



KANSAS CORPORATION COMMISSION 1120117  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

June 2009

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
- Conv. to GSW
- Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date      Date Reached TD      Completion Date or 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

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

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

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

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

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

Total 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**

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



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

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

**INSTRUCTIONS:** Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

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

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
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <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
-----------------------------------	-----------	---------	-------------	---------------	---------

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

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	R Berens Unit 1-8
Doc ID	1120117

All Electric Logs Run

Micro
Sonic
Dual Induction
Compensated Neutron Density

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	R Berens Unit 1-8
Doc ID	1120117

Tops

Name	Top	Datum
Top Anhydrite	1106'	+873
Base Anhydrite	1146'	+833
Topeka	2984'	-1005
Heebner	3216'	-1237
Toronto	3232'	-1253
LKC	3264'	-1385
BKC	3484'	-1505
Arbuckle	3516'	-1537

# ALLIED OIL & GAS SERVICES, LLC 059262

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:

*North Bend*

DATE <u>2-10-13</u>	SEC <u>8</u>	TWP <u>16</u>	RANGE <u>17</u>	CALLED OUT <u>8:30 PM</u>	ON LOCATION <u>7:30 PM</u>	JOB START <u>8:30 PM</u>	JOB FINISH <u>9:30 PM</u>	
LEASE <u>R. B. Brown</u>				WELL # <u>1-8</u>		LOCATION <u>Horrocks 2w, 1w, 1/2w,</u>	COUNTY <u>Reich</u> STATE <u>TX</u>	
OLD OR <u>NEW</u> (Circle one)				LOCATION <u>1 W. E into</u>				

CONTRACTOR Murray OWNER Some

TYPE OF JOB Surface  
 HOLE SIZE 12 1/4" T.D. 1121  
 CASING SIZE 8 7/8" DEPTH 1121  
 TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX 500" MINIMUM \_\_\_\_\_  
 MEAS. LINE \_\_\_\_\_ SHOEJOINT 15'  
 CEMENT LEFT IN CSG. 15'  
 PERFS. \_\_\_\_\_  
 DISPLACEMENT 70,45

EQUIPMENT

PUMP TRUCK # <u>606</u>	CEMENTER <u>Tom Nelson</u>	WARRANTY <u>Down</u>
BULK TRUCK # <u>60D-241</u>	DRIVER <u>Don Cooper</u>	
BULK TRUCK # <u>366</u>	DRIVER <u>Charles Kemper</u>	
HELPER <u>Down</u>	HELPER <u>Edy</u>	HELPER <u>Pet</u>

COMMON 450 @ 17.90 8,055.00  
 POZMIX \_\_\_\_\_ @ \_\_\_\_\_ \_\_\_\_\_  
 GEL 9 @ 23.90 216.00  
 CHLORIDE 16 @ 64.00 1024.00  
 ASC \_\_\_\_\_ @ \_\_\_\_\_ \_\_\_\_\_

HANDLING 487.50 @ 2.48 1209.00  
 MILEAGE 22.33 @ 15.00 334.95  
 TOTAL 11,365.95

REMARKS:  
Ran 1121' of 8 7/8" casing. Made sure  
used 450 class 32cc 2 1/2" gel  
released plug. Displaced with fresh  
H<sub>2</sub>O. Loaded plug of 500 # shot  
in.  
Cement did circulate

DEPTH OF JOB 1121  
 PUMP TRUCK CHARGE 2213.00  
 EXTRA FOOTAGE @ \_\_\_\_\_ \_\_\_\_\_  
 MILEAGE Hum 15 @ 7.70 115.50  
 MANIFOLD Hum 15 @ 4.40 66.00

CHARGE TO: Downing & Nelson Oil Co.  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PLUG & FLOAT EQUIPMENT

<u>1 1/2" Rubber Plug</u>	@ <u>131.04</u>	<u>131.04</u>
<u>Buttlic Plate</u>	@ <u>131.04</u>	<u>131.04</u>
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
TOTAL		<u>262.08</u>

SALES TAX (If Any) 601.35  
 TOTAL CHARGES 14,022.90  
 DISCOUNT 3,505.72

PRINTED NAME Mike Goschler

SIGNATURE [Signature]

IF PAID IN 30 DAYS

TOTAL 10,517.12

JOB LOG

SWIFT Services, Inc.

DATE 2-17-13 PAGE NO. 1

CUSTOMER Downmy Nelson WELL NO. 1-8 LEASE R Berens JOB TYPE 5 1/2 Long String TICKET NO. 23926

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	2230							on location
								TD 3616 SJ 42
								TP 3612 Inset 3570
								5 1/2 x 14#
								centralizers 1,3,5,7,9,11
								Basket 8
	2250							Start Pipe
	0020							Drop Ball Circulate Rotate
	0055		7/8					Plug BH 30, MH 20
		5	12				300	Start Mud Flush
		5	20				300	Start KLL Flush
		5	30				200	Start Cement 125 SKS
	0125							Drop Plug
								wash out Pump + Lines
	0127	6						Displace
	0145	6	87.1				1500	Land Plug
								Release Dry
								wash up Back up
	0215							Job Complete Thank You Josh, Brian, Jeremy



## DRILL STEM TEST REPORT

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

Po Box 1019  
Hays KS 67601

ATTN: Allen Downing

**R. Berens Unit #1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.13 @ 15:39:00

End Date: 2013.02.13 @ 21:06:20

Job Ticket #: 51589                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.26 @ 16:38:15



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51589

**DST#: 1**

Test Start: 2013.02.13 @ 15:39:00

## GENERAL INFORMATION:

Formation: **Plattsmouth**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:26:10

Time Test Ended: 21:06:20

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 39

**Interval: 3144.00 ft (KB) To 3165.00 ft (KB) (TVD)**

Reference Elevations: 1973.00 ft (KB)

Total Depth: 3165.00 ft (KB) (TVD)

1968.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8844 Outside**

Press @ Run Depth: 19.91 psig @ 3145.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.13

End Date: 2013.02.13

Last Calib.: 2013.02.13

Start Time: 15:39:05

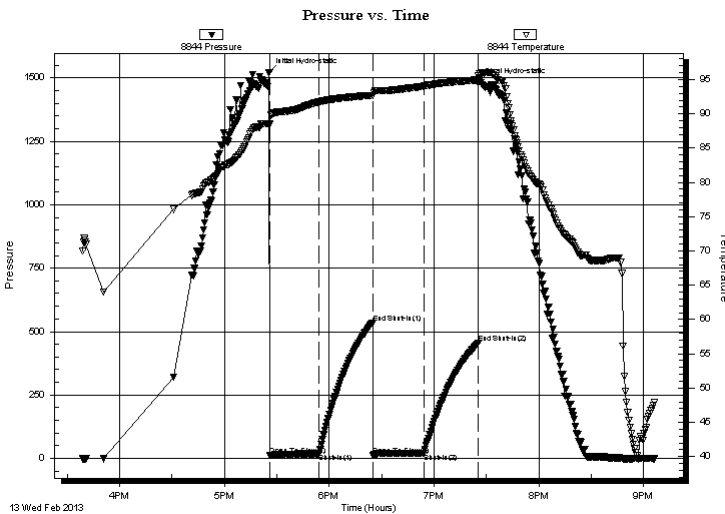
End Time: 21:06:20

Time On Btm: 2013.02.13 @ 17:25:40

Time Off Btm: 2013.02.13 @ 19:25:30

**TEST COMMENT:** 30 - IF- B.O.B. instantly.  
30 - IS- 1/2" return.  
30 - FF- B.O.B. instantly. Started dying off at 20 Minutes  
30 - FS- Surface blow back.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1521.68	88.33	Initial Hydro-static
1	11.49	88.49	Open To Flow (1)
29	18.68	91.71	Shut-In(1)
60	535.10	92.69	End Shut-In(1)
60	12.96	92.69	Open To Flow (2)
89	19.91	94.03	Shut-In(2)
120	455.16	94.94	End Shut-In(2)
120	1482.87	95.49	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	Mud w ith spots of oil, 100%M	0.21
0.00	583' of G.I.P.	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51589

**DST#: 1**

ATTN: Allen Dow ning

Test Start: 2013.02.13 @ 15:39:00

## GENERAL INFORMATION:

Formation: **Plattsmouth**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:26:10

Time Test Ended: 21:06:20

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 39

**Interval: 3144.00 ft (KB) To 3165.00 ft (KB) (TVD)**

Reference Elevations: 1973.00 ft (KB)

Total Depth: 3165.00 ft (KB) (TVD)

1968.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8372 Inside**

Press @ Run Depth: psig @ 3145.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.13

End Date: 2013.02.13

Last Calib.: 2013.02.13

Start Time: 15:39:05

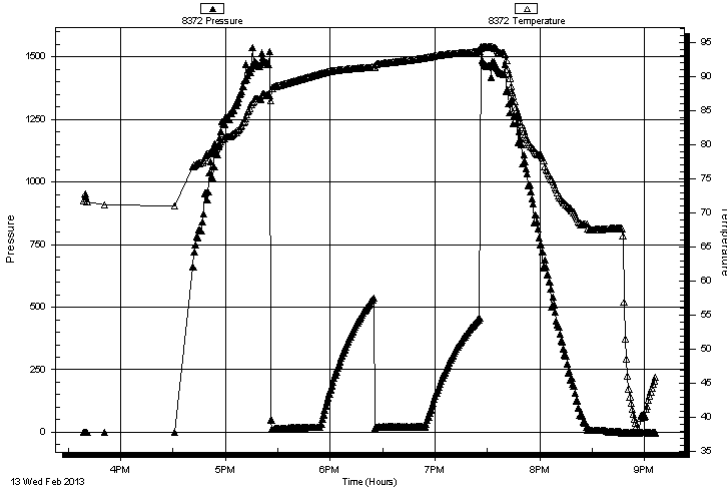
End Time: 21:06:29

Time On Btm:

Time Off Btm:

**TEST COMMENT:**  
30 - IF- B.O.B. instantly.  
30 - IS- 1/2" return.  
30 - FF- B.O.B. instantly. Started dying off at 20 Minutes  
30 - FS- Surface blow back.

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	Mud w ith spots of oil, 100%M	0.21
0.00	583' of G.I.P.	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 Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51589

**DST#: 1**

ATTN: Allen Dow ning

Test Start: 2013.02.13 @ 15:39:00

## Tool Information

Drill Pipe:	Length: 3126.00 ft	Diameter: 3.80 inches	Volume: 43.85 bbl	Tool Weight:	2000.00 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: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	44000.00 lb
			<u>Total Volume: 44.00 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	34.00 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	3144.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	21.00 ft				
Tool Length:	42.00 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			3124.00	
Shut In Tool	5.00			3129.00	
Hydraulic tool	5.00			3134.00	
Packer	5.00			3139.00	21.00 Bottom Of Top Packer
Packer	5.00			3144.00	
Stubb	1.00			3145.00	
Recorder	0.00	8372	Inside	3145.00	
Recorder	0.00	8844	Outside	3145.00	
perforations	17.00			3162.00	
Bullnose	3.00			3165.00	21.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>42.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51589

**DST#: 1**

ATTN: Allen Downing

Test Start: 2013.02.13 @ 15:39:00

## 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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.94 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 ft	Description	Volume bbbl
35.00	Mud with spots of oil, 100%M	0.209
0.00	583' of G.I.P.	0.000

Total Length: 35.00 ft      Total Volume: 0.209 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

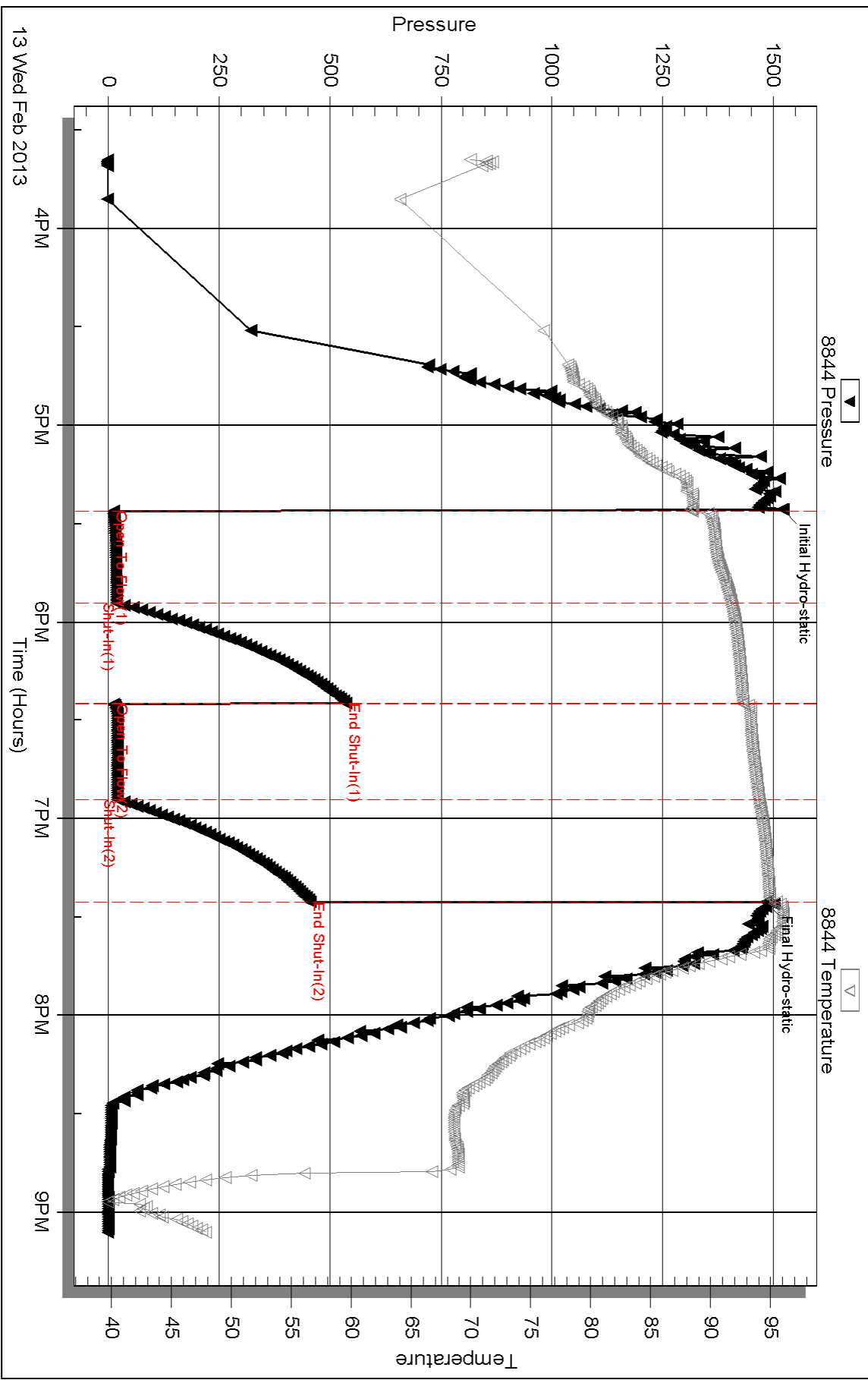
Serial #: 8844

Outside Downing Nelson Oil Co Inc

R Berans Unit #1-8

DST Test Number: 1

### Pressure vs. Time



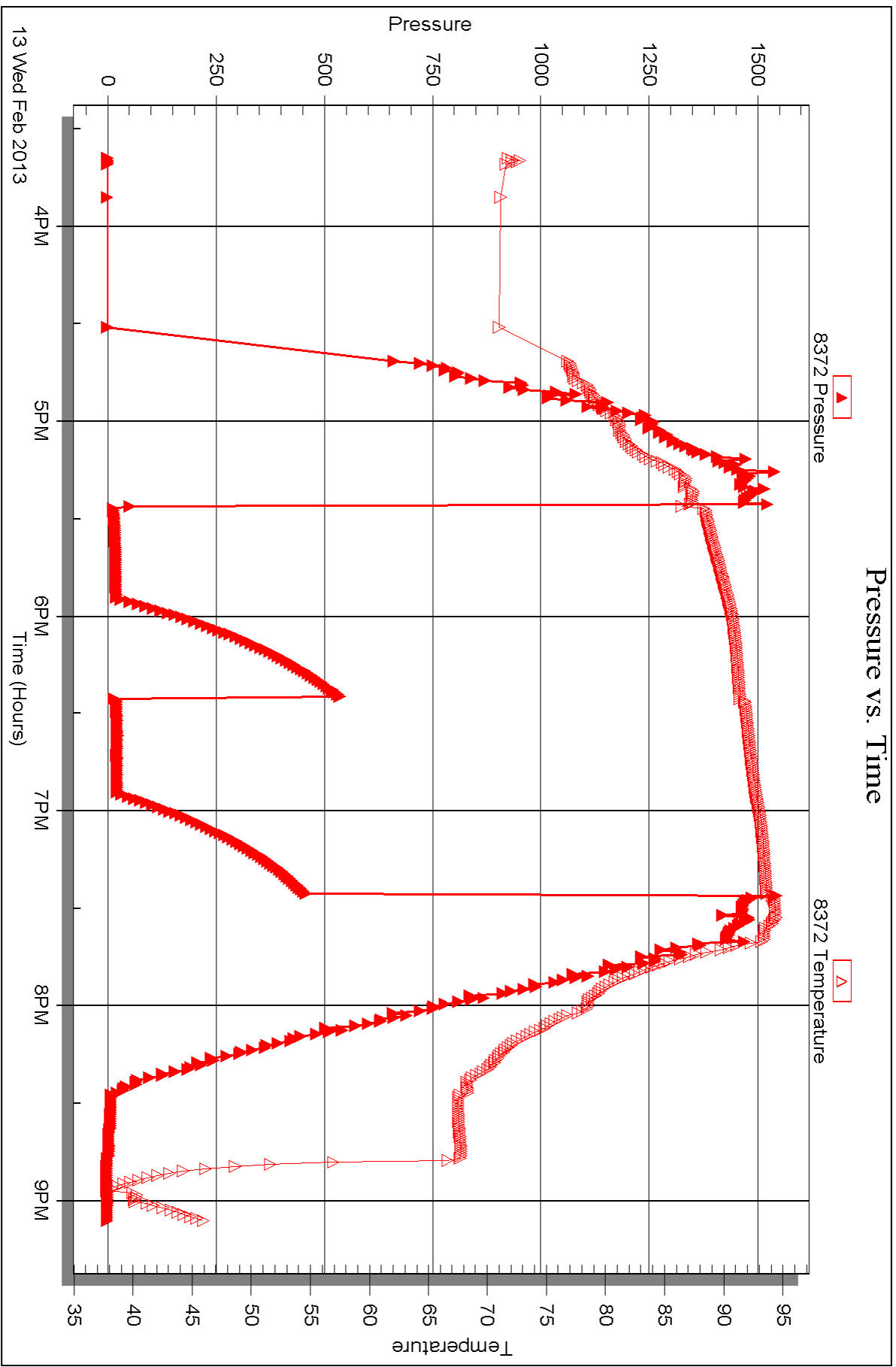
Serial #: 8372

Inside

Downing Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 1





## DRILL STEM TEST REPORT

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

Po Box 1019  
Hays KS 67601

ATTN: Allen Downing

**R. Berens Unit #1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.14 @ 08:15:00

End Date: 2013.02.14 @ 14:13:39

Job Ticket #: 51590                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.26 @ 16:37:25



