | Description         | Volume (bbl) |
|-------------|---------------------|--------------|
| 5.00        | mud w ith oil spots | 0.02         |
|             |                     |              |
|             |                     |              |
|             |                     |              |
|             |                     |              |

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins, KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59108 **DST#: 1**

ATTN: Alan Dow ning

Test Start: 2014.08.03 @ 15:28:15

**GENERAL INFORMATION:**

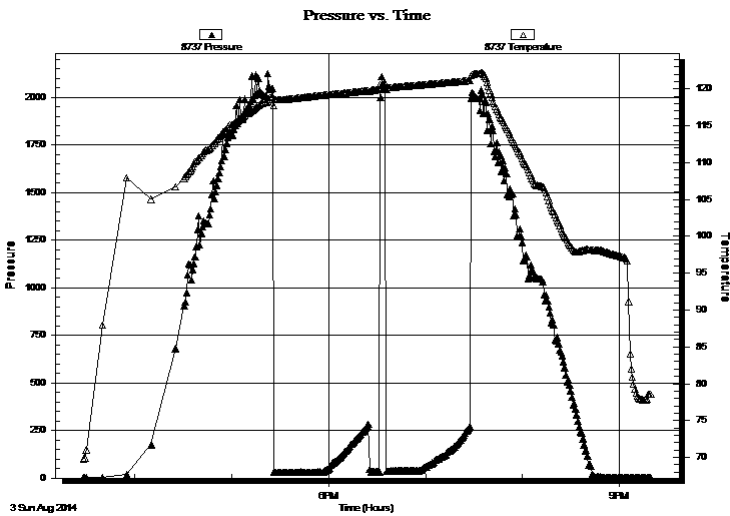
|   |                      |   |
|---|----------------------|---|
| Formation: <b>LKC "E"</b>                                 |                      | Test Type: Conventional Bottom Hole (Initial) |
| Deviated: No Whipstock: ft (KB)                           |                      | Tester: Mike Roberts                          |
| Time Tool Opened: 17:26:00                                |                      | Unit No: 65                                   |
| Time Test Ended: 21:19:00                                 |                      | Reference Elevations: 3000.00 ft (KB)         |
| <b>Interval: 4123.00 ft (KB) To 4170.00 ft (KB) (TVD)</b> |                      | 2995.00 ft (CF)                               |
| Total Depth: 4123.00 ft (KB) (TVD)                        |                      | KB to GR/CF: 5.00 ft                          |
| Hole Diameter: 7.88 inches                                | Hole Condition: Fair |   |

**Serial #: 8737**

**Outside**

|  |                        |                         |
|--|------------------------|-------------------------|
| Press@RunDepth: psig @ 4125.00 ft (KB) | Capacity: 8000.00 psig |                         |
| Start Date: 2014.08.03                 | End Date: 2014.08.03   | Last Calib.: 2014.08.03 |
| Start Time: 15:28:15                   | End Time: 21:19:15     | Time On Btm:            |
|  |                        | Time Off Btm:           |

TEST COMMENT: IF:Weak surface blow  
IS:No return blow  
FF:No blow ---flushed tool----w eak surface blow died in 10 min  
FS:No return blow



**PRESSURE SUMMARY**

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

**Recovery**

| Length (ft) | Description         | Volume (bbl) |
|-------------|---------------------|--------------|
| 5.00        | mud w ith oil spots | 0.02         |
|             |                     |              |
|             |                     |              |
|             |                     |              |
|             |                     |              |

**Gas Rates**

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59108

**DST#: 1**

ATTN: Alan Dow ning

Test Start: 2014.08.03 @ 15:28:15

## Tool Information

|                            |                    |                       |                                |                                    |
|----------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:                | Length: 4077.00 ft | Diameter: 3.80 inches | Volume: 57.19 bbl              | Tool Weight: 1500.00 lb            |
| Heavy Wt. Pipe:            | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 25000.00 lb  |
| Drill Collar:              | Length: 30.00 ft   | Diameter: 2.25 inches | Volume: 0.15 bbl               | Weight to Pull Loose: 70000.00 lb  |
|                            |                    |                       | <u>Total Volume: 57.34 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:       | 12.00 ft           |                       |                                | String Weight: Initial 58000.00 lb |
| Depth to Top Packer:       | 4123.00 ft         |                       |                                | Final 58000.00 lb                  |
| Depth to Bottom Packer:    | ft                 |                       |                                |                                    |
| Interval betw een Packers: | 47.00 ft           |                       |                                |                                    |
| Tool Length:               | 75.00 ft           |                       |                                |                                    |
| Number of Packers:         | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

| Tool Description          | Length (ft)  | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|---------------------------|--------------|------------|----------|------------|-------------------------------|
| Change Over Sub           | 1.00         |            |          | 4096.00    |                               |
| Shut In Tool              | 5.00         |            |          | 4101.00    |                               |
| Hydraulic tool            | 5.00         |            |          | 4106.00    |                               |
| Jars                      | 5.00         |            |          | 4111.00    |                               |
| Safety Joint              | 3.00         |            |          | 4114.00    |                               |
| Packer                    | 5.00         |            |          | 4119.00    | 28.00 Bottom Of Top Packer    |
| Packer                    | 4.00         |            |          | 4123.00    |                               |
| Stubb                     | 1.00         |            |          | 4124.00    |                               |
| Perforations              | 1.00         |            |          | 4125.00    |                               |
| Recorder                  | 0.00         | 8846       | Inside   | 4125.00    |                               |
| Recorder                  | 0.00         | 8737       | Outside  | 4125.00    |                               |
| Change Over Sub           | 1.00         |            |          | 4126.00    |                               |
| Blank Spacing             | 31.00        |            |          | 4157.00    |                               |
| Change Over Sub           | 1.00         |            |          | 4158.00    |                               |
| Perforations              | 7.00         |            |          | 4165.00    |                               |
| Bullnose                  | 5.00         |            |          | 4170.00    | 47.00 Bottom Packers & Anchor |
| <b>Total Tool Length:</b> | <b>75.00</b> |            |          |            |                               |



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59108

**DST#: 1**

ATTN: Alan Dow ning

Test Start: 2014.08.03 @ 15:28:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.35 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description         | Volume<br>bbbl |
|--------------|---------------------|----------------|
| 5.00         | mud w ith oil spots | 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:

