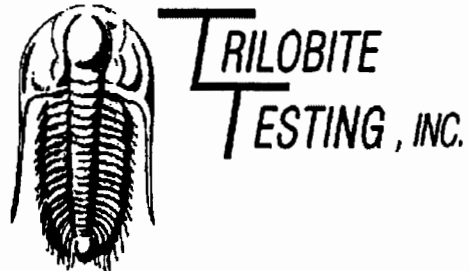


15-135-24177

4-18s-24w



## DRILL STEM TEST REPORT

Prepared For: **Northern Lights Oil Company**

PO Box 154  
Andover, KS 67002

ATTN: Kurt Smith

**4-18s-24w**

**Wells #1-4**

Start Date: 2002.04.15 @ 14:58:52

End Date: 2002.04.15 @ 22:06:52

Job Ticket #: 15802      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Northern Lights Oil Company

Wells #1-4

4-18s-24w

DST # 1

Cher. Sand

2002.04.15



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Northern Lights Oil Company

**Wells #1-4**

PO Box 154  
Andover, KS 67002

**4-18s-24w**

Job Ticket: 15802

**DST#: 1**

ATTN: Kurt Smith

Test Start: 2002.04.15 @ 14:58:52

### GENERAL INFORMATION:

Formation: **Cher. Sand**

Deviated: **No Whipstock:** ft (KB)

Time Tool Opened: 17:03:22

Time Test Ended: 22:06:52

Test Type: **Conventional Bottom Hole**

Tester: **John Schmidt**

Unit No: **18**

Interval: **4260.00 ft (KB) To 4310.00 ft (KB) (TVD)**

Total Depth: **4310.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2307.00 ft (KB)**

**2302.00 ft (CF)**

KB to GR/CF: **5.00 ft**

**Serial #: 3017**

**Inside**

Press@RunDepth: **1049.77 psig @ 4263.01 ft (KB)**

Start Date: **2002.04.15**

End Date:

**2002.04.15**

Start Time: **14:58:53**

End Time:

**22:06:52**

Capacity: **7000.00 psig**

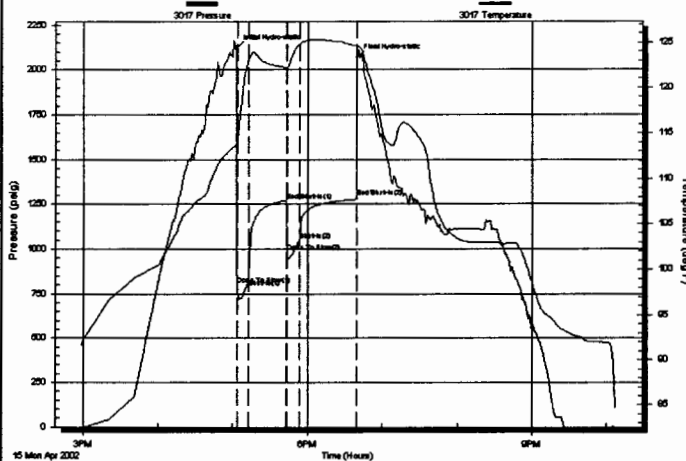
Last Calib.: **2002.04.15**

Time On Btm: **2002.04.15 @ 17:02:22**

Time Off Btm: **2002.04.15 @ 18:39:52**

TEST COMMENT: **F-Strong B.O.B. in 30 sec. ISI-2" blow back**  
**FF- Strong B.O.B. in 30 sec. FSI Weak blow back**

Pressure vs. Time



### PRESSURE SUMMARY

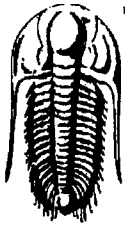
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2118.73	113.75	Initial Hydro-static
1	800.10	114.09	Open To Flow (1)
11	832.16	123.17	Shut-In(1)
41	1270.29	122.21	End Shut-In(1)
41	982.86	122.20	Open To Flow (2)
51	1049.77	124.80	Shut-In(2)
97	1288.70	124.60	End Shut-In(2)
98	2068.64	124.55	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
2740.00	GASSY OIL	36.18