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51590

**DST#: 2**

Test Start: 2013.02.14 @ 08:15:00

## GENERAL INFORMATION:

Formation: **KC "C-D"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 10:32:00  
 Tester: Cody Bloedorn  
 Time Test Ended: 14:13:39  
 Unit No: 39  
 Interval: **3275.00 ft (KB) To 3322.00 ft (KB) (TVD)**  
 Reference Elevations: 1973.00 ft (KB)  
 Total Depth: 3322.00 ft (KB) (TVD)  
 1968.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

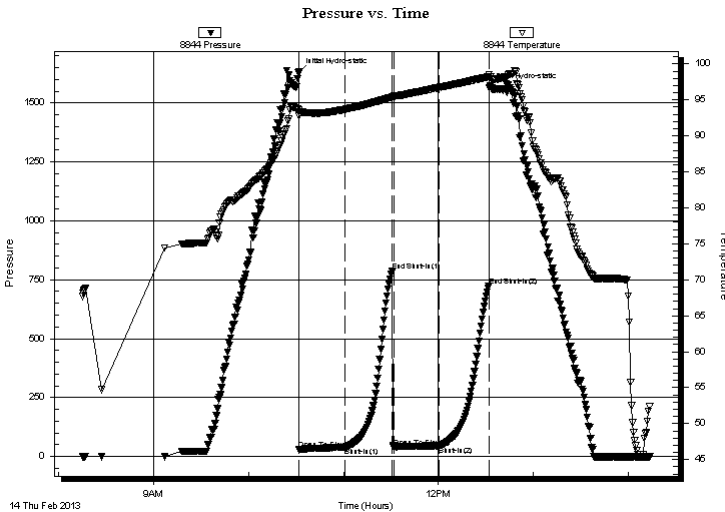
## Serial #: 8844

**Outside**

Press @RunDepth: 44.87 psig @ 3311.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.14 End Date: 2013.02.14 Last Calib.: 2013.02.14  
 Start Time: 08:15:05 End Time: 14:13:40 Time On Btm: 2013.02.14 @ 10:31:50  
 Time Off Btm: 2013.02.14 @ 12:32:09

TEST COMMENT: 30 - IF- 2" blow .  
 30 - IS- No return  
 30 - FF- 3/4" blow  
 30 - FS- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1630.84	93.58	Initial Hydro-static
1	28.19	92.86	Open To Flow (1)
30	38.33	93.70	Shut-In(1)
59	786.85	95.39	End Shut-In(1)
60	39.69	95.31	Open To Flow (2)
89	44.87	96.74	Shut-In(2)
121	721.86	98.22	End Shut-In(2)
121	1565.92	98.56	Final Hydro-static

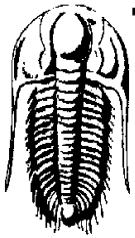
## Recovery

Length (ft)	Description	Volume (bbl)
35.00	Mud, with spots of oil, 100%M	0.21

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

Po Box 1019  
Hays KS 67601

ATTN: Allen Dow ning

**8-16s-17w Rush KS**

**R. Berens Unit #1-8**

Job Ticket: 51590

**DST#: 2**

Test Start: 2013.02.14 @ 08:15:00

## GENERAL INFORMATION:

Formation: **KC "C-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:32:00

Time Test Ended: 14:13:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 39

**Interval: 3275.00 ft (KB) To 3322.00 ft (KB) (TVD)**

Reference Elevations: 1973.00 ft (KB)

Total Depth: 3322.00 ft (KB) (TVD)

1968.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8372 Inside**

Press @RunDepth: psig @ 3311.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.14

End Date:

2013.02.14

Last Calib.:

2013.02.14

Start Time: 08:15:05

End Time:

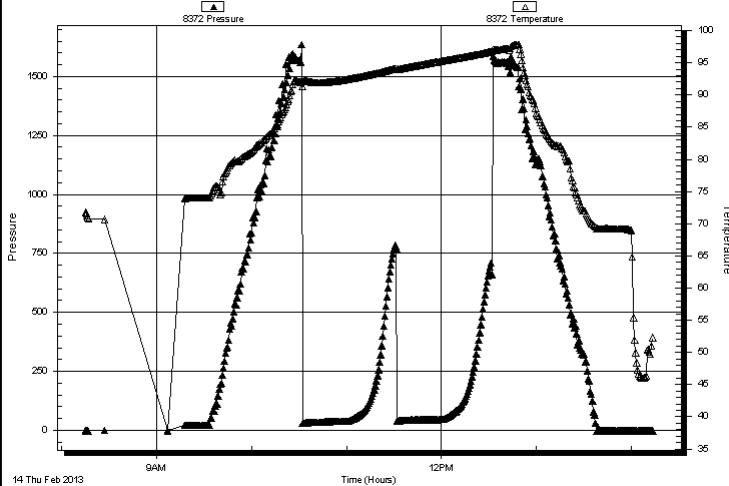
14:13:50

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF- 2" blow .  
30 - IS- No return  
30 - FF- 3/4" blow  
30 - FS- No return

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	Mud, with spots of oil, 100%M	0.21

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51590

**DST#: 2**

ATTN: Allen Downing

Test Start: 2013.02.14 @ 08:15:00

## Tool Information

Drill Pipe:	Length: 3251.00 ft	Diameter: 3.80 inches	Volume: 45.60 bbl	Tool Weight:	2000.00 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: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	47000.00 lb
			<u>Total Volume: 45.75 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	43000.00 lb
Depth to Top Packer:	3275.00 ft			Final	43000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	47.00 ft				
Tool Length:	68.00 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			3255.00	
Shut In Tool	5.00			3260.00	
Hydraulic tool	5.00			3265.00	
Packer	5.00			3270.00	21.00 Bottom Of Top Packer
Packer	5.00			3275.00	
Stubb	1.00			3276.00	
Perforations	2.00			3278.00	
Change Over Sub	1.00			3279.00	
Drill Pipe	31.00			3310.00	
Change Over Sub	1.00			3311.00	
Recorder	0.00	8372	Inside	3311.00	
Recorder	0.00	8844	Outside	3311.00	
perforations	8.00			3319.00	
Bullnose	3.00			3322.00	47.00 Bottom Packers & Anchor

**Total Tool Length: 68.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51590

**DST#: 2**

ATTN: Allen Downing

Test Start: 2013.02.14 @ 08:15:00

### 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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.93 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 ft	Description	Volume bbl
35.00	Mud, with spots of oil, 100%M	0.209

Total Length: 35.00 ft      Total Volume: 0.209 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

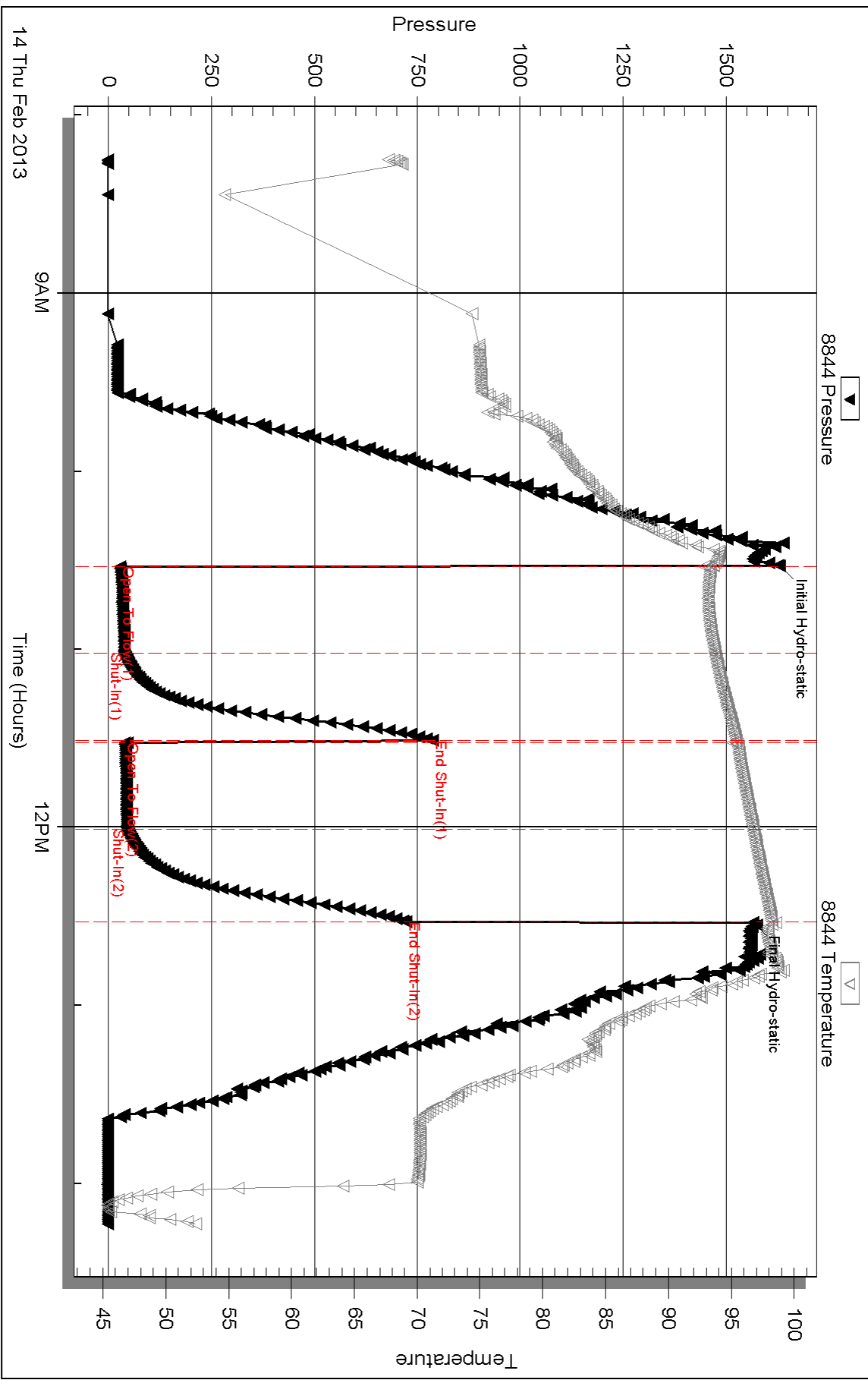
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



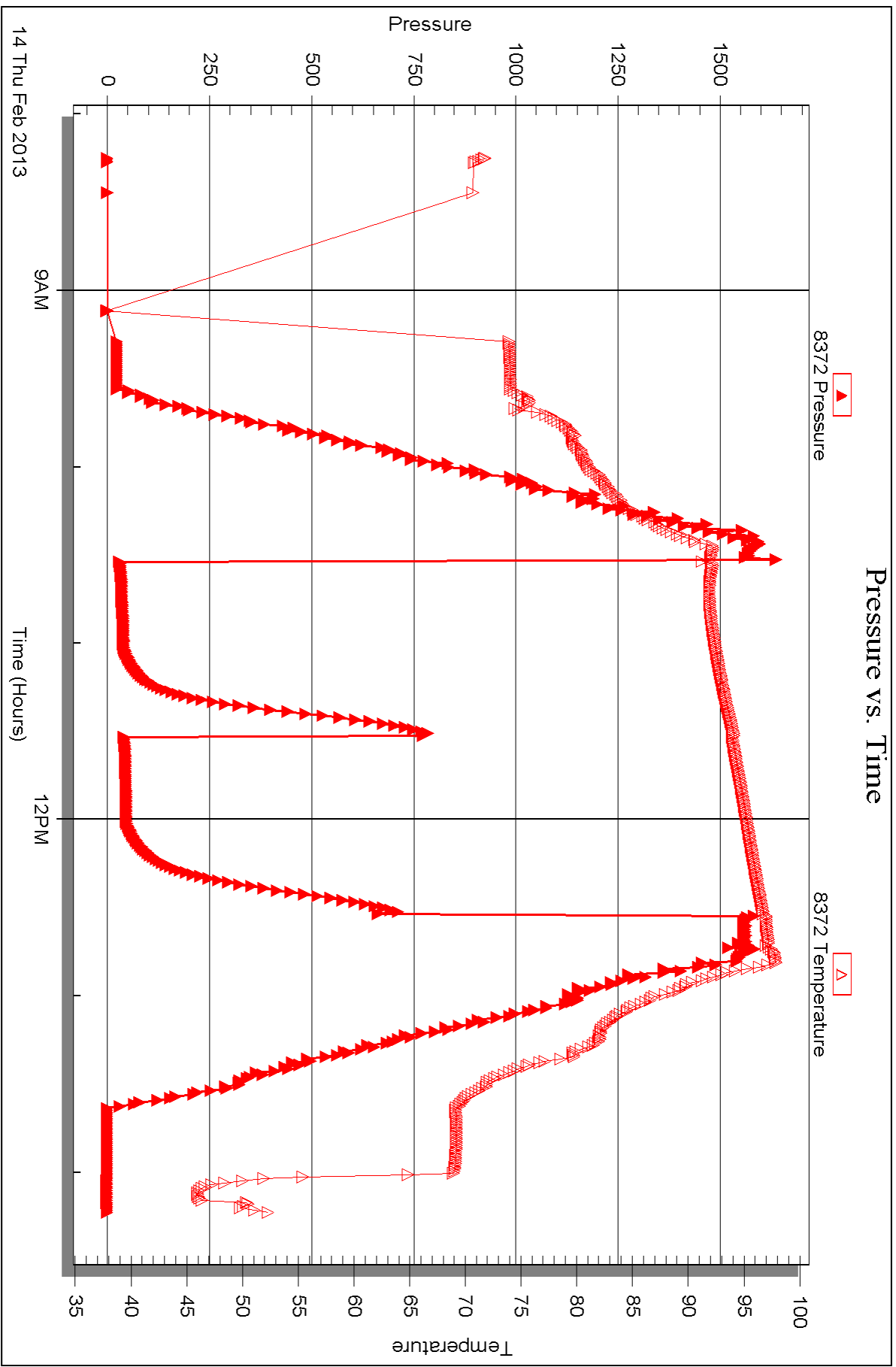
Serial #: 8372

Inside

Downing Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 2





## DRILL STEM TEST REPORT

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

Po Box 1019  
Hays KS 67601

ATTN: Allen Downing

**R. Berens Unit #1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.15 @ 00:56:00

End Date: 2013.02.15 @ 07:09:39

Job Ticket #: 51591                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.26 @ 16:36:50