Serial #: 8846

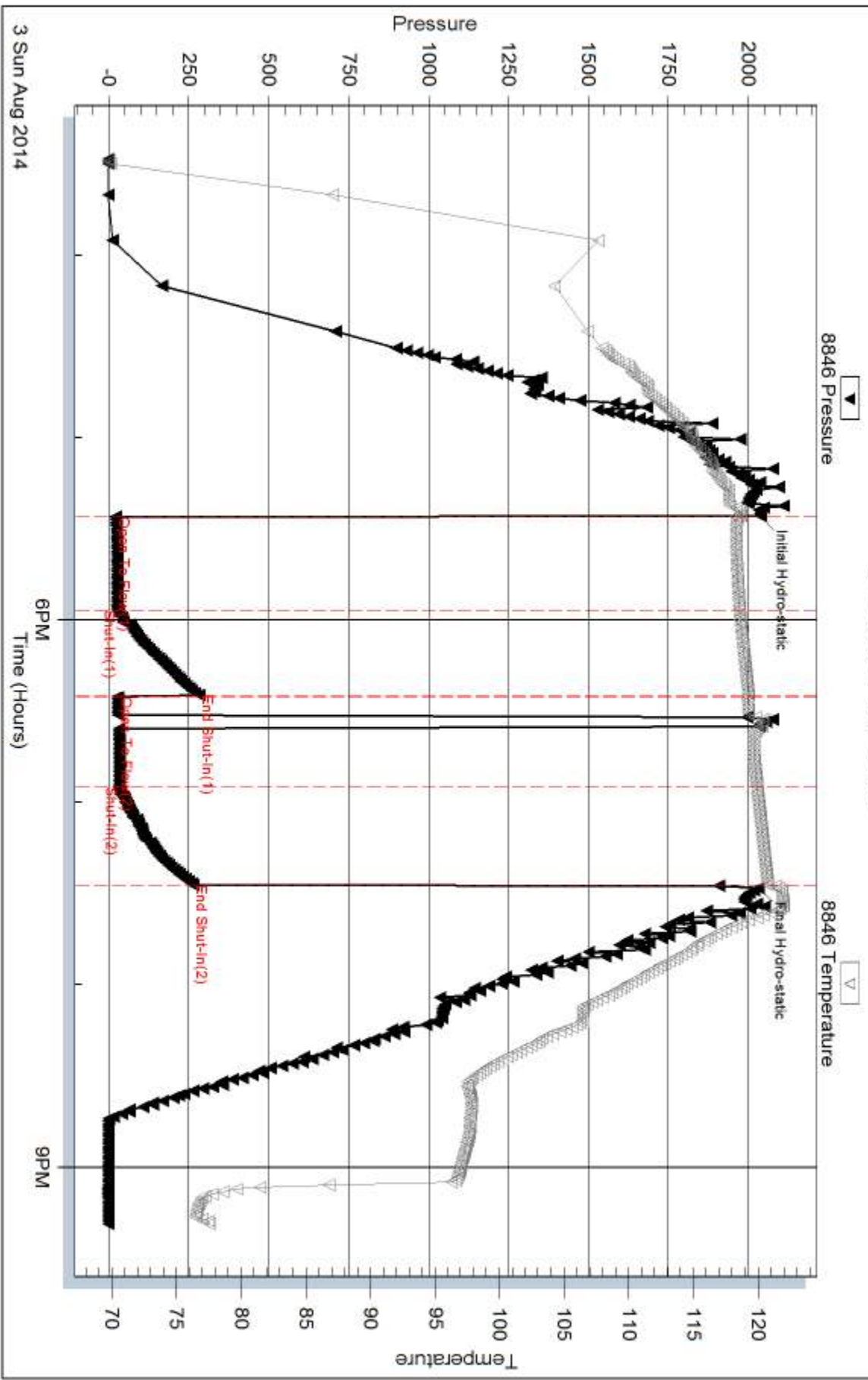
Inside

Dow nifg-Nelson Oil Co

Norma Jean #1-22

DST Test Number: 1

### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 59108

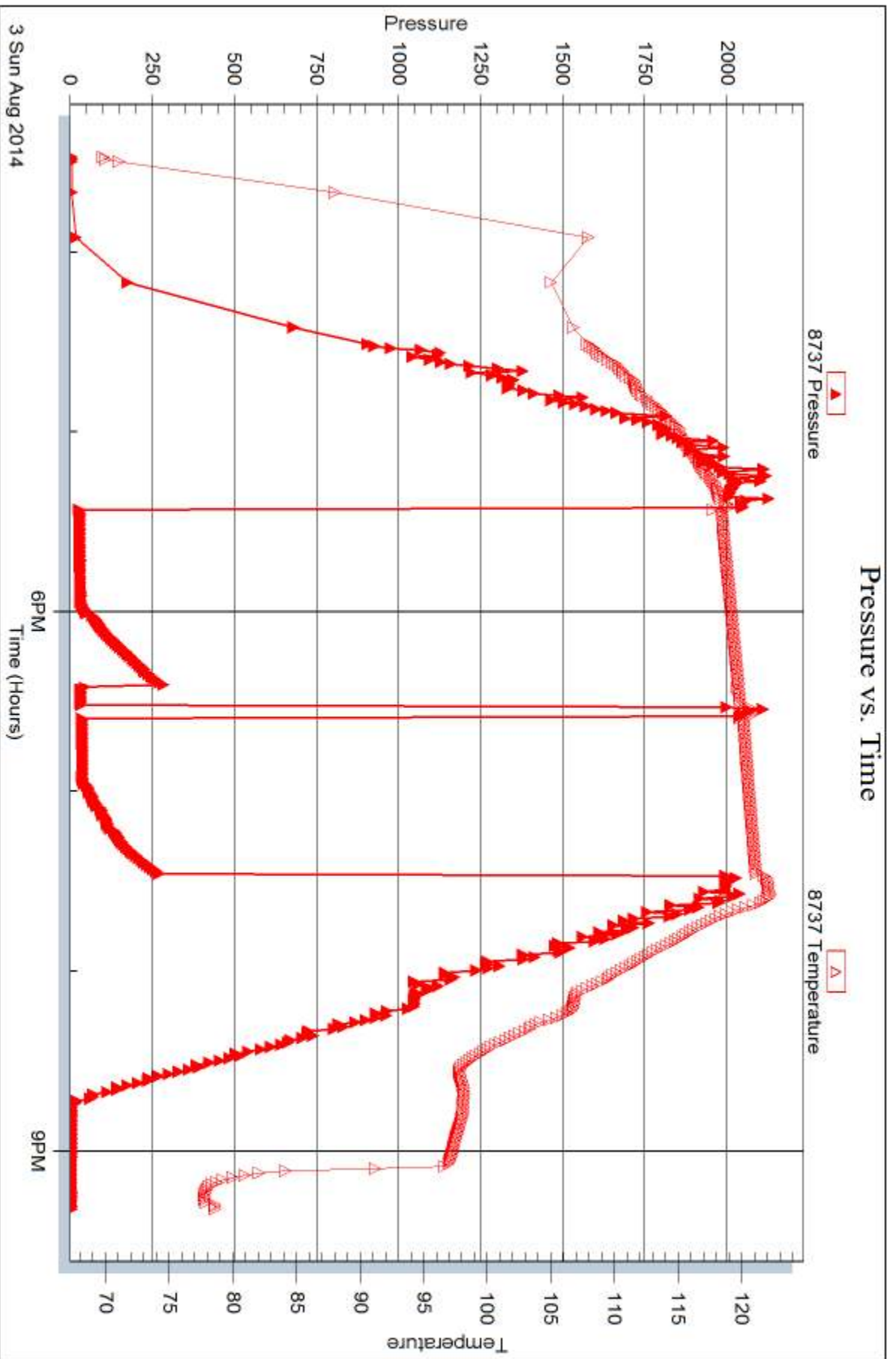
Printed: 2014.08.06 @ 15:50:57

Serial #: 8737

Outside Dow n/ing-Nelson Oil Co

Norma Jean #1-22

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 59108

Printed: 2014.08.06 @ 15:50:57



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays KS 67601

ATTN: Alan Downing

### **Norma Jean #1-22**

### **22-1s-33w Rawlins,KS**

Start Date: 2014.08.04 @ 17:11:15

End Date: 2014.08.05 @ 00:03:45

Job Ticket #: 59109                      DST #: 2

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

Printed: 2014.08.06 @ 15:50:01



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59109

**DST#: 2**

ATTN: Alan Dow ning

Test Start: 2014.08.04 @ 17:11:15

## GENERAL INFORMATION:

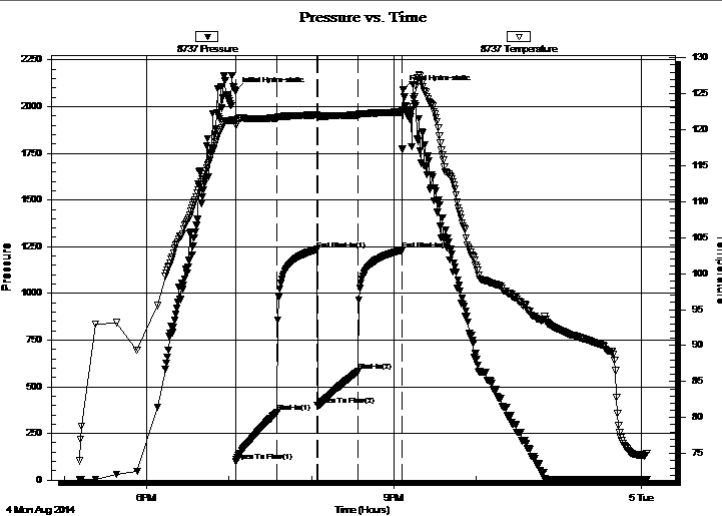
Formation: **D**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 19:05:00  
 Time Test Ended: 00:03:45  
 Interval: **3976.00 ft (KB) To 4072.00 ft (KB) (TVD)**  
 Total Depth: 4280.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Mike Roberts  
 Unit No: 65  
 Reference Elevations: 3000.00 ft (KB)  
 2995.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8737

**Outside**

Press@RunDepth: 581.62 psig @ 3985.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.08.04 End Date: 2014.08.05 Last Calib.: 2014.08.05  
 Start Time: 17:11:15 End Time: 00:03:45 Time On Btm: 2014.08.04 @ 19:04:45  
 Time Off Btm: 2014.08.04 @ 21:06:45

TEST COMMENT: IF:BOB in 4 min.  
 IS:No return blow  
 FF:BOB in 4 min.  
 FS:No return blow



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2082.97         | 121.38       | Initial Hydro-static |
| 1           | 102.69          | 120.63       | Open To Flow (1)     |
| 31          | 365.36          | 121.60       | Shut-In(1)           |
| 60          | 1232.38         | 122.06       | End Shut-In(1)       |
| 60          | 400.14          | 121.73       | Open To Flow (2)     |
| 89          | 581.62          | 122.05       | Shut-In(2)           |
| 121         | 1231.01         | 122.46       | End Shut-In(2)       |
| 122         | 2090.77         | 122.81       | Final Hydro-static   |

## Recovery

| Length (ft) | Description              | Volume (bbl) |
|-------------|--------------------------|--------------|
| 414.00      | w cgom 2%w 3%o 5%g 90%m  | 5.53         |
| 192.00      | gcow m 5%g 5%o 30%w 60%m | 2.69         |
| 192.00      | gcomw 2%g 8%o 30%m 60%w  | 2.69         |
| 192.00      | gcomw 2%g 3%o 10%m 85%w  | 2.69         |
| 128.00      | ocmw 5%o 20%m 75%w       | 1.80         |

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59109

**DST#: 2**

ATTN: Alan Dow ning

Test Start: 2014.08.04 @ 17:11:15

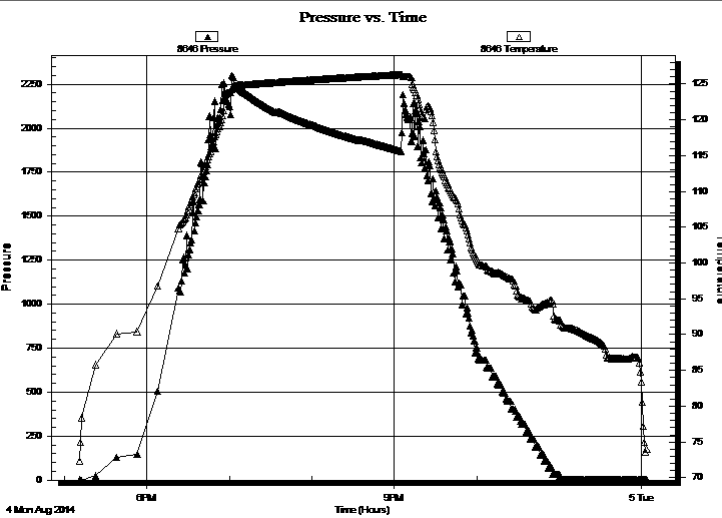
## GENERAL INFORMATION:

Formation: **D**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 19:05:00  
 Tester: Mike Roberts  
 Time Test Ended: 00:03:45  
 Unit No: 65  
 Interval: **3976.00 ft (KB) To 4072.00 ft (KB) (TVD)**  
 Reference Elevations: 3000.00 ft (KB)  
 Total Depth: 4280.00 ft (KB) (TVD)  
 2995.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

## Serial #: 8646 Below (Straddle)

Press@RunDepth: psig @ 4083.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.08.04 End Date: 2014.08.05 Last Calib.: 2014.08.05  
 Start Time: 17:11:15 End Time: 00:03:30 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF:BOB in 4 min.  
 IS:No return blow  
 FF:BOB in 4 min.  
 FS:No return blow



## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description              | Volume (bbl) |
|-------------|--------------------------|--------------|
| 414.00      | w cgom 2%w 3%o 5%g 90%m  | 5.53         |
| 192.00      | gcow m 5%g 5%o 30%w 60%m | 2.69         |
| 192.00      | gcomw 2%g 8%o 30%m 60%w  | 2.69         |
| 192.00      | gcomw 2%g 3%o 10%m 85%w  | 2.69         |
| 128.00      | ocmw 5%o 20%m 75%w       | 1.80         |

