

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

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

Gas  DH  EOR

OG  GSW

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 EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

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  Drill Stem Tests Received

Geologist Report / Mud Logs 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 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 <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 Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  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
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
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> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	RED 1-36
Doc ID	1407267

Tops

Name	Top	Datum
Top Anhydrite	1353'	+702
Base Anhydrite	1395'	+660
Topeka	3096'	-1041
Heebner	3350	-1295
Toronto	3371'	-1316
LKC	3389'	-1334
BKC	3640'	-1585
Marmaton	3722'	-1667
Cherokee Shale	3767'	-1712
Cherokee Sand	3786'	-1731
Arbuckle	3807'	-1752



# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 683

Date	3-31-18	Sec.	36	Twp.	14	Range	21	County	Ellis Trego	State	Ks	On Location		Finish	5:30 PM
Lease	Red			Well No.	1-36		Owner	400 Rd, 15 to Cattle guard, E to King							
Contractor	Discovery #3			To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.											
Type Job	Surface			Charge To Downing - Nelson											
Hole Size	12 1/4"		T.D.	1232'		Street									
Csg.	8 5/8"		Depth	1231.53'		City									
Tbg. Size			Depth			State									
Tool			Depth			The above was done to satisfaction and supervision of owner agent or contractor.									
Cement Left in Csg.	42.25'		Shoe Joint	42.25'		Cement Amount Ordered 450 80/20 3% cc 2% gel									
Meas Line			Displace	75 3/4 BLS											
<b>EQUIPMENT</b>															
Pumptrk	17	No.	Cementer	Tavis		Common 360									
			Helper			Poz. Mix 90									
Bulktrk	13	No.	Driver	David		Gel. 9									
			Driver			Calcium 16									
Bulktrk	pin.	No.	Driver	Rick											
			Driver												
<b>JOB SERVICES &amp; REMARKS</b>															
Remarks:	Cement did Circulate														
Rat Hole	Flowseal														
Mouse Hole	Kol-Seal														
Centralizers	Mud CLR 48														
Baskets	CFL-117 or CD110 CAF 38														
D/V or Port Collar	Sand														
	Handling 475														
	Mileage														
<b>FLOAT EQUIPMENT</b>															
	Guide Shoe Rubber plug														
	Centralizer Baffle plate														
	Baskets														
	AFU Inserts														
	Float Shoe														
	Latch Down														
	Pumptrk Charge Long Surface														
	Mileage 30														
	Tax														
	Discount														
	Total Charge														
X Signature	John Barker														

# QUALITY OILWELL CEMENTING, INC.

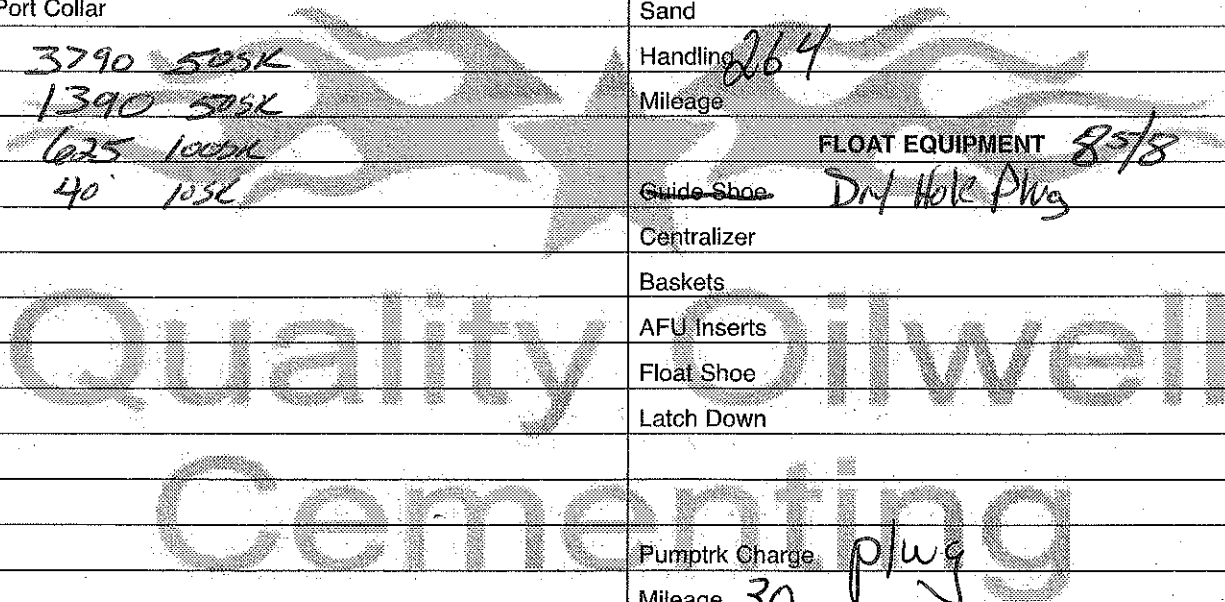
Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 741

Date	4-9-18	Sec.	36	Twp.	14	Range	21	County	Butterfield	State	KS	On Location		Finish	6:30 AM
Lease								Well No.		Owner					
Contractor								1-36		To Quality Oilwell Cementing, Inc.					
Type Job										You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.					
Hole Size								T.D.		Charge To					
7 7/8								3865		Downing/Allen					
Csg.								Depth		Street					
Tbg. Size								Depth		City					
Tool								Depth		State					
Cement Left in Csg.								Shoe Joint		The above was done to satisfaction and supervision of owner agent or contractor.					
Meas Line								Displace		Cement Amount Ordered					
										253 <sup>600</sup> / 404 / GEL 1/4 INO					
EQUIPMENT								Common		153					
								Poz. Mix		102					
Pumptrk								Gel.		9					
Bulktrk								Calcium							
Bulktrk								Hulls							
JOB SERVICES & REMARKS								Salt							
Remarks:								Flowseal		50#					
Rat Hole								Kol-Seal							
Mouse Hole								Mud CLR		48					
Centralizers								CFL-117 or CD110 CAF		38					
Baskets								Sand							
D/V or Port Collar								Handling		264					
1st 3790 50SK								Mileage		8 5/8					
2nd 1390 50SK								Guide Shoe		Dry Hole Plug					
3rd 625 1000K								Centralizer							
4th 40 10SK								Baskets							
								AFU Inserts							
								Float Shoe							
								Latch Down							
								Pumptrk Charge		plug					
								Mileage		30					
								Tax							
								Discount							
								Total Charge							
Signature															





## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays KS 67601

ATTN: Marc Downing

**Red #1-36**

**36-14S-21W Trego,KS**

Start Date: 2018.04.05 @ 14:05:00

End Date: 2018.04.05 @ 19:25:02

Job Ticket #: 63070                      DST #: 1

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

Printed: 2018.04.09 @ 15:47:11



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Downing Nelson Oil Co. Inc

**36-14S-21W Trego, KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63070

**DST#: 1**

ATTN: Marc Downing

Test Start: 2018.04.05 @ 14:05:00

## GENERAL INFORMATION:

Formation: **LKC E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:53:47

Time Test Ended: 19:25:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72 Hays/ 52

**Interval: 3454.00 ft (KB) To 3473.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3473.00 ft (KB) (TVD)

2051.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 6755**

**Inside**

Press@RunDepth: 20.32 psig @ 3455.00 ft (KB)

Capacity: psig

Start Date: 2018.04.05

End Date:

2018.04.05

Last Calib.:

2018.04.05

Start Time:

14:05:01

End Time:

19:25:02

Time On Btm:

2018.04.05 @ 15:53:02

Time Off Btm:

2018.04.05 @ 17:55:02

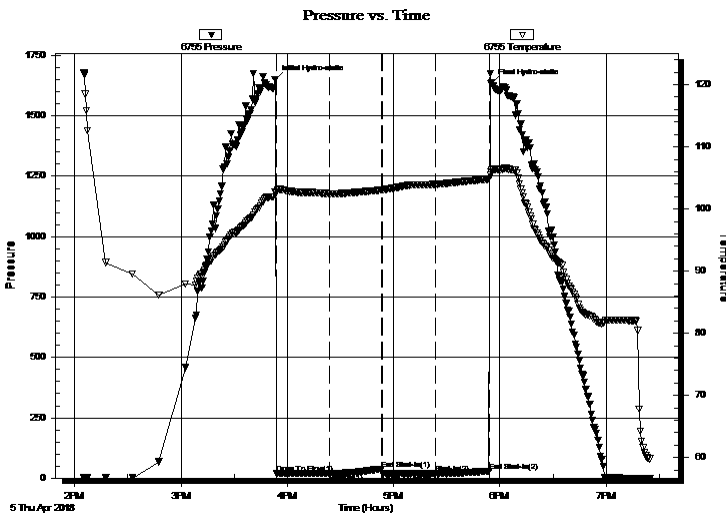
**TEST COMMENT:** IFP 30 Mintues/ Blow built to 3/4"

ISI 30 Mintues/ No blow back

FFP 30 Minutes/ Dead no blow

FSI 30 Mintues/ No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1650.83	102.66	Initial Hydro-static
1	18.57	102.63	Open To Flow (1)
31	20.42	102.47	Shut-In(1)
61	38.25	103.06	End Shut-In(1)
61	19.31	103.08	Open To Flow (2)
91	20.32	103.97	Shut-In(2)
121	29.69	104.84	End Shut-In(2)
122	1632.22	106.01	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud 100%	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Downing Nelson Oil Co. Inc

**36-14S-21W Trego, KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63070

**DST#: 1**

ATTN: Marc Downing

Test Start: 2018.04.05 @ 14:05:00

## GENERAL INFORMATION:

Formation: **LKC E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:53:47

Time Test Ended: 19:25:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72 Hays/ 52

**Interval: 3454.00 ft (KB) To 3473.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3473.00 ft (KB) (TVD)

2051.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 6752 Outside**

Press@RunDepth: 32.14 psig @ 3456.00 ft (KB)

Capacity: psig

Start Date: 2018.04.05

End Date:

2018.04.05

Last Calib.:

2018.04.05

Start Time: 14:05:01

End Time:

19:25:02

Time On Btm:

2018.04.05 @ 15:53:17

Time Off Btm:

2018.04.05 @ 17:55:02

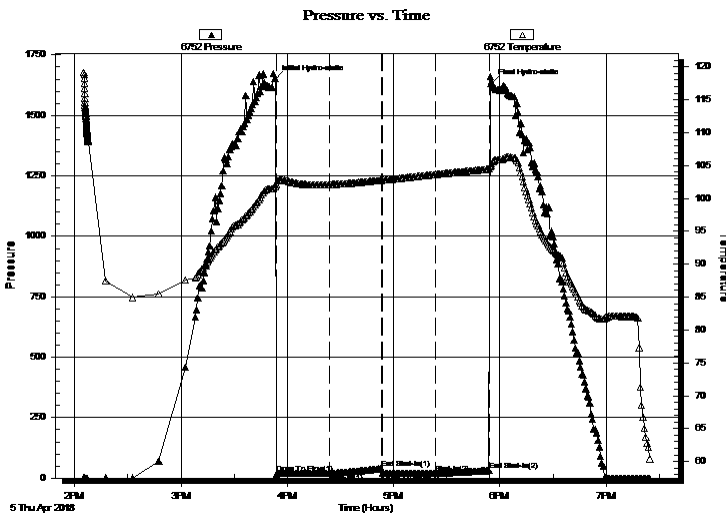
TEST COMMENT: IFP 30 Mintues/ Blow built to 3/4"

ISI 30 Mintues/ No blow back

FFP 30 Minutes/ Dead no blow

FSI 30 Mintues/ No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1649.90	102.03	Initial Hydro-static
1	18.59	102.14	Open To Flow (1)
31	19.01	102.11	Shut-In(1)
60	39.48	102.76	End Shut-In(1)
61	19.00	102.78	Open To Flow (2)
91	19.57	103.64	Shut-In(2)
121	32.14	104.49	End Shut-In(2)
122	1631.32	105.00	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud 100%	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co. Inc

**36-14S-21W Trego,KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63070

**DST#: 1**

ATTN: Marc Downing

Test Start: 2018.04.05 @ 14:05:00

## Tool Information

Drill Pipe:	Length: 3433.00 ft	Diameter: 3.80 inches	Volume: 48.16 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	78000.00 lb
			<u>Total Volume: 48.31 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3454.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	19.00 ft				
Tool Length:	39.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3439.00	
Hydraulic tool	5.00			3444.00	
Top Packer	5.00			3449.00	
Packer	5.00			3454.00	20.00 Bottom Of Top Packer
Recorder	1.00	6755	Inside	3455.00	
Recorder	1.00	6752	Outside	3456.00	
Anchor	14.00			3470.00	
Bullnose	3.00			3473.00	19.00 Anchor Tool

**Total Tool Length: 39.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co. Inc

**36-14S-21W Trego,KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63070

**DST#: 1**

ATTN: Marc Downing

Test Start: 2018.04.05 @ 14:05:00

## 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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	Mud 100%	0.005

Total Length: 1.00 ft      Total Volume: 0.005 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

