

# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63013

Well Name & No. Volandia #1 Test No. 1 Date 8-20-17  
 Company Northern Lights Oil Co. Elevation 2130 KB 2122 GL  
 Address PO Box 164 Andover, Ks 67002-0164  
 Co. Rep / Geo. Jeff Christian Rig Southwind rig 3  
 Location: Sec. 15 Twp. 17<sup>s</sup> Rge. 20<sup>w</sup> Co. Rush State Ks

Interval Tested 3957-3983 Zone Tested Cher. sd  
 Anchor Length 26 Drill Pipe Run 3954 Mud Wt. 96  
 Top Packer Depth 3952 Drill Collars Run - Vis 59  
 Bottom Packer Depth 3957 Wt. Pipe Run - WL 8  
 Total Depth 3983 Chlorides 4000 ppm System LCM 3#  
 Blow Description I FP - Weak Blow thru-out 1/4" to 2 1/2" Blow  
I SIP - NO Blow  
FFP - dead Blow 1 1/2 min, Then surface to 1/4" Blow  
FSTP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>WM w/show of oil</u>		<u>40</u>	<u>60</u>	
<u>60</u>	<u>MW</u>		<u>65</u>	<u>35</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 105 BHT 115 Gravity - API RW .25 @ 60 °F Chlorides 32000 ppm

(A) Initial Hydrostatic 2089  Test 1520  
 (B) First Initial Flow 21  Jars 1615  
 (C) First Final Flow 43  Safety Joint 1800  
 (D) Initial Shut-In 608  Circ Sub 2030  
 (E) Second Initial Flow 47  Hourly Standby 2207  
 (F) Second Final Flow 67  Mileage 80 RT  
 (G) Final Shut-In 585  Sampler  
 (H) Final Hydrostatic 1958  Straddle  
 Shale Packer  
 Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 30  
 Final Shut-In 45

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

Approved By Jeff Christian

Our Representative Ray Schwager  
Hank K 409



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Northern Lights Oil Co  
PO Box 164  
Andover Ks 67002-0164

**15-17s-20w Rush**

**Volander #1**

Job Ticket: 63013

**DST#: 1**

ATTN: Robert.Sutherland Je

Test Start: 2017.08.20 @ 16:15:54

## GENERAL INFORMATION:

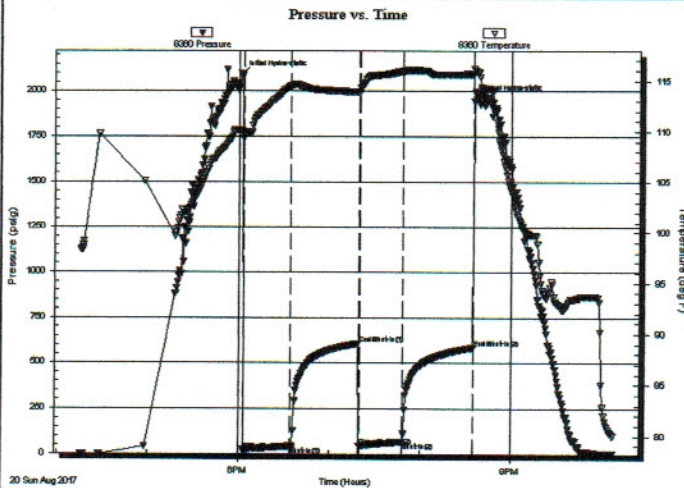
Formation: **Cher Sd**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 18:02:49 Tester: Ray Schwager  
 Time Test Ended: 22:07:18 Unit No: 77  
 Interval: **3957.00 ft (KB) To 3983.00 ft (KB) (TVD)** Reference Elevations: 2130.00 ft (KB)  
 Total Depth: 3983.00 ft (KB) (TVD) 2122.00 ft (CF)  
 Hole Diameter: 7.85 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

## Serial #: 8360

Inside

Press@RunDepth: 67.63 psig @ 3958.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.08.20 End Date: 2017.08.20 Last Calib.: 2017.08.20  
 Start Time: 16:15:54 End Time: 22:07:18 Time On Btm: 2017.08.20 @ 18:02:04  
 Time Off Btm: 2017.08.20 @ 20:37:48

TEST COMMENT: 30-IFP-w k bl thru-out 1/4"to 2 1/2"bl  
 45-ISIP-no bl  
 30-dead 1st 7min then surface to 1/4"bl  
 45-FSIP-no bl