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59109

**DST#: 2**

ATTN: Alan Dow ning

Test Start: 2014.08.04 @ 17:11:15

## GENERAL INFORMATION:

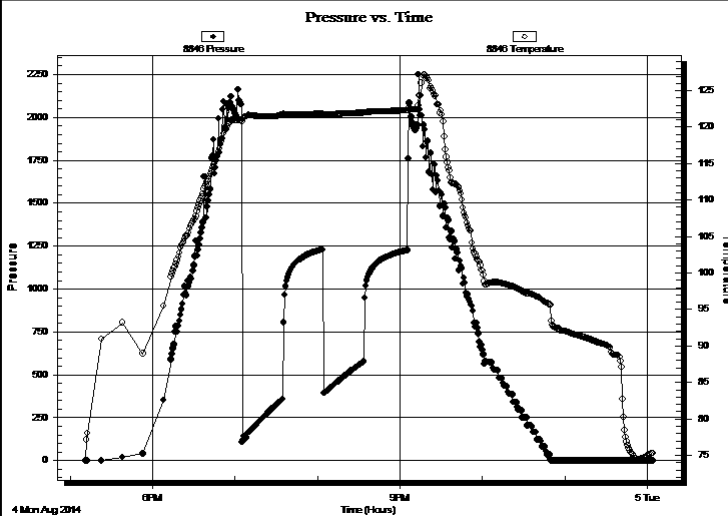
Formation: **D**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 19:05:00  
 Time Test Ended: 00:03:45  
 Interval: **3976.00 ft (KB) To 4072.00 ft (KB) (TVD)**  
 Total Depth: 4280.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Mike Roberts  
 Unit No: 65  
 Reference Elevations: 3000.00 ft (KB)  
 2995.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8846

Inside

Press@RunDepth: psig @ 3985.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.08.04 End Date: 2014.08.05 Last Calib.: 2014.08.05  
 Start Time: 17:11:15 End Time: 00:04:00 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF:BOB in 4 min.  
 IS:No return blow  
 FF:BOB in 4 min.  
 FS:No return blow



## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description              | Volume (bbl) |
|-------------|--------------------------|--------------|
| 414.00      | w cgom 2%w 3%o 5%g 90%m  | 5.53         |
| 192.00      | gcow m 5%g 5%o 30%w 60%m | 2.69         |
| 192.00      | gcomw 2%g 8%o 30%m 60%w  | 2.69         |
| 192.00      | gcomw 2%g 3%o 10%m 85%w  | 2.69         |
| 128.00      | ocmw 5%o 20%m 75%w       | 1.80         |

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59109

**DST#: 2**

ATTN: Alan Dow ning

Test Start: 2014.08.04 @ 17:11:15

## Tool Information

|                            |                    |                       |                                |                                    |
|----------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:                | Length: 3950.00 ft | Diameter: 3.80 inches | Volume: 55.41 bbl              | Tool Weight: 2500.00 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: 30.00 ft   | Diameter: 2.25 inches | Volume: 0.15 bbl               | Weight to Pull Loose: 70000.00 lb  |
|                            |                    |                       | <u>Total Volume: 55.56 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:       | 32.00 ft           |                       |                                | String Weight: Initial 58000.00 lb |
| Depth to Top Packer:       | 3976.00 ft         |                       |                                | Final 61000.00 lb                  |
| Depth to Bottom Packer:    | ft                 |                       |                                |                                    |
| Interval betw een Packers: | 304.00 ft          |                       |                                |                                    |
| Tool Length:               | 332.00 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          |            |          | 3949.00    |                                    |
| Shut In Tool              | 5.00          |            |          | 3954.00    |                                    |
| Hydraulic tool            | 5.00          |            |          | 3959.00    |                                    |
| Jars                      | 5.00          |            |          | 3964.00    |                                    |
| Safety Joint              | 3.00          |            |          | 3967.00    |                                    |
| Packer                    | 5.00          |            |          | 3972.00    | 28.00 Bottom Of Top Packer         |
| Packer                    | 4.00          |            |          | 3976.00    |                                    |
| Stubb                     | 1.00          |            |          | 3977.00    |                                    |
| Perforations              | 7.00          |            |          | 3984.00    |                                    |
| Change Over Sub           | 1.00          |            |          | 3985.00    |                                    |
| Recorder                  | 0.00          | 8846       | Inside   | 3985.00    |                                    |
| Recorder                  | 0.00          | 8737       | Outside  | 3985.00    |                                    |
| Drill Pipe                | 64.00         |            |          | 4049.00    |                                    |
| Change Over Sub           | 1.00          |            |          | 4050.00    |                                    |
| Perforations              | 18.00         |            |          | 4068.00    |                                    |
| Blank Off Sub             | 1.00          |            |          | 4069.00    | 304.00 Tool Interval               |
| Packer                    | 3.00          |            |          | 4072.00    |                                    |
| Stubb                     | 1.00          |            |          | 4073.00    |                                    |
| Perforations              | 9.00          |            |          | 4082.00    |                                    |
| Change Over Sub           | 1.00          |            |          | 4083.00    |                                    |
| Recorder                  | 0.00          | 8646       | Below    | 4083.00    |                                    |
| Blank Spacing             | 191.00        |            |          | 4274.00    |                                    |
| Change Over Sub           | 1.00          |            |          | 4275.00    |                                    |
| Bullnose                  | 5.00          |            |          | 4280.00    | 1000331.00 Bottom Packers & Anchor |
| <b>Total Tool Length:</b> | <b>332.00</b> |            |          |            |                                    |



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59109

**DST#: 2**

ATTN: Alan Dow ning

Test Start: 2014.08.04 @ 17:11:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

13000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.36 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description              | Volume<br>bbbl |
|--------------|--------------------------|----------------|
| 414.00       | w cgom 2%w 3%o 5%g 90%m  | 5.534          |
| 192.00       | gcow m 5%g 5%o 30%w 60%m | 2.693          |
| 192.00       | gcomw 2%g 8%o 30%m 60%w  | 2.693          |
| 192.00       | gcomw 2%g 3%o 10%m 85%w  | 2.693          |
| 128.00       | ocmw 5%o 20%m 75%w       | 1.796          |

Total Length: 1118.00 ft      Total Volume: 15.409 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

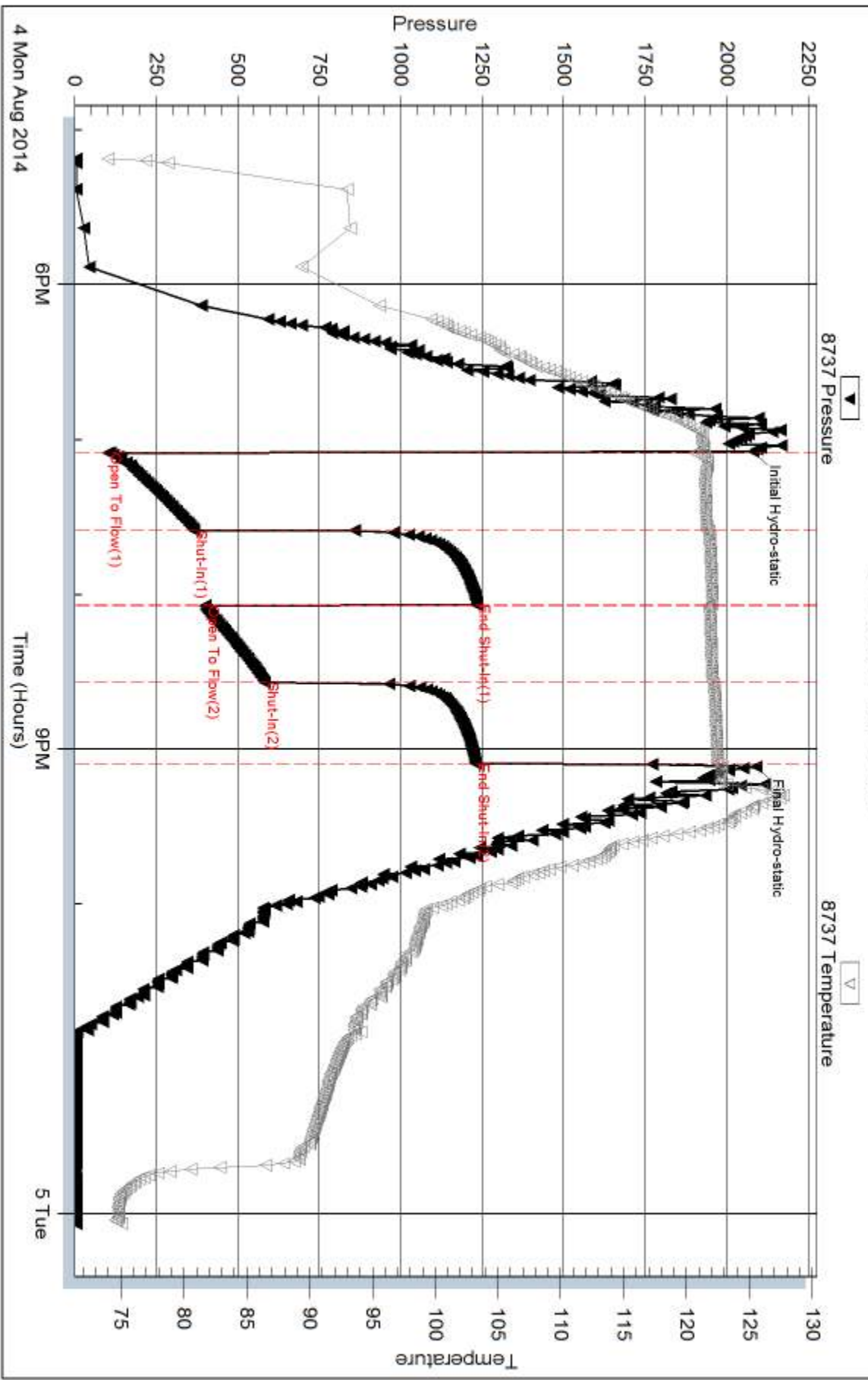
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .601 @ 75.2\*= 13000 ppm