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Northern Lights Oil Company

**Wells #1-4**

PO Box 154  
Andover, KS 67002

**4-18s-24w**

Job Ticket: 15802

**DST#: 1**

ATTN: Kurt Smith

Test Start: 2002.04.15 @ 14:58:52

**Tool Information**

Drill Pipe:	Length: 3993.00 ft	Diameter: 3.80 inches	Volume: 56.01 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 248.00 ft	Diameter: 2.25 inches	Volume: 1.22 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4260.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.02 ft			
Tool Length:	45.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			4234.00	
S.I. Tool	5.00			4239.00	
HMV	5.00			4244.00	
Jars	5.00			4249.00	
Safety Joint	2.00			4251.00	
Packer	4.00			4255.00	27.00 Bottom Of Top Packer
Packer	5.00			4260.00	
Stubb	1.00			4261.00	
Perforations	1.00			4262.00	
C.O. Sub	1.00			4263.00	
Recorder	0.01	3017	Inside	4263.01	
Perforations	12.00			4275.01	
Recorder	0.01	13308	Outside	4275.02	
Bullnose	3.00			4278.02	18.02 Bottom Packers & Anchor

**Total Tool Length: 45.02**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Northern Lights Oil Company

**Wells #1-4**

PO Box 154  
Andover, KS 67002

**4-18s-24w**

Job Ticket: 15802

**DST#: 1**

ATTN: Kurt Smith

Test Start: 2002.04.15 @ 14:58:52

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.79 in<sup>3</sup>

Gas Cushion Type:

Gas Cushion Pressure:

psig

Resistivity: ohm.m

Salinity: ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2740.00	GASSY OIL	36.176