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51591

**DST#: 3**

Test Start: 2013.02.15 @ 00:56:00

## GENERAL INFORMATION:

Formation: **KC "H-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:35:50

Time Test Ended: 07:09:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

**Interval: 3380.00 ft (KB) To 3464.00 ft (KB) (TVD)**

Reference Elevations: 1973.00 ft (KB)

Total Depth: 3464.00 ft (KB) (TVD)

1968.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8844 Outside**

Press @ RunDepth: 55.43 psig @ 3447.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.15 End Date: 2013.02.15

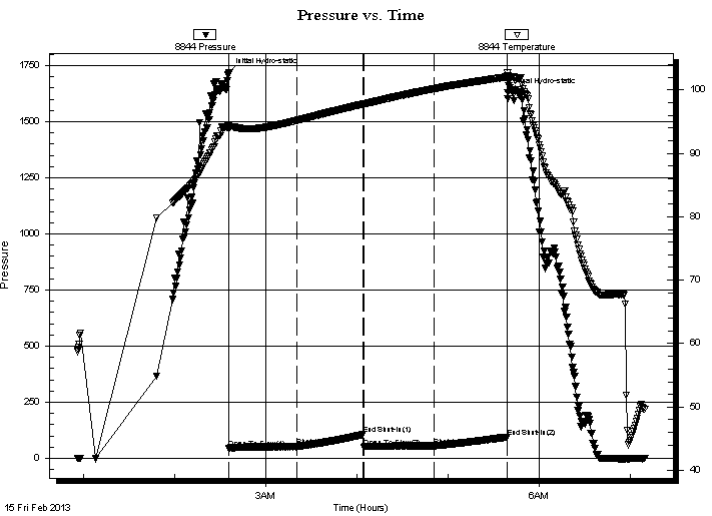
Last Calib.: 2013.02.15

Start Time: 00:56:05 End Time: 07:09:40

Time On Btm: 2013.02.15 @ 02:35:40

Time Off Btm: 2013.02.15 @ 05:39:00

**TEST COMMENT:** 45 - IF- 2 1/4" blow .  
45 - IS- No Return  
45 - FF-3/4" blow  
45 - FS- No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1719.78	94.47	Initial Hydro-static
1	45.61	93.88	Open To Flow (1)
45	52.25	95.17	Shut-In(1)
89	106.37	97.75	End Shut-In(1)
89	50.29	97.74	Open To Flow (2)
135	55.43	100.18	Shut-In(2)
184	95.01	102.04	End Shut-In(2)
184	1630.00	102.75	Final Hydro-static

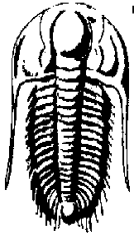
## Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud w ith spots of oil, 100%M	0.15

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51591

**DST#: 3**

ATTN: Allen Dow ning

Test Start: 2013.02.15 @ 00:56:00

## GENERAL INFORMATION:

Formation: **KC "H-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:35:50

Time Test Ended: 07:09:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

**Interval: 3380.00 ft (KB) To 3464.00 ft (KB) (TVD)**

Total Depth: 3464.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1973.00 ft (KB)

1968.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8372 Inside**

Press @RunDepth: psig @ 3447.00 ft (KB)

Start Date: 2013.02.15 End Date: 2013.02.15

Start Time: 00:56:05 End Time: 07:09:59

Capacity: 8000.00 psig

Last Calib.: 2013.02.15

Time On Btm:

Time Off Btm:

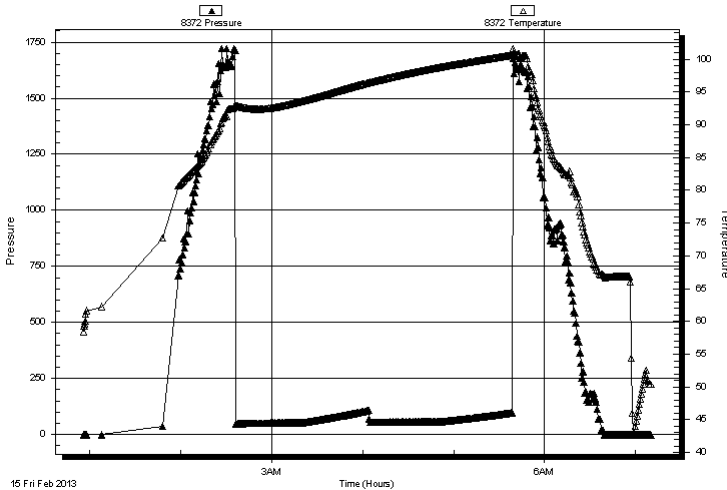
TEST COMMENT: 45 - IF- 2 1/4" blow .

45 - IS- No Return

45 - FF-3/4" blow

45 - FS- No return

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud w ith spots of oil, 100%M	0.15

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51591

**DST#: 3**

ATTN: Allen Downing

Test Start: 2013.02.15 @ 00:56:00

## Tool Information

Drill Pipe:	Length: 3346.00 ft	Diameter: 3.80 inches	Volume: 46.94 bbl	Tool Weight: 2000.00 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: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 48000.00 lb
			<u>Total Volume: 47.09 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3380.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	105.00 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			3360.00	
Shut In Tool	5.00			3365.00	
Hydraulic tool	5.00			3370.00	
Packer	5.00			3375.00	21.00 Bottom Of Top Packer
Packer	5.00			3380.00	
Stubb	1.00			3381.00	
Shut In Tool	2.00			3383.00	
Change Over Sub	1.00			3384.00	
Drill Pipe	62.00			3446.00	
Change Over Sub	1.00			3447.00	
Recorder	0.00	8372	Inside	3447.00	
Recorder	0.00	8844	Outside	3447.00	
perforations	14.00			3461.00	
Bullnose	3.00			3464.00	84.00 Bottom Packers & Anchor

**Total Tool Length: 105.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51591

**DST#: 3**

ATTN: Allen Downing

Test Start: 2013.02.15 @ 00:56:00

## 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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.74 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Mud with spots of oil, 100%M	0.148

Total Length: 30.00 ft      Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

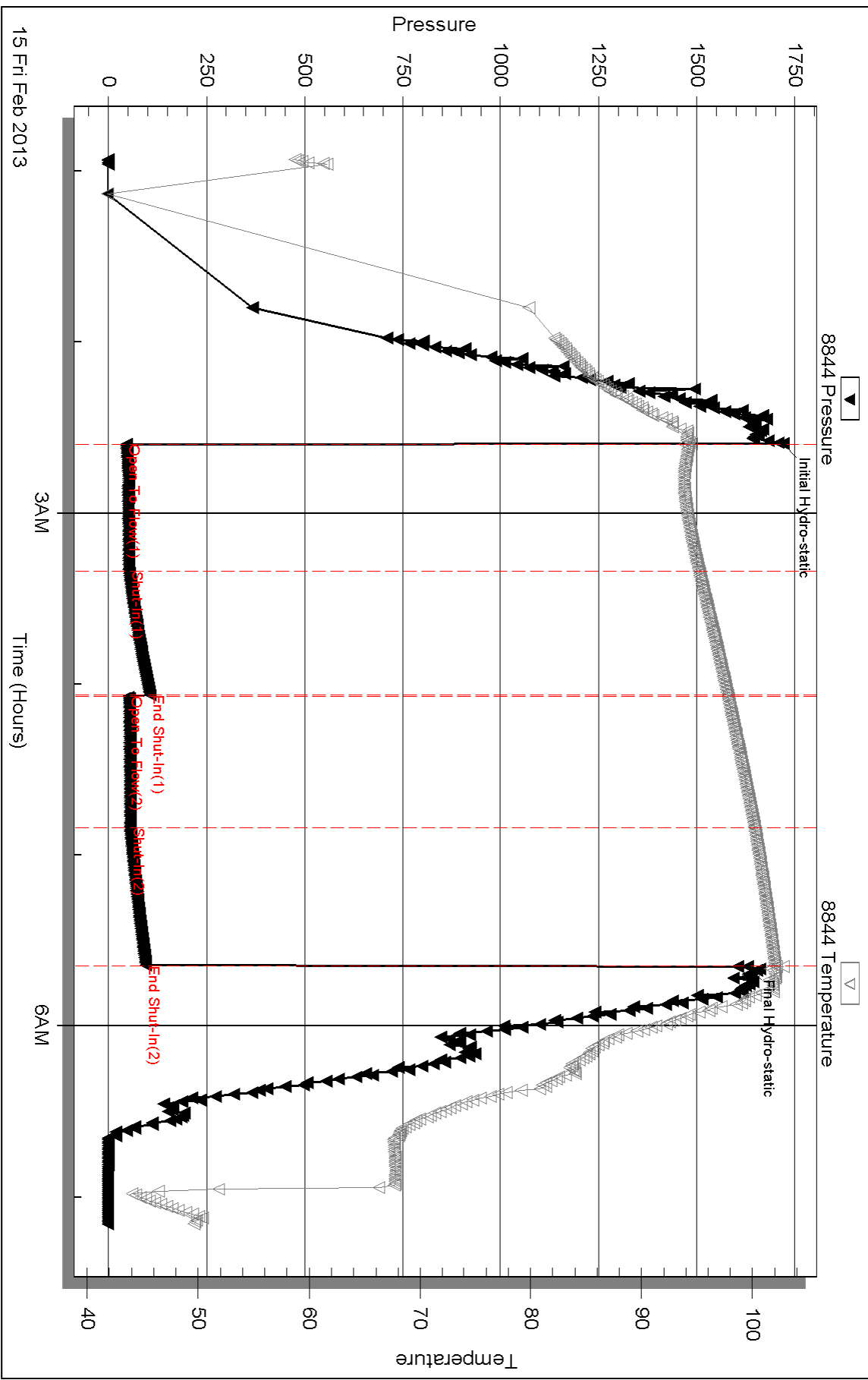
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



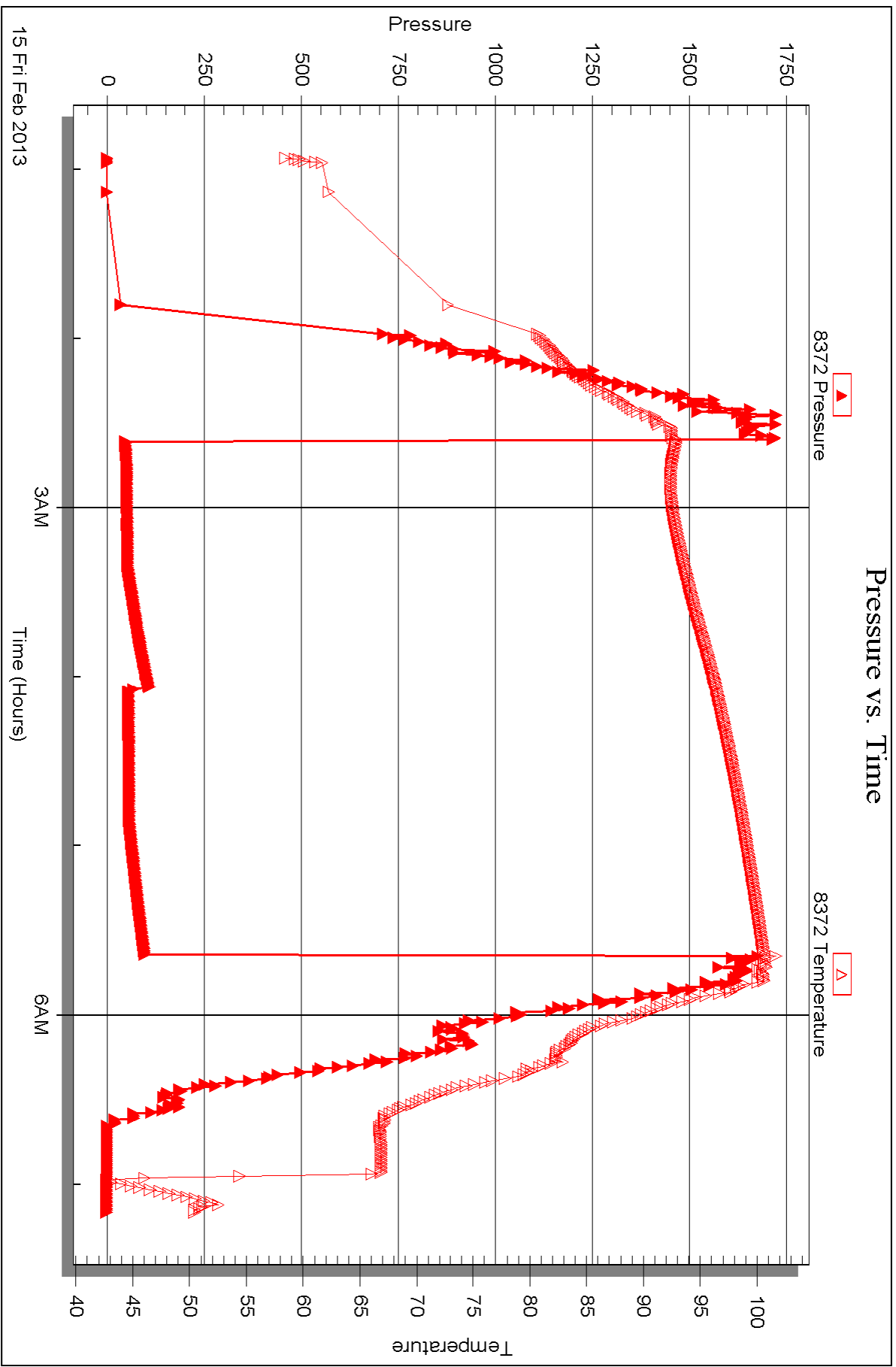
Serial #: 8372

Inside

Downing Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 51591

Printed: 2013.02.26 @ 16:36:52



## DRILL STEM TEST REPORT

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

Po Box 1019, Hays KS, 67601

ATTN: Allen Downing

**R. Berens Unit 1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.15 @ 15:25:05

End Date: 2013.02.15 @ 21:08:50

Job Ticket #: caught                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.26 @ 16:28:40



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc  
 Po Box 1019, Hays KS, 67601  
 ATTN: Allen Dow ning

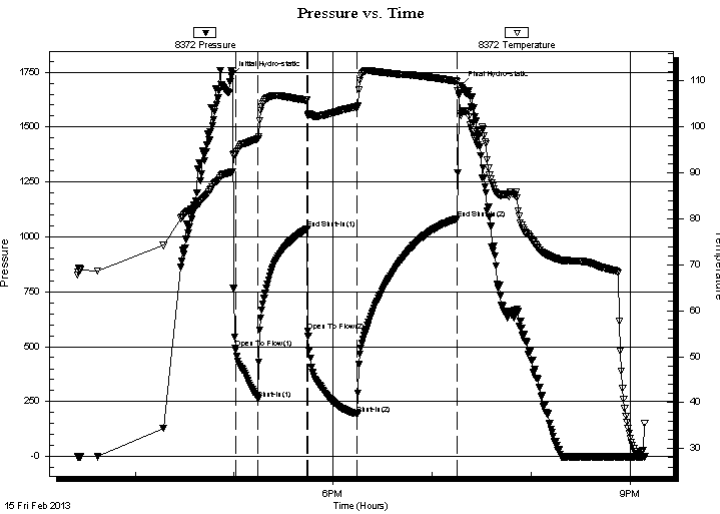
**8-16s-17w Rush KS**  
**R. Berens Unit 1-8**  
 Job Ticket: caught **DST#: 4**  
 Test Start: 2013.02.15 @ 15:25:05

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 17:00:40  
 Time Test Ended: 21:08:50  
 Interval: **3480.00 ft (KB) To 3526.00 ft (KB) (TVD)**  
 Total Depth: 3526.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Andy Carreira  
 Unit No: 39  
 Reference Elevations: 1973.00 ft (KB)  
 1968.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8372 Outside**  
 Press @ Run Depth: 193.53 psig @ 3485.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.15 End Date: 2013.02.15 Last Calib.: 2013.02.15  
 Start Time: 15:25:05 End Time: 21:08:50 Time On Btm: 2013.02.15 @ 16:58:20  
 Time Off Btm: 2013.02.15 @ 19:17:30

**TEST COMMENT:** IF:(15min) BOB immediately. GTS in 3 min. Gauged gas. Caught sample.  
 IS:(30min) No Return  
 FF:(30min) BOB & GTS in 1 min. Gauged gas.  
 FS:(60min) Return surface blow 1 min after bleed off. Died in 22 min.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1735.73	90.19	Initial Hydro-static
3	492.68	94.10	Open To Flow (1)
17	263.01	97.51	Shut-In(1)
46	1037.27	105.81	End Shut-In(1)
47	569.62	102.47	Open To Flow (2)
77	193.53	104.40	Shut-In(2)
137	1082.73	109.91	End Shut-In(2)
140	1690.37	102.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
155.00	Mud	1.89

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	95.00	1708.81
Last Gas Rate	0.75	45.00	927.82
Max. Gas Rate	0.75	95.00	1708.81



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

ATTN: Allen Downing

Job Ticket: caught

**DST#: 4**

Test Start: 2013.02.15 @ 15:25:05

### GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:00:40

Time Test Ended: 21:08:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

**Interval: 3480.00 ft (KB) To 3526.00 ft (KB) (TVD)**

Reference Elevations: 1973.00 ft (KB)

Total Depth: 3526.00 ft (KB) (TVD)

1968.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8844**      **Inside**

Press @ Run Depth: psig @ 3485.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.15

End Date:

2013.02.15

Last Calib.:

2013.02.15

Start Time:

15:25:05

End Time:

21:08:29

Time On Btm:

Time Off Btm:

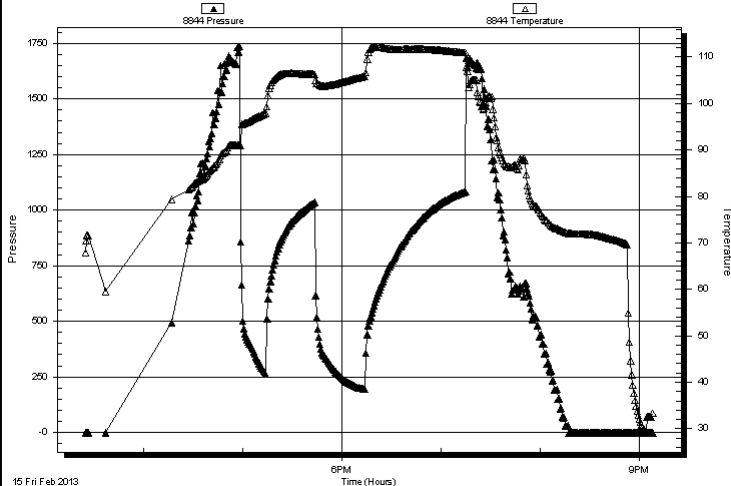
**TEST COMMENT:** IF:(15min) BOB immediately. GTS in 3 min. Gauged gas. Caught sample.