### Pressure vs. Time

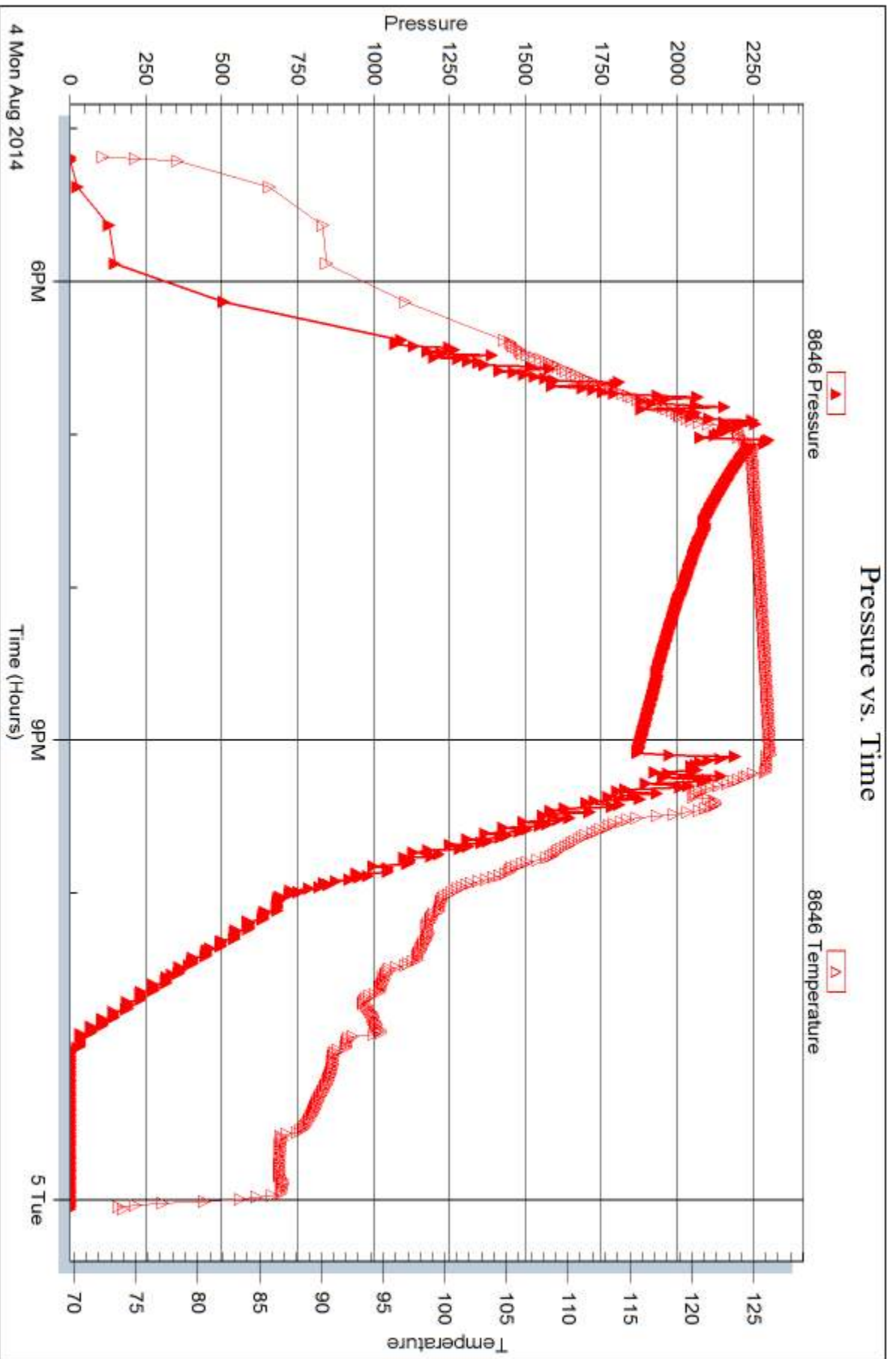


Serial #: 8646

Below (Stratton)ng-Nelson Oil Co

Norma Jean #1-22

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 59109

Printed: 2014.08.06 @ 15:50:02

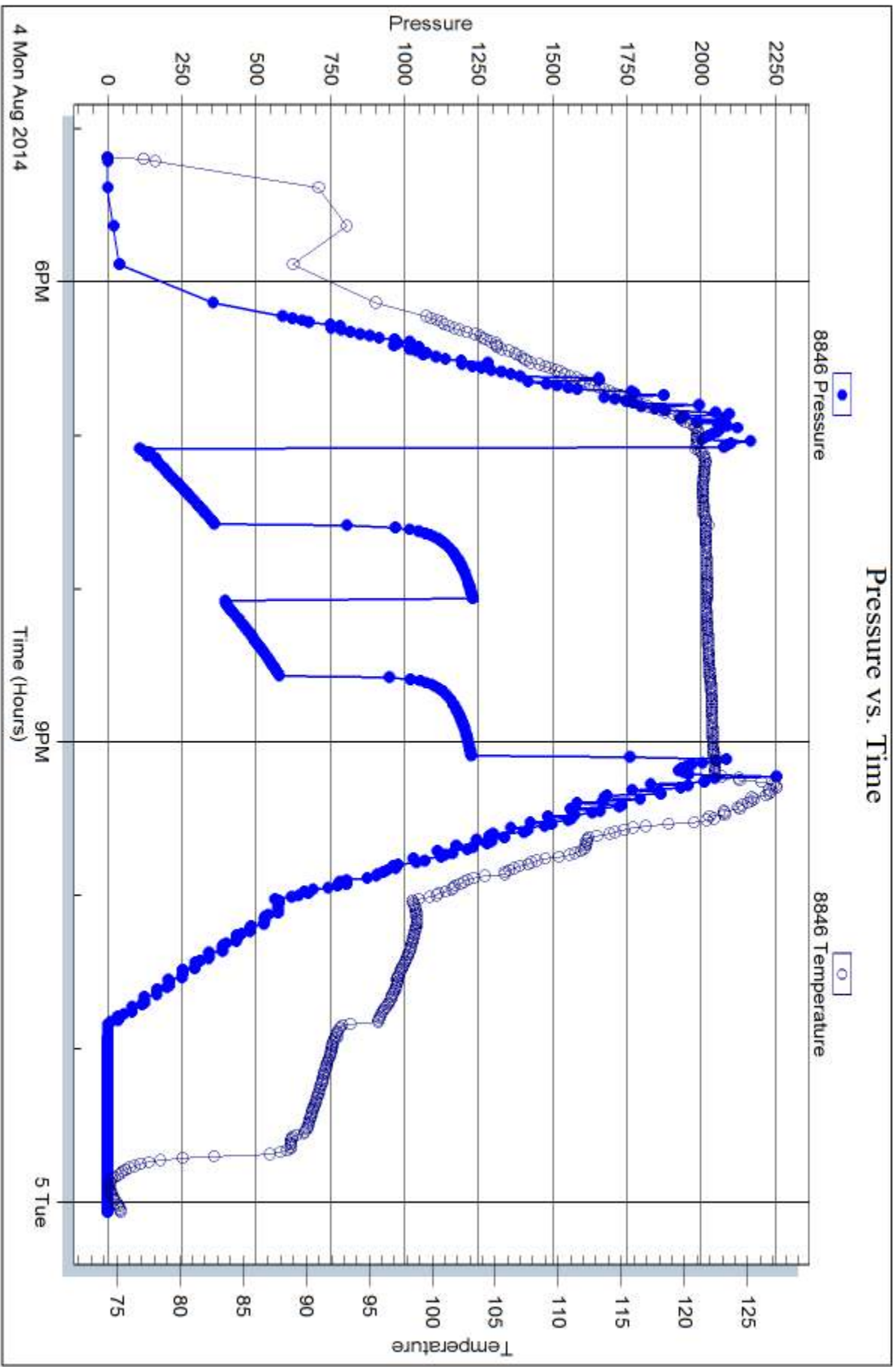
Serial #: 8846

Inside

Dow nrg-Nelson Oil Co

Norma Jean #1-22

DST Test Number: 2





## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays KS 67601

ATTN: Alan Downing

### **Norma Jean #1-22**

### **22-1s-33w Rawlins,KS**

Start Date: 2014.08.05 @ 01:56:15

End Date: 2014.08.05 @ 08:56:45

Job Ticket #: 59110                      DST #: 3

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

Printed: 2014.08.06 @ 15:47:06





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59110

**DST#: 3**

ATTN: Alan Dow ning

Test Start: 2014.08.05 @ 01:56:15

## GENERAL INFORMATION:

Formation:

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:03:45

Time Test Ended: 08:56:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

**Interval: 4074.00 ft (KB) To 4123.00 ft (KB) (TVD)**

Reference Elevations: 3000.00 ft (KB)

Total Depth: 4280.00 ft (KB) (TVD)

2995.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8737**

**Outside**

Press@RunDepth: 125.70 psig @ 4075.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.05

End Date:

2014.08.05

Last Calib.:

2014.08.05

Start Time: 01:56:15

End Time:

08:56:45

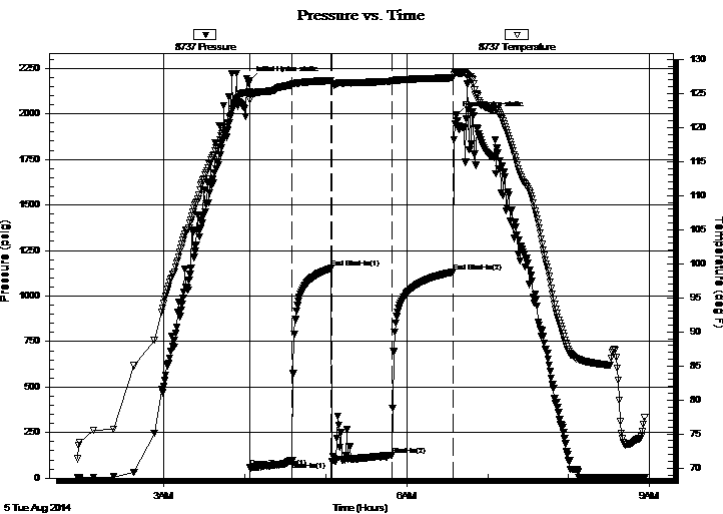
Time On Btm:

2014.08.05 @ 04:03:30

Time Off Btm:

2014.08.05 @ 06:36:45

**TEST COMMENT:** IF:Built to 7" blow  
IS:No return blow  
FF:Built to 3: blow  
FS:No return blow



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2181.01         | 125.19       | Initial Hydro-static |
| 1           | 58.03           | 124.02       | Open To Flow (1)     |
| 32          | 94.59           | 126.28       | Shut-In(1)           |
| 61          | 1152.24         | 126.90       | End Shut-In(1)       |
| 61          | 89.60           | 126.51       | Open To Flow (2)     |
| 106         | 125.70          | 126.79       | Shut-In(2)           |
| 151         | 1131.52         | 127.32       | End Shut-In(2)       |
| 154         | 1992.31         | 128.11       | Final Hydro-static   |

## Recovery

| Length (ft) | Description         | Volume (bbl) |
|-------------|---------------------|--------------|
| 192.00      | mud w ith oil spots | 2.42         |
|             |                     |              |
|             |                     |              |
|             |                     |              |
|             |                     |              |

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59110

**DST#: 3**

ATTN: Alan Dow ning

Test Start: 2014.08.05 @ 01:56:15

## GENERAL INFORMATION:

Formation:

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:03:45

Time Test Ended: 08:56:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

**Interval: 4074.00 ft (KB) To 4123.00 ft (KB) (TVD)**

Reference Elevations: 3000.00 ft (KB)

Total Depth: 4280.00 ft (KB) (TVD)

2995.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8846**

**Inside**

Press@RunDepth: psig @ 4075.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.05

End Date: 2014.08.05

Last Calib.: 2014.08.05

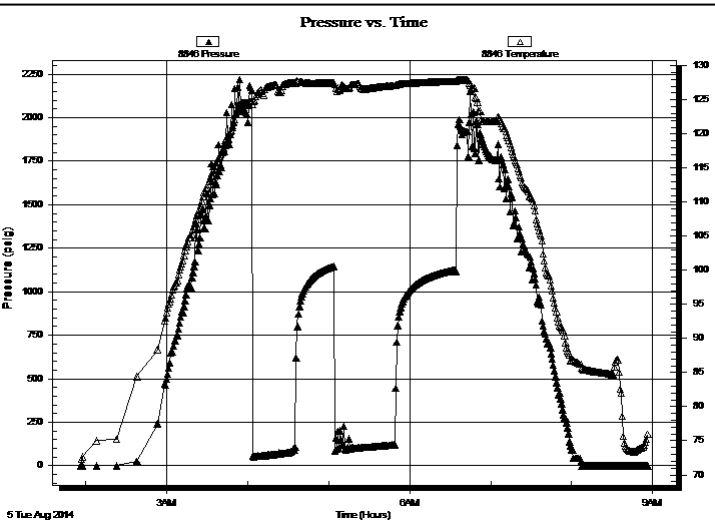
Start Time: 01:56:15

End Time: 08:56:30

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:Built to 7" blow  
IS:No return blow  
FF:Built to 3' blow  
FS:No return blow



## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description        | Volume (bbl) |
|-------------|--------------------|--------------|
| 192.00      | mud with oil spots | 2.42         |
|             |                    |              |
|             |                    |              |
|             |                    |              |
|             |                    |              |

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

ATTN: Alan Dow ning

Job Ticket: 59110 **DST#: 3**  
Test Start: 2014.08.05 @ 01:56:15

### GENERAL INFORMATION:

Formation:

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:03:45

Time Test Ended: 08:56:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 65

**Interval: 4074.00 ft (KB) To 4123.00 ft (KB) (TVD)**

Reference Elevations: 3000.00 ft (KB)

Total Depth: 4280.00 ft (KB) (TVD)

2995.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8646 Below (Straddle)**

Press@RunDepth: psig @ 4141.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.05 End Date: 2014.08.05

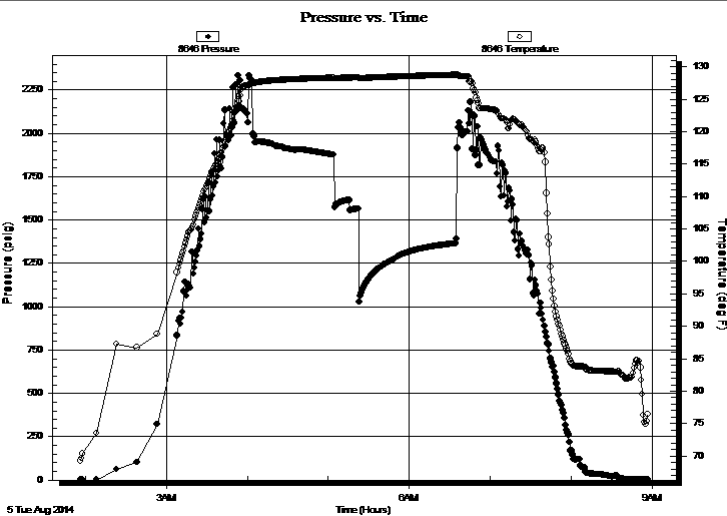
Last Calib.: 2014.08.05

Start Time: 01:56:15 End Time: 08:56:45

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Built to 7" blow  
IS: No return blow  
FF: Built to 3' blow  
FS: No return blow



### PRESSURE SUMMARY

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

### Recovery

| Length (ft) | Description         | Volume (bbl) |
|-------------|---------------------|--------------|
| 192.00      | mud w ith oil spots | 2.42         |
|             |                     |              |
|             |                     |              |
|             |                     |              |
|             |                     |              |

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59110

**DST#: 3**

ATTN: Alan Dow ning

Test Start: 2014.08.05 @ 01:56:15

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4046.00 ft | Diameter: 3.80 inches | Volume: 56.75 bbl              | Tool Weight: 1500.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 25000.00 lb  |
| Drill Collar:             | Length: 30.00 ft   | Diameter: 2.25 inches | Volume: 0.15 bbl               | Weight to Pull Loose: 80000.00 lb  |
|                           |                    |                       | <u>Total Volume: 56.90 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 30.00 ft           |                       |                                | String Weight: Initial 58000.00 lb |
| Depth to Top Packer:      | 4074.00 ft         |                       |                                | Final 60000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 201.00 ft          |                       |                                |                                    |
| Tool Length:              | 229.00 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          |      |         | 4047.00 |                                    |
| Shut In Tool              | 5.00          |      |         | 4052.00 |                                    |
| Hydraulic tool            | 5.00          |      |         | 4057.00 |                                    |
| Jars                      | 5.00          |      |         | 4062.00 |                                    |
| Safety Joint              | 3.00          |      |         | 4065.00 |                                    |
| Packer                    | 5.00          |      |         | 4070.00 | 28.00 Bottom Of Top Packer         |
| Packer                    | 4.00          |      |         | 4074.00 |                                    |
| Stubb                     | 1.00          |      |         | 4075.00 |                                    |
| Recorder                  | 0.00          | 8846 | Inside  | 4075.00 |                                    |
| Recorder                  | 0.00          | 8737 | Outside | 4075.00 |                                    |
| Perforations              | 5.00          |      |         | 4080.00 |                                    |
| Change Over Sub           | 1.00          |      |         | 4081.00 |                                    |
| Drill Pipe                | 32.00         |      |         | 4113.00 |                                    |
| Change Over Sub           | 1.00          |      |         | 4114.00 |                                    |
| Blank Off Sub             | 1.00          |      |         | 4115.00 | 201.00 Tool Interval               |
| Packer                    | 3.00          |      |         | 4118.00 |                                    |
| Stubb                     | 1.00          |      |         | 4119.00 |                                    |
| Perforations              | 21.00         |      |         | 4140.00 |                                    |
| Change Over Sub           | 1.00          |      |         | 4141.00 |                                    |
| Recorder                  | 0.00          | 8646 | Below   | 4141.00 |                                    |
| Blank Spacing             | 128.00        |      |         | 4269.00 |                                    |
| Change Over Sub           | 1.00          |      |         | 4270.00 |                                    |
| Bullnose                  | 5.00          |      |         | 4275.00 | 1000228.00 Bottom Packers & Anchor |
| <b>Total Tool Length:</b> | <b>229.00</b> |      |         |         |                                    |



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co

**22-1s-33w Rawlins,KS**

PO Box 1019  
Hays KS 67601

**Norma Jean #1-22**

Job Ticket: 59110

**DST#: 3**

ATTN: Alan Dow ning

Test Start: 2014.08.05 @ 01:56:15

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description         | Volume<br>bbl |
|--------------|---------------------|---------------|
| 192.00       | mud w ith oil spots | 2.420         |