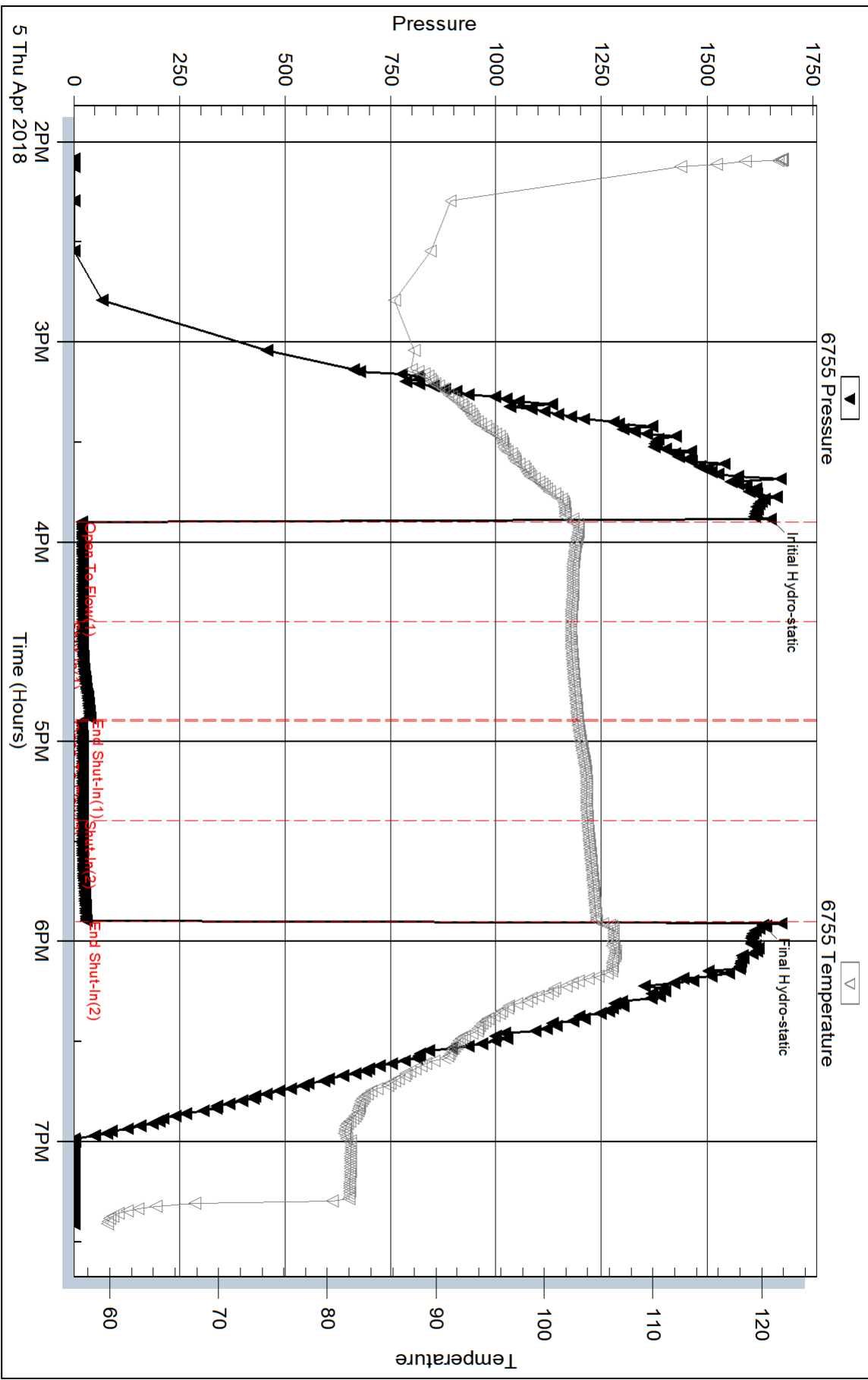
Serial #:

Laboratory Name:

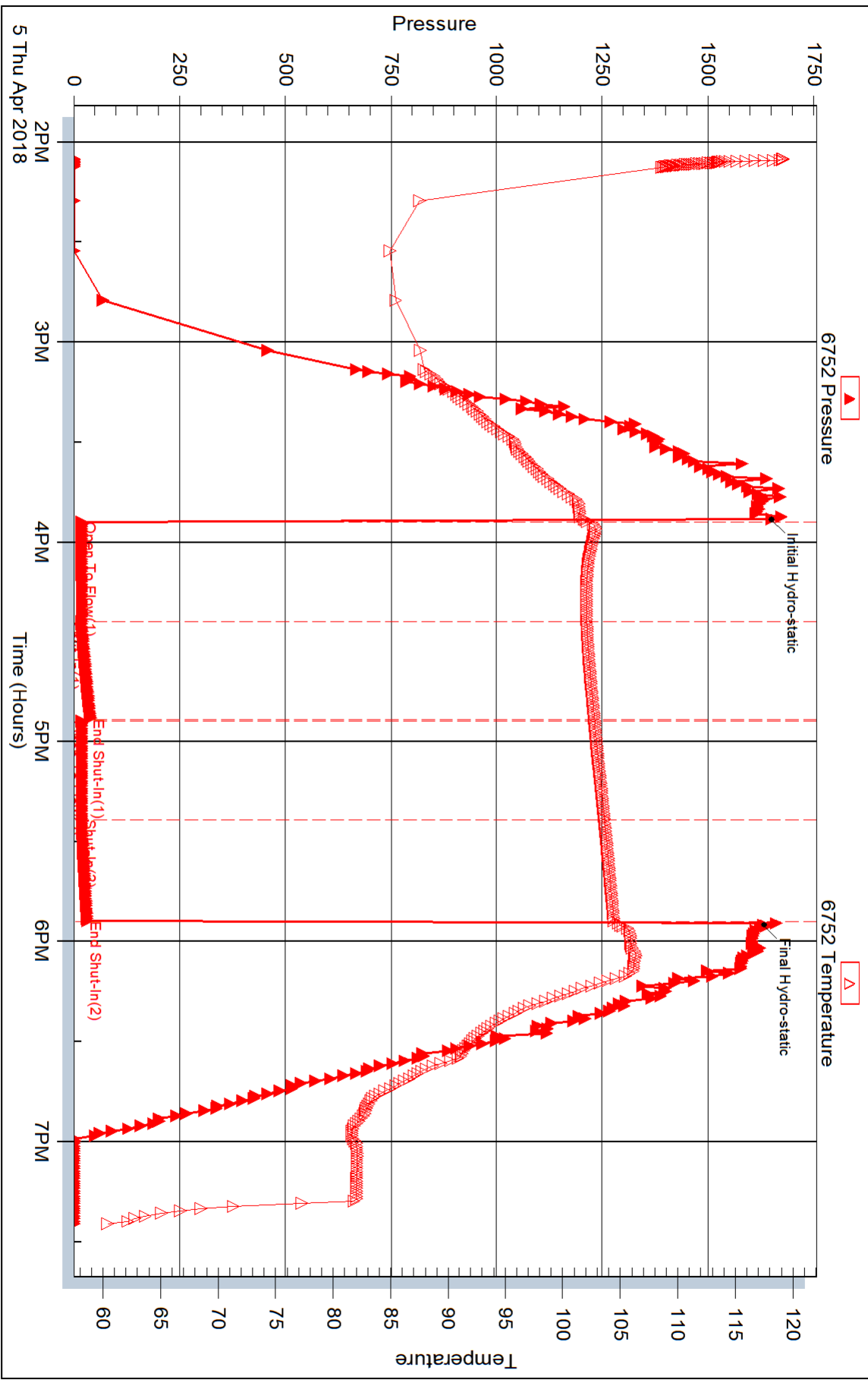
Laboratory Location:

Recovery Comments:

### Pressure vs. Time



### Pressure vs. Time





## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays KS 67601

ATTN: Marc Downing

**Red #1-36**

**36-14S-21W Trego,KS**

Start Date: 2018.04.06 @ 20:17:00

End Date: 2018.04.07 @ 02:39:02

Job Ticket #: 63071                      DST #: 2

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

Printed: 2018.04.09 @ 15:46:42



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Downing Nelson Oil Co. Inc

**36-14S-21W Trego, KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63071

**DST#: 2**

ATTN: Marc Downing

Test Start: 2018.04.06 @ 20:17:00

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:09:17

Time Test Ended: 02:39:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

**Interval: 3726.00 ft (KB) To 3770.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3770.00 ft (KB) (TVD)

2051.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 6755**

**Inside**

Press@RunDepth: 38.30 psig @ 3727.00 ft (KB)

Capacity: psig

Start Date: 2018.04.06

End Date:

2018.04.07

Last Calib.:

2018.04.07

Start Time: 20:17:01

End Time:

02:39:02

Time On Btm:

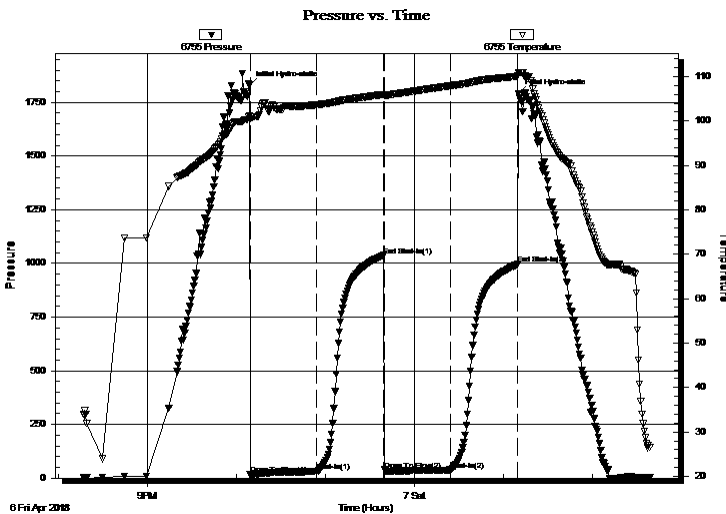
2018.04.06 @ 22:09:02

Time Off Btm:

2018.04.07 @ 01:10:17

**TEST COMMENT:** IFP 45 Minutes/ Blow built to 1 3/4"  
ISI 45 Minutes/ No blow back  
FFP 45 Minutes/ Blow built to 2"  
FSI 45 Minutes/ No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1829.44	101.11	Initial Hydro-static
1	16.11	100.52	Open To Flow (1)
46	31.59	103.63	Shut-In(1)
91	1036.70	105.92	End Shut-In(1)
91	38.63	105.64	Open To Flow (2)
136	38.30	107.91	Shut-In(2)
181	995.14	110.06	End Shut-In(2)
182	1790.93	110.85	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	Oily Mud/ Oil 30% Mud 70%	0.36
5.00	Clean Oil 100%	0.07

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Downing Nelson Oil Co. Inc

**36-14S-21W Trego, KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63071

**DST#: 2**

ATTN: Marc Downing

Test Start: 2018.04.06 @ 20:17:00

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:09:17

Time Test Ended: 02:39:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

**Interval: 3726.00 ft (KB) To 3770.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3770.00 ft (KB) (TVD)

2051.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 6752 Outside**

Press@RunDepth: 995.25 psig @ 3728.00 ft (KB)

Capacity: psig

Start Date: 2018.04.06

End Date:

2018.04.07

Last Calib.:

2018.04.07

Start Time: 20:17:01

End Time:

02:39:02

Time On Btm:

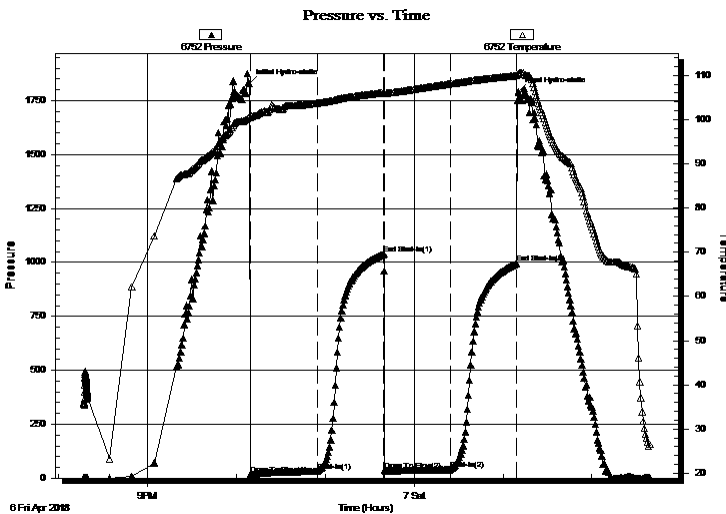
2018.04.06 @ 22:09:02

Time Off Btm:

2018.04.07 @ 01:10:17

**TEST COMMENT:** IFP 45 Minutes/ Blow built to 1 3/4"  
ISI 45 Minutes/ No blow back  
FFP 45 Minutes/ Blow built to 2"  
FSI 45 Minutes/ No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1829.78	100.75	Initial Hydro-static
1	17.55	100.58	Open To Flow (1)
46	33.54	103.73	Shut-In(1)
91	1038.17	106.06	End Shut-In(1)
92	34.91	105.93	Open To Flow (2)
136	38.86	108.07	Shut-In(2)
181	995.25	109.96	End Shut-In(2)
182	1791.11	110.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	Oily Mud/ Oil 30% Mud 70%	0.36
5.00	Clean Oil 100%	0.07