IS:(30min) No Return

FF:(30min) BOB & GTS in 1 min. Gauged gas.

FS:(60min) Return surface blow 1 min after bleed off. Died in 22 min.

Pressure vs. Time



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
155.00	Mud	1.89

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	95.00	1708.81
Last Gas Rate	0.75	45.00	927.82
Max. Gas Rate	0.75	95.00	1708.81

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

ATTN: Allen Downing

Job Ticket: caught

**DST#: 4**

Test Start: 2013.02.15 @ 15:25:05

## Tool Information

Drill Pipe:	Length: 3441.00 ft	Diameter: 3.80 inches	Volume: 48.27 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 54000.00 lb
			Total Volume: 48.42 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3480.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	66.00 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			3461.00	
Shut In Tool	5.00			3466.00	
Hydraulic tool	5.00			3471.00	
Packer	5.00			3476.00	20.00 Bottom Of Top Packer
Packer	4.00			3480.00	
Stubb	1.00			3481.00	
Perforations	3.00			3484.00	
Change Over Sub	1.00			3485.00	
Recorder	0.00	8844	Inside	3485.00	
Recorder	0.00	8372	Outside	3485.00	
Drill Pipe	32.00			3517.00	
Change Over Sub	1.00			3518.00	
Perforations	5.00			3523.00	
Bullnose	3.00			3526.00	46.00 Bottom Packers & Anchor

**Total Tool Length: 66.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

Job Ticket: caught

**DST#: 4**

ATTN: Allen Downing

Test Start: 2013.02.15 @ 15:25:05

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.95 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
155.00	Mud	1.892

Total Length: 155.00 ft

Total Volume: 1.892 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

Job Ticket: caught

**DST#: 4**

ATTN: Allen Downing

Test Start: 2013.02.15 @ 15:25:05

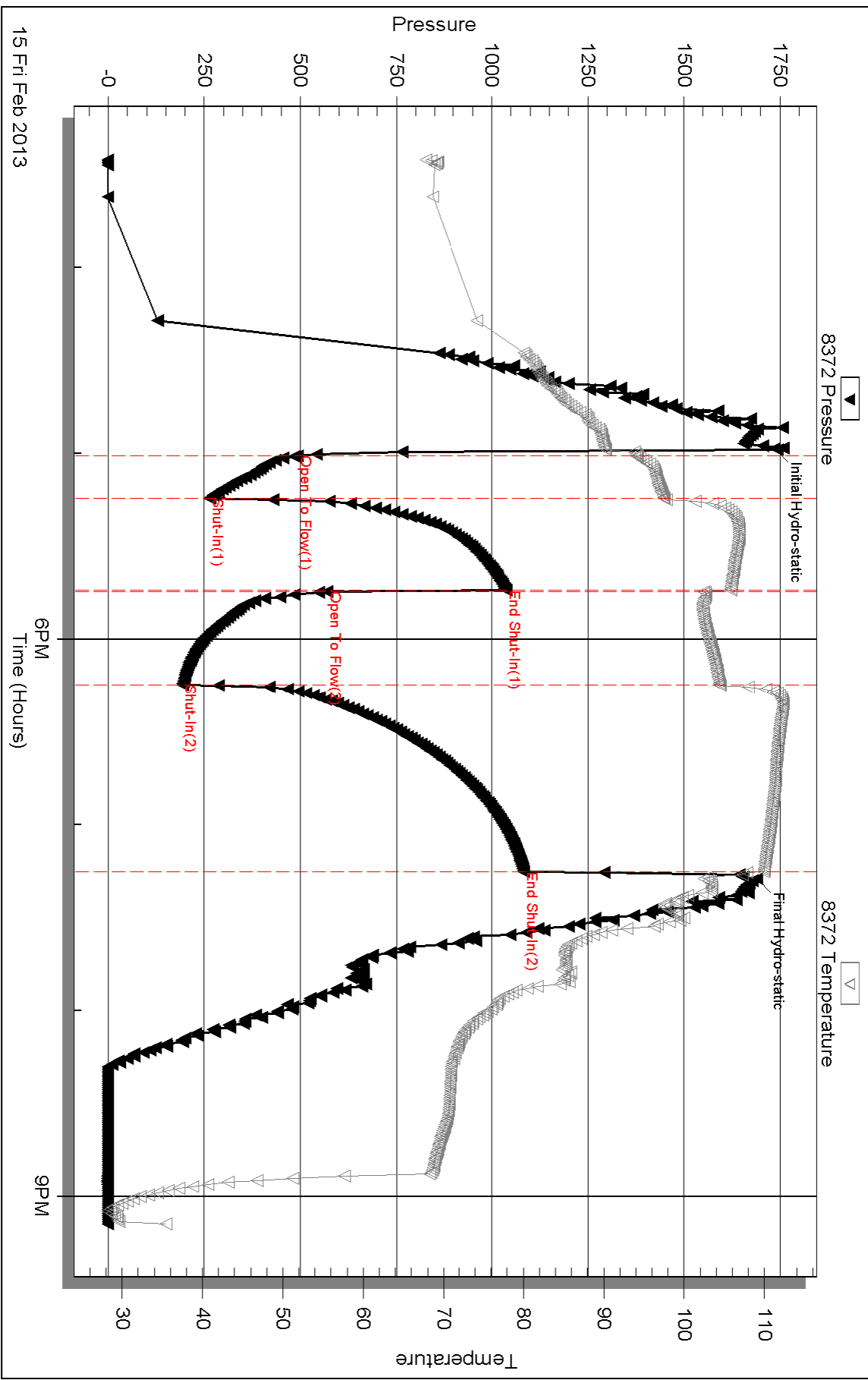
### Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	10	0.75	95.00	1708.81
1	15	0.75	72.00	1349.56
2	10	0.75	72.00	1349.56
2	15	0.75	59.00	1146.50
2	20	0.75	49.00	990.30
2	25	0.75	45.00	927.82

# Pressure vs. Time



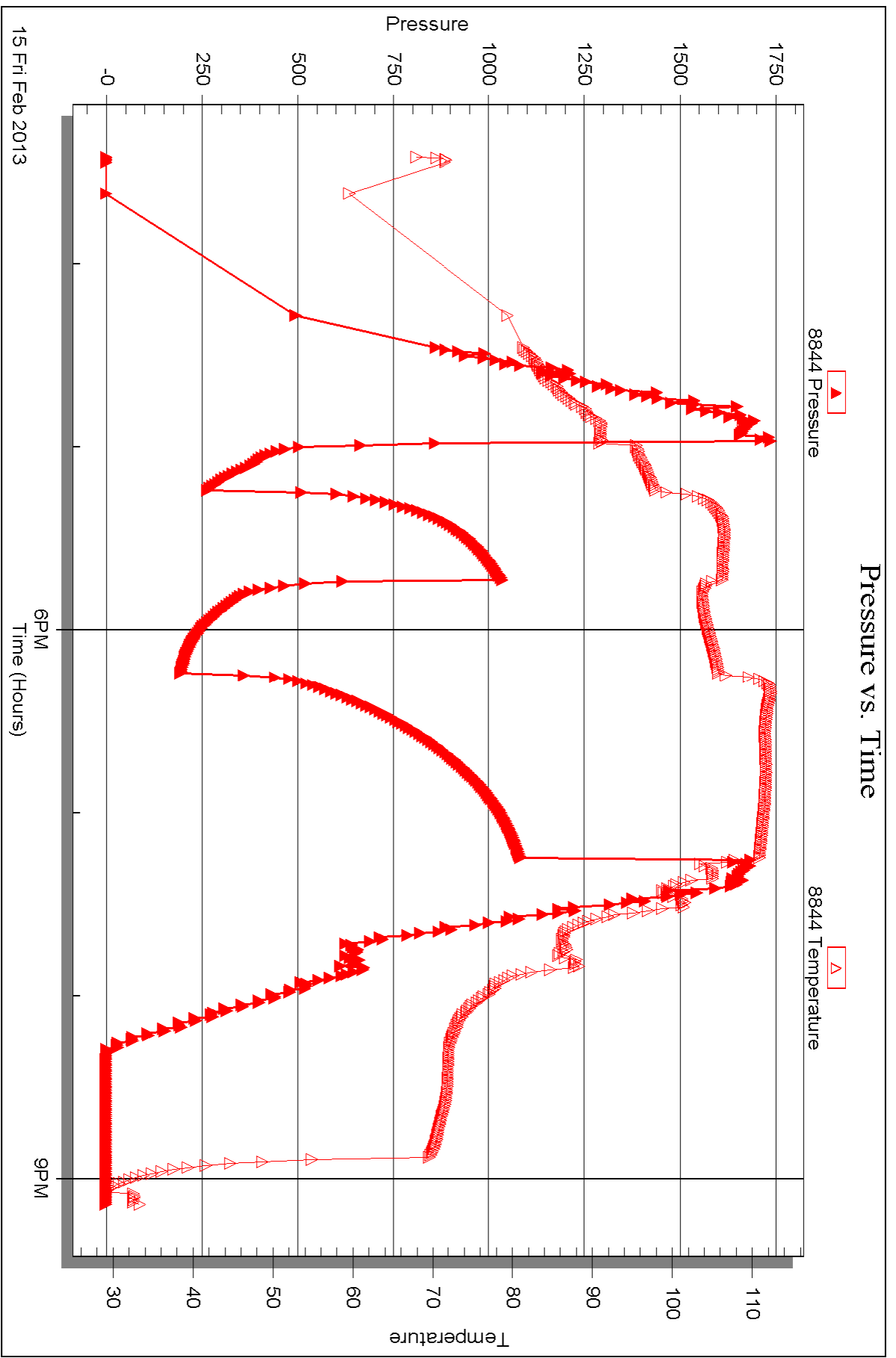
Serial #: 8844

Inside

Downing Nelson Oil Co Inc

R. Berens Unit 1-8

DST Test Number: 4



Triobite Testing, Inc

Ref. No: caught

Printed: 2013.02.26 @ 16:28:43



## DRILL STEM TEST REPORT

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

Po Box 1019, Hays KS, 67601

ATTN: Allen Downing

**R. Berens Unit 1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.16 @ 02:06:05

End Date: 2013.02.16 @ 09:21:09

Job Ticket #: 51477                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.26 @ 16:29:20



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc  
 Po Box 1019, Hays KS, 67601  
 ATTN: Allen Dow ning

**8-16s-17w Rush KS**  
**R. Berens Unit 1-8**  
 Job Ticket: 51477 **DST#: 5**  
 Test Start: 2013.02.16 @ 02:06:05

## GENERAL INFORMATION:

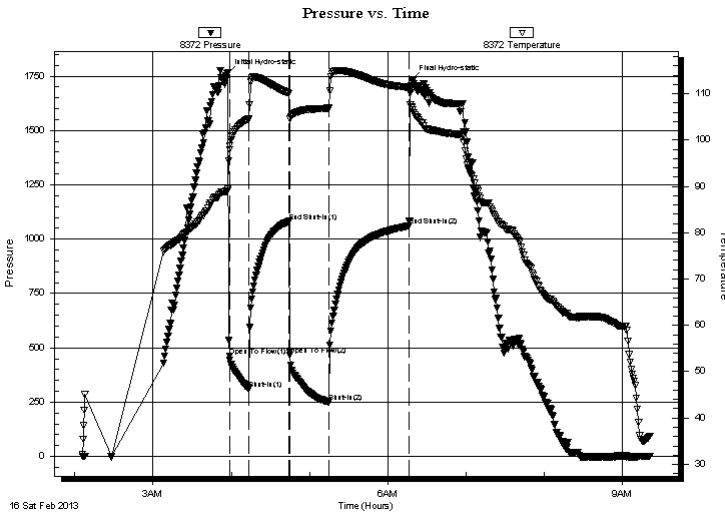
Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:58:40  
 Time Test Ended: 09:21:09  
 Interval: **3526.00 ft (KB) To 3536.00 ft (KB) (TVD)**  
 Total Depth: 3536.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Andy Carreira  
 Unit No: 39  
 Reference Elevations: 1973.00 ft (KB)  
 1968.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8372 Outside

Press @RunDepth: 249.20 psig @ 3527.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.16 End Date: 2013.02.16 Last Calib.: 2013.02.16  
 Start Time: 02:06:05 End Time: 09:21:10 Time On Btm: 2013.02.16 @ 03:57:00  
 Time Off Btm: 2013.02.16 @ 06:18:30

**TEST COMMENT:** IF:(15min) BOB immediately. GTS 2 min. Gauged gas. Caught sample.  
 ISl:(30min) Return blow , built to 1/2". decreased to surface blow .  
 FF:(30min) BOB & GTS in 30 sec. Gauged gas. Would not burn.  
 FSl:(60min) Return blow built to 2". decreased to 1"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1762.15	89.10	Initial Hydro-static
2	462.93	97.84	Open To Flow (1)
17	310.64	104.55	Shut-In(1)
47	1080.84	110.09	End Shut-In(1)
48	467.48	104.68	Open To Flow (2)
78	249.20	106.89	Shut-In(2)
140	1061.53	111.39	End Shut-In(2)
142	1731.88	107.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM o=10% m=90%	0.02
60.00	CO o=100%	0.60

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	94.00	1693.19
Last Gas Rate	0.75	66.00	1255.84
Max. Gas Rate	0.75	94.00	1693.19



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Downing Nelson Oil Co Inc  
 Po Box 1019, Hays KS, 67601  
 ATTN: Allen Downing

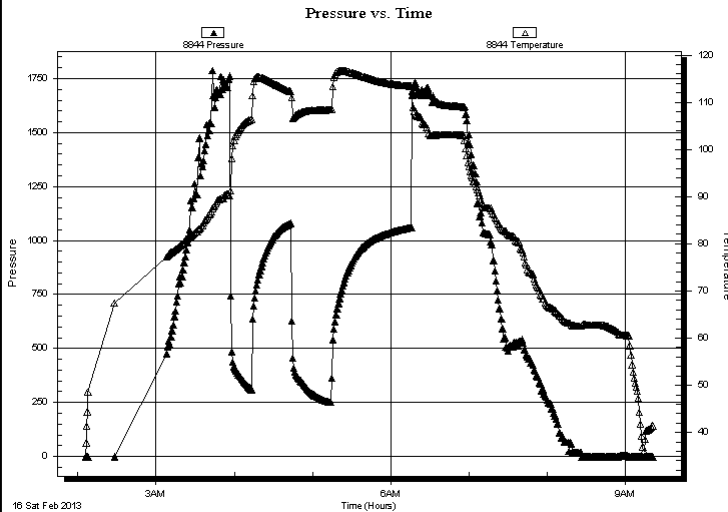
**8-16s-17w Rush KS**  
**R. Berens Unit 1-8**  
 Job Ticket: 51477      **DST#: 5**  
 Test Start: 2013.02.16 @ 02:06:05

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No      Whipstock:      ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 03:58:40      Tester: Andy Carreira  
 Time Test Ended: 09:21:09      Unit No: 39  
**Interval: 3526.00 ft (KB) To 3536.00 ft (KB) (TVD)**      Reference Elevations: 1973.00 ft (KB)  
 Total Depth: 3536.00 ft (KB) (TVD)      1968.00 ft (CF)  
 Hole Diameter: 7.88 inches      Hole Condition: Fair      KB to GR/CF: 5.00 ft