Total Length: 2740.00 ft

Total Volume: 36.176 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 3017

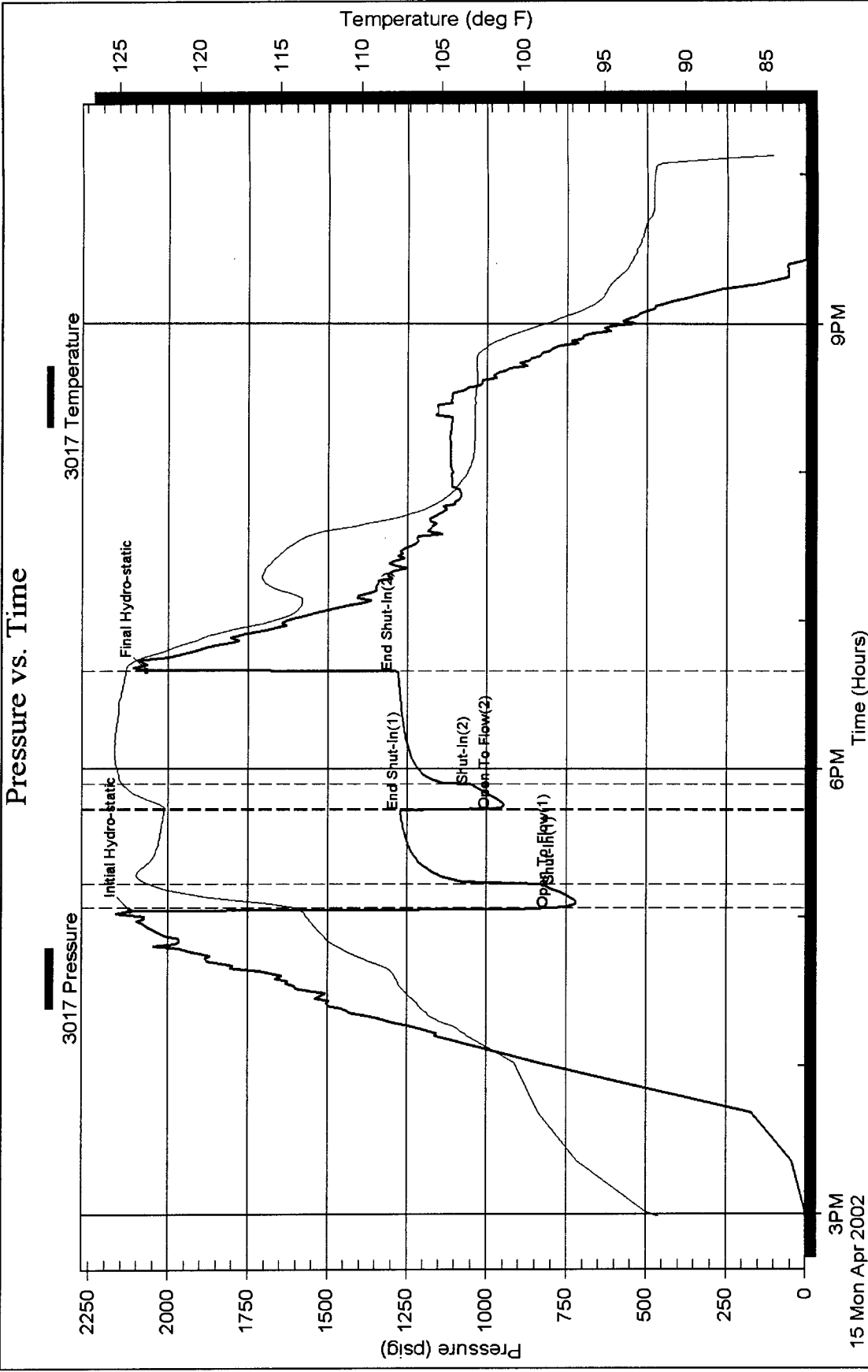
Inside

Northern Lights Oil Company

4--18s--24w

DST Test Number: 1

### Pressure vs. Time



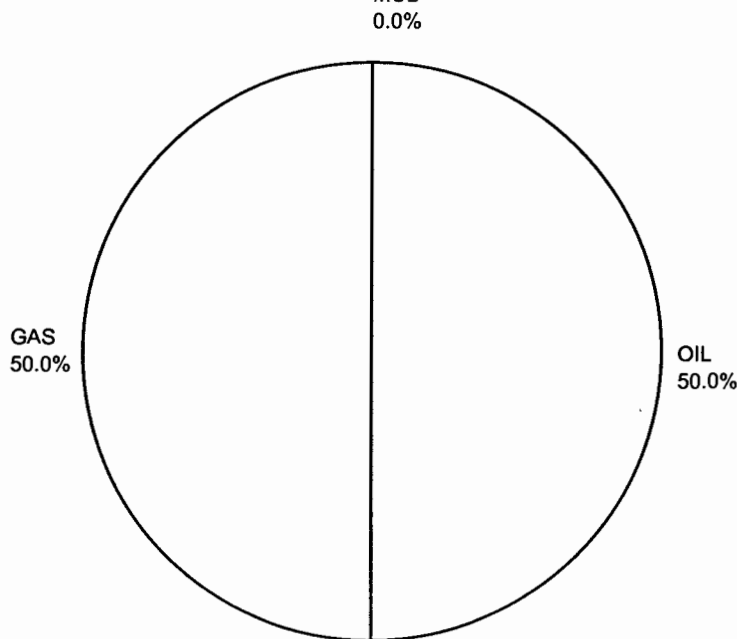
CALCULATED RECOVERY ANALYSIS

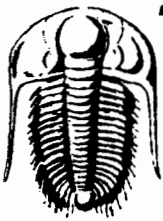
DST 1

TICKET 15802

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
DRILL 1	2492	50	1246	50	1246	0	0	0	0
PIPE 2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
WEIGHT 1									
PIPE 2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
DRILL 1	248	50	124	50	124	0	0	0	0
COLLARS 2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
TOTAL	2740	0	1370	0	1370	0	0	0	0