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co. Inc

**36-14S-21W Trego,KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63071

**DST#: 2**

ATTN: Marc Downing

Test Start: 2018.04.06 @ 20:17:00

## Tool Information

Drill Pipe:	Length: 3681.00 ft	Diameter: 3.80 inches	Volume: 51.63 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	68000.00 lb
			<u>Total Volume: 51.78 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	59000.00 lb
Depth to Top Packer:	3726.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	44.00 ft				
Tool Length:	64.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3711.00	
Hydraulic tool	5.00			3716.00	
Top Packer	5.00			3721.00	
Packer	5.00			3726.00	20.00 Bottom Of Top Packer
Recorder	1.00	6755	Inside	3727.00	
Recorder	1.00	6752	Outside	3728.00	
Anchor	39.00			3767.00	
Bullnose	3.00			3770.00	44.00 Anchor Tool

**Total Tool Length: 64.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co. Inc

**36-14S-21W Trego,KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63071

**DST#: 2**

ATTN: Marc Downing

Test Start: 2018.04.06 @ 20:17:00

## 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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
45.00	Oily Mud/ Oil 30% Mud 70%	0.358
5.00	Clean Oil 100%	0.070

Total Length: 50.00 ft      Total Volume: 0.428 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

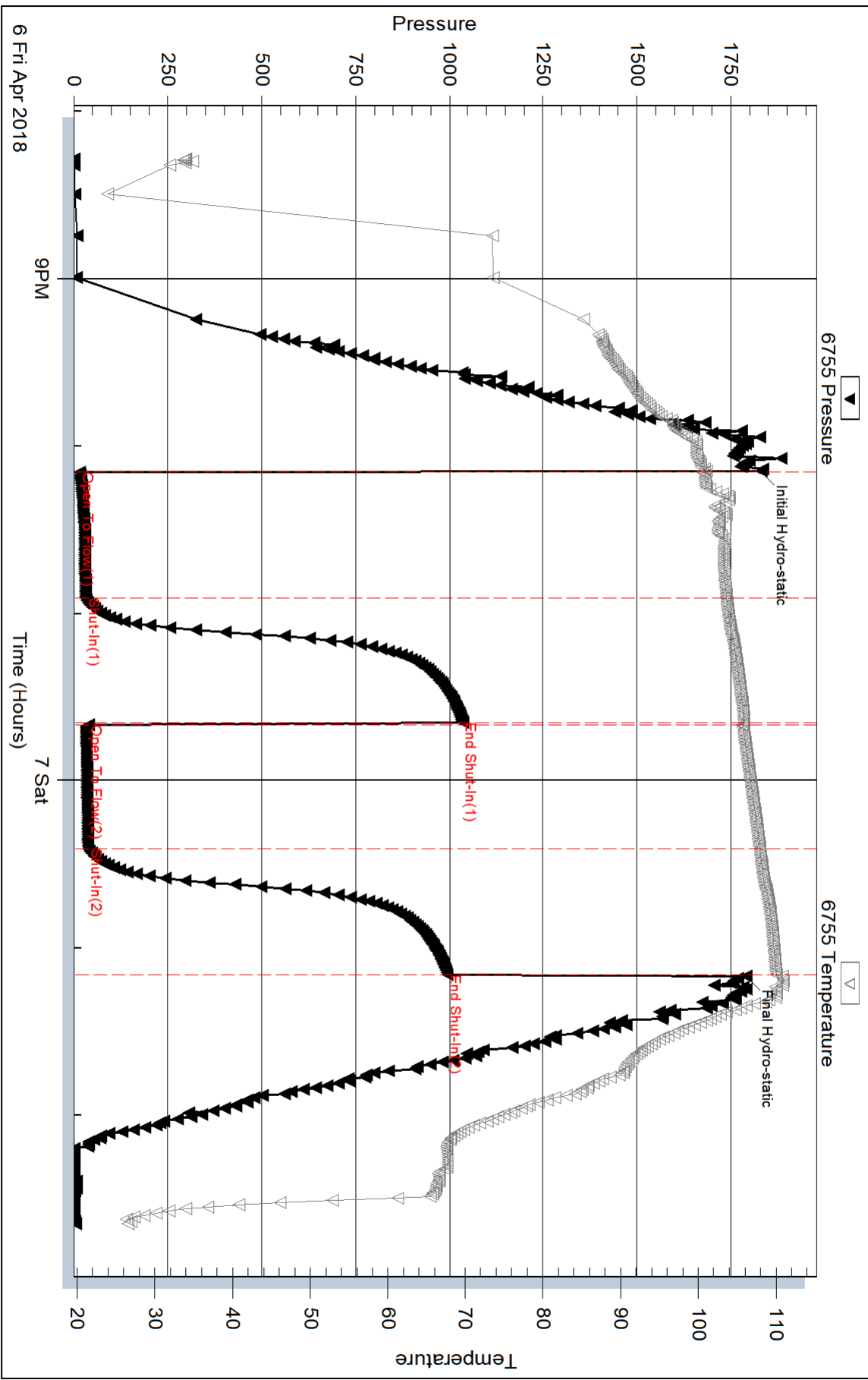
Serial #:

Laboratory Name:

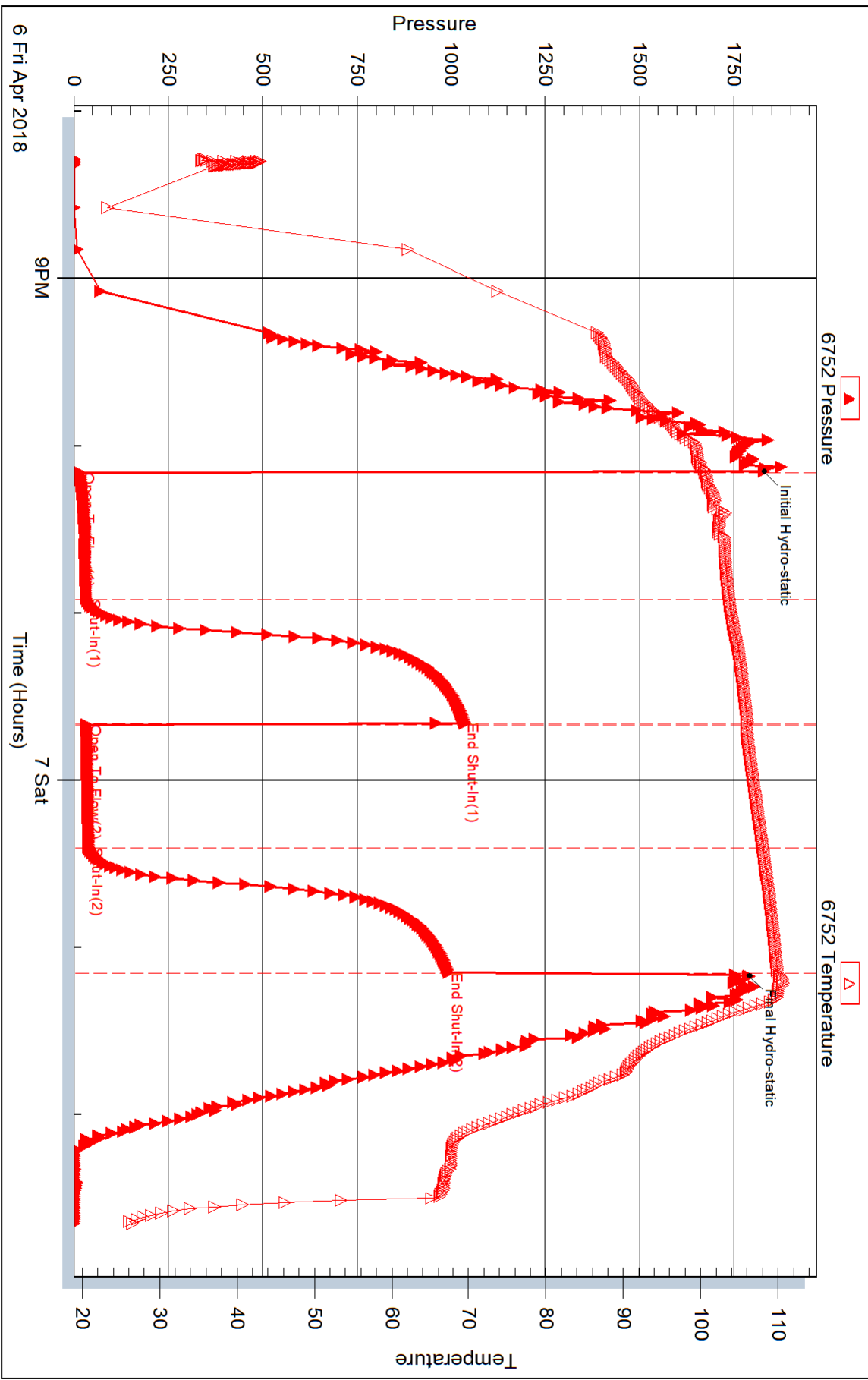
Laboratory Location:

Recovery Comments:

### Pressure vs. Time



### Pressure vs. Time





## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays KS 67601

ATTN: Marc Downing

**Red #1-36**

**36-14S-21W Trego,KS**

Start Date: 2018.04.07 @ 10:47:00

End Date: 2018.04.07 @ 17:03:02

Job Ticket #: 63072                      DST #: 3

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

Printed: 2018.04.09 @ 15:46:20

Downing Nelson Oil Co. Inc  
36-14S-21W Trego,KS  
Red #1-36  
DST # 3  
Cherokee  
2018.04.07



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co. Inc

**36-14S-21W Trego,KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63072

**DST#: 3**

ATTN: Marc Dow ning

Test Start: 2018.04.07 @ 10:47:00

## GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:31:02

Time Test Ended: 17:03:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

**Interval: 3756.00 ft (KB) To 3805.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3805.00 ft (KB) (TVD)

2051.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 6755 Inside**

Press@RunDepth: 17.35 psig @ 3757.00 ft (KB)

Capacity: psig

Start Date: 2018.04.07

End Date:

2018.04.07

Last Calib.:

2018.04.07

Start Time:

10:47:01

End Time:

17:03:02

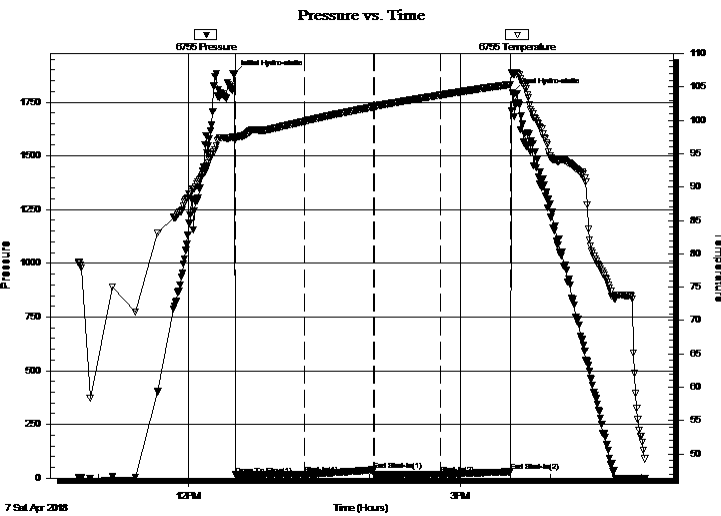
Time On Btm:

2018.04.07 @ 12:30:17

Time Off Btm:

2018.04.07 @ 15:34:47

**TEST COMMENT:** IFP 45 Minutes/ Blow built to 1 1/2"  
ISI 45 Minutes/ Light blow back  
FFP 45 Mintues/ Blow built to 1/2"  
FSI 45 Minutes/ Light blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1881.00	97.49	Initial Hydro-static
1	14.91	97.17	Open To Flow (1)
47	16.00	99.85	Shut-In(1)
92	38.25	102.01	End Shut-In(1)
93	16.47	102.04	Open To Flow (2)
137	17.35	103.79	Shut-In(2)
183	30.05	105.42	End Shut-In(2)
185	1795.77	107.07	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
3.00	Light oil spotted mud/ Mud 100%	0.01

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Downing Nelson Oil Co. Inc

**36-14S-21W Trego, KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63072

**DST#: 3**

ATTN: Marc Downing

Test Start: 2018.04.07 @ 10:47:00

## GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:31:02

Time Test Ended: 17:03:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

**Interval: 3756.00 ft (KB) To 3805.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3805.00 ft (KB) (TVD)

2051.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 6752 Outside**

Press@RunDepth: 31.24 psig @ 3758.00 ft (KB)

Capacity: psig

Start Date: 2018.04.07

End Date:

2018.04.07

Last Calib.:

2018.04.07

Start Time: 10:47:01

End Time:

17:03:02

Time On Btm:

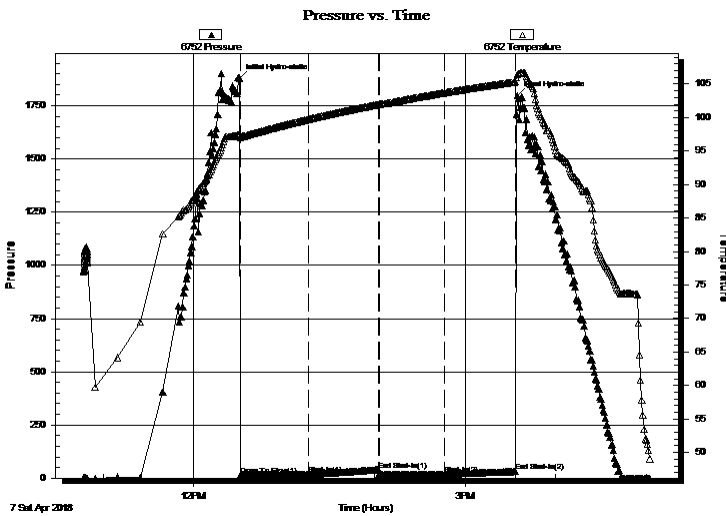
2018.04.07 @ 12:30:32

Time Off Btm:

2018.04.07 @ 15:34:47

**TEST COMMENT:** IFP 45 Minutes/ Blow built to 1 1/2"  
ISI 45 Minutes/ Light blow back  
FFP 45 Minutes/ Blow built to 1/2"  
FSI 45 Minutes/ Light blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1879.44	97.37	Initial Hydro-static
1	15.71	96.98	Open To Flow (1)
46	17.62	99.74	Shut-In(1)
92	39.28	101.96	End Shut-In(1)
93	17.66	101.97	Open To Flow (2)
136	17.75	103.71	Shut-In(2)
183	31.24	105.35	End Shut-In(2)
185	1796.69	106.44	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
3.00	Light oil spotted mud/ Mud 100%	0.01

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co. Inc

**36-14S-21W Trego,KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63072

**DST#: 3**

ATTN: Marc Downing

Test Start: 2018.04.07 @ 10:47:00

## Tool Information

Drill Pipe:	Length: 3712.00 ft	Diameter: 3.80 inches	Volume: 52.07 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 52.22 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 59000.00 lb
Depth to Top Packer:	3756.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.80 ft			
Tool Length:	68.80 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3741.00	
Hydraulic tool	5.00			3746.00	
Top Packer	5.00			3751.00	
Packer	5.00			3756.00	20.00 Bottom Of Top Packer
Recorder	1.00	6755	Inside	3757.00	
Recorder	1.00	6752	Outside	3758.00	
Anchor	10.00			3768.00	
Change Over Sub	1.00			3769.00	
Drill Pipe	31.80			3800.80	
Change Over Sub	1.00			3801.80	
Bullnose	3.00			3804.80	48.80 Anchor Tool

**Total Tool Length: 68.80**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co. Inc

**36-14S-21W Trego,KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63072

**DST#: 3**

ATTN: Marc Downing

Test Start: 2018.04.07 @ 10:47:00

## 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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
3.00	Light oil spotted mud/ Mud 100%	0.015

Total Length: 3.00 ft      Total Volume: 0.015 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

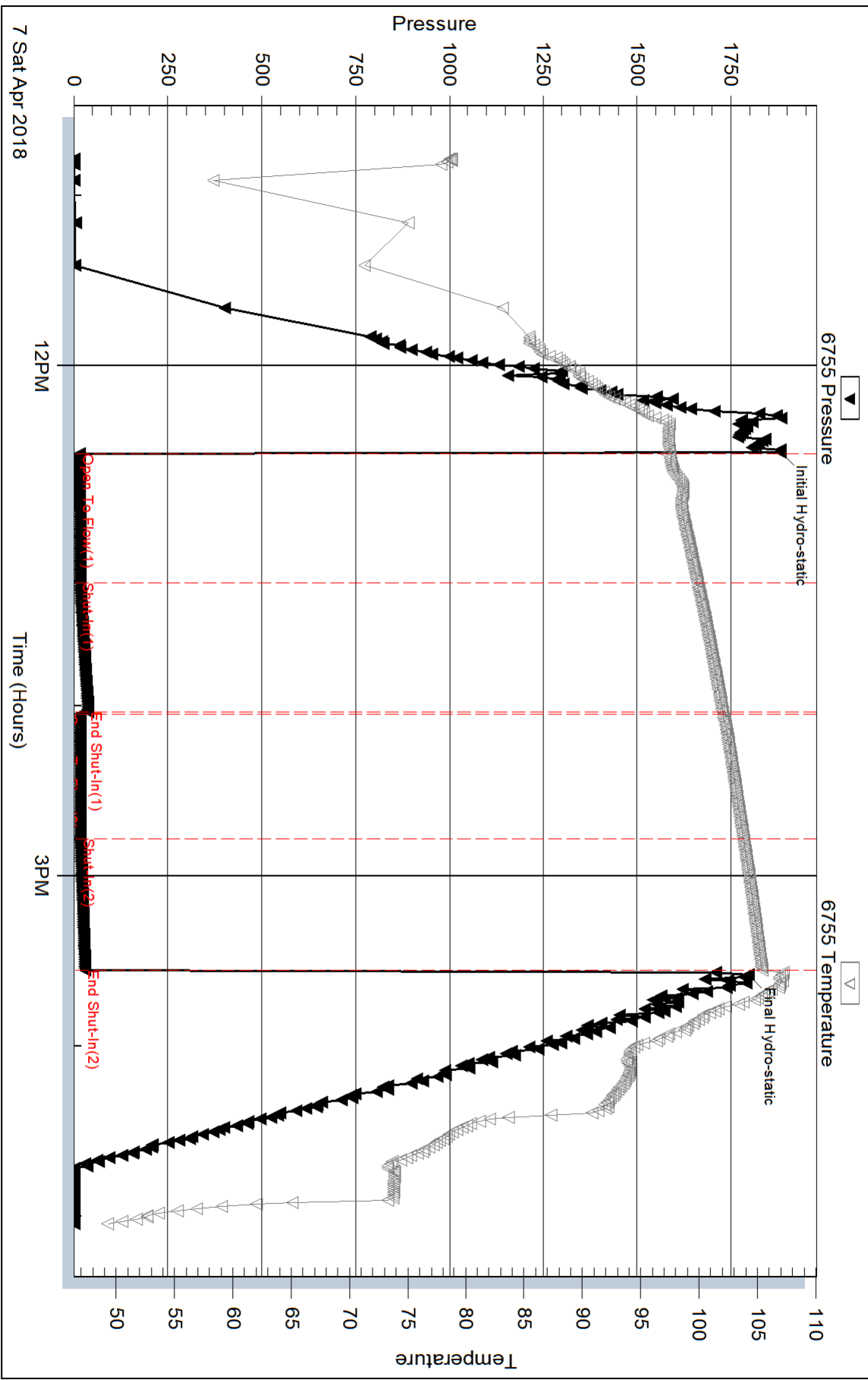
Serial #:

Laboratory Name:

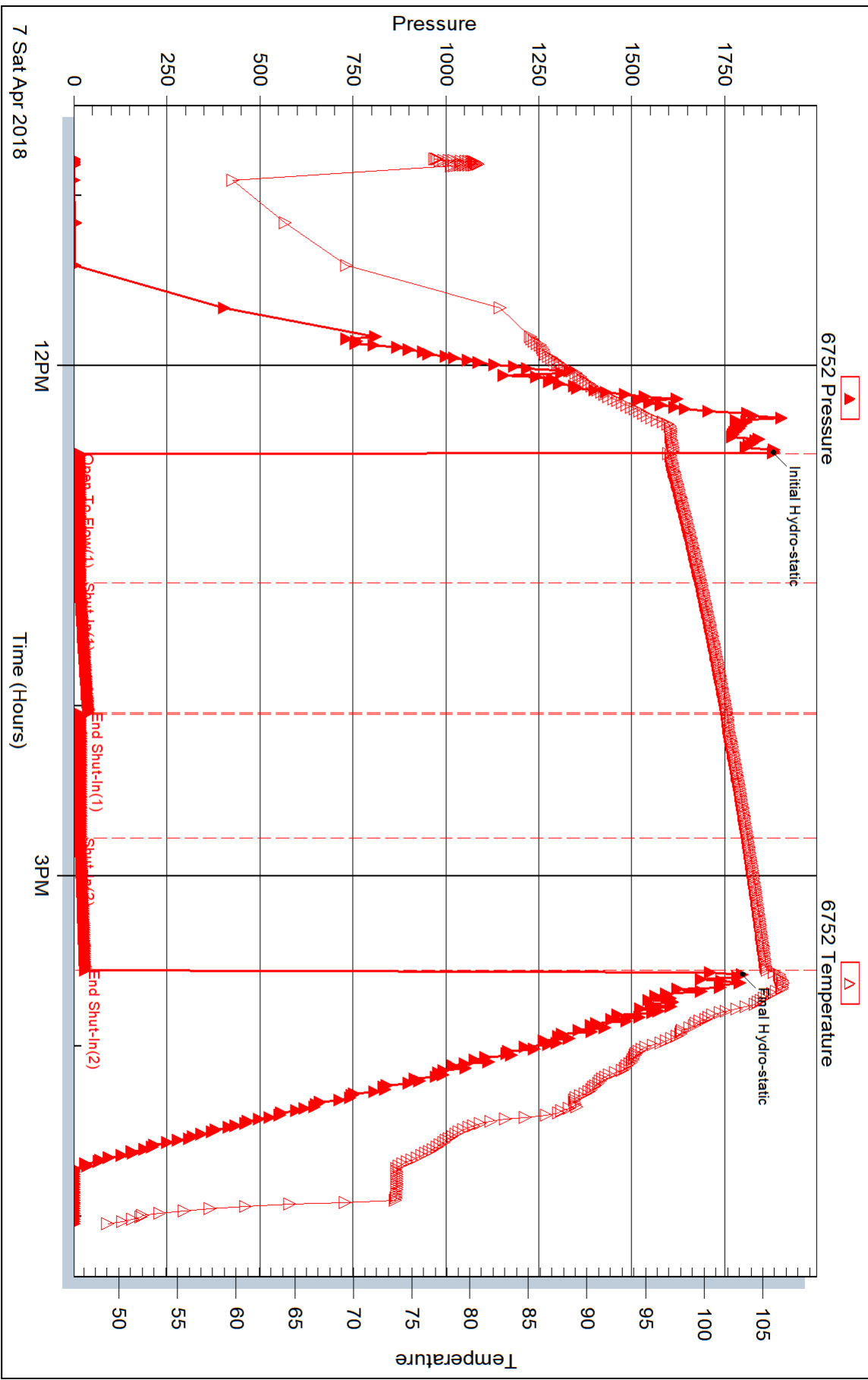
Laboratory Location:

Recovery Comments:

### Pressure vs. Time



### Pressure vs. Time





## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays KS 67601

ATTN: Marc Downing

**Red #1-36**

**36-14S-21W Trego,KS**

Start Date: 2018.04.08 @ 09:26:00

End Date: 2018.04.08 @ 15:38:02

Job Ticket #: 63073                      DST #: 4

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

Printed: 2018.04.09 @ 15:45:41

Downing Nelson Oil Co. Inc  
36-14S-21W Trego,KS  
Red #1-36  
DST # 4  
LKC H - J  
2018.04.08



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Downing Nelson Oil Co. Inc

**36-14S-21W Trego, KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63073

**DST#: 4**

ATTN: Marc Downing

Test Start: 2018.04.08 @ 09:26:00

## GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:57:02

Time Test Ended: 15:38:02

Test Type: Conventional Straddle (Initial)

Tester: Ken Swinney

Unit No: 72

**Interval: 3512.00 ft (KB) To 3587.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3866.00 ft (KB) (TVD)

2051.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 6755**

**Inside**

Press@RunDepth: 86.95 psig @ 3582.56 ft (KB)

Capacity: psig

Start Date: 2018.04.08

End Date:

2018.04.08

Last Calib.:

2018.04.08

Start Time:

09:26:01

End Time:

15:38:02

Time On Btm:

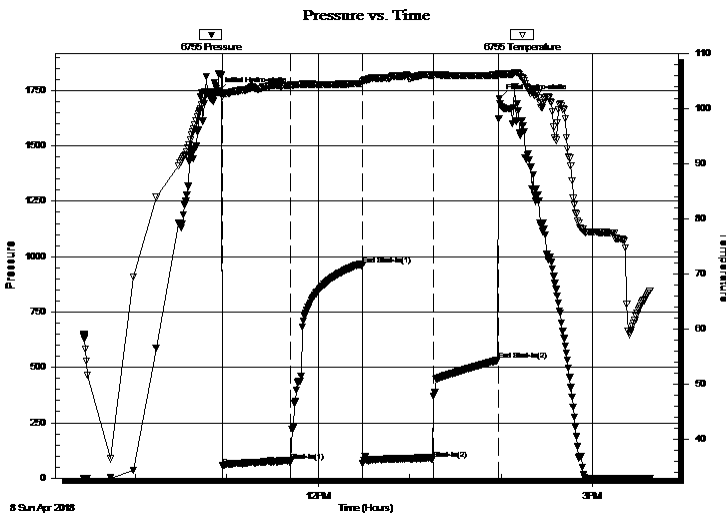
2018.04.08 @ 10:54:17

Time Off Btm:

2018.04.08 @ 13:58:47

**TEST COMMENT:** IFP 45 Minutes/ Blow built to 5"  
ISI 45 Minutes/ No blow back  
FFP 45 Minutes/ Blow built to 2"  
FSi 45 Mintues/ No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1745.47	103.03	Initial Hydro-static
3	55.31	102.31	Open To Flow (1)
48	78.03	104.34	Shut-In(1)
95	961.23	104.69	End Shut-In(1)
95	67.22	105.04	Open To Flow (2)
141	86.95	106.21	Shut-In(2)
184	533.31	106.22	End Shut-In(2)
185	1713.27	106.39	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	Mud w /skim of oil in sample	0.99

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Dow ning Nelson Oil Co. Inc

36-14S-21W Trego,KS

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63073

**DST#: 4**

ATTN: Marc Dow ning

Test Start: 2018.04.08 @ 09:26:00

### GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:57:02

Time Test Ended: 15:38:02

Test Type: Conventional Straddle (Initial)