**Serial #: 8844      Inside**  
 Press @ Run Depth:      psig @ 3527.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2013.02.16      End Date: 2013.02.16      Last Calib.: 2013.02.16  
 Start Time: 02:06:05      End Time: 09:20:59      Time On Btm:  
    Time Off Btm:

**TEST COMMENT:** IF:(15min) BOB immediately. GTS 2 min. Gauged gas. Caught sample.  
 ISl:(30min) Return blow, built to 1/2". decreased to surface blow.  
 FF:(30min) BOB & GTS in 30 sec. Gauged gas. Would not burn.  
 FSl:(60min) Return blow built to 2". decreased to 1"



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM o=10% m=90%	0.02
60.00	CO o=100%	0.60

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	94.00	1693.19
Last Gas Rate	0.75	66.00	1255.84
Max. Gas Rate	0.75	94.00	1693.19

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

Job Ticket: 51477

**DST#: 5**

ATTN: Allen Downing

Test Start: 2013.02.16 @ 02:06:05

## Tool Information

Drill Pipe:	Length: 3500.00 ft	Diameter: 3.80 inches	Volume: 49.10 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 50000.00 lb
			Total Volume: 49.25 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3526.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	31.00 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			3506.00	
Shut In Tool	5.00			3511.00	
Hydraulic tool	5.00			3516.00	
Packer	5.00			3521.00	21.00 Bottom Of Top Packer
Packer	5.00			3526.00	
Stubb	1.00			3527.00	
Recorder	0.00	8844	Inside	3527.00	
Recorder	0.00	8372	Outside	3527.00	
perforations	6.00			3533.00	
Bullnose	3.00			3536.00	10.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>31.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

Job Ticket: 51477

**DST#: 5**

ATTN: Allen Downing

Test Start: 2013.02.16 @ 02:06:05

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.95 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
5.00	OCM o=10% m=90%	0.025
60.00	CO o=100%	0.605

Total Length: 65.00 ft

Total Volume: 0.630 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

Job Ticket: 51477

**DST#: 5**

ATTN: Allen Downing

Test Start: 2013.02.16 @ 02:06:05

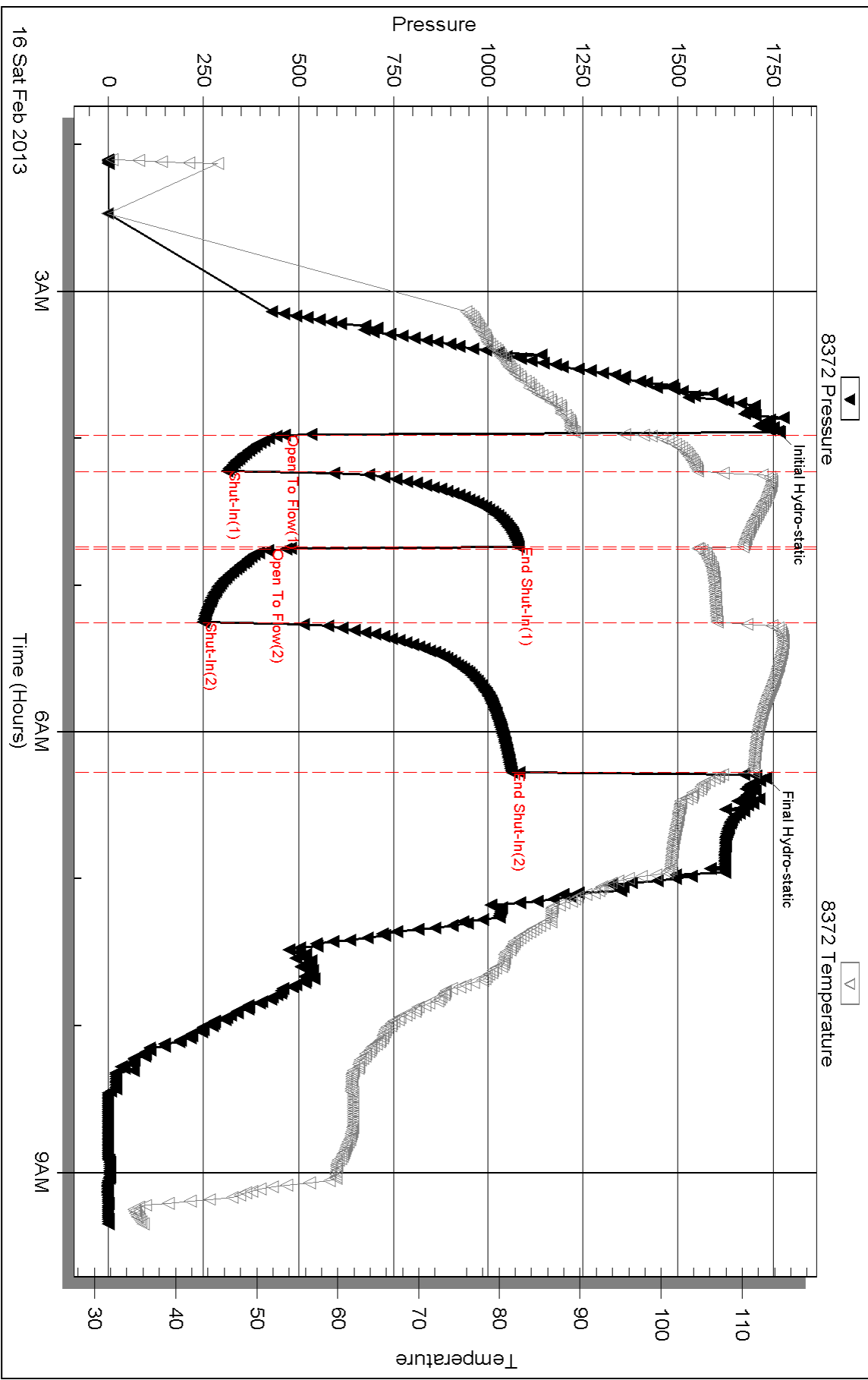
### Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	5	0.75	94.00	1693.19
1	5	0.75	94.00	1693.19
1	10	0.75	92.00	1661.95
1	15	0.75	82.00	1505.75
2	5	0.75	92.00	1661.95
2	10	0.75	89.00	1615.09
2	15	0.75	78.00	1443.28
2	20	0.75	72.00	1349.56
2	25	0.75	66.00	1255.84

### Pressure vs. Time



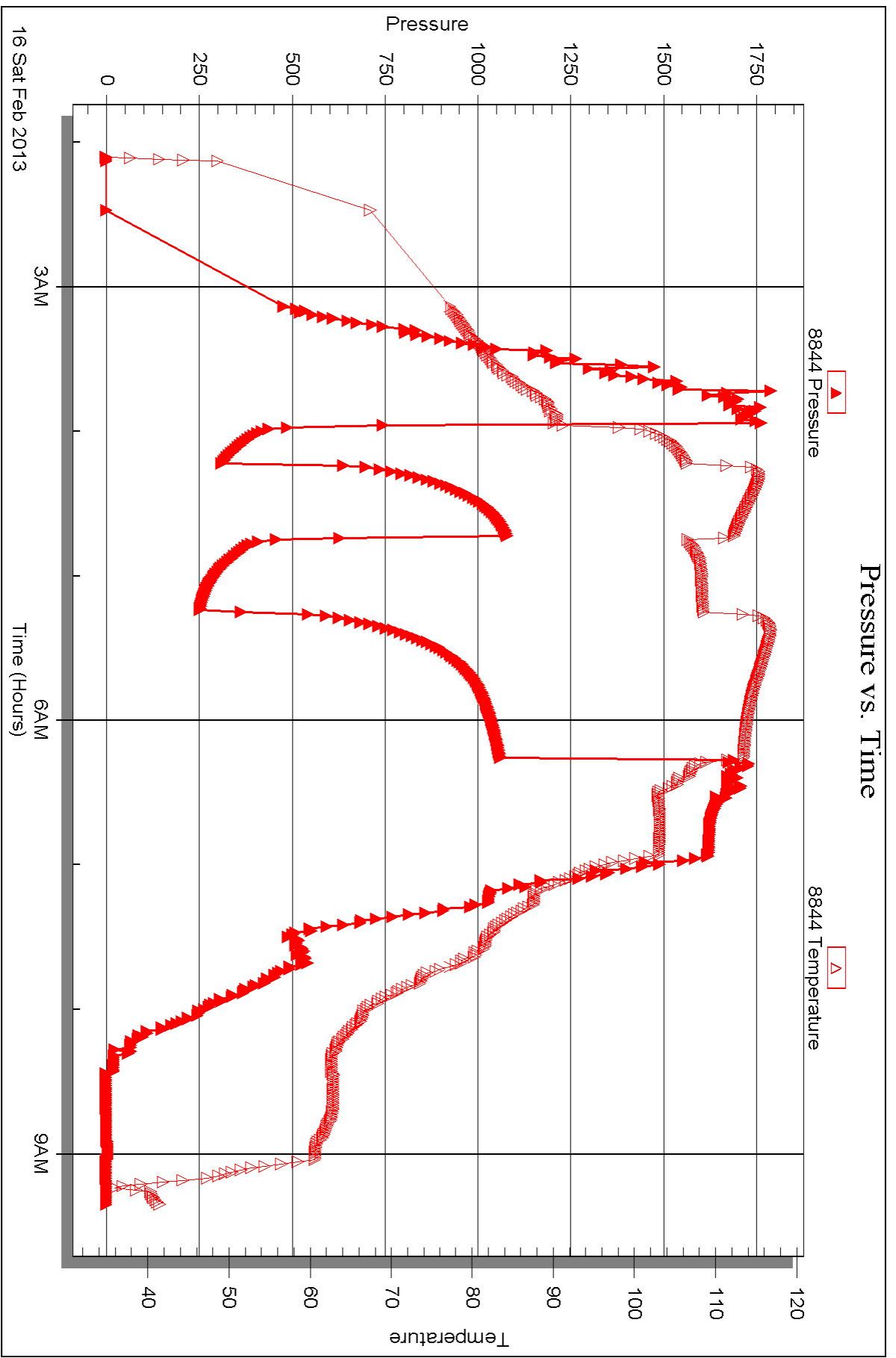
Serial #: 8844

Inside

Downing Nelson Oil Co Inc

R. Berens Unit 1-8

DST Test Number: 5





## DRILL STEM TEST REPORT

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

Po Box 1019  
Hays KS 67601

ATTN: Allen Downing

**R. Berens Unit #1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.16 @ 15:41:05

End Date: 2013.02.16 @ 21:13:59

Job Ticket #: 51478                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.26 @ 16:36:06



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51478

**DST#: 6**

Test Start: 2013.02.16 @ 15:41:05

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:08:10

Time Test Ended: 21:13:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 39

**Interval: 3536.00 ft (KB) To 3546.00 ft (KB) (TVD)**

Reference Elevations: 1973.00 ft (KB)

Total Depth: 3546.00 ft (KB) (TVD)

1968.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8372 Outside**

Press @ Run Depth: 39.14 psig @ 3537.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.16 End Date: 2013.02.16

Last Calib.: 2013.02.16

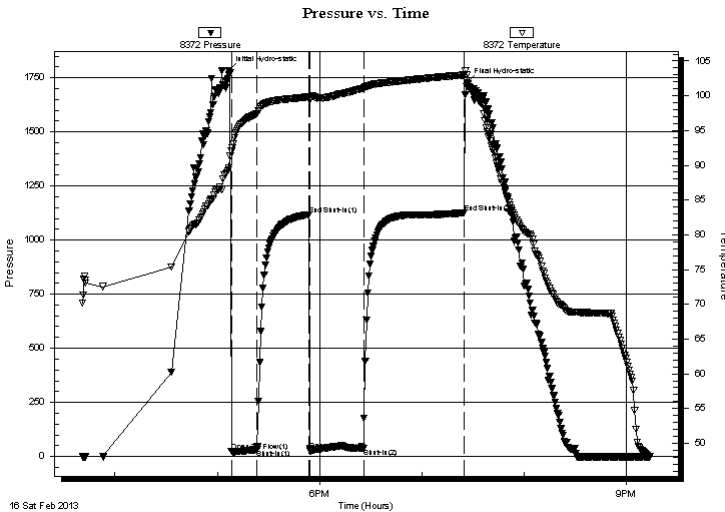
Start Time: 15:41:05 End Time: 21:13:59

Time On Btm: 2013.02.16 @ 17:06:40

Time Off Btm: 2013.02.16 @ 19:26:30

**TEST COMMENT:** IF:(15min) BOB 1 min.  
IS:(30min) No Return  
FF:(30min) BOB immediately. GTS in 18 min. TSTM  
FS:(60min) Return blow , Built to 1/2" Decreased to surface blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1781.56	89.39	Initial Hydro-static
2	23.08	92.00	Open To Flow (1)
17	32.22	97.40	Shut-In(1)
48	1117.85	99.85	End Shut-In(1)
48	26.08	99.51	Open To Flow (2)
80	39.14	101.06	Shut-In(2)
139	1125.92	102.99	End Shut-In(2)
140	1725.61	102.20	Final Hydro-static

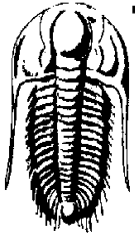
## Recovery

Length (ft)	Description	Volume (bbl)
35.00	HOCM o=40% m=60%	0.21
60.00	GO g=10% o=90%	0.84

\* Recovery from multiple tests

## Gas Rates

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



TRILOBITE  
TESTING, INC.

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51478

**DST#: 6**

Test Start: 2013.02.16 @ 15:41:05

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:08:10

Time Test Ended: 21:13:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 39

**Interval: 3536.00 ft (KB) To 3546.00 ft (KB) (TVD)**

Reference Elevations: 1973.00 ft (KB)

Total Depth: 3546.00 ft (KB) (TVD)

1968.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8844 Inside**

Press @RunDepth: psig @ 3537.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.16

End Date: 2013.02.16

Last Calib.: 2013.02.16

Start Time: 15:41:05

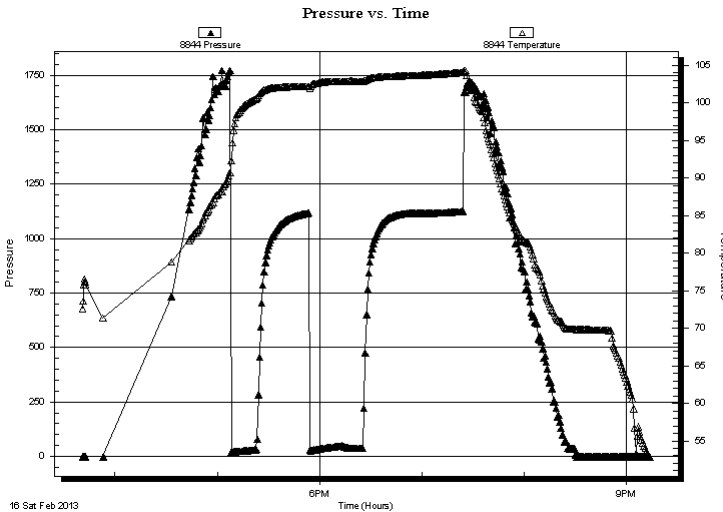
End Time: 21:13:50

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:(15min) BOB 1 min.  
IS:(30min) No Return  
FF:(30min) BOB immediately. GTS in 18 min. TSTM  
FS:(60min) Return blow , Built to 1/2" Decreased to surface blow

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	HOCM o=40% m=60%	0.21
60.00	GO g=10% o=90%	0.84

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51478

**DST#: 6**

ATTN: Allen Downing

Test Start: 2013.02.16 @ 15:41:05

## Tool Information

Drill Pipe:	Length: 3505.00 ft	Diameter: 3.80 inches	Volume: 49.17 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	52000.00 lb
			<u>Total Volume: 49.32 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3536.00 ft			Final	45000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	10.00 ft				
Tool Length:	30.00 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			3517.00	
Shut In Tool	5.00			3522.00	
Hydraulic tool	5.00			3527.00	
Packer	5.00			3532.00	20.00 Bottom Of Top Packer
Packer	4.00			3536.00	
Stubb	1.00			3537.00	
Recorder	0.00	8844	Inside	3537.00	
Recorder	0.00	8372	Outside	3537.00	
perforations	6.00			3543.00	
Bullnose	3.00			3546.00	10.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>30.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51478

**DST#: 6**

ATTN: Allen Downing

Test Start: 2013.02.16 @ 15:41:05

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length: ft

Water Salinity: ppm

Viscosity: 50.00 sec/qt

Cushion Volume: bbl

Water Loss: 9.56 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 3000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
35.00	HOCM o=40% m=60%	0.209
60.00	GO g=10% o=90%	0.842

Total Length: 95.00 ft      Total Volume: 1.051 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