Total Length: 192.00 ft      Total Volume: 2.420 bbl

Num Fluid Samples: 0

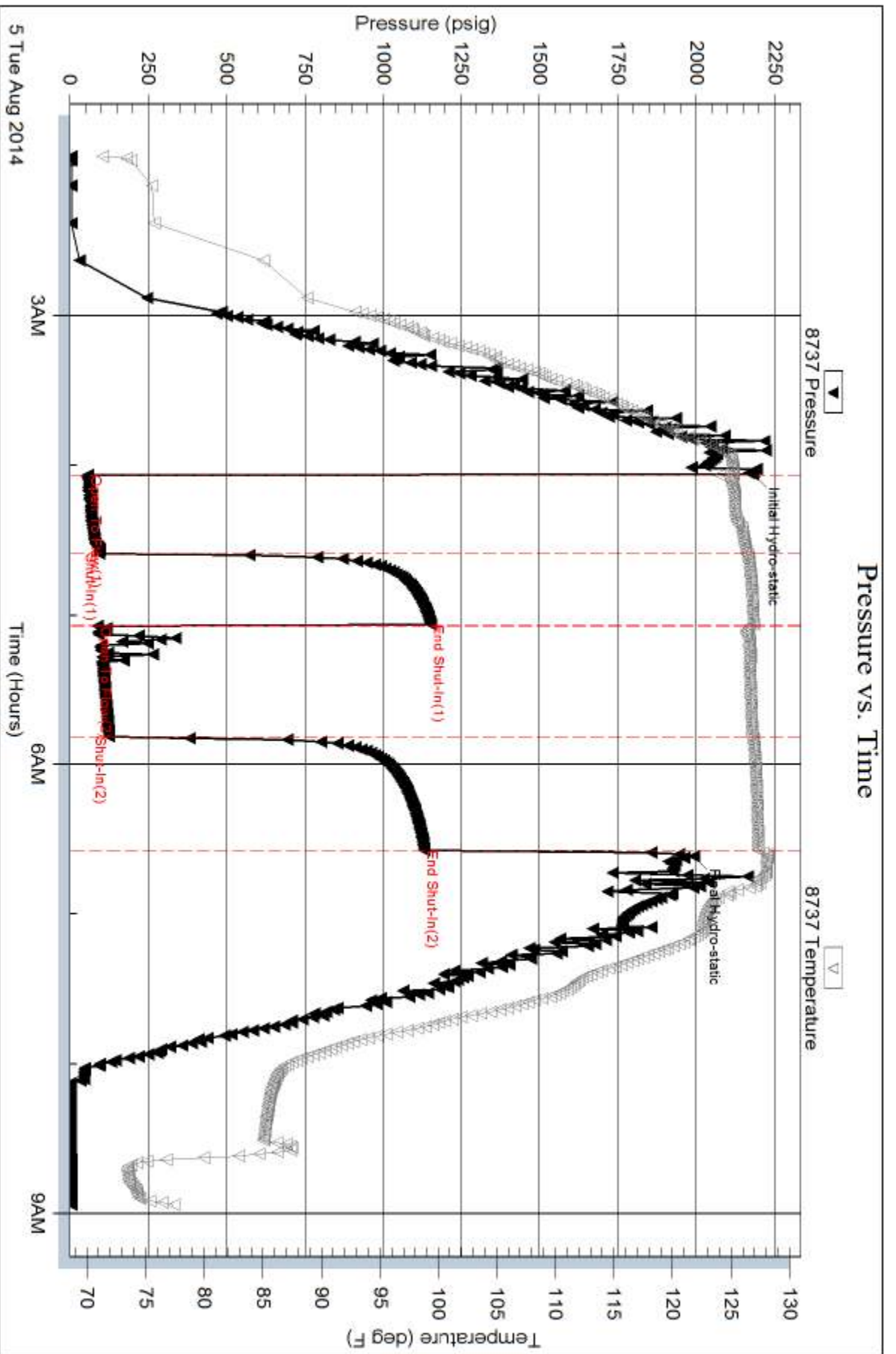
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



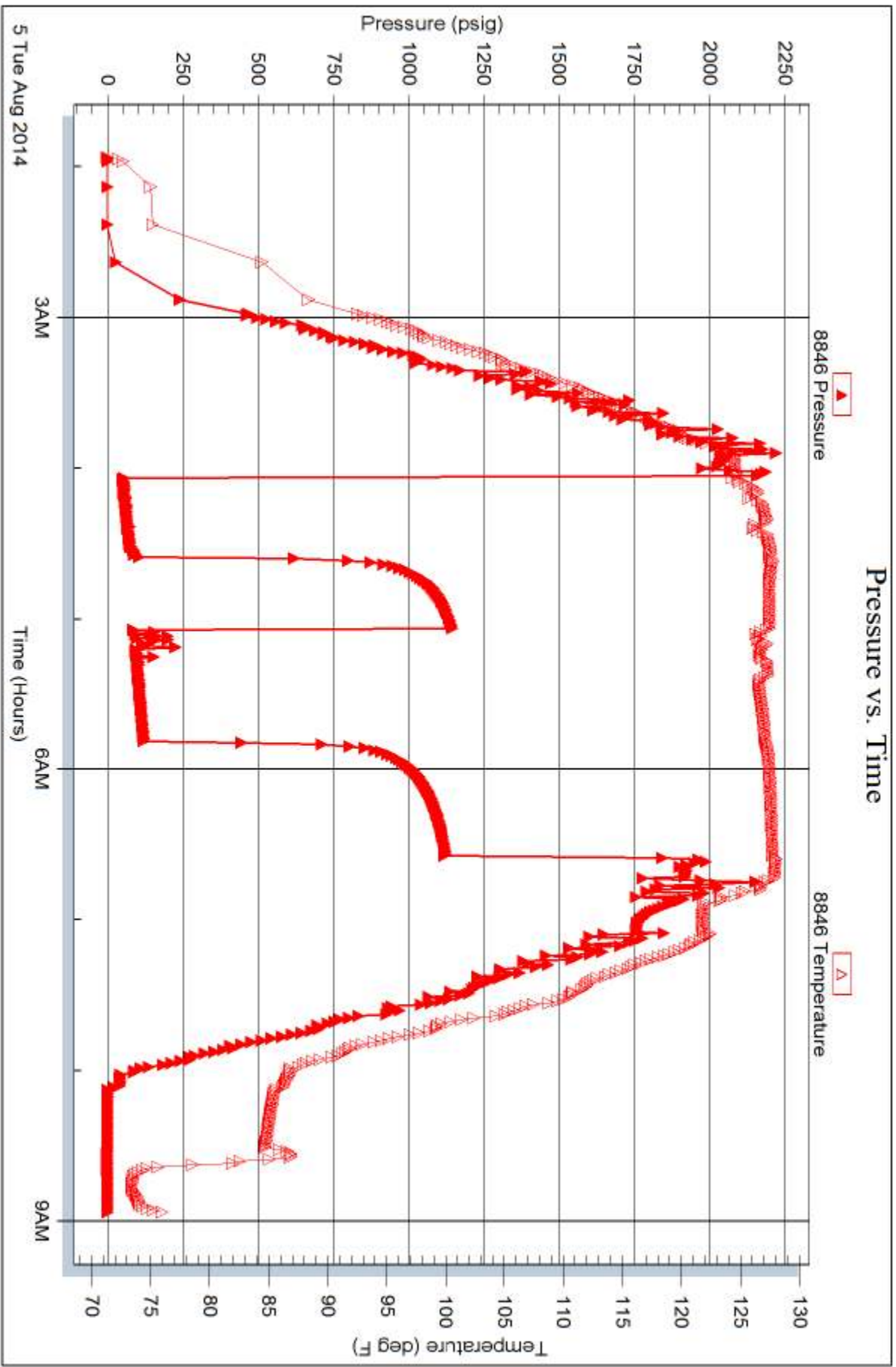
Serial #: 8846

Inside

Dow nging-Nelson Oil Co

Norma Jean #1-22

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 59110

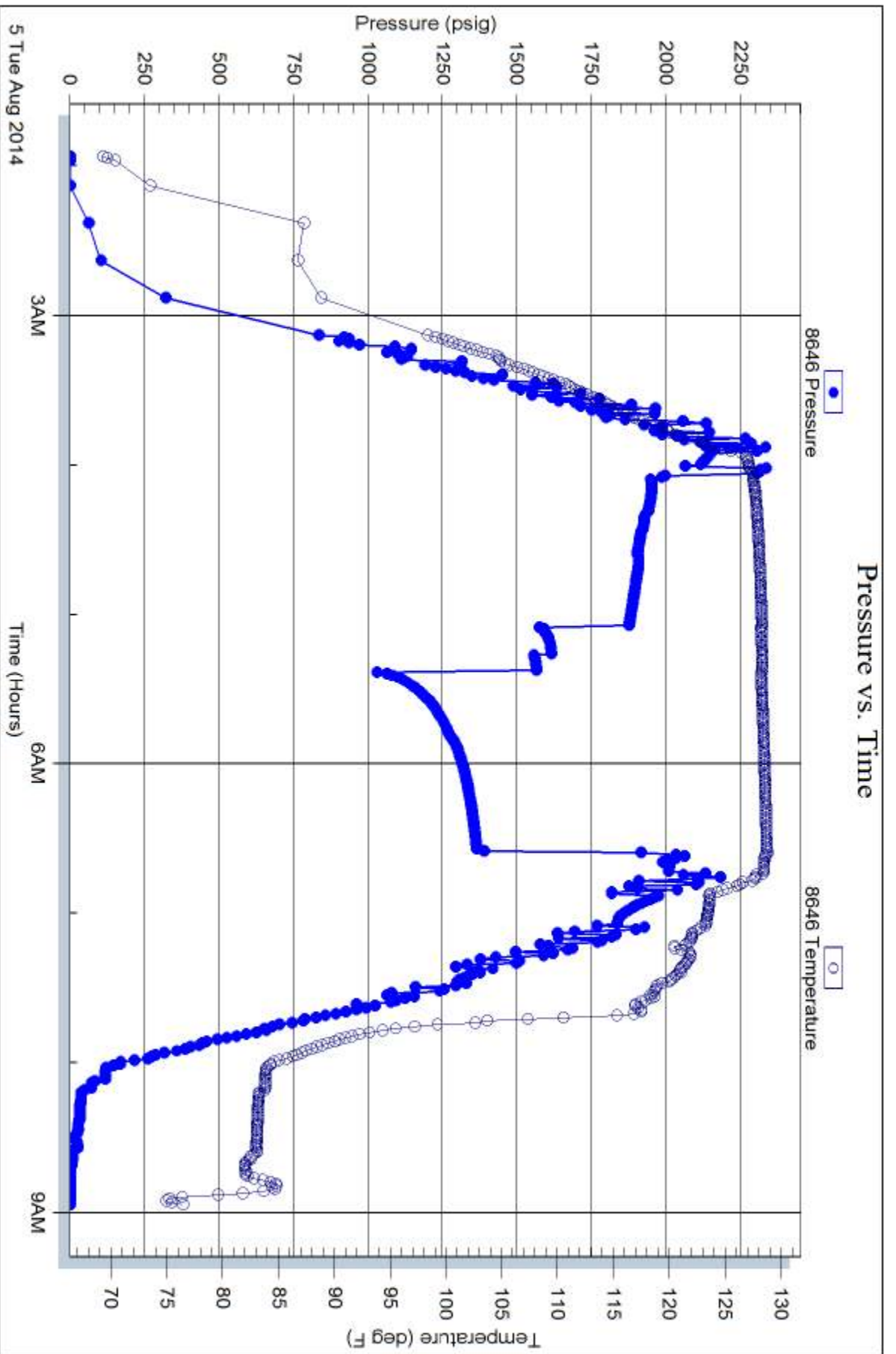
Printed: 2014.08.06 @ 15:47:11

Serial #: 8646

Below (Str-Robot)ing-Nelson Oil Co

Norma Jean #1-22

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 59110

Printed: 2014.08.06 @ 15:47:11





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59108

4/10

Jean

Well Name & No. Norma ~~622~~ 122 Test No. 1 Date 8-3-14  
 Company DNOC Elevation 3000 KB 2995 GL  
 Address P.O. Box 1019 111 West 19th Street Hays KS 67601  
 Co. Rep / Geo. Alan ~~Adler~~ Downing Rig  
 Location: Sec. 22 Twp. 1 Rge. 33 Co. Rawlins State KS