Tester: Ken Swinney

Unit No: 72

**Interval: 3512.00 ft (KB) To 3587.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3866.00 ft (KB) (TVD)

2051.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

### Serial #: 8322 Below (Straddle)

Press@RunDepth: psig @ 3860.60 ft (KB)

Capacity: psig

Start Date: 2018.04.08 End Date: 2018.04.08

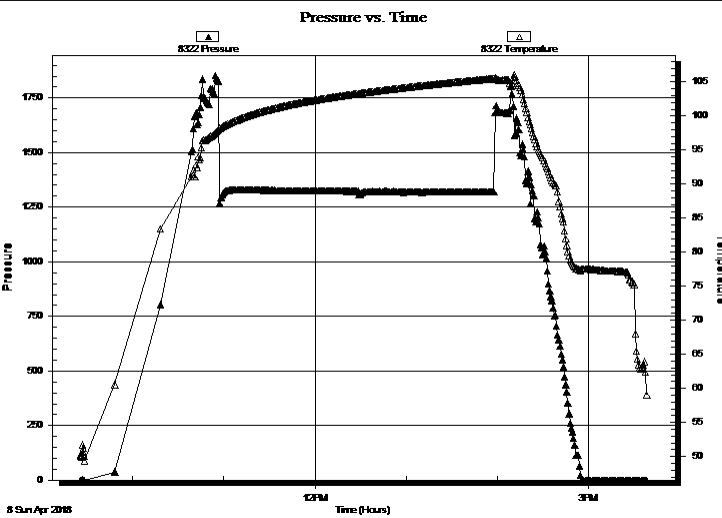
Last Calib.: 2018.04.08

Start Time: 09:26:01 End Time: 15:38:02

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP 45 Minutes/ Blow built to 5"  
ISI 45 Minutes/ No blow back  
FFP 45 Minutes/ Blow built to 2"  
FSi 45 Mintues/ No blow back



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
90.00	Mud w /skim of oil in sample	0.99

### Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Downing Nelson Oil Co. Inc

**36-14S-21W Trego, KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63073

**DST#: 4**

ATTN: Marc Downing

Test Start: 2018.04.08 @ 09:26:00

## GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:57:02

Time Test Ended: 15:38:02

Test Type: Conventional Straddle (Initial)

Tester: Ken Swinney

Unit No: 72

**Interval: 3512.00 ft (KB) To 3587.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3866.00 ft (KB) (TVD)

2051.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 6752 Outside**

Press@RunDepth: 950.63 psig @ 3582.56 ft (KB)

Capacity: psig

Start Date: 2018.04.08

End Date:

2018.04.08

Last Calib.:

2018.04.08

Start Time:

09:26:01

End Time:

15:38:02

Time On Btm:

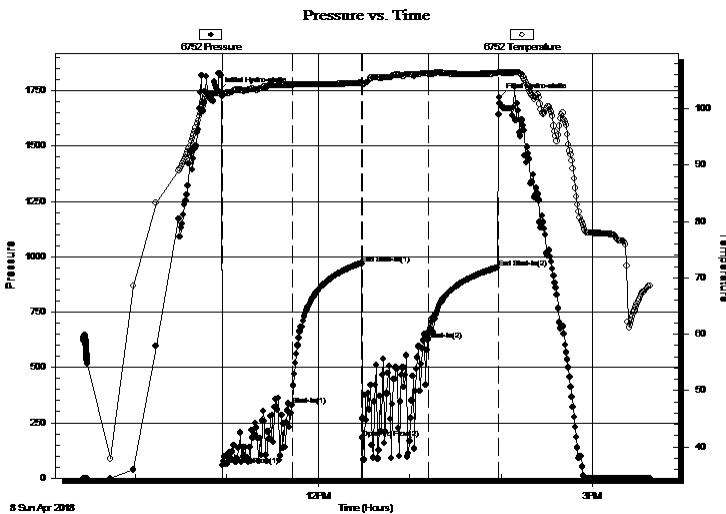
2018.04.08 @ 10:54:17

Time Off Btm:

2018.04.08 @ 13:58:47

**TEST COMMENT:** IFP 45 Minutes/ Blow built to 5"  
ISI 45 Minutes/ No blow back  
FFP 45 Minutes/ Blow built to 2"  
FSi 45 Minutes/ No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1746.04	102.71	Initial Hydro-static
3	56.89	102.18	Open To Flow (1)
49	329.84	104.22	Shut-In(1)
94	969.26	104.54	End Shut-In(1)
95	181.55	104.28	Open To Flow (2)
138	622.48	106.18	Shut-In(2)
184	950.63	106.26	End Shut-In(2)
185	1717.74	106.39	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	Mud w /skim of oil in sample	0.99

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co. Inc

**36-14S-21W Trego,KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63073

**DST#: 4**

ATTN: Marc Downing

Test Start: 2018.04.08 @ 09:26:00

## Tool Information

Drill Pipe:	Length: 3493.00 ft	Diameter: 3.80 inches	Volume: 49.00 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 49.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.80 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3512.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	3864.43 ft			
Interval between Packers:	352.43 ft			
Tool Length:	369.23 ft			
Number of Packers:	3	Diameter: 6.75 inches		
Tool Comments:				

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

Shut-In Tool	5.00			3500.20	
Hydraulic tool	5.00			3505.20	
Top Packer	5.00			3510.20	
Packer	1.80			3512.00	16.80 Bottom Of Top Packer
Change Over Sub	1.15			3513.15	
Drill Pipe	63.38			3576.53	
Change Over Sub	1.03			3577.56	
Anchor	5.00			3582.56	
Recorder	0.00	6755	Inside	3582.56	
Recorder	0.00	6752	Outside	3582.56	
Packer (Interval Side)	3.15			3585.71	
Packer (Tail Side)	1.60			3587.31	
Blank Off Sub	1.00			3588.31	
Perforations	18.00			3606.31	
Change Over Sub	1.10			3607.41	
Drill Pipe	253.19			3860.60	
Recorder	0.00	8322	Below	3860.60	
Change Over Sub	0.83			3861.43	
Bullnose	3.00			3864.43	352.43 Anchor Tool

**Total Tool Length: 369.23**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co. Inc

**36-14S-21W Trego,KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63073

**DST#: 4**

ATTN: Marc Downing

Test Start: 2018.04.08 @ 09:26:00

## 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: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	Mud w/skim of oil in sample	0.989