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2089.77	110.01	Initial Hydro-static
1	21.48	109.32	Open To Flow (1)
32	43.25	114.46	Shut-In(1)
77	608.51	113.95	End Shut-In(1)
78	47.14	113.83	Open To Flow (2)
107	67.63	115.94	Shut-In(2)
153	585.62	115.68	End Shut-In(2)
156	1958.51	115.81	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	WM 40%W60%M w/show of oil	0.63
60.00	MW 35%M65%W	0.84

## Gas Rates

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

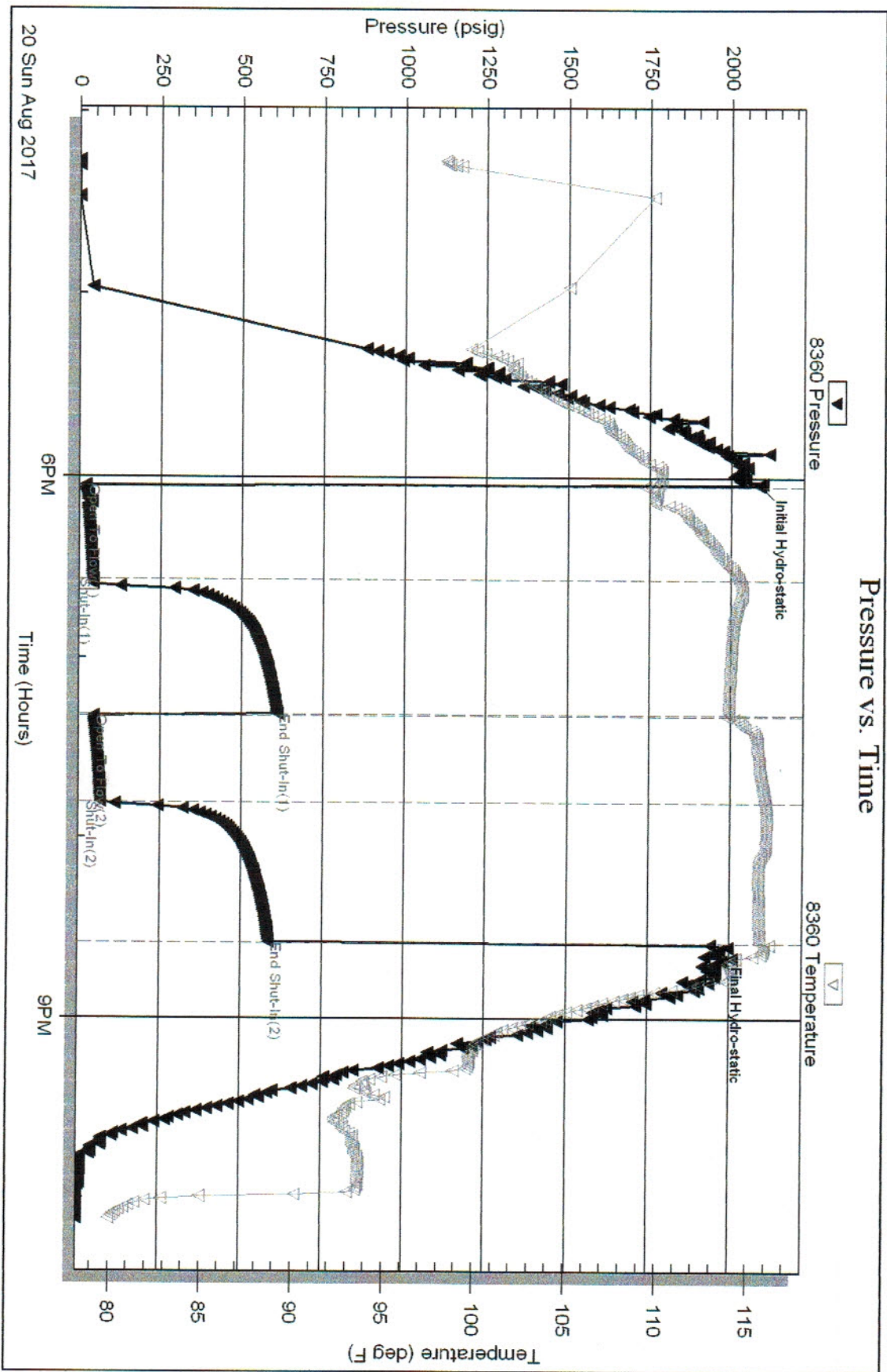
Serial #: 8360

Inside

Northern Lights Oil Co

Volander #1

DST Test Number: 1



20 Sun Aug 2017

Trilobe Testing, Inc

Ref. No: 63013

Printed: 2017.08.20 @ 21:21:36