Interval Tested 4123-4170 Zone Tested LKC "E"  
 Anchor Length 47 Drill Pipe Run 4077 Mud Wt. 9.1  
 Top Packer Depth 4118 Drill Collars Run 30 Vis 47  
 Bottom Packer Depth 4123 Wt. Pipe Run Ø WL 8.4  
 Total Depth 4170 Chlorides 500 ppm System LCM 1

Blow Description IF: Weak Surface Blow  
IS: No Return Blow  
FF: NO Blow - Flushed - Weak surface Blow Died in 10 Min  
FS: No Return Blow

| Rec      | Feet of                   | %gas | %oil | %water | %mud       |
|----------|---------------------------|------|------|--------|------------|
| <u>5</u> | <u>MUD with oil spots</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 Total 5 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2037  Test 1250 T-On Location 13:45  
 (B) First Initial Flow 22  Jars 250 T-Started 15:28  
 (C) First Final Flow 28  Safety Joint 75 T-Open 17:25  
 (D) Initial Shut-In 282  Circ Sub NC T-Pulled 19:25  
 (E) Second Initial Flow 29  Hourly Standby \_\_\_\_\_ T-Out 21:19  
 (F) Second Final Flow 33  Mileage 218 RT 337.90 Comments \_\_\_\_\_  
 (G) Final Shut-In 264  Sampler \_\_\_\_\_ Motel  
 (H) Final Hydrostatic 2032  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_

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

Sub Total 1912.90  
 Total 1912.90  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Mike Robert  
 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. 59109

Well Name & No. Norma ~~Gate~~ 122 Test No. 2 Date 8-4-14  
 Company DNOC Elevation 3000 KB 2995 GL  
 Address P.O. Box 1019 111 West 19th Street Hays KS 67601  
 Co. Rep / Geo. Al Downing Rig Discovery 1  
 Location: Sec. 22 Twp. 1 Rge. 33 Co. Rawlins State KS

Interval Tested 3976-4072 Tail 208 Zone Tested "D"  
 Anchor Length 96' Drill Pipe Run 3950 Mud Wt. 9.2  
 Top Packer Depth 3971 Drill Collars Run 30 Vis 49  
 Bottom Packer Depth 3976 Wt. Pipe Run φ WL 8.4  
 Total Depth 4280 Chlorides 750 ppm System LCM 1

Blow Description IF: BOB in 4 Min  
FS: No Return Blow  
FF: BOB in 4 Min  
FS: No Return Blow

|                |                      |               |               |                  |                |
|----------------|----------------------|---------------|---------------|------------------|----------------|
| Rec <u>414</u> | Feet of <u>WCGOM</u> | <u>5</u> %gas | <u>3</u> %oil | <u>2</u> %water  | <u>90</u> %mud |
| Rec <u>192</u> | Feet of <u>GCOWM</u> | <u>5</u> %gas | <u>5</u> %oil | <u>30</u> %water | <u>60</u> %mud |
| Rec <u>192</u> | Feet of <u>GCOWM</u> | <u>2</u> %gas | <u>8</u> %oil | <u>60</u> %water | <u>30</u> %mud |
| Rec <u>192</u> | Feet of <u>GCOWM</u> | <u>2</u> %gas | <u>3</u> %oil | <u>85</u> %water | <u>10</u> %mud |
| Rec <u>128</u> | Feet of <u>OCMW</u>  | <u>5</u> %gas | <u>5</u> %oil | <u>75</u> %water | <u>20</u> %mud |

Rec Total 1118 BHT 122 Gravity 1.601 @ 75.2° F Chlorides 13000 ppm

|                         |             |
|-------------------------|-------------|
| (A) Initial Hydrostatic | <u>2082</u> |
| (B) First Initial Flow  | <u>102</u>  |
| (C) First Final Flow    | <u>365</u>  |
| (D) Initial Shut-In     | <u>1232</u> |
| (E) Second Initial Flow | <u>400</u>  |
| (F) Second Final Flow   | <u>581</u>  |
| (G) Final Shut-In       | <u>1231</u> |
| (H) Final Hydrostatic   | <u>2009</u> |

- Test 1250.09
- Jars 250.09
- Safety Joint 75.09
- Circ Sub NC
- Hourly Standby
- Mileage 218RT 337.90
- Sampler
- Straddle 600.00
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total \$2512.50/-

T-On Location 14:00  
 T-Started 17:11  
 T-Open 19:05  
 T-Pulled 21:05  
 T-Out 00:03

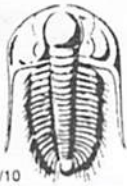
Comments Motel  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 2512.90  
 MP/DST Disc't

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

Approved By \_\_\_\_\_ Our Representative Mike Bole

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59110

Well Name & No. Norma ~~Case~~ 122 <sup>Jean</sup> Test No. 3 Date 8-5-12  
 Company DNOC Elevation 3000 KB 2995 GL  
 Address P.O. Box 1019, 111 West 19th St. Hays KS 67601  
 Co. Rep / Geo. Al Downing Rig Discovery 1  
 Location: Sec. 22 Twp. 1 Rge. 33 Co. Rawlins State KS

Interval Tested 4074-4123 157' tail Zone Tested \_\_\_\_\_  
 Anchor Length 49 Drill Pipe Run 4046 Mud Wt. 9.2  
 Top Packer Depth 4070 Drill Collars Run 30 Vis 49  
 Bottom Packer Depth 4074 Wt. Pipe Run 0 WL 8.4  
 Total Depth 4280 Chlorides 250 ppm System LCM 1

Blow Description IF: Built to 7" Blow  
IS: No Return Blow  
FF: Built to 3" Blow  
FS: No Return Blow

| Rec        | Feet of                   | %gas | %oil | %water     | %mud |
|------------|---------------------------|------|------|------------|------|
| <u>192</u> | <u>Mud with Oil Spots</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 \_\_\_\_\_ BHT 128 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2181  Test 1050 T-On Location Stayed  
 (B) First Initial Flow 58  Jars 250 T-Started 01:56  
 (C) First Final Flow 94  Safety Joint 75 T-Open 04:05  
 (D) Initial Shut-In 1152.  Circ Sub NC T-Pulled 06:35  
 (E) Second Initial Flow 89  Hourly Standby \_\_\_\_\_ T-Out 08:56  
 (F) Second Final Flow 125  Mileage Stayed on location Comments \_\_\_\_\_  
 (G) Final Shut-In 1131.  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1992  Straddle 600  Ruined Shale Packer \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 30  Extra Packer \_\_\_\_\_  
 Final Flow 45  Extra Recorder \_\_\_\_\_  
 Final Shut-In 45  Day Standby \_\_\_\_\_  
 Sub Total 1975.00  Accessibility \_\_\_\_\_  
 Total 1975.00 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Mike Ralston  
 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.



Marc Downing

Consulting Petroleum Geologist  
1411 Washington Circle  
Hays, KS 67601  
Phone: (316) 428-1356 (cell) 785-621-2286

REPORT

106

COMPANY

Downing - Nelson Oil & Inc

WELL

Norma Jean #1-22

FIELD

Wildcat

LOCATION

880' ESC - 1100' Fwk

SEC. 22

TWP. 15

RGE. ESW

COUNTY

Rawlins

STATE

Kansas

OPERATOR

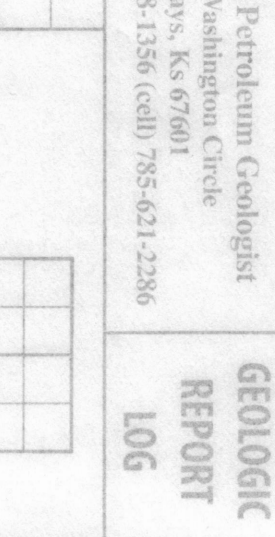
INDICI

CONTRACT

7-30-14

COMPL. 8-05-14

SUNF. 8918 - 219



PRODUCTION

DB 3005

DF 2997

GI 3005 LRB

ELEVATION

3850

Drilling Measured from:

Sample Speed from 3700 to TD

Drilling Time from 3850 to TD

Sample Examined from 3850 to TD

Geological Superficial from 3800 to Total Depth

Weather Geological

Electrical Survey

DNV/GZ - Mirolog

PROD.