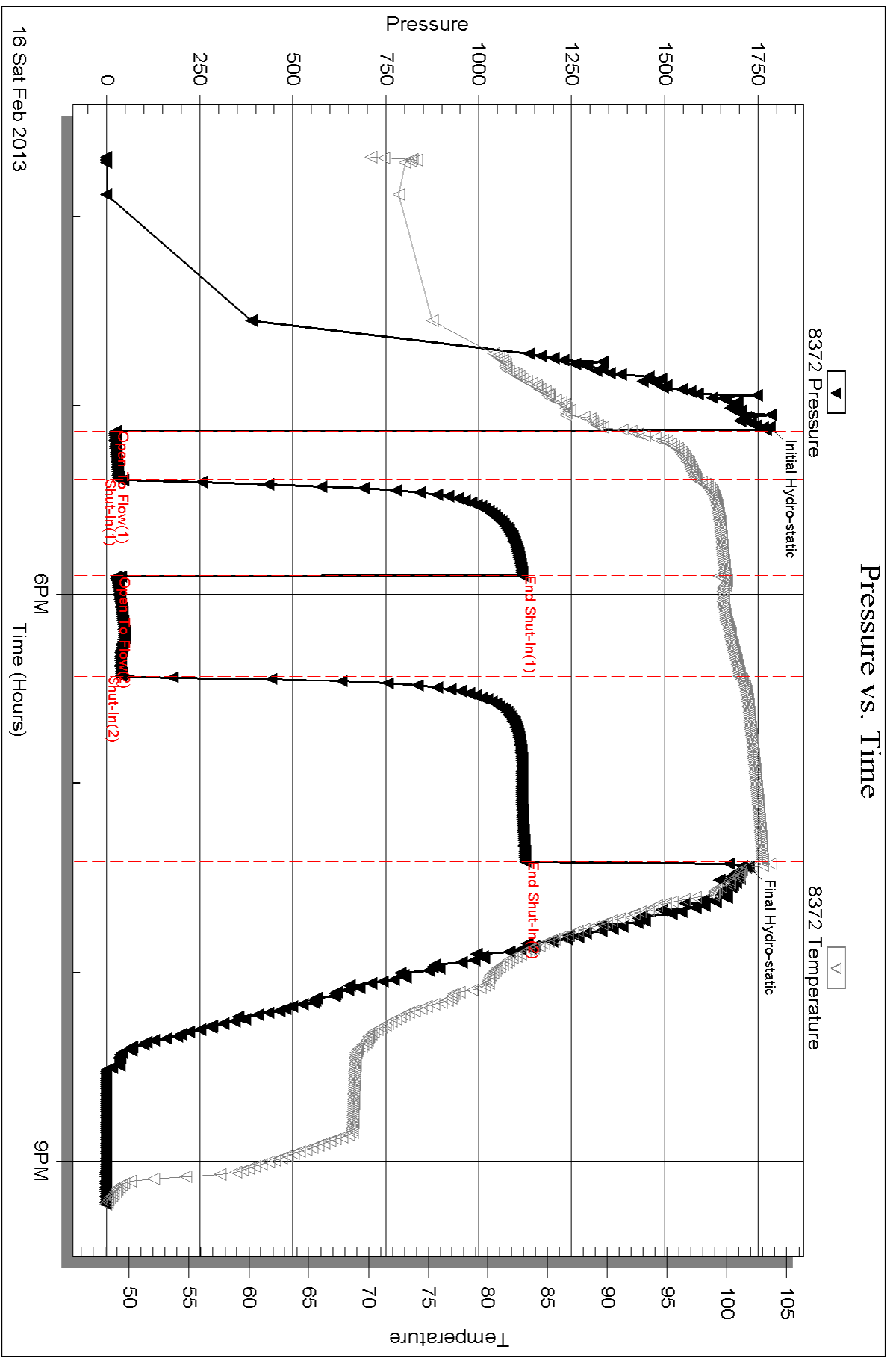


Serial #: 8372

Outside Downing Nelson Oil Co Inc

R Berens Unit #1-8

DST Test Number: 6



Triobite Testing, Inc

Ref. No: 51478

Printed: 2013.02.26 @ 16:36:08

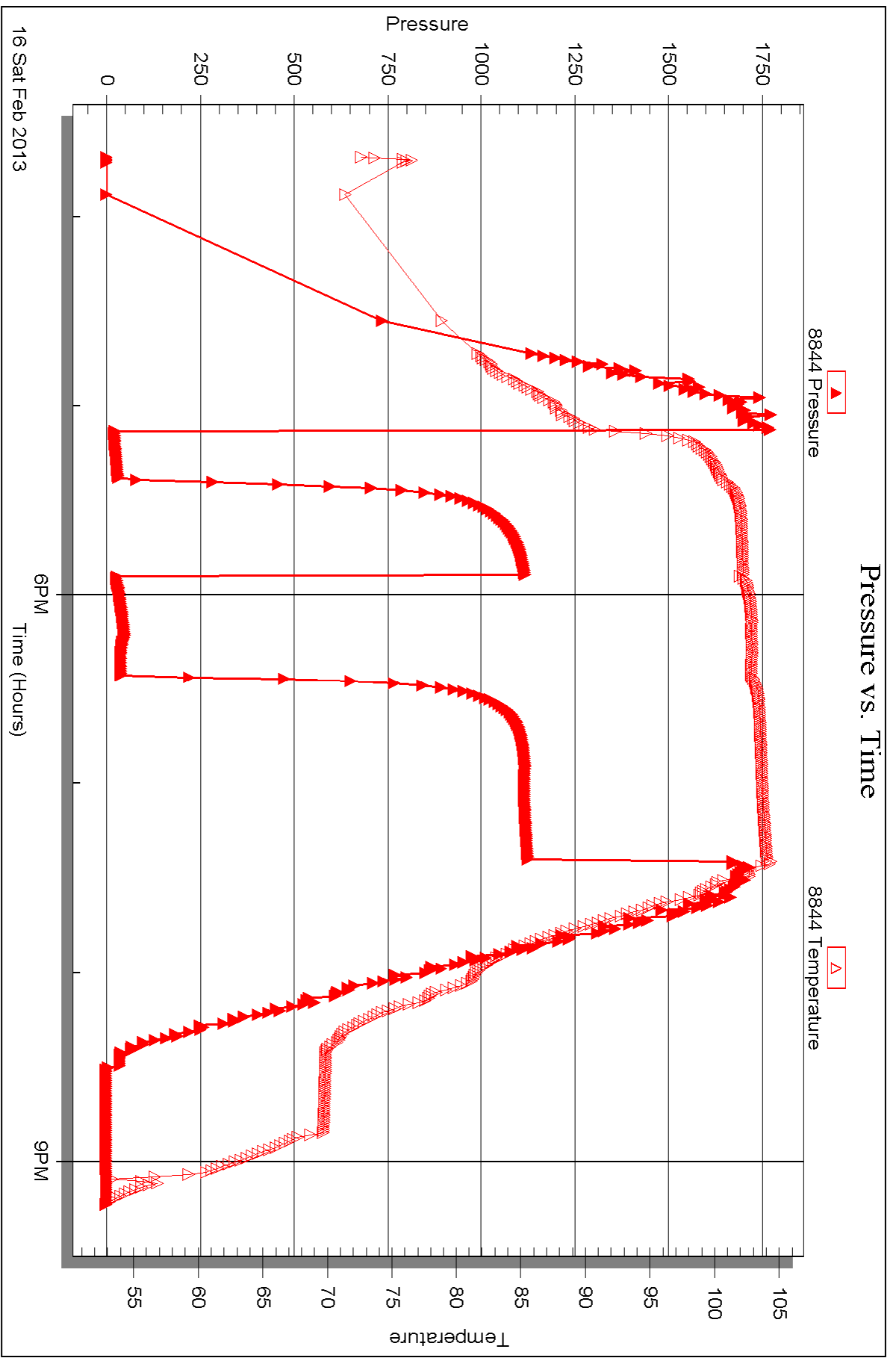
Serial #: 8844

Inside

Downing Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 6



16 Sat Feb 2013

6PM Time (Hours)

9PM



## DRILL STEM TEST REPORT

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

Po Box 1019  
Hays KS 67601

ATTN: Allen Downing

**R. Berens Unit #1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.17 @ 10:24:05

End Date: 2013.02.17 @ 16:05:39

Job Ticket #: 51479                      DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.26 @ 16:34:00



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51479

**DST#: 7**

Test Start: 2013.02.17 @ 10:24:05

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:51:50

Time Test Ended: 16:05:39

Test Type: Conventional Straddle (Reset)

Tester: Andy Carreira

Unit No: 39

**Interval: 3546.00 ft (KB) To 3564.00 ft (KB) (TVD)**

Reference Elevations: 1973.00 ft (KB)

Total Depth: 3616.00 ft (KB) (TVD)

1968.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8372 Outside**

Press @RunDepth: 284.38 psig @ 3547.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.17 End Date: 2013.02.17

Last Calib.: 2013.02.17

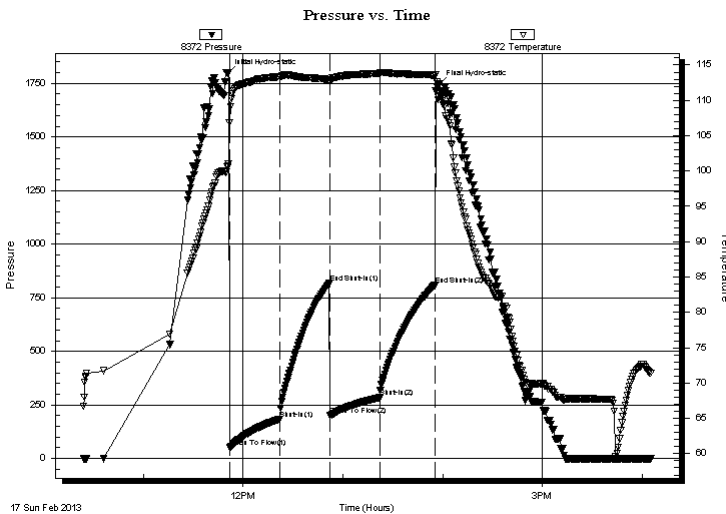
Start Time: 10:24:05 End Time: 16:05:40

Time On Btm: 2013.02.17 @ 11:50:40

Time Off Btm: 2013.02.17 @ 13:57:40

**TEST COMMENT:** IF:(30min) BOB 3 min.  
IS:(30min) Weak surface blow back.  
FF:(30min) BOB 7 min.  
FS:(30min) Very weak surface blow back. died in 14 min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1795.30	100.67	Initial Hydro-static
2	51.92	106.85	Open To Flow (1)
32	184.54	113.32	Shut-In(1)
62	817.96	112.93	End Shut-In(1)
62	200.43	112.67	Open To Flow (2)
92	284.38	113.84	Shut-In(2)
125	808.03	113.56	End Shut-In(2)
128	1746.43	111.15	Final Hydro-static

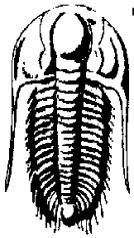
## Recovery

Length (ft)	Description	Volume (bbl)
540.00	Water	7.29

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51479

**DST#: 7**

Test Start: 2013.02.17 @ 10:24:05

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:51:50  
 Time Test Ended: 16:05:39

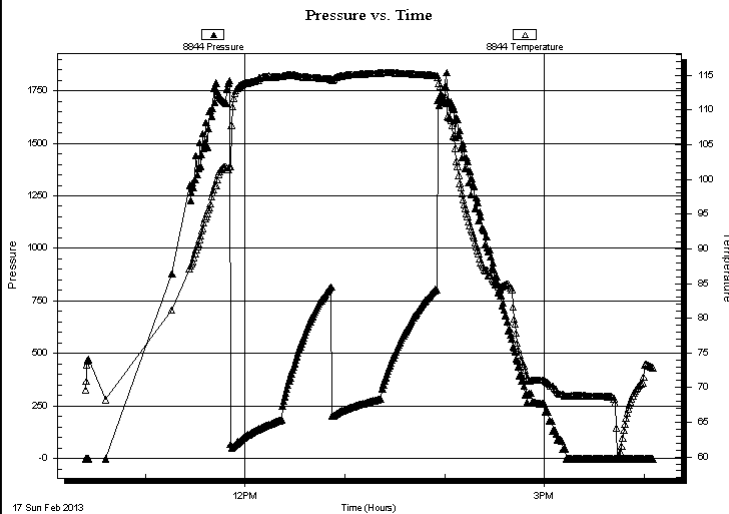
Test Type: Conventional Straddle (Reset)  
 Tester: Andy Carreira  
 Unit No: 39

**Interval: 3546.00 ft (KB) To 3564.00 ft (KB) (TVD)**  
 Reference Elevations: 1973.00 ft (KB)  
 Total Depth: 3616.00 ft (KB) (TVD) 1968.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 8844 Inside**

Press @ Run Depth: psig @ 3547.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.17 End Date: 2013.02.17 Last Calib.: 2013.02.17  
 Start Time: 10:24:05 End Time: 16:05:29 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF:(30min) BOB 3 min.  
 IS:(30min) Weak surface blow back.  
 FF:(30min) BOB 7 min.  
 FS:(30min) Very weak surface blow back. died in 14 min.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
540.00	Water	7.29

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Dow ning Nelson Oil Co Inc

Po Box 1019  
Hays KS 67601

ATTN: Allen Dow ning

**8-16s-17w Rush KS**

**R. Berens Unit #1-8**

Job Ticket: 51479

**DST#: 7**

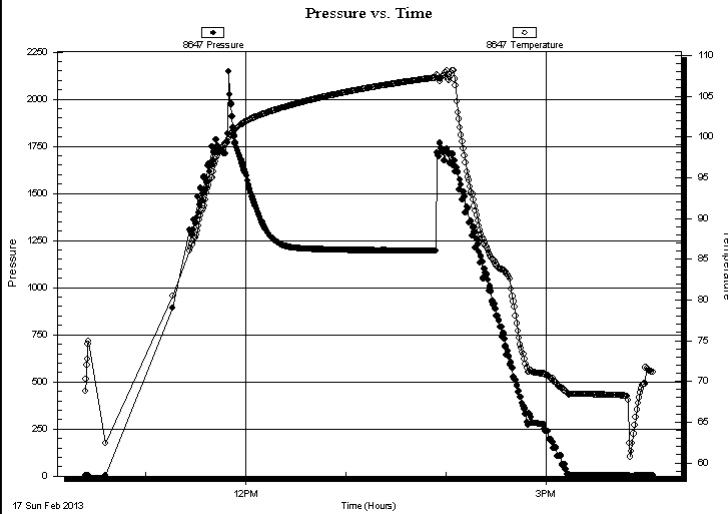
Test Start: 2013.02.17 @ 10:24:05

**GENERAL INFORMATION:**

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:51:50  
 Time Test Ended: 16:05:39  
**Interval: 3546.00 ft (KB) To 3564.00 ft (KB) (TVD)**  
 Total Depth: 3616.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 Test Type: Conventional Straddle (Reset)  
 Tester: Andy Carreira  
 Unit No: 39  
 Reference Elevations: 1973.00 ft (KB)  
 1968.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8647 Below (Straddle)**  
 Press @RunDepth: psig @ 3584.00 ft (KB)  
 Start Date: 2013.02.17 End Date: 2013.02.17  
 Start Time: 10:24:05 End Time: 16:04:20  
 Capacity: 8000.00 psig  
 Last Calib.: 2013.02.17  
 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF:(30min) BOB 3 min.  
 IS:(30min) Weak surface blow back.  
 FF:(30min) BOB 7 min.  
 FS:(30min) Very weak surface blow back. died in 14 min.