Total Length: 90.00 ft      Total Volume: 0.989 bbl

Num Fluid Samples: 0

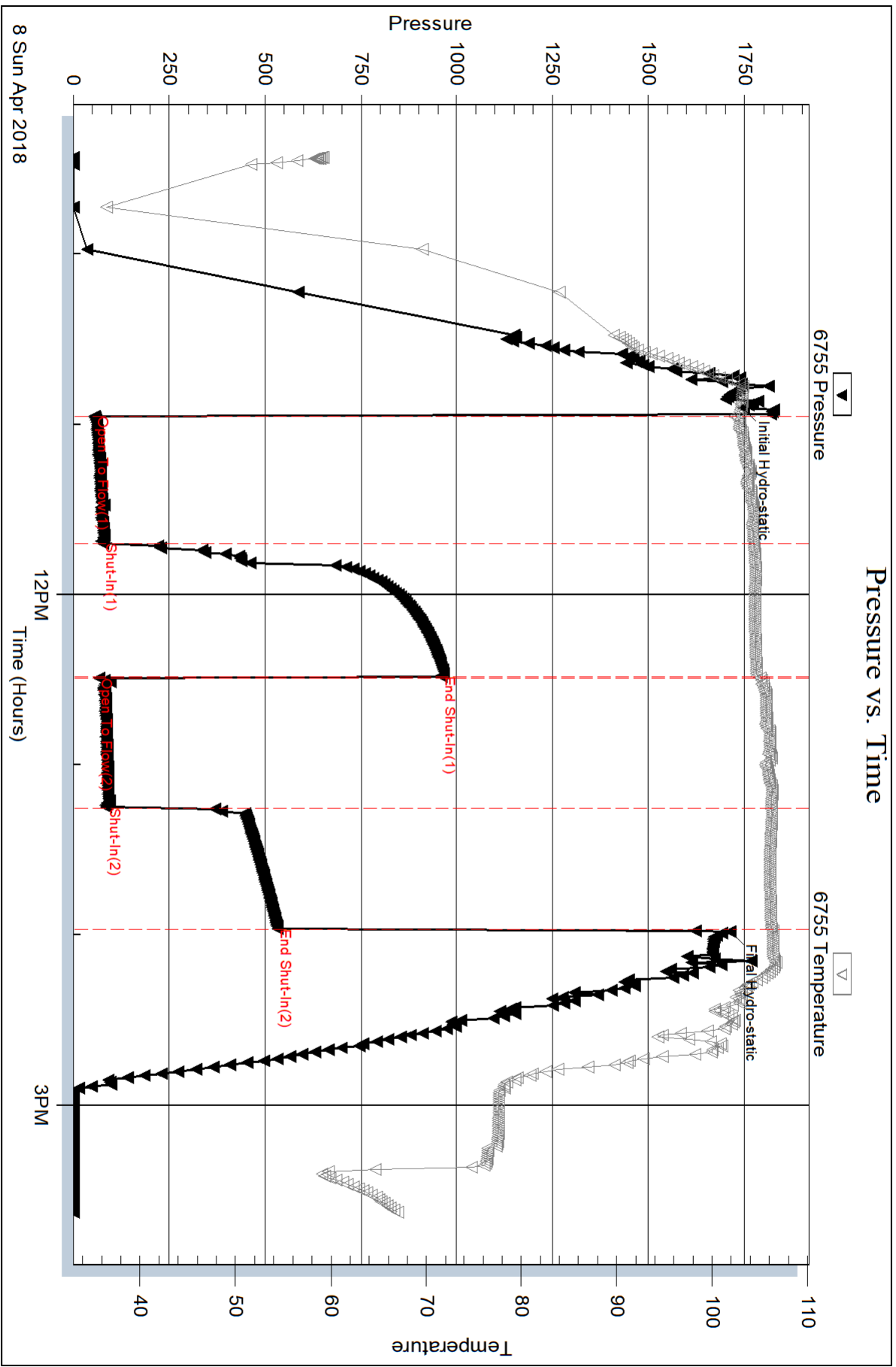
Num Gas Bombs: 0

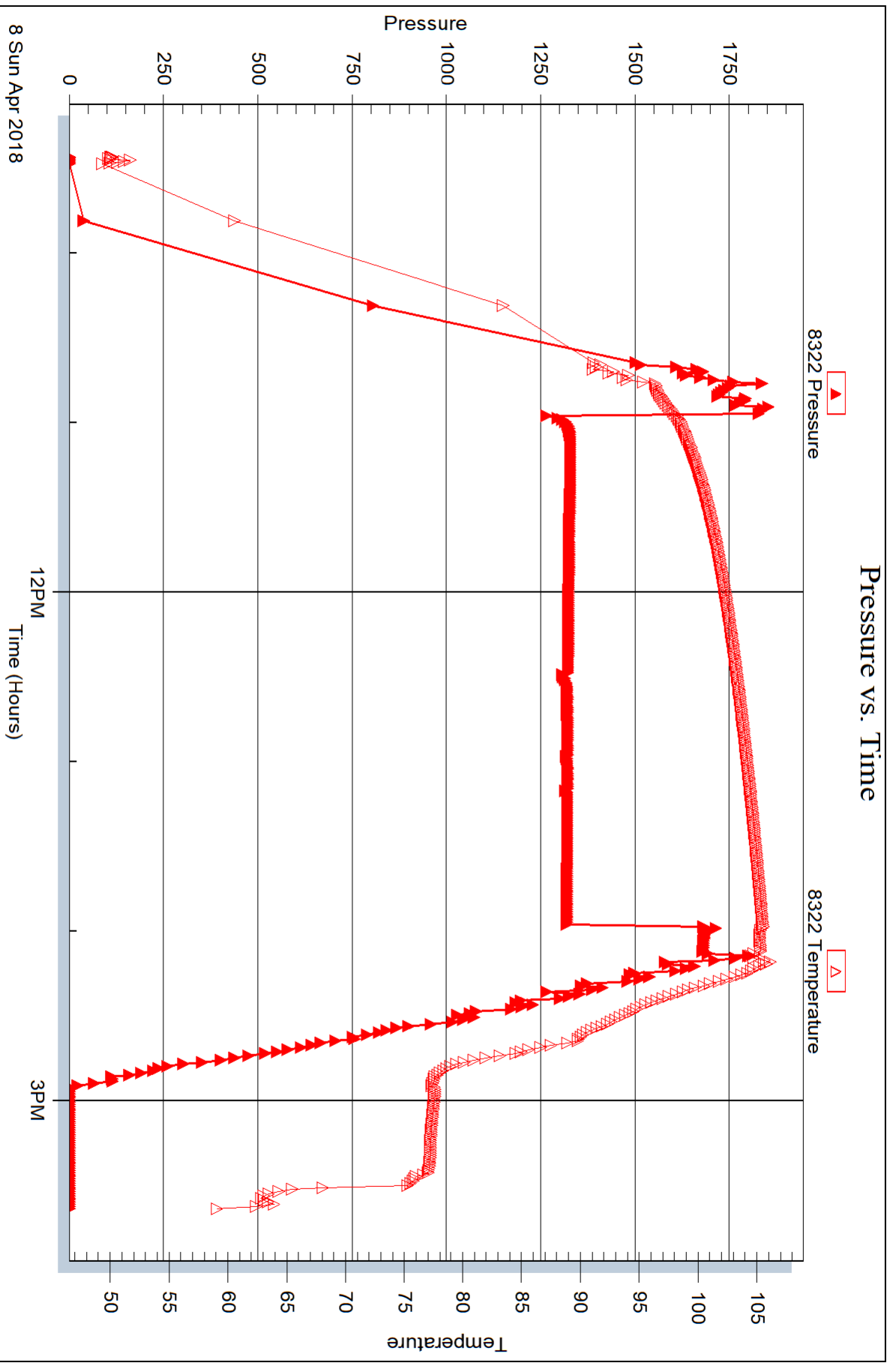
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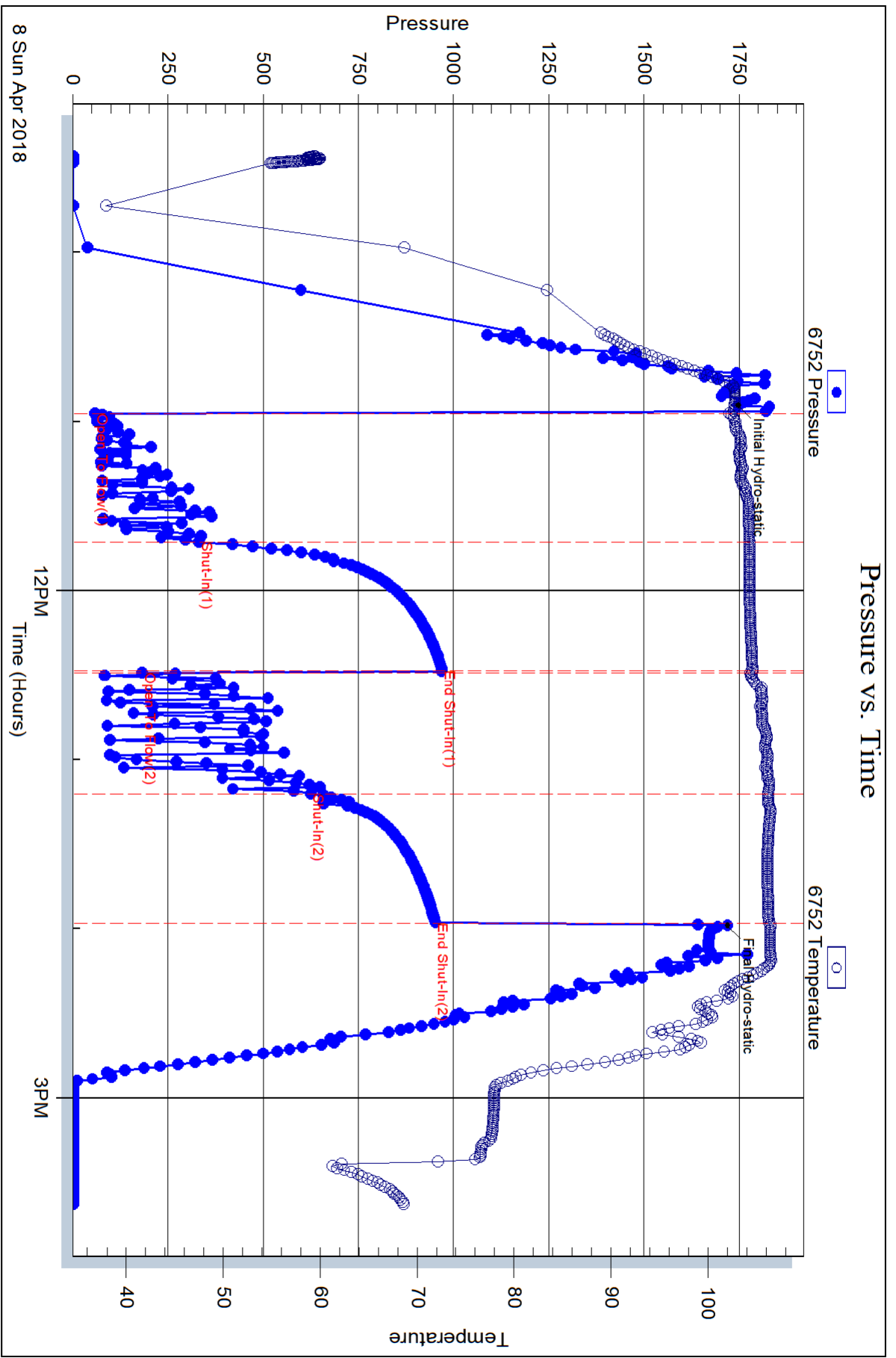
Laboratory Name:

Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays KS 67601

ATTN: Marc Downing

**Red #1-36**

**36-14S-21W Trego,KS**

Start Date: 2018.04.08 @ 18:13:00

End Date: 2018.04.08 @ 22:27:17

Job Ticket #: 63074                      DST #: 5

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

Printed: 2018.04.09 @ 15:26:58



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Downing Nelson Oil Co. Inc

**36-14S-21W Trego, KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63074

**DST#: 5**

ATTN: Marc Downing

Test Start: 2018.04.08 @ 18:13:00

## GENERAL INFORMATION:

Formation: **LKC H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:33:17

Time Test Ended: 22:27:17

Test Type: Conventional Straddle (Initial)

Tester: Ken Swinney

Unit No: 72

**Interval: 3512.00 ft (KB) To 3536.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3536.00 ft (KB) (TVD)

2051.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 6755**

**Inside**

Press@RunDepth: 29.70 psig @ 3512.00 ft (KB)

Capacity: psig

Start Date: 2018.04.08

End Date:

2018.04.08

Last Calib.:

2018.04.08

Start Time: 18:13:01

End Time:

22:27:17

Time On Btm:

2018.04.08 @ 19:32:47

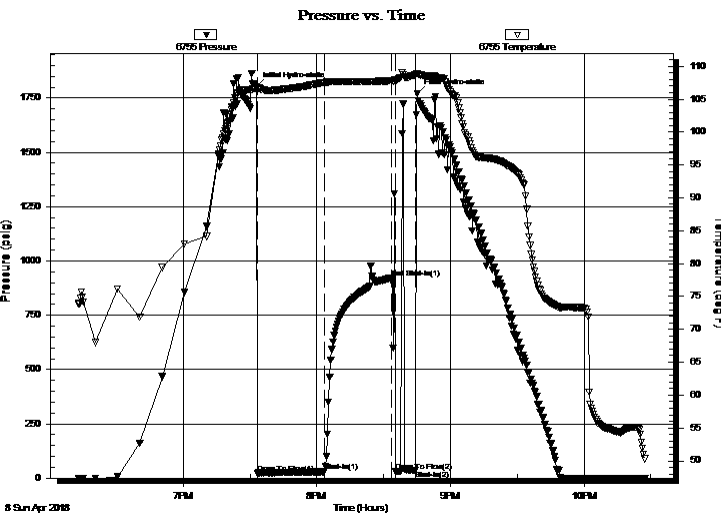
Time Off Btm:

2018.04.08 @ 20:45:17

**TEST COMMENT:** IFP 30 Mintues/ Blow built to 1/4" then died in 5 minutes

ISI 30 Minutes/ No blow back

FFP 10 Minutes/ Few bubbles at open then dead/ Flush tool few bubbles then dead/ Pull test



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1801.29	106.62	Initial Hydro-static
1	22.70	106.39	Open To Flow (1)
31	29.70	107.53	Shut-In(1)
61	923.42	107.78	End Shut-In(1)
63	32.24	107.65	Open To Flow (2)
72	35.38	108.68	Shut-In(2)
73	1769.80	108.84	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	Watery Mud/ Water 30% Mud 70%	0.36

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Downing Nelson Oil Co. Inc

**36-14S-21W Trego, KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63074

**DST#: 5**

ATTN: Marc Downing

Test Start: 2018.04.08 @ 18:13:00

## GENERAL INFORMATION:

Formation: **LKC H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:33:17

Time Test Ended: 22:27:17

Test Type: Conventional Straddle (Initial)

Tester: Ken Swinney

Unit No: 72

**Interval: 3512.00 ft (KB) To 3536.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3536.00 ft (KB) (TVD)

2051.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 6752 Outside**

Press@RunDepth: 924.42 psig @ 3512.00 ft (KB)

Capacity: psig

Start Date: 2018.04.08

End Date: 2018.04.08

Last Calib.: 2018.04.08

Start Time: 18:13:01

End Time: 22:27:17

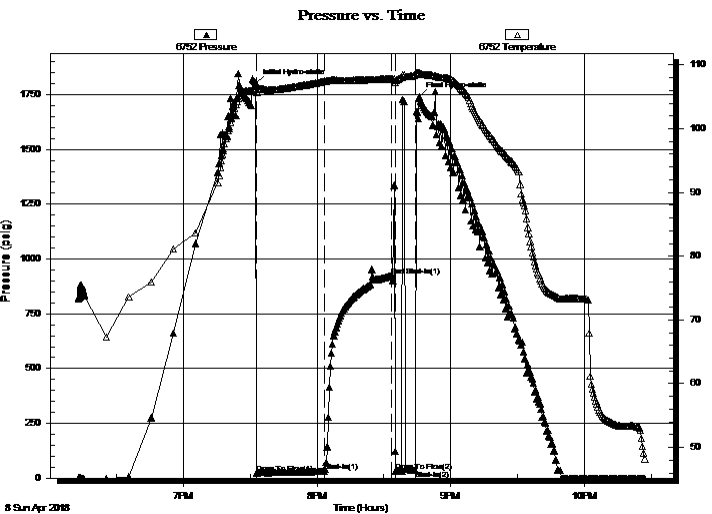
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Time Off Btm: 2018.04.08 @ 20:45:47

**TEST COMMENT:** IFP 30 Mintues/ Blow built to 1/4" then died in 5 minutes

ISI 30 Minutes/ No blow back

FFP 10 Minutes/ Few bubbles at open then dead/ Flush tool few bubbles then dead/ Pull test



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1799.86	106.31	Initial Hydro-static
1	22.66	105.68	Open To Flow (1)
31	30.70	107.42	Shut-In(1)
61	924.42	107.78	End Shut-In(1)
63	33.49	107.58	Open To Flow (2)
72	36.64	108.45	Shut-In(2)
74	1738.81	108.72	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	Watery Mud/ Water 30% Mud 70%	0.36

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Downing Nelson Oil Co. Inc

**36-14S-21W Trego, KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63074

**DST#: 5**

ATTN: Marc Downing

Test Start: 2018.04.08 @ 18:13:00

## GENERAL INFORMATION:

Formation: **LKC H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:33:17

Time Test Ended: 22:27:17

Test Type: Conventional Straddle (Initial)

Tester: Ken Swinney

Unit No: 72

**Interval: 3512.00 ft (KB) To 3536.00 ft (KB) (TVD)**

Reference Elevations: 2057.00 ft (KB)

Total Depth: 3536.00 ft (KB) (TVD)

2051.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 6.00 ft

**Serial #: 8322 Below (Straddle)**

Press@RunDepth: 1298.04 psig @ 3542.85 ft (KB)

Capacity: psig

Start Date: 2018.04.08

End Date:

2018.04.08

Last Calib.:

2018.04.08

Start Time: 18:13:01

End Time:

22:27:17

Time On Btm:

2018.04.08 @ 19:32:17

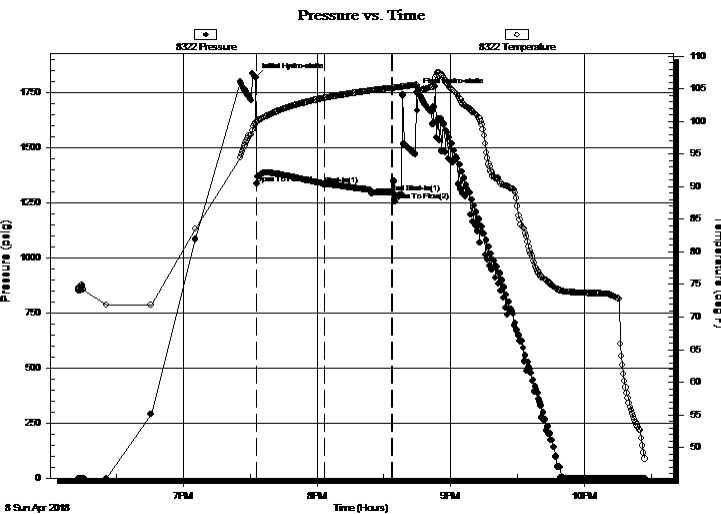
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**TEST COMMENT:** IFP 30 Mintues/ Blow built to 1/4" then died in 5 minutes

ISI 30 Minutes/ No blow back

FFP 10 Minutes/ Few bubbles at open then dead/ Flush tool few bubbles then dead/ Pull test



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1821.03	99.67	Initial Hydro-static
1	1337.84	99.92	Open To Flow (1)
31	1334.68	103.54	Shut-In(1)
61	1298.04	105.06	End Shut-In(1)
62	1301.18	105.08	Open To Flow (2)
73	1750.16	105.59	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	Watery Mud/ Water 30% Mud 70%	0.36

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co. Inc

**36-14S-21W Trego,KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63074

**DST#: 5**

ATTN: Marc Downing

Test Start: 2018.04.08 @ 18:13:00

## Tool Information

Drill Pipe:	Length: 3493.00 ft	Diameter: 3.80 inches	Volume: 49.00 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 49.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.80 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3512.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	3863.42 ft			
Interval between Packers:	351.42 ft			
Tool Length:	368.22 ft			
Number of Packers:	3	Diameter: 6.75 inches		
Tool Comments:				