4280

TOTAL DEPTH DRILLERS: 4280

TOTAL DEPTH LOG: 4281

FORMATION TOPS AND STRUCTURAL POSITION

| FORMATION | SAMPLE | ELECTRIC LOG | SUB-SEA | STRUCTURAL |
|-----------|--------|--------------|---------|------------|
|           | DEPTH  | TOP          | DEPTH   | POSITION   |
| Amundritk | 2836   | 2884         | +121    |            |
| Base      | 2879   | 2884         | +121    |            |
| HEEBNER   | 3926   | 3928         | -923    |            |
| Lansing   | 3964   | 3968         | -965    |            |
| BRC       | 4222   | 4224         | -1219   |            |

REFERENCE WELL FOR STRUCTURE

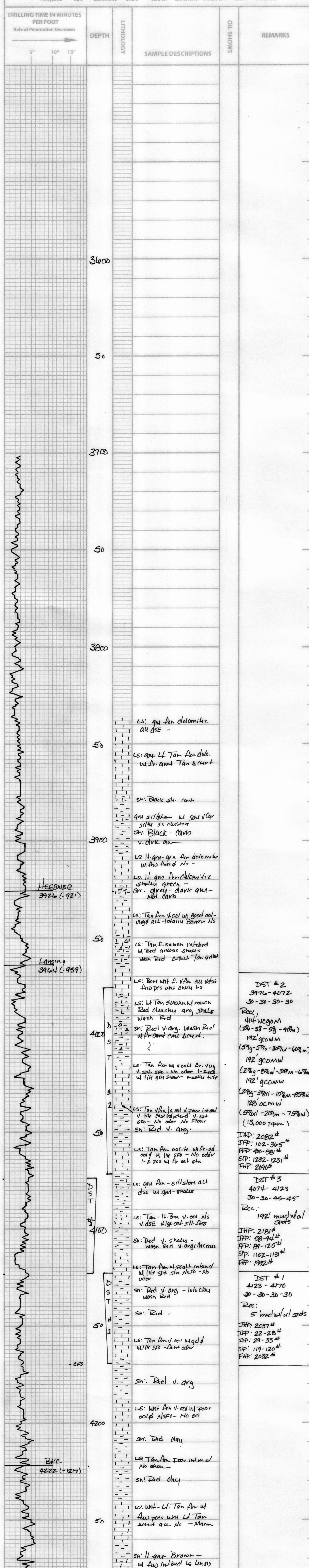
DRILL STEM TESTS

| No. | Interval | FFP/Time | SIP/Time | FFP/Time | SIP/Time | HR-FHP | RECOVERY |
|-----|----------|----------|----------|----------|----------|--------|----------|
|     |          |          |          |          |          |        |          |

REMARKS AND RECOMMENDATIONS

**LEGEND**

|           |      |           |       |         |           |          |       |          |
|-----------|------|-----------|-------|---------|-----------|----------|-------|----------|
|           |      |           |       |         |           |          |       |          |
| Anhydrite | Salt | Sandstone | Shale | Carb sh | Limestone | Ool.Lime | Chert | Dolomite |





269938

TICKET NUMBER 46825  
LOCATION Oakley KS  
FOREMAN Jerry

**FIELD TICKET & TREATMENT REPORT**  
**CEMENT**

Box 884, Chanute, KS 66720  
800-431-9210 or 300-467-8676

KS

| DATE            | CUSTOMER # | WELL NAME & NUMBER                                      | SECTION  | TOWNSHIP | RANGE   | COUNTY    |
|-----------------|------------|---|----------|----------|---------|-----------|
| 7-30-74         | 2245       | Norma Jean 1-22   | E2       | 1        | 35W     | Roubidoux |
| CUSTOMER        |            | Dorning Nelson Oil                                      |          |          |         |           |
| MAILING ADDRESS |            | Atwoodville<br>N. on AA<br>2E, 1/2 W<br>E. on W<br>into |          |          |         |           |
| CITY            |            | STATE   | ZIP CODE | TRUCK #  | DRIVER  | TRUCK #   |
|                 |            |   |          | 731      | Jerry R |           |
|                 |            |   |          | 693      | Rob S   |           |

JOB TYPE surface HOLE SIZE 12 1/4 HOLE DEPTH 220 CASING SIZE & WEIGHT 8 5/8 24#  
 CASING DEPTH 29 DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 14.8 SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 20#  
 DISPLACEMENT 12 1/2 bbl DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting on rig upon discovery of break circulation with rig free back  
up to truck & mix 200 sks com class A cement 3% calcium chloride & 2 bbl gel  
wash up & displace w/ 12 1/2 bbl H2O & shoot in. circulated 5 bbl to port

Cement did circulate

Thank you  
Jerry & Crew

| ACCOUNT CODE | QUANTITY or UNITS | DESCRIPTION of SERVICES or PRODUCT | UNIT PRICE      | TOTAL     |
|--------------|-------------------|------------------------------------|-----------------|-----------|
| 5401S        | 1                 | PUMP CHARGE                        | 1150.00         | 1150.00 ✓ |
| 5406         | 50                | MILEAGE                            | 5.25            | 262.50 ✓  |
| 5407A        | 9.4               | ten mileage delivery               | 1.25            | 822.50 ✓  |
| 1104S        | 200 sks           | com class A cement                 | 18.55           | 3710.00 ✓ |
| 1102         | 564 #             | CC                                 | 94              | 530.16 ✓  |
| 1118b        | 376 #             | gel                                | 27              | 10152 ✓   |
|              |                   |                                    | subTotal        | 6576.68   |
|              |                   |                                    | less 10% disc   | 657.67 ✓  |
|              |                   |                                    | subTotal        | 5919.01   |
|              |                   |                                    | SALES TAX       | 308.69 ✓  |
|              |                   |                                    | ESTIMATED TOTAL | 6227.70   |

**Completed**

AUTHORIZATION [Signature] TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
 I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's and conditions of service on the back of this form are in effect for services identified on this form.

# ALLIED OIL & GAS SERVICES, LLC 064071

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT:  
Oakley KS

|   |                |               |                                     |            |                           |                         |                          |
|---|----------------|---------------|-------------------------------------|------------|---------------------------|-------------------------|--------------------------|
| DATE <u>8-5-14</u>                          | SEC. <u>22</u> | TWP. <u>1</u> | RANGE <u>33</u>                     | CALLED OUT | ON LOCATION <u>1:00pm</u> | JOB START <u>3:30pm</u> | JOB FINISH <u>4:30pm</u> |
| LEASEE <u>Norma Jean</u> WELL # <u>1-22</u> |                |               | LOCATION <u>Atwood N to AA 3 E,</u> |            | COUNTY <u>Roubidoux</u>   | STATE <u>KS</u>         |                          |
| OLD OR (NEW) (Circle one)                   |                |               | <u>1/2 N, E + S into</u>            |            |                           |                         |                          |

|  |                    |                   |
|--|--------------------|-------------------|
| CONTRACTOR <u>Discovery Drlg Rig 1</u> |                    | OWNER <u>Same</u> |
| TYPE OF JOB <u>P+H</u>                 |                    |                   |
| HOLE SIZE <u>7 1/8</u>                 | T.D. <u>4400'</u>  |                   |
| CASING SIZE                            | DEPTH              |                   |
| TUBING SIZE                            | DEPTH              |                   |
| DRILL PIPE <u>4 1/2</u>                | DEPTH <u>2857'</u> |                   |
| TOOL                                   | DEPTH              |                   |
| PRES. MAX                              | MINIMUM            |                   |
| MEAS. LINE                             | SHOE JOINT         |                   |
| CEMENT LEFT IN CSG.                    |                    |                   |
| PERFS.                                 |                    |                   |

|   |                |                |
|---|----------------|----------------|
| CEMENT                                  |                |                |
| AMOUNT ORDERED <u>255 sks 60/40</u>     |                |                |
| <u>4 1/2 gel 1/4 # Flo-seal</u>         |                |                |
| COMMON                                  | @              |                |
| POZMIX                                  | @              |                |
| GEL                                     | @              |                |
| CHLORIDE                                | @              |                |
| ASC                                     | @              |                |
| <u>60/40/4 Ltr 255 sks</u>              | @ <u>18.92</u> | <u>4824.60</u> |
| <u>Flo-seal 64 #</u>                    | @ <u>2.97</u>  | <u>190.08</u>  |
| <u>Materials Int'l</u>                  | @              | <u>5014.60</u> |
| <u>(1504.91/30%)</u>                    | @              |                |
| HANDLING <u>273.87 #</u>                | @ <u>2.48</u>  | <u>679.20</u>  |
| MILEAGE <u>11.44 hrs @ 65 mi x 2.75</u> | @              | <u>2044.90</u> |
| TOTAL                                   |                |                |

DISPLACEMENT 1st plug Swabber 2852 mod  
2nd plug Swabber 1057 mod EQUIPMENT

|                             |                             |
|-----------------------------|-----------------------------|
| PUMP TRUCK # <u>431</u>     | CEMENTER <u>Paul Beaver</u> |
| BULK TRUCK # <u>818/287</u> | HELPER <u>Adam Flipse</u>   |
| BULK TRUCK #                | DRIVER <u>Traci 2 (TWS)</u> |
| BULK TRUCK #                | DRIVER                      |

**REMARKS:**

mix 50 sks @ 2857, Displace w/ mod  
mix 100 sks @ 2076, Displace w/ mod  
mix 80 sks @ 269'  
mix 10 sks @ 40' w/ wooden plug  
mix 30 sks @ in R.H.  
mix 15 sks in m.H.

Thank You!  
Paul + crew

CHARGE TO: Downing + Nelson

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

|                        |                             |
|------------------------|-----------------------------|
| SERVICE                |                             |
| DEPTH OF JOB           | <u>2857'</u>                |
| PUMP TRUCK CHARGE      | <u>2483.57</u>              |
| EXTRA FOOTAGE          | @                           |
| MILEAGE m/AV <u>65</u> | @ <u>9.70</u> <u>500.50</u> |
| MANIFOLD               | @                           |
| mizv <u>65</u>         | @ <u>4.40</u> <u>286.00</u> |
| (1792.25/30%)          |                             |
| TOTAL <u>5,991.19</u>  |                             |

**PLUG & FLOAT EQUIPMENT**

|                          |   |               |
|--------------------------|---|---------------|
| <u>8 5/8 wooden Plug</u> | @ | <u>110.00</u> |
|                          | @ |               |
|                          | @ |               |
|                          | @ |               |
|                          | @ |               |
| (0%)                     |   |               |
| TOTAL <u>110.00</u>      |   |               |

To: Allied Oil & Gas Services, LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME \_\_\_\_\_

SIGNATURE [Signature]

|                              |                    |
|------------------------------|--------------------|
| SALES TAX (if Any)           |                    |
| TOTAL CHARGES <u>1118.87</u> |                    |
| DISCOUNT <u>330266(.30%)</u> | IF PAID IN 30 DAYS |
| <u>7,816.20 Net</u>          |                    |