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
540.00	Water	7.29

**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 Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51479

**DST#: 7**

ATTN: Allen Dow ning

Test Start: 2013.02.17 @ 10:24:05

## Tool Information

Drill Pipe:	Length: 3503.00 ft	Diameter: 3.80 inches	Volume: 49.14 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 26000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 49.29 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3546.00 ft			Final 47000.00 lb
Depth to Bottom Packer:	3564.00 ft			
Interval betw een Packers:	18.00 ft			
Tool Length:	94.00 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			3527.00	
Shut In Tool	5.00			3532.00	
Hydraulic tool	5.00			3537.00	
Packer	5.00			3542.00	20.00 Bottom Of Top Packer
Packer	4.00			3546.00	
Stubb	1.00			3547.00	
Recorder	0.00	8844	Inside	3547.00	
Recorder	0.00	8372	Outside	3547.00	
perforations	12.00			3559.00	
Blank Off Sub	1.00			3560.00	
Blank Spacing	4.00			3564.00	18.00 Tool Interval
Packer	4.00			3568.00	
Stubb	1.00			3569.00	
Perforations	14.00			3583.00	
Change Over Sub	1.00			3584.00	
Recorder	0.00	8647	Below	3584.00	
Drill Pipe	32.00			3616.00	
Change Over Sub	1.00			3617.00	
Bullnose	3.00			3620.00	56.00 Bottom Packers & Anchor

**Total Tool Length: 94.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51479

**DST#: 7**

ATTN: Allen Downing

Test Start: 2013.02.17 @ 10:24:05

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

36000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
540.00	Water	7.292

Total Length: 540.00 ft

Total Volume: 7.292 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

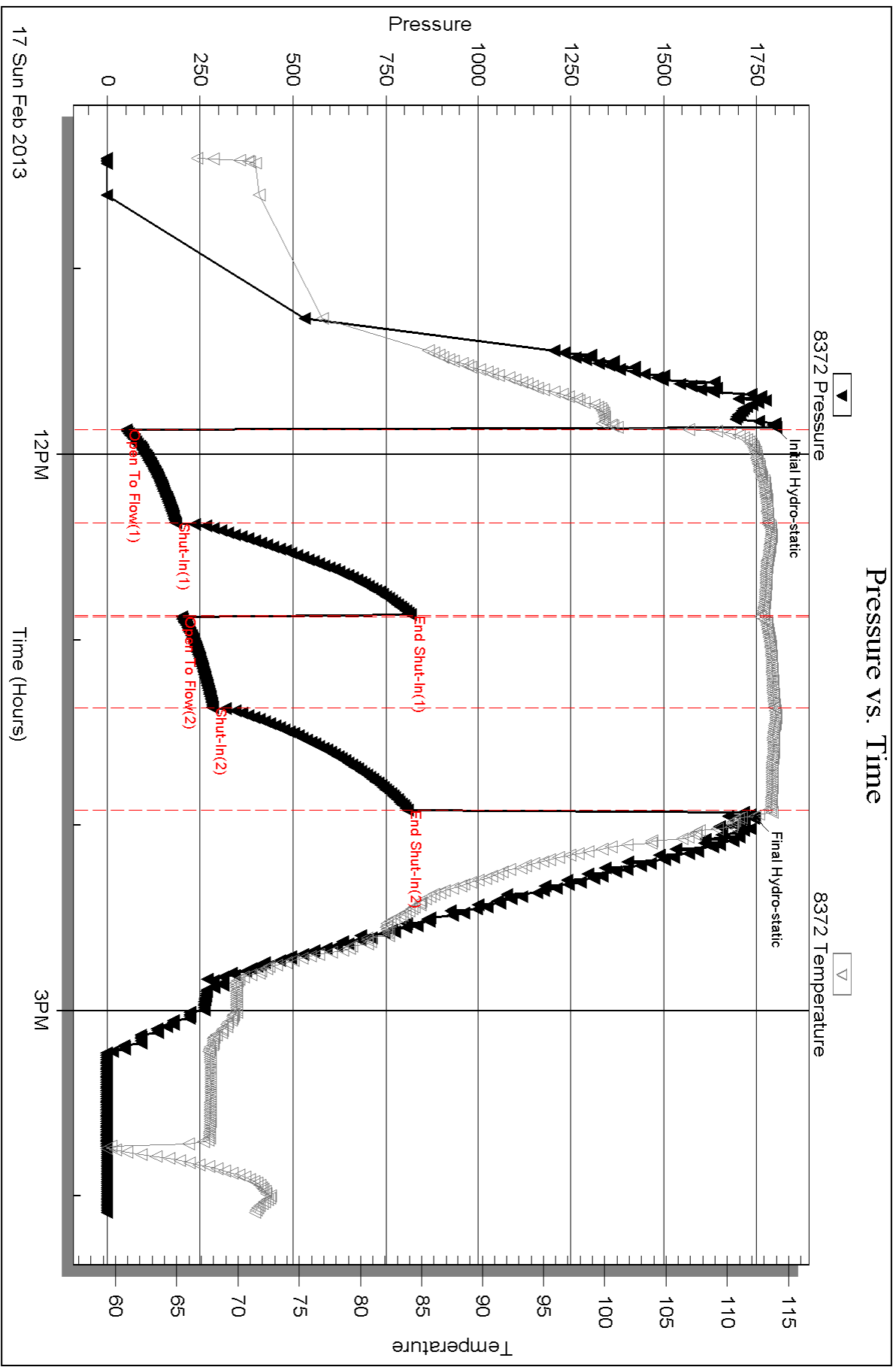


Serial #: 8372

Outside Downing Nelson Oil Co Inc

R Berens Unit #1-8

DST Test Number: 7



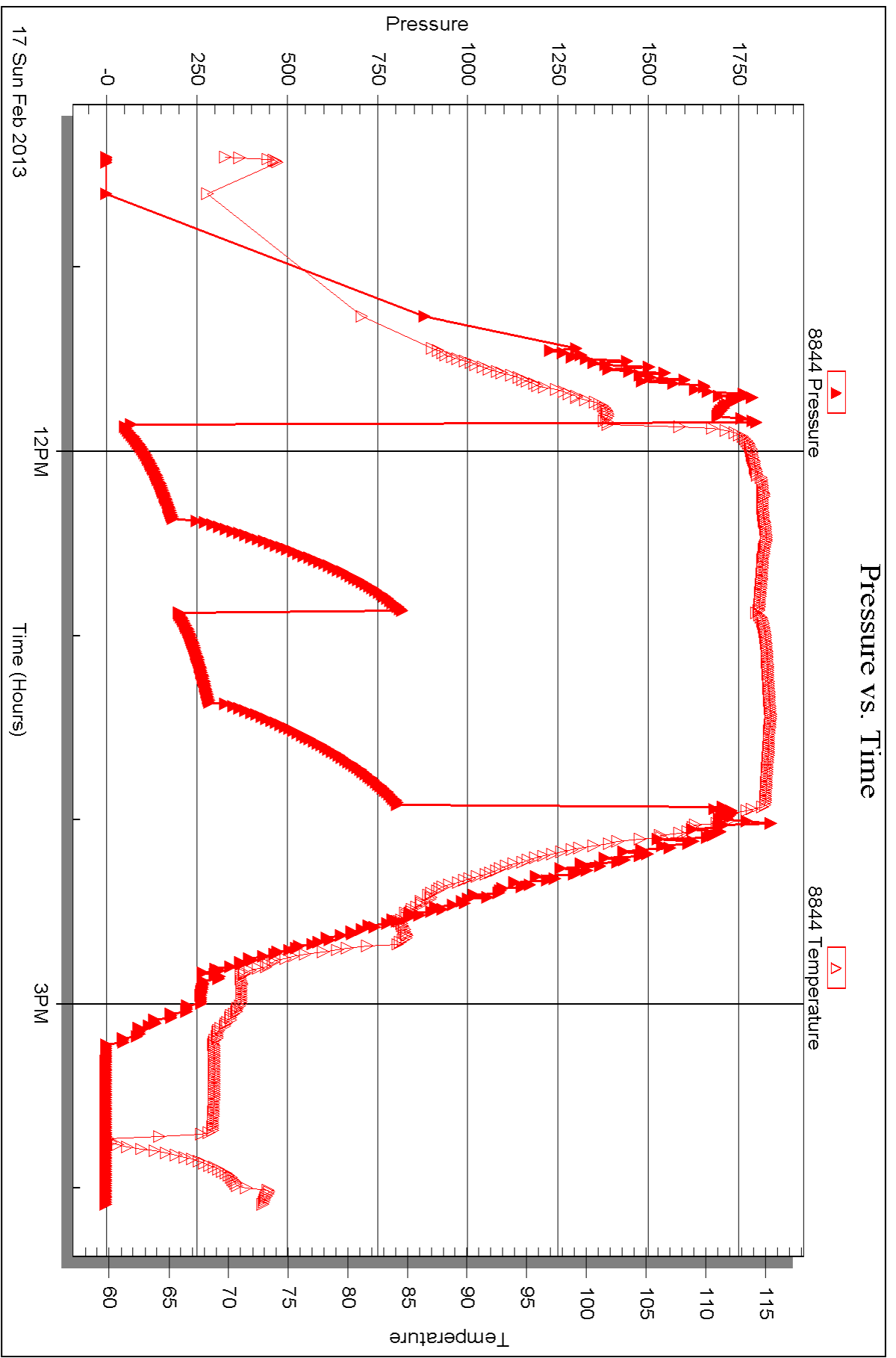
Serial #: 8844

Inside

Downing Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 7



17 Sun Feb 2013

Time (Hours)

Triobite Testing, Inc

Ref. No: 51479

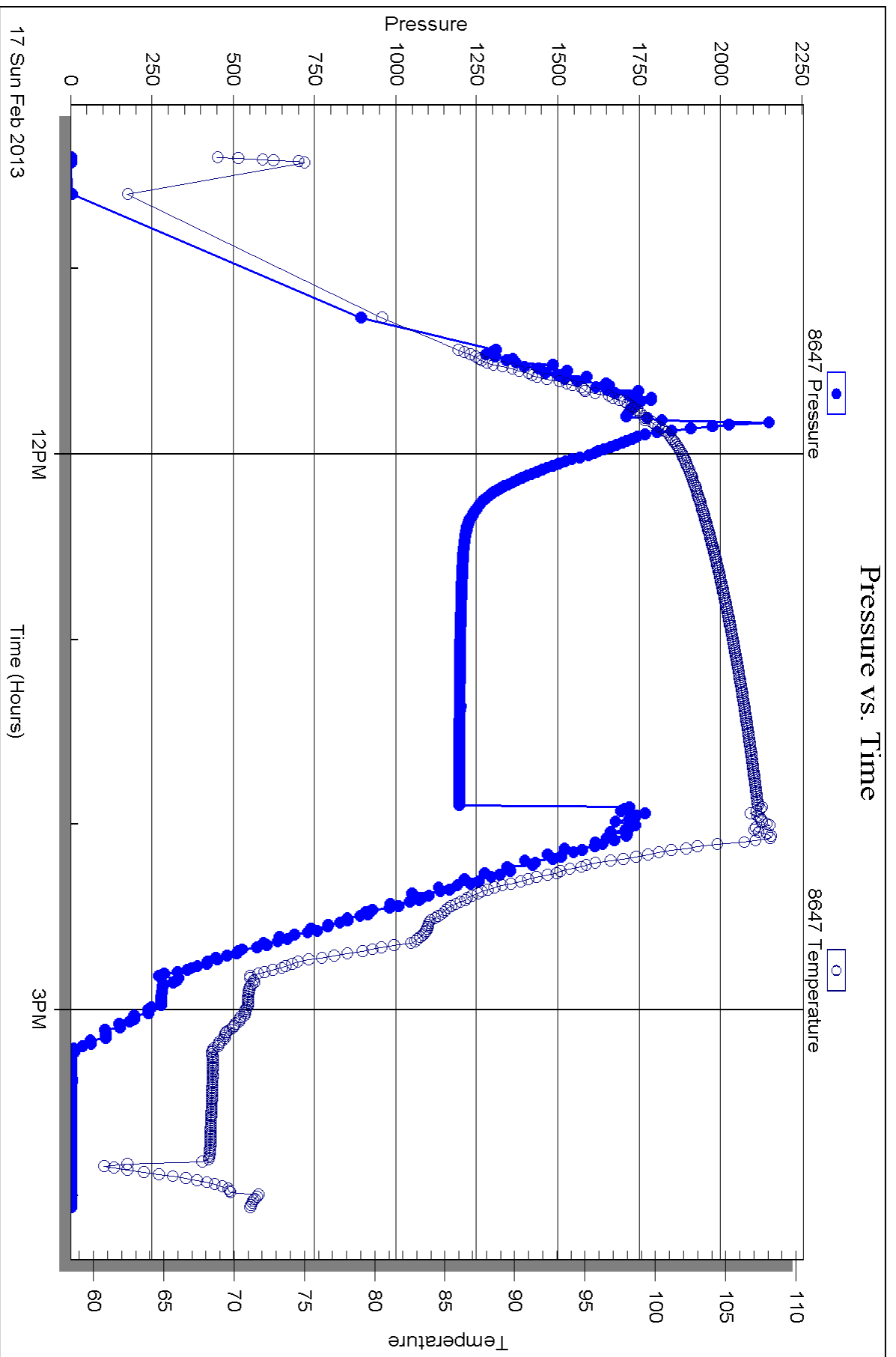
Printed: 2013.02.26 @ 16:34:04

Serial #: 8647

Below (Stratton) Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 7





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51589

4/10

Well Name & No. <u>R Berens Unit 1-8</u>	Test No. <u>1</u>	Date <u>2-13-13</u>
Company <u>Downing-Nelson Oil Co Inc</u>	Elevation <u>1973</u>	KB <u>1968</u> GL
Address <u>Po Box 1019, Hays KS, 67601</u>		
Co. Rep / Geo. <u>Allen Downing</u>	Rig <u>Discovery #4</u>	
Location: Sec. <u>8</u> Twp. <u>16S</u> Rge. <u>17W</u> Co. <u>Rush</u> State <u>KS</u>		

Interval Tested <u>3144 - 3165</u>	Zone Tested <u>Platts mouth</u>
Anchor Length <u>21'</u>	Drill Pipe Run <u>3126'</u> Mud Wt. <u>8.8</u>
Top Packer Depth <u>3139</u>	Drill Collars Run <u>31'</u> Vis <u>51</u>
Bottom Packer Depth <u>3144</u>	Wt. Pipe Run <u>—</u> WL <u>8.0</u>
Total Depth <u>3165</u>	Chlorides <u>4500</u> ppm System LCM <u>—</u>
Blow Description <u>IF - B.O.B. instantly</u>	
<u>FSI - "return"</u>	
<u>FF - B.O.B. instantly, Dying off @ 20 Min.</u>	
<u>FSI - Surface blow back.</u>	

Rec	Feet of	%gas	%oil	%water	%mud
<u>35</u>	<u>Mud w oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>583' of G.I.P.</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

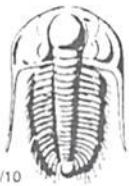
Rec Total 35' BHT 94° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1521</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1:15 pm</u>
(B) First Initial Flow <u>11</u>	<input type="checkbox"/> Jars	T-Started <u>3:39 pm</u>
(C) First Final Flow <u>18</u>	<input type="checkbox"/> Safety Joint	T-Open <u>5:26 pm</u>
(D) Initial Shut-In <u>535</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>7:26 pm</u>
(E) Second Initial Flow <u>12</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:07 pm</u>
(F) Second Final Flow <u>19</u>	<input checked="" type="checkbox"/> Mileage <u>45 RT</u> 69.75	Comments
(G) Final Shut-In <u>455</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1482</u>	<input type="checkbox"/> Straddle	

Initial Open <u>30</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	Sub Total <u>0</u>
	Total <u>1219.75</u>
	MP/DST Disc't
Sub Total <u>1219.75</u>	

Approved By \_\_\_\_\_ Our Representative Cody B...