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3500.20	
Hydraulic tool	5.00			3505.20	
Top Packer	5.00			3510.20	
Packer	1.80			3512.00	16.80 Bottom Of Top Packer
Recorder	0.00	6755	Inside	3512.00	
Recorder	0.00	6752	Outside	3512.00	
Anchor	19.00			3531.00	
Packer (Interval Side)	3.15			3534.15	
Packer (Tail Side)	1.60			3535.75	
Perforations	6.00			3541.75	
Change Over Sub	1.10			3542.85	
Recorder	0.00	8322	Below	3542.85	
Drill Pipe	316.57			3859.42	
Change Over Sub	1.00			3860.42	
Bullnose	3.00			3863.42	351.42 Anchor Tool

**Total Tool Length: 368.22**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Downing Nelson Oil Co. Inc

**36-14S-21W Trego,KS**

PO Box 1019  
Hays KS 67601

**Red #1-36**

Job Ticket: 63074

**DST#: 5**

ATTN: Marc Downing

Test Start: 2018.04.08 @ 18:13:00

**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:

25000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbbl
45.00	Watery Mud/ Water 30% Mud 70%	0.358

Total Length: 45.00 ft      Total Volume: 0.358 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

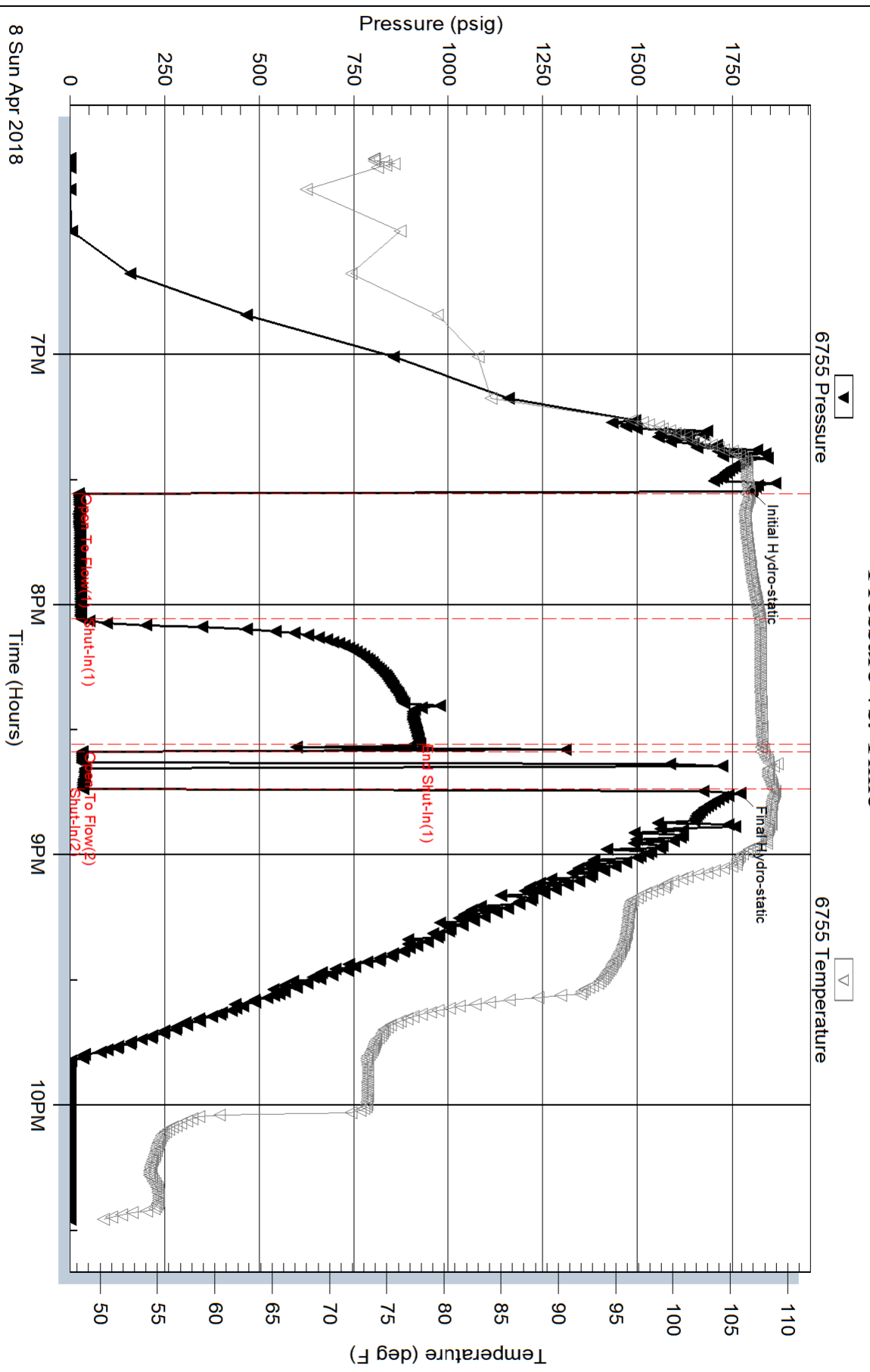
Serial #:

Laboratory Name:

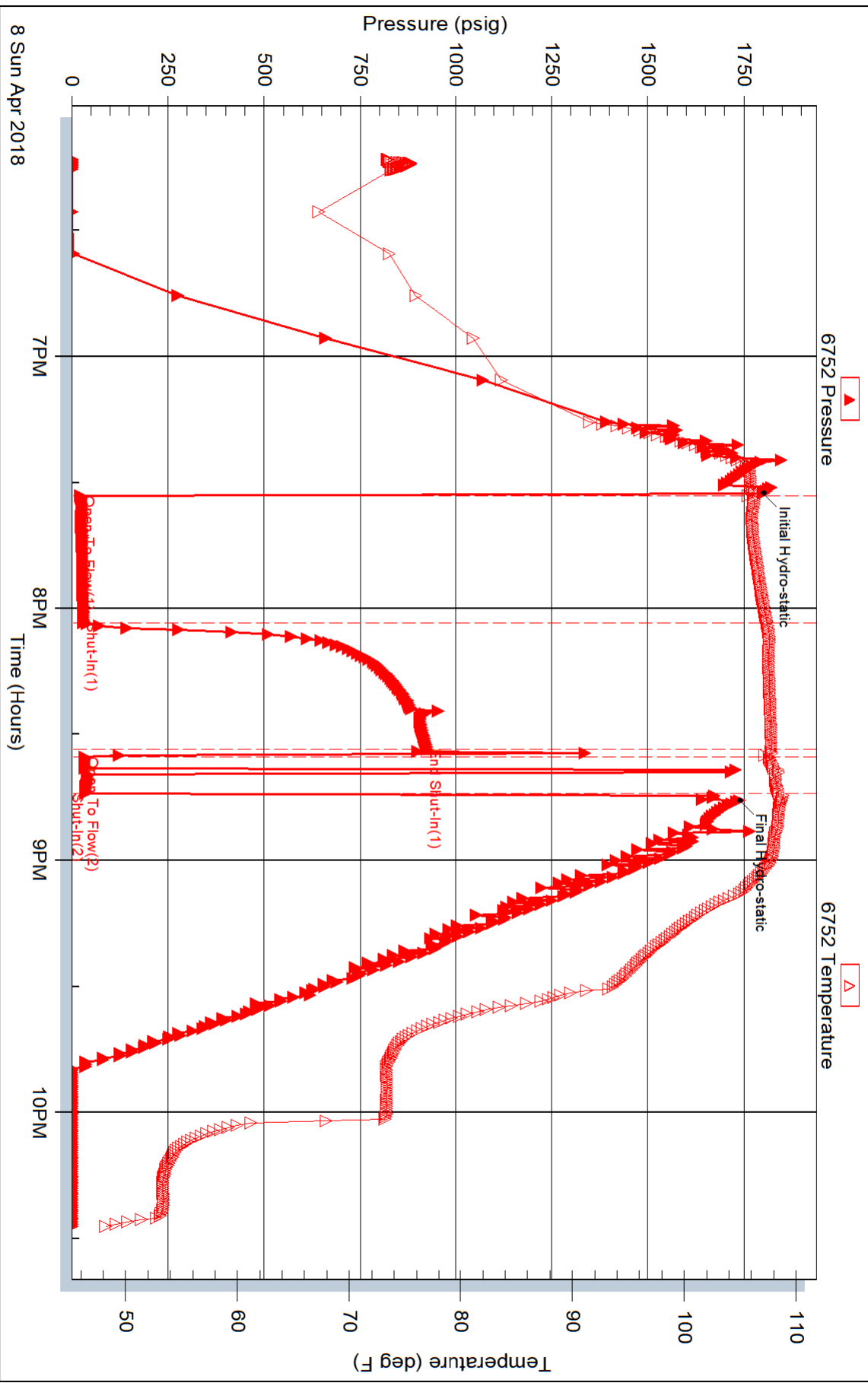
Laboratory Location:

Recovery Comments: Recovery Resistivity .372 ohms @ 50 deg.

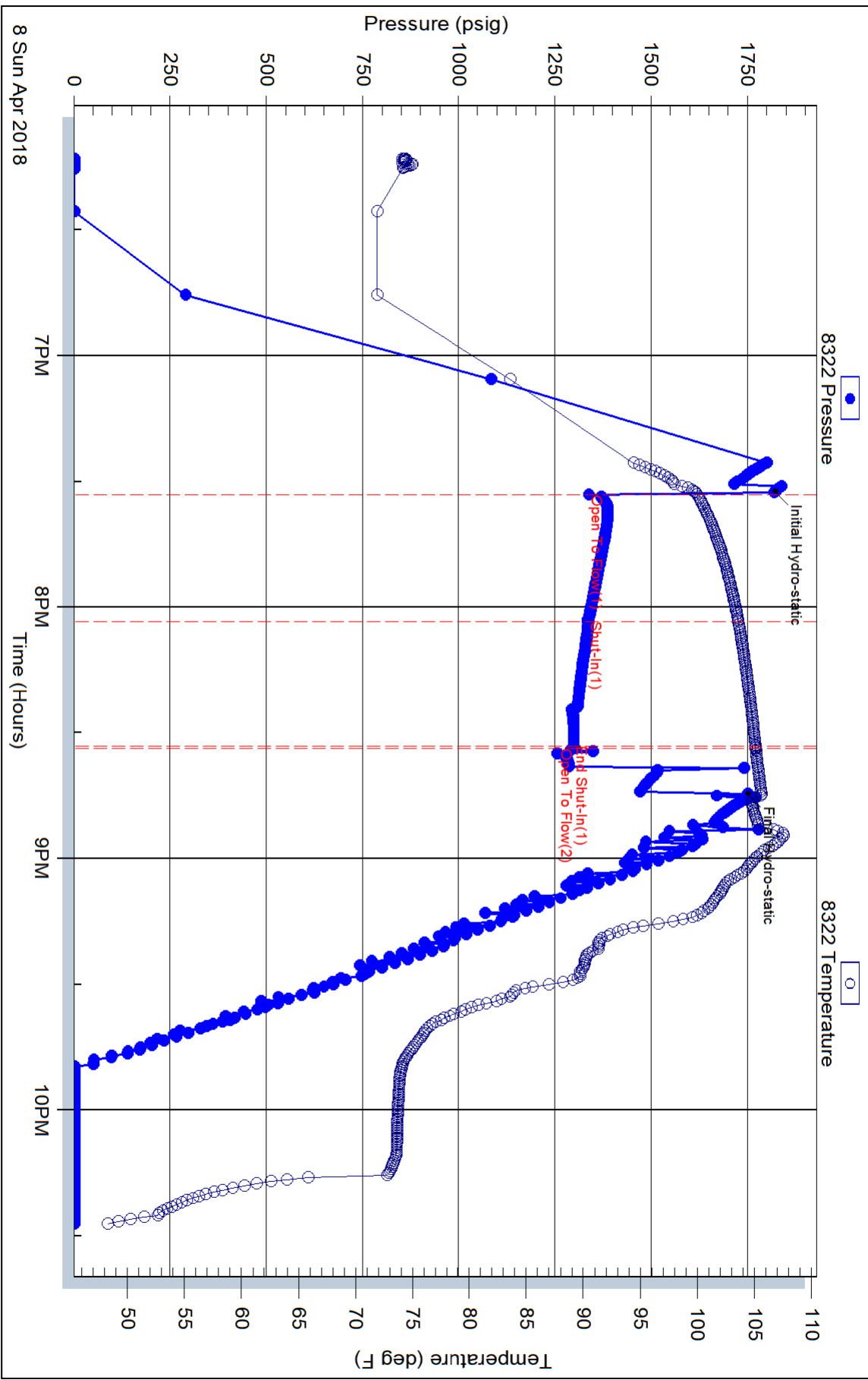
### Pressure vs. Time

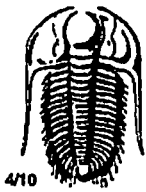


### Pressure vs. Time



### Pressure vs. Time





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63070

Well Name & No. Red #1-36 Test No. 1 Date 5 Apr 18  
 Company Downing Nelson O.I. Company Inc Elevation 2057 KB 2051 GL  
 Address 70 Box 1019 Hays Kansas 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery Rig 3  
 Location: Sec. 36 Twp. 14S Rge. 21W Co. Trego State \_\_\_\_\_