BBL OIL = 18.32448 \* HRS OPEN 0.33 = BBL/DAY 1332.689  
 BBL WATER = 0 \* = 0  
 BBL MUD = 0  
 BBL GAS = 18.32448





# TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No 15802

## Test Ticket

Well Name & No. WELLS #1-4 Test No. #1 Date 4-15-02  
 Company NORTHERN LIGHTS OIL CO. Zone Tested CHER. SAND  
 Address P.O. BOX 154 ANDOVER, KS 67002 Elevation 2307 KB 2302 GL  
 Co. Rep / Geo. KURT SMITH Cont. MALLARD Est. Ft. of Pay      Por.      %  
 Location: Sec. 4 Twp. 18S Rge. 24W Co. NESS State KS  
 No. of Copies 120 Distribution Sheet (Y, N)      Turnkey (Y, N)      Evaluation (Y, N)     

Interval Tested 4260 TO 4310 Initial Str Wt./Lbs. 60,000 Unseated Str Wt./Lbs. 70,000  
 Anchor Length 50' Wt. Set Lbs. 20,000 Wt. Pulled Loose/Lbs. 90,000  
 Top Packer Depth 4255 Tool Weight 3,000  
 Bottom Packer Depth 4260 Hole Size — 7 7/8"  Rubber Size — 6 3/4"   
 Total Depth 4310 Wt. Pipe Run 0 Drill Collar Run 248  
 Mud Wt. 9.3 LCM - Vis. 48 WL 9.8 Drill Pipe Size 4 1/2 XH Ft. Run 3993  
 Blow Description IF - STRONG B.O.B. IN 30 SEC.

ISI-WEAK BUILT TO 2"  
FF-STRONG B.O.B. 30 SEC.  
FSI-WEAK

Recovery — Total Feet 2740 GIP 180' Ft. in DC 248 Ft. in DP 2492  
 Rec. 2740 Feet Of GASSY OIL %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.      Feet Of      %gas %oil %water %mud  
 BHT 124 °F Gravity 35 °API D@ 80 °F Corrected Gravity 33 °API  
 RW      @      °F Chlorides      ppm Recovery Chlorides      ppm System

	AK-1	Alpine	Recorder No.	T-On Location
(A) Initial Hydrostatic Mud		<u>2118</u> PSI	<u>3017</u>	<u>14:20</u>
(B) First Initial Flow Pressure		<u>800</u> PSI	(depth) <u>4263</u>	T-Started <u>15:00</u>
(C) First Final Flow Pressure		<u>832</u> PSI	Recorder No. <u>13308</u>	T-Open <u>17:03</u>
(D) Initial Shut-In Pressure		<u>1270</u> PSI	(depth) <u>4307</u>	T-Pulled <u>18:38</u>
(E) Second Initial Flow Pressure		<u>982</u> PSI	Recorder No. <u>    </u>	T-Out <u>2206</u>
(F) Second Final Flow Pressure		<u>1049</u> PSI	(depth) <u>    </u>	T-Off Location <u>23:20</u>
(G) Final Shut-in Pressure		<u>1288</u> PSI	Initial Opening <u>10</u>	Test <u>BOTTOM HOLE 800</u>
(Q) Final Hydrostatic Mud		<u>2068</u> PSI	Initial Shut-in <u>30</u>	Jars <u>    </u> <u>200</u>
			Final Flow <u>10</u>	Safety Joint <input checked="" type="checkbox"/> <u>50</u>
			Final Shut-in <u>4.5</u>	Straddle <u>    </u>
				Circ. Sub <input checked="" type="checkbox"/> <u>35</u>
				Sampler <u