



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Al Downing

Grove #1-32

32-17s-18w Rush,KS

Start Date: 2013.11.13 @ 10:15:00

End Date: 2013.11.13 @ 17:53:15

Job Ticket #: 55319 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.11.15 @ 10:37:42



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc.

32-17s-18w Rush,KS

PO Box 1019
Hays KS 67601

Grove #1-32

Job Ticket: 55319

DST#: 1

ATTN: Al Dow ning

Test Start: 2013.11.13 @ 10:15:00

GENERAL INFORMATION:

Formation: **KC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:40:45

Time Test Ended: 17:53:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Brett Dickinson

Unit No: 59

Interval: 3489.00 ft (KB) To 3520.00 ft (KB) (TVD)

Reference Elevations: 2098.00 ft (KB)

Total Depth: 3520.00 ft (KB) (TVD)

2090.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 8.00 ft

Serial #: 8736

Inside

Press@RunDepth: 37.00 psig @ 3517.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.11.13

End Date: 2013.11.13

Last Calib.: 2013.11.13

Start Time: 10:15:05

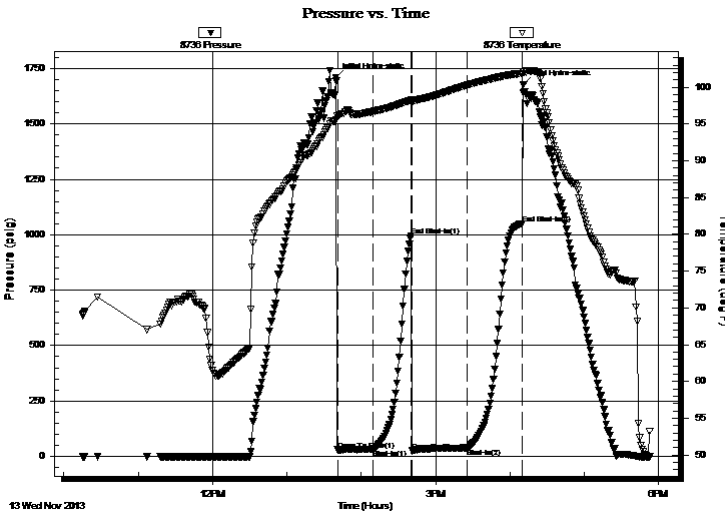
End Time: 17:53:14

Time On Btm: 2013.11.13 @ 13:39:30

Time Off Btm: 2013.11.13 @ 16:11:00

TEST COMMENT: IF-1 1/2" blow
IS-No blow
FF-5" blow
FS-No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1708.35	95.42	Initial Hydro-static
2	29.06	96.08	Open To Flow (1)
31	32.09	96.71	Shut-In(1)
61	993.95	98.23	End Shut-In(1)
62	24.72	97.95	Open To Flow (2)
106	37.00	100.27	Shut-In(2)
151	1049.50	101.88	End Shut-In(2)
152	1678.49	102.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	VSOCM 5%O 95%M	0.57

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.

32-17s-18w Rush,KS

PO Box 1019
Hays KS 67601

Grove #1-32

Job Ticket: 55319

DST#: 1

ATTN: Al Dow ning

Test Start: 2013.11.13 @ 10:15:00

Tool Information

Drill Pipe:	Length: 3456.00 ft	Diameter: 3.80 inches	Volume: 48.48 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume:</u>	Tool Chased	5.00 ft
				String Weight: Initial	52000.00 lb
Drill Pipe Above KB:	18.00 ft			Final	52000.00 lb
Depth to Top Packer:	3489.00 ft				
Depth to Bottom Packer:	ft				
Interval betw een Packers:	31.00 ft				
Tool Length:	52.00 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			3469.00	
Shut In Tool	5.00			3474.00	
Hydraulic tool	5.00			3479.00	
Packer	5.00			3484.00	21.00 Bottom Of Top Packer
Packer	5.00			3489.00	
Stubb	1.00			3490.00	
Perforations	27.00			3517.00	
Recorder	0.00	8736	Inside	3517.00	
Recorder	0.00	6753	Outside	3517.00	
Bullnose	3.00			3520.00	31.00 Bottom Packers & Anchor
Total Tool Length:	52.00				



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DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning Nelson Oil Co Inc.