Interval Tested 3454 - 3473 Zone Tested Lansing Kansas City zone E  
 Anchor Length 19 Drill Pipe Run 3433 Mud Wt. 8.8  
 Top Packer Depth 3449 Drill Collars Run 30 Vis 5.0  
 Bottom Packer Depth 3454 Wt. Pipe Run — WL 6.8  
 Total Depth 3473 Chlorides 3500 ppm System LCM 1#

Blow Description I.F. Blow built to 3/4 inch

I.S.I. No blow back

FF Dead no blow

F.S.I. No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Mud</u>			<u>100</u>	

Rec Total 1 BHT 104 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1650  Test 1050 T-On location 1:05 pm  
 (B) First Initial Flow 18  Jars \_\_\_\_\_ T-Started 2:05 pm  
 (C) First Final Flow 20  Safety Joint \_\_\_\_\_ T-Open 3:53 pm  
 (D) Initial Shut-In 38  Circ Sub \_\_\_\_\_ T-Pulled 5:53 pm  
 (E) Second Initial Flow 19  Hourly Standby \_\_\_\_\_ T-Out 7:25 pm  
 (F) Second Final Flow 20  Mileage 52 52 Comments \_\_\_\_\_  
 (G) Final Shut-In 29  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1632  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

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

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1102  
 MP/DST Disc't \_\_\_\_\_

Sub Total 1102

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

Our Representative



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63071

Well Name & No. Red #1-36 Test No. 2 Date 6 Apr 18  
 Company Downing Nelson Oil Company Inc. Elevation 2057 KB 2057 GL  
 Address PO Box 1019 Hays Kansas 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery Rig 4  
 Location: Sec. 36 Twp. 14S Rge. 21W Co. Trego State KS

Interval Tested 3726-3770 Zone Tested Marmaton  
 Anchor Length 44 Drill Pipe Run 3681 Mud Wt. 9.0  
 Top Packer Depth 3721 Drill Collars Run 30 Vis 48  
 Bottom Packer Depth 3726 Wt. Pipe Run - WL 8.0  
 Total Depth 3770 Chlorides 5000 ppm System LCM 1#

Blow Description I.F. Blow built to 1 3/4 inch  
I.S.I No blow back  
F.F Blow built to 2 inches  
F.S.I No blow back

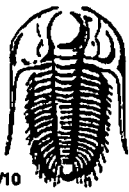
Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>0.1y Mud</u>		<u>30</u>	<u>70</u>	
<u>5</u>	<u>Clean Oil</u>		<u>100</u>		

Rec Total 50 BHT 110 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1829  Test 1050 T-On Location 7:57 pm  
 (B) First Initial Flow 16  Jars \_\_\_\_\_ T-Started 8:17 pm  
 (C) First Final Flow 31  Safety Joint \_\_\_\_\_ T-Open 10:09 pm  
 (D) Initial Shut-In 1036  Circ Sub \_\_\_\_\_ T-Pulled 1:09 am  
 (E) Second Initial Flow 38  Hourly Standby \_\_\_\_\_ T-Out 2:40 am  
 (F) Second Final Flow 38  Mileage 52 Comments \_\_\_\_\_  
 (G) Final Shut-In 995  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1790  Straddle \_\_\_\_\_

Initial Open 45  Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Ruined Packer \_\_\_\_\_  
 Final Flow 45  Extra Packer \_\_\_\_\_  
 Final Shut-In 45  Extra Recorder \_\_\_\_\_  
 Sub Total 1102  Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1102  MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63072

Well Name & No. Red #1-36 Test No. 3 Date 7 Apr 18  
 Company Downing Nelson Oil Company Inc Elevation 2057 KB 2051 GL  
 Address PO Box 1019 Hays Kansas 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery Rig 4  
 Location: Sec. 36 Twp. 14S Rge. 21W Co. Yreka State KS

Interval Tested 3756-3805 Zone Tested Cherokee  
 Anchor Length 49 Drill Pipe Run 3712 Mud Wt. 9.0  
 Top Packer Depth 3751 Drill Collars Run 30 Vis 48  
 Bottom Packer Depth 3756 Wt. Pipe Run — WL 8.0  
 Total Depth 3805 Chlorides 5000 ppm System LCM 1#

Blow Description I.F. Blow built to 1 1/2 inches

I.S.I Light blow back

F.F. Blow built to 1/2 inch

F.S.I Light blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>Lightly oil spotted mud</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 3 BHT 105 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

- (A) Initial Hydrostatic 1881
- (B) First Initial Flow 14
- (C) First Final Flow 16
- (D) Initial Shut-In 38
- (E) Second Initial Flow 16
- (F) Second Final Flow 17
- (G) Final Shut-In 30
- (H) Final Hydrostatic 1795

- Test 1050
- Jars \_\_\_\_\_
- Safety Joint \_\_\_\_\_
- Circ Sub \_\_\_\_\_
- Hourly Standby \_\_\_\_\_
- Mileage 52
- Sampler \_\_\_\_\_
- Straddle \_\_\_\_\_
- Shale Packer \_\_\_\_\_
- Extra Packer \_\_\_\_\_
- Extra Recorder \_\_\_\_\_
- Day Standby \_\_\_\_\_
- Accessibility \_\_\_\_\_
- Sub Total 1102

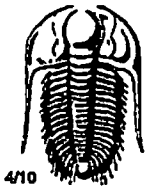
- T-On Location 9:34 am
- T-Started 10:47 am
- T-Open 12:31 pm
- T-Pulled 3:31 pm
- T-Out 5:04 pm
- Comments \_\_\_\_\_
- Ruined Shale Packer \_\_\_\_\_
- Ruined Packer \_\_\_\_\_
- Extra Copies \_\_\_\_\_
- Sub Total 0
- Total 1102
- MP/DST Disc't \_\_\_\_\_

Initial Open 45  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 45

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

Our Representative





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63073

Well Name & No. Red #1-36 Test No. 4 Date 8 Apr 18  
 Company Downing Nelson Oil Company Inc Elevation 2057 KB 2051 GL  
 Address PO Box 1019 Hays Kansas 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery Rig 4  
 Location: Sec. 36 Twp. 14S Rge. 21W Co. Trego State KS

Interval Tested 3512-3587 Zone Tested Lansing/Kansas City zones H,I,J  
 Anchor Length 75 Drill Pipe Run 3493 Mud Wt. 9.2  
 Top Packer Depth 3507 Drill Collars Run 30 Vis 49  
 Bottom Packer Depth 3512 Wt. Pipe Run - WL 8.0  
 Total Depth 3866 Chlorides 5000 ppm System LCM 1#

Blow Description I.F. Blow built to 5 inches  
I.S.I No blow back  
E.F. Blow built to 2 inches  
E.S.I. No blow back

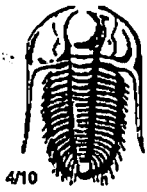
Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>Mud w/skin of oil</u>			<u>100</u>	

Rec Total 90 BHT 106 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1745  Test 1050 T-On Location 8:03 am  
 (B) First Initial Flow 55  Jars \_\_\_\_\_ T-Started 9:26 am  
 (C) First Final Flow 78  Safety Joint \_\_\_\_\_ T-Open 10:57 am  
 (D) Initial Shut-In 961  Circ Sub \_\_\_\_\_ T-Pulled 1:57 pm  
 (E) Second Initial Flow 67  Hourly Standby \_\_\_\_\_ T-Out 3:38 pm  
 (F) Second Final Flow 86  Mileage 52 Comments \_\_\_\_\_  
 (G) Final Shut-In 533  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1713  Straddle 600  Ruined Shale Packer \_\_\_\_\_

Initial Open 45  Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  
 Final Flow 45  Extra Recorder \_\_\_\_\_  
 Final Shut-In 45  Day Standby \_\_\_\_\_  
 Sub Total 1702  Accessibility \_\_\_\_\_  
 Sub Total 1702 MP/DST Disc't \_\_\_\_\_

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



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63074

Well Name & No. Red #1-36 Test No. 5 Date 8 Apr 18  
 Company Downing Nelson O.I. Company Inc Elevation 2057 KB 205-1 GL  
 Address PO Box 1019 Hays Kansas 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery Rig 4  
 Location: Sec. 36 Twp. 14S Rge. 21W Co. Trego State KS

Interval Tested 3512-3536 Zone Tested Lansing/Kansas City H  
 Anchor Length 24 Drill Pipe Run 3493 Mud Wt. 9.2  
 Top Packer Depth 3507 Drill Collars Run 30 Vis 49  
 Bottom Packer Depth 3512 Wt. Pipe Run - WL 8.0  
 Total Depth 3866 Chlorides 5000 ppm System LCM 1 #

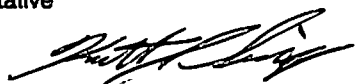
Blow Description I.F. Blow built to 1/4 inch then died in 5 minutes  
I.S.I. No blow back  
F.F. Few bubbles at open then dead/Flush tool few bubbles then dead/Pull test  
~~FFF~~

Rec	Feet of	%gas	%oil	%water	%mud
<u>415</u>	<u>Watery Mud</u>			<u>30</u>	<u>70</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 45 BHT 108 Gravity \_\_\_\_\_ API RW .372 @ 50 °F Chlorides 25,000 ppm

(A) Initial Hydrostatic 1801  Test 1050 T-On Location 5:34 pm  
 (B) First Initial Flow 22  Jars \_\_\_\_\_ T-Started 6:13 pm  
 (C) First Final Flow 29  Safety Joint \_\_\_\_\_ T-Open 7:33 pm  
 (D) Initial Shut-In 923  Circ Sub \_\_\_\_\_ T-Pulled 8:45 pm  
 (E) Second Initial Flow 32  Hourly Standby \_\_\_\_\_ T-Out 10:29 pm  
 (F) Second Final Flow 35  Mileage 52 Comments \_\_\_\_\_  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1269  Straddle 600

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1702  
 MP/DST Disc't \_\_\_\_\_  
 Initial Open 30  
 Initial Shut-In 30  
 Final Flow 10  
 Final Shut-In \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1702

Approved By \_\_\_\_\_ Our Representative 



<b>Marc A. Downing</b>		<b>Geologic Report</b>	
<b>Consulting Petroleum Geologist</b>		<b>Drilling Time and Sample Log</b>	
<b>Operator</b> <b>Downing-Nelson Oil Co., Inc.</b>		<b>Elevation</b>	
Lease <b>Red</b> No. <b>1-36</b>		KB <b>2055</b>	
API # <b>15-195-23040-0000</b>		DF <b>2053</b>	
Field <b>Groff</b>		GL <b>2047</b>	
Location <b>800' FSL &amp; 2161' FWL</b>		<b>Casing Record</b>	
Sec. <b>36</b> Twp. <b>14s</b> Rgc. <b>21w</b>		Surface <b>8 5/8" @ 1232'</b>	
County <b>Trego</b> State <b>Kansas</b>		Production <b>None</b>	
Formation		Electrical Surveys	
Top Anhydrite	Sample tops	None	
Base Anhydrite	Log Tops	CNDL, DIL	
	Datum	MEL	
	Struct Comp		
Topeka	3097	3096	-1041 -3
Heebner	3350	3350	-1295 -5
Toronto	3371	3371	-1316 -3
LKC	3390	3389	-1334 -2
BKC	3639	3640	-1585 -9
Marmaton	3722	3722	-1667 -7
Cherokee Sh	3668	3767	-1712 -3
Cherokee Sand	3786	3786	-1731 Absent
Arbuckle	3807	3807	-1752 FL
Total Depth	3866	3866	-1811
Reference Well For Structural Comparison <b>DNOCI - Milberger #1-1</b>			
700' FNL & 2250' FWL Sec. 1-15s-21w			

<b>Drilling Contractor</b> <b>Discovery Drilling, Rig #4</b>	
Commenced <b>3-30-18</b>	Completed <b>4-8-18</b>
Samples Saved From <b>3100</b>	To <b>RTD</b>
Drilling Time Kept From <b>3000</b>	To <b>RTD</b>
Samples Examined From <b>3100</b>	To <b>RTD</b>
Geological Supervision From <b>3100</b>	To <b>RTD</b>

**Summary and Recommendations**

After drilling had commenced, and a depth of ~3750' had been reached, it was noticed that the location being drilled was not consistent with that of the staked location (658' FSL & 1808' FWL). Pro-Stake LLC was contacted and drove to location. It was found that the actual location being drilled was 800' FSL & 2161' FWL. After this, the original staked location was found. The original hole from the stake was found as well as paint on the grass and ground, indicating that someone had deliberately moved the stake. It was decided to finish drilling the well to the Arbuckle and look for shows along the way. Due to structural position, DST recovery, and log evaluation, it was decided to plug and abandon the well.

After drilling was completed, DNOCI's insurance was contacted and a police report was filed. DNOCI is awaiting further correspondence.

Respectfully Submitted,

Marc A. Downing

**ROCK TYPES**

altale, red shale, red ss  
Carbon Sh

**ACCESSORIES**

altale, gry Carbon Sh

**MINERAL**

Chert/White

**STRINGER**

Limestone  
Sandstone

**OIL SHOWS**

- Even Sh 50-75%
- Spotted Sh 25-50%
- Spotted Sh 1-25%
- Questionable Sh
- Dead Oil Sh
- Fluorescence

**DST**

- DST Int
- DST alt
- Core
- tail pipe