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. 51590

4/10

Well Name & No. R. Berens Unit 1-8 Test No. 2 Date 7-14-13  
 Company Downing Nelson Oil Co Inc Elevation 1973 KB 1968 GL  
 Address Po Box 1019, Hays KS, 67601  
 Co. Rep / Geo. Allen Downing Rig Discovery #4  
 Location: Sec. 8 Twp. 16s Rge. 17w Co. Rush State KS

Interval Tested 3275 - 3322 Zone Tested KC "C-D"  
 Anchor Length 47' Drill Pipe Run 3251' Mud Wt. 8.8  
 Top Packer Depth 3270 Drill Collars Run 31' Vis 51  
 Bottom Packer Depth 3275 Wt. Pipe Run — WL 8.0  
 Total Depth 3322 Chlorides 4.500 ppm System LCM —

Blow Description ±F-2" blow  
FSI- No return  
FF-3/4" blow  
FSI- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>35</u>	<u>Mud with spots of oil</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

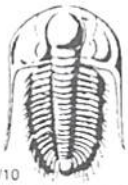
Rec Total 35' BHT 98° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1630  Test 1150 T-On Location 8:02am  
 (B) First Initial Flow 28  Jars \_\_\_\_\_ T-Started 8:15am  
 (C) First Final Flow 38  Safety Joint \_\_\_\_\_ T-Open 10:32am  
 (D) Initial Shut-In 786  Circ Sub \_\_\_\_\_ T-Pulled 12:32pm  
 (E) Second Initial Flow 39  Hourly Standby \_\_\_\_\_ T-Out 2:14pm  
 (F) Second Final Flow 44  Mileage 45 RT 69.75 Comments \_\_\_\_\_  
 (G) Final Shut-In 721  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1565  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_

Initial Open 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 30  Day Standby \_\_\_\_\_ Total 1219.75  
 Final Shut-In 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1219.75

Approved By \_\_\_\_\_ Our Representative Cody Bladen

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. 51591

4/10

Well Name & No. R. Berens Unit 1-8 Test No. 3 Date 2-15-13  
 Company Downing Nelson Oil Co Inc Elevation 1973 KB 1968 GL  
 Address Po Box 1019, Hays ks, 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery #4  
 Location: Sec. 8 Twp. 16s Rge. 17w Co. Rush State KS

Interval Tested 3380 - 3464 Zone Tested "H-k"  
 Anchor Length 84' Drill Pipe Run 3346 Mud Wt. 9.1  
 Top Packer Depth 3375 Drill Collars Run 31 Vis 46  
 Bottom Packer Depth 3380 Wt. Pipe Run — WL 8.8  
 Total Depth 3464 Chlorides 5,500 ppm System LCM 2#  
 Blow Description ±F - 2 1/4" blow  
ISI - No return  
FF - 3/4" blow  
FSI - No return

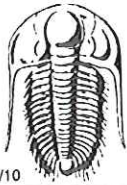
Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>Mud - with oil spots</u>			<u>60</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 102° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1719</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>12:42 am</u>
(B) First Initial Flow <u>45</u>	<input type="checkbox"/> Jars	T-Started <u>12:56 am</u>
(C) First Final Flow <u>52</u>	<input type="checkbox"/> Safety Joint	T-Open <u>2:36 am</u>
(D) Initial Shut-In <u>106</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>5:36 am</u>
(E) Second Initial Flow <u>50</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>7:10 am</u>
(F) Second Final Flow <u>55</u>	<input checked="" type="checkbox"/> Mileage <u>45 RT</u> 69.75	Comments
(G) Final Shut-In <u>95</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1630</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>45</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby	Total <u>1219.75</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1219.75</u>	

Approved By \_\_\_\_\_ Our Representative Cody Bluh

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. 51476

Well Name & No. R. BERENS UNIT #1-8 Test No. 4 Date 2-15-13  
 Company DNOC Elevation 1973 KB 1968 GL  
 Address PO BOX 1019 Hays, Ks 67601  
 Co. Rep / Geo. MARC DOWNING Rig Discovery #4  
 Location: Sec. 8 Twp. 16S Rge. 17W Co. Rush State Ks

Interval Tested 3480-3526 Zone Tested Ne buckle  
 Anchor Length 46' Drill Pipe Run 3441 Mud Wt. 9.2  
 Top Packer Depth 3475 Drill Collars Run 31 Vis 5.7  
 Bottom Packer Depth 3480 Wt. Pipe Run 0 WL 8.0  
 Total Depth 3526 Chlorides 6000 ppm System LCM 2#

Blow Description IF: BOB immediately. BTS in 3min. Gauged Gas, caught sample  
FSD: NO RETURN  
FP: BOB & BTS in 1min. Gauged Gas  
FSD: Return surface blow 1min. After bleed off. Dried in 22min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>155</u>	<u>Mud</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 155 BHT 109° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

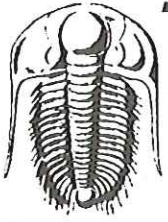
(A) Initial Hydrostatic 1735  Test 1150 T-On Location 14:39  
 (B) First Initial Flow 492  Jars \_\_\_\_\_ T-Started 15:25  
 (C) First Final Flow 263  Safety Joint \_\_\_\_\_ T-Open 17:00  
 (D) Initial Shut-In 1037  Circ Sub \_\_\_\_\_ T-Pulled 19:15  
 (E) Second Initial Flow 529  Hourly Standby \_\_\_\_\_ T-Out 21:09  
 (F) Second Final Flow 193  Mileage 45RT 69.75 Comments \_\_\_\_\_  
 (G) Final Shut-In 1082  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1690  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_

Initial Open 15  Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Shut-In 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Shut-In 60  Day Standby \_\_\_\_\_ Total 1219.75  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1219.75

Approved By \_\_\_\_\_

Our Representative [Signature]

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.

P.O. Box 362 • Hays, Kansas 67601 • (785) 625-4778

## GAS VOLUME REPORT

Downing - Nelson Oil Co. Inc.  
OPERATOR

R. BERENS UNIT #1-8  
WELL NAME AND NO.

4  
DST NO.

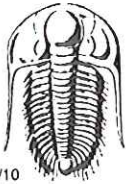
1st Flow

2nd Flow

Min.	Ins. of Water PSIG	Orifice Size	mCFD CFD	Min.	Ins. of Water PSIG	Orifice Size	mCFD CFD
10	95	3/4	1.708.817	5	76	3/4	1.412
15	72	3/4	1.349.556	10	72	3/4	1.349
				15	59	3/4	1.146
				20	49	3/4	990
				25	45	3/4	927

Remarks:





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51477

Well Name & No. R BERENS unit #1-8 Test No. 5 Date 2/16/13  
 Company DNOC Elevation 1973 KB 1968 GL  
 Address PO Box 1019, Hays Ks 67601  
 Co. Rep / Geo. Macl Downing Rig Discovery #4  
 Location: Sec. 8 Twp. 16S Rge. 17W Co. Rush State Ks.

Interval Tested 3526-3536 Zone Tested Arbuckle  
 Anchor Length 10' Drill Pipe Run 3500 Mud Wt. 9.2  
 Top Packer Depth 3521 Drill Collars Run 31 Vis 57  
 Bottom Packer Depth 3526 Wt. Pipe Run 0 WL 8.0  
 Total Depth 3536 Chlorides 6000 ppm System LCM 2#

Blow Description IF: BOB immediately, BTS 2min, Gauged gas, Caught sample  
ISF: Return blow built to 1/2" decreased to surface blow  
FF: BOB & BTS in 30 sec. Gauged Gas. Would not burn  
FSD1 Return blow built to 2", decreased to 1"

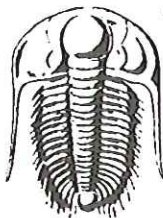
Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>CO</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>5</u>	<u>OCM</u>	<u>10</u>	<u>0</u>	<u>0</u>	<u>90</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 65 BHT \_\_\_\_\_ Gravity 30 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1762  Test 1150 T-On Location 02:04  
 (B) First Initial Flow 462  Jars \_\_\_\_\_ T-Started 02:06  
 (C) First Final Flow 310  Safety Joint \_\_\_\_\_ T-Open 04:38  
 (D) Initial Shut-In 1080  Circ Sub \_\_\_\_\_ T-Pulled 06:53  
 (E) Second Initial Flow 467  Hourly Standby \_\_\_\_\_ T-Out 10:01  
 (F) Second Final Flow 249  Mileage 4521 69.75 Comments \_\_\_\_\_  
 (G) Final Shut-In 1061  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1731  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 15'  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 30  Day Standby \_\_\_\_\_ Total 1219.75  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 60 Sub Total 1219.75

Approved By \_\_\_\_\_ Our Representative [Signature]

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.

P.O. Box 362 • Hays, Kansas 67601 • (785) 625-4778

## GAS VOLUME REPORT

Downing Nelson oil & gas inc

OPERATOR

R BERENS unit 1-8

WELL NAME AND NO.

5

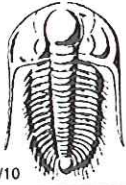
DST NO.

1st Flow

2nd Flow

1st Flow				2nd Flow			
Min.	Ins. of Water PSIG	Orifice Size	mcfD GFID	Min.	Ins. of Water PSIG	Orifice Size	mcfD GFID
5	94	3/4"	1.693	5	92	3/4"	1.661
10	92	3/4"	1.661	10	89	3/4"	1.615
15	82	3/4"	1.505	15	78	3/4"	1.443
				20	72	3/4"	1.349
				25	66	3/4"	1.255
				30	62	3/4"	1.193

Remarks:



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51478

Well Name & No. R BERENS unit #1-8 Test No. 6 Date 2-16-13  
 Company DNOc Elevation 1973 KB 1968 GL  
 Address PO Box 1019 Hays Ks. 67601  
 Co. Rep / Geo. MARC DOWNING Rig DISCOVERY #4  
 Location: Sec. 8 Twp. 16S Rge. 17W Co. Rush State Ks

Interval Tested 3536-3546 Zone Tested AA buckle  
 Anchor Length 10' Drill Pipe Run 3505' Mud Wt. 9.2  
 Top Packer Depth 3531 Drill Collars Run 31 Vis 50  
 Bottom Packer Depth 3536 Wt. Pipe Run 0 WL 9.6  
 Total Depth 3546 Chlorides 3000 ppm System LCM 2#

Blow Description FP: BOB / min  
ISI: NO Return  
FP: BOB immediately, GTS IN 18 min. TSTM  
FST: Return Blow, Built to 1/2" decreased to surface blow

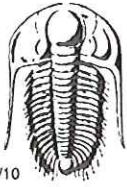
Rec	Feet of	%gas	%oil	%water	%mud
60	30	10%	90%		
35	40cm		40%		60%
		%gas	%oil	%water	%mud
		%gas	%oil	%water	%mud
		%gas	%oil	%water	%mud

Rec Total 95 BHT 102° Gravity 30 API RW @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1781  Test 1150 T-On Location 15:40  
 (B) First Initial Flow 23  Jars \_\_\_\_\_ T-Started 15:41  
 (C) First Final Flow 32  Safety Joint \_\_\_\_\_ T-Open 17:09  
 (D) Initial Shut-In 1117  Circ Sub \_\_\_\_\_ T-Pulled 19:24  
 (E) Second Initial Flow 26  Hourly Standby \_\_\_\_\_ T-Out 21:14  
 (F) Second Final Flow 39  Mileage 45 RT 69.75 Comments Gas does burn.  
 (G) Final Shut-In 1125  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1725  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 15  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 30  Day Standby \_\_\_\_\_ Total 1219.75  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 60 Sub Total 1219.75

Approved By \_\_\_\_\_ Our Representative [Signature]

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. 51479

Well Name & No. R. BERENS unit #1-8 Test No. 7 Date 2-17-13  
 Company DNOC Elevation 1973 KB 1968 GL  
 Address PO BOX 1019 Hays, Ks. 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery 4  
 Location: Sec. 8 Twp. 16S Rge. 17W Co. Rush State Ks.

Interval Tested 3546-3564 Zone Tested Aebuckie  
 Anchor Length 18' Drill Pipe Run 3503 Mud Wt. 9.2  
 Top Packer Depth 3546 Drill Collars Run 31 Vis 50  
 Bottom Packer Depth 3564 Wt. Pipe Run 0 WL 9.6  
 Total Depth 3616 Chlorides 3000 ppm System LCM 2#

Blow Description IF: BOB, 3min.  
ISI: WEAK ~~blowback~~ surface blowback  
FP: BOB 7min  
FSL: Very weak surface blowback, died in 14 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>540</u>	<u>WATER</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 540 BHT 113° Gravity \_\_\_\_\_ API RW .285 @ 52° F Chlorides 36000 ppm

(A) Initial Hydrostatic 1795  Test ← 1150 T-On Location 09:47  
 (B) First Initial Flow 51  Jars \_\_\_\_\_ T-Started 10:24  
 (C) First Final Flow 184  Safety Joint \_\_\_\_\_ T-Open 11:52  
 (D) Initial Shut-In 817  Circ Sub \_\_\_\_\_ T-Pulled 13:52  
 (E) Second Initial Flow 200  Hourly Standby \_\_\_\_\_ T-Out 16:05  
 (F) Second Final Flow 284  Mileage ← 45RT 69.75 Comments \_\_\_\_\_  
 (G) Final Shut-In 808  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1746  Straddle ← 600  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1819.75  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_

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

Approved By \_\_\_\_\_ Our Representative [Signature]

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.

COMPANY: Downing-Nelson Oil & Iron  
 WELL: Z Barrens Unit # 1-B  
 FIELD: Willard  
 LOCATION: 160' FNL - 335' FEL  
 PRODUCTION: Anhydrite  
 ELEVATION: KB 1979  
 DF: 1970  
 GL: 1970  
 TD: 1979 LEB  
 STATE: Kansas  
 COUNTY: Rush  
 SEC. 8 TWP. 16S RGE. 17W  
 OPERATOR: DNET  
 CONTRACTOR: Drilling Ziegler & Co  
 COMM: 2-01-13  
 COMP: 2-17-15  
 SURF: 856 - 1121  
 PROD: size - shale  
 TOTAL DEPTH LOG: 3017

FORMATION	SAMPLE TOP	SUB-SEA DEPTH	STRUCTURAL POSITION
Amherst	1104	1104	N
Base	1144	+873	N
Topoka	2986	2986	-2
Heerner	3216	3216	-2
Toronto	3234	3234	F
Lansing	3264	3264	F
Beck	3484	3484	+1
Anhydrite	3516	3516	+28

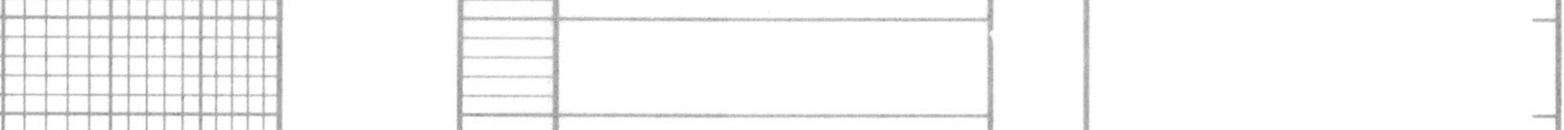
REFERENCE WELL FOR STRUCTURE: Frontier Oil Company  
 #1 Barrens NW-NE-NE Sec 8-16S-17W Day 164

DRILL STEM TESTS

No.	Interval	Depth	Pressure	Flow	Remarks

REMARKS AND RECOMMENDATIONS: Set 2-1/2" and shoot DST # 6.

LEGEND



DRILLING TIME IN MINUTES PER FOOT



DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

OIL SHOWS

REMARKS

DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	OIL SHOWS	REMARKS
2800				
50				
2900				
50				
3000				
50				
3100				
50				
3200				
50				
3300				
50				
3400				
50				
3500				
50				
3600				
50				
3700				
50				
3800				
50				
3900				
50				
4000				
50				
4100				
50				
4200				
50				
4300				
50				
4400				
50				
4500				
50				
4600				
50				
4700				
50				
4800				
50				
4900				
50				
5000				

Topoka 2986 (-1007)

HEERER 3216 (-1237)

Toronto 3234 (-1255)

Lansing 3264 (-1385)

Beck 3484 (-1505)

Anhydrite 3516 (-1557)

Beck 3484 (-1505)

Anhydrite 3516 (-1557)

Beck 3484 (-1505)

Anhydrite 3516 (-1557)

Beck 3484 (-1505)

Anhydrite 3516 (-1557)

Beck 3484 (-1505)

Anhydrite 3516 (-1557)

DST #1  
 3144-3165  
 30-30-30-30  
 Initial Flow: Bob - immediate  
 Final: 1/2" BB back  
 Rec: 583' gip  
 25' mud/oil/spts  
 IHP: 1521#  
 IFP: 11-18#  
 SFP: 12-19#  
 SFP: 535-455#  
 FHP: 1432  
 Temp: 94°F

DST #2  
 3275-3322  
 30-30-30-30  
 Rec: 35' mud/oil/spts  
 IHP: 1630#  
 IFP: 28-58#  
 FFP: 39-44#  
 SFP: 786-721#  
 FHP: 1565#  
 Temp: 98°F

DST #3  
 3380-3444  
 45-45-45-45  
 Rec: 30' mud/oil/spts  
 IHP: 1719#  
 IFP: 45-52#  
 FFP: 50-55#  
 SFP: 106-95#  
 FHP: 1630#  
 Temp: 102°F

DST #4 (2480)  
 15-30-30-60  
 Initial Flow: Bob - immediately  
 10" - 95  
 15" - 1708.81 mcf  
 Final Flow:  
 10" - 1344.56 mcf  
 15" - 1146.95 mcf  
 20" - 990.80 mcf  
 25" - 927.82 mcf  
 Rec: 155' mud  
 IHP: 1735#  
 IFP: 492-269#  
 FFP: 569-193#  
 SFP: 1057-1082#  
 FHP: 1690#

DST #5  
 15-30-30-60  
 Initial Flow: GTS 2mm  
 5" - 1693.19 mcf  
 10" - 1661.95 mcf  
 15" - 1505.75 mcf  
 Final Flow:  
 5" - 1661.95 mcf  
 10" - 1619.09 mcf  
 15" - 1443.28 mcf  
 20" - 1344.56 mcf  
 25" - 1205.84 mcf  
 Rec:  
 60' clean oil  
 5' ocm (1090#)  
 IHP: 1762#  
 IFP: 462-310#  
 FFP: 462-249#  
 SFP: 1080-1061#  
 FHP: 1731#

DST #6  
 3526-3526  
 15-30-30-60  
 Initial Flow: Bob - 1mm  
 Final Flow: GTS 18mm Tstm  
 Rec:  
 60' gassy oil  
 35' ocm (4090#)  
 IHP: 1781#  
 IFP: 23-32#  
 FFP: 26-39#  
 SFP: 1117-1125#  
 FHP: 1725#

DST #7  
 3546-3546  
 30-30-30-30  
 Rec: 540 sw  
 IHP: 1785#  
 IFP: 51-124#  
 FFP: 200-224#  
 SFP: 817-808#  
 FHP: 1746#

M. Downing