32-17s-18w Rush,KS

PO Box 1019
Hays KS 67601

Grove #1-32

Job Ticket: 55319

DST#: 1

ATTN: Al Dow ning

Test Start: 2013.11.13 @ 10:15:00

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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1250.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	VSOCM 5%O 95%M	0.568

Total Length: 60.00 ft Total Volume: 0.568 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

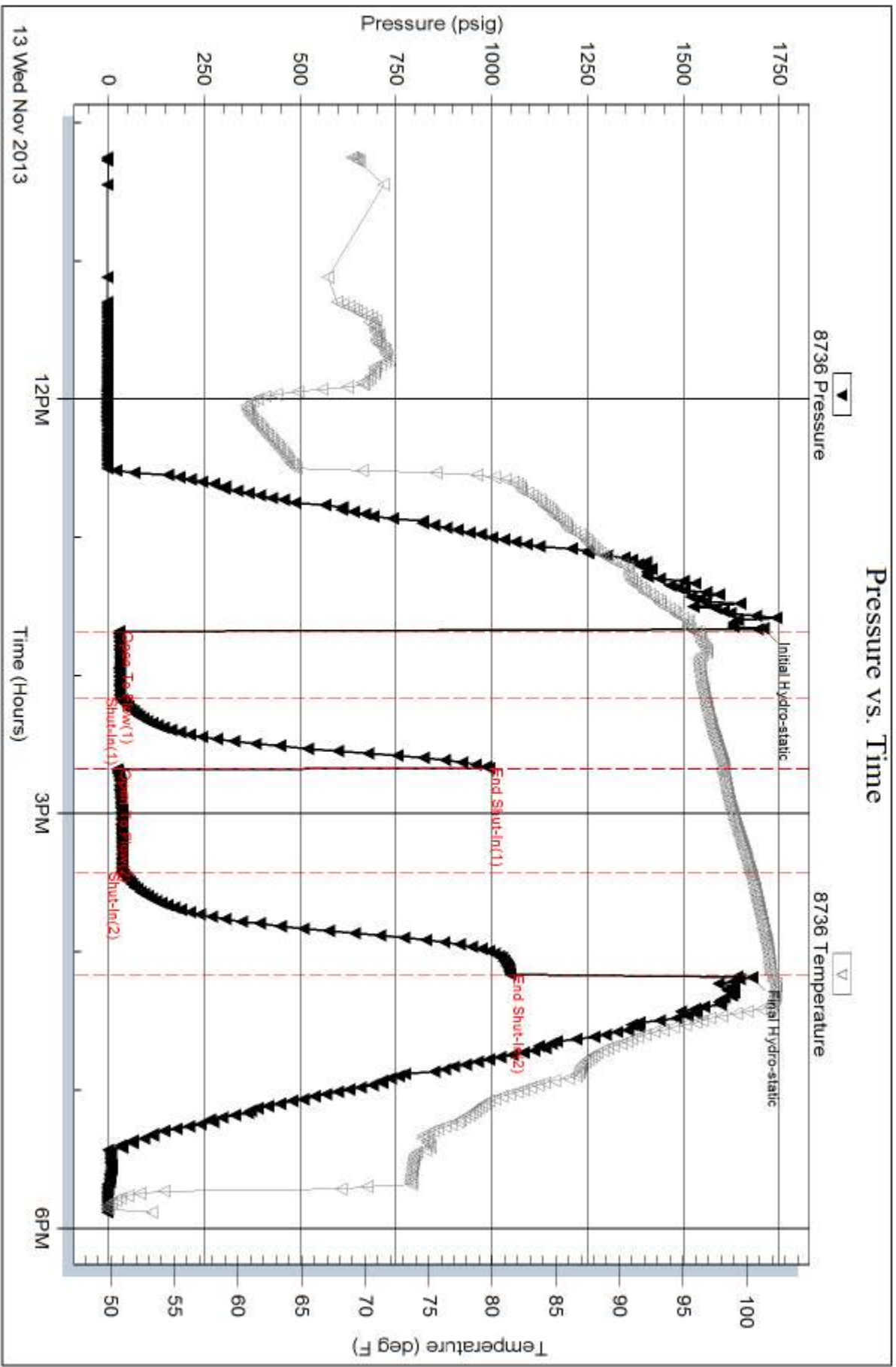
Serial #: 8736

Inside

Downing Nelson Oil Co Inc.

Grove #1-32

DST Test Number: 1



13 Wed Nov 2013

12PM

Time (Hours)

3PM

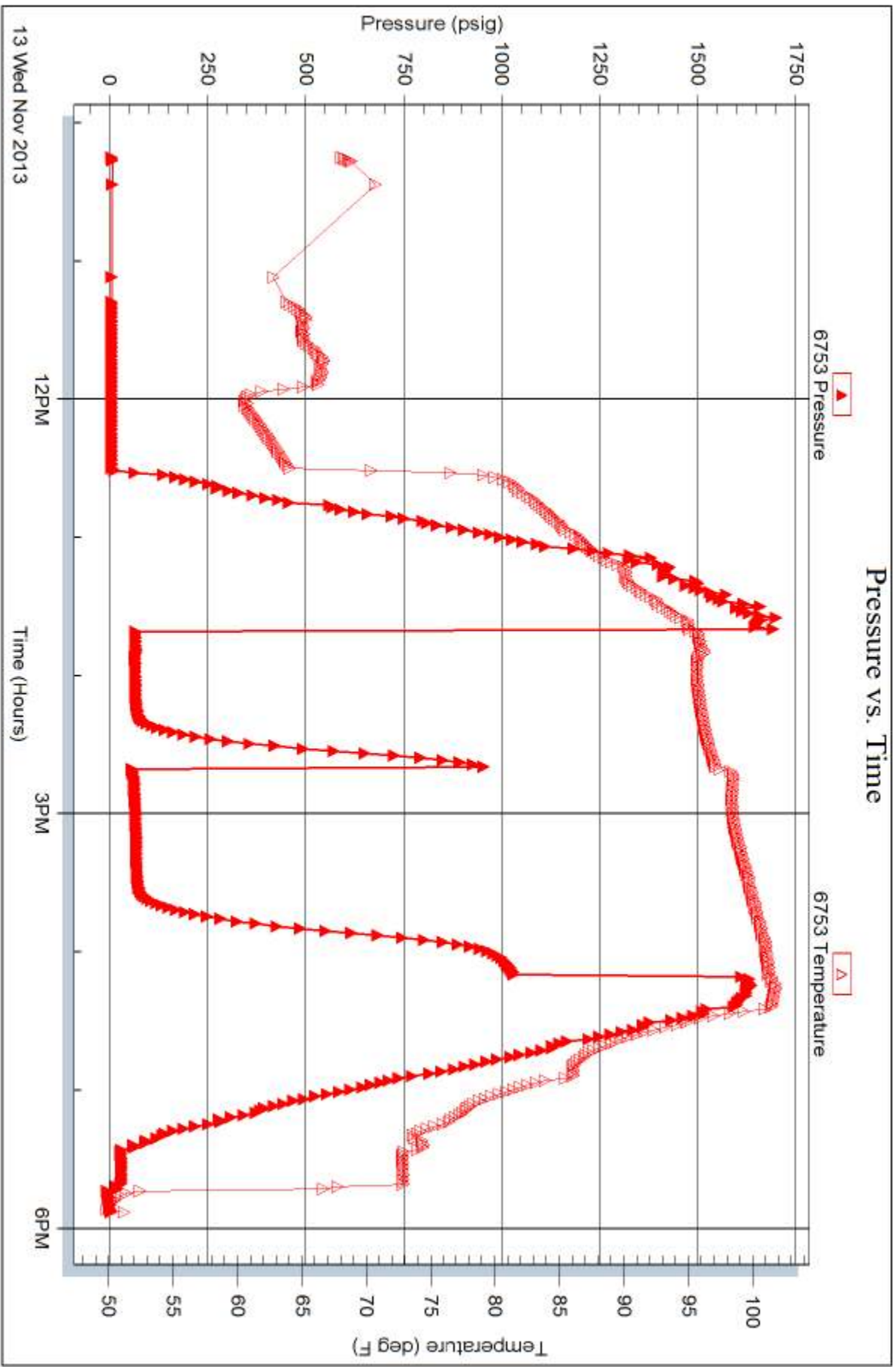
6PM

Serial #: 6753

Outside Dow n ing Nelson Oil Co Inc.

Grove #1-32

DST Test Number: 1



13 Wed Nov 2013

12PM

Time (Hours)

3PM

6PM



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **55319**

Well Name & No. Grove 1-32 Test No. 1 Date 11/13/13
 Company Downing - Nelson Oil Co Inc. Elevation 2098 KB 2090 GL
 Address PO Box 1019 Hays KS 67601
 Co. Rep / Geo. AI Downing Rig Discovery #3
 Location: Sec. 32 Twp. 17 Rge. 18 Co. Rush State KS

Interval Tested 3489-3520 Zone Tested KC" C"
 Anchor Length 31 Drill Pipe Run _____ Mud Wt. 8.6
 Top Packer Depth 3484 Drill Collars Run 30 Vis 55
 Bottom Packer Depth 3489 Wt. Pipe Run _____ WL 8.0
 Total Depth 3520 Chlorides 1250 ppm System LCM 1/2#

Blow Description IF - 1 1/2 in blow
FSI - No blow
FF - 5 in blow
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>VS OCM</u>	<u>5</u>		<u>95</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 60 BHT 102 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1,708 Test 1150 T-On Location 9:40
 (B) First Initial Flow 29 Jars _____ T-Started 10:15
 (C) First Final Flow 32 Safety Joint _____ T-Open 13:38
 (D) Initial Shut-In 994 Circ Sub _____ T-Pulled 16:08
 (E) Second Initial Flow 25 Hourly Standby _____ T-Out 17:52
 (F) Second Final Flow 37 Mileage 55 rtx 2 170.50 Comments _____
 (G) Final Shut-In 1,050 Sampler _____ loaded tools 5:00
 (H) Final Hydrostatic 1,678 Straddle _____ 11/15/13

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 30 Ruined Packer _____
 Final Flow 45 Extra Packer _____
 Final Shut-In 45 Extra Recorder _____
 Day Standby 1d 11.25h Sub Total 800
 Accessibility _____ Total 2120.50
 Sub Total 1320.50 MP/DST Disc't _____

Approved By _____ Our Representative Butt D. [Signature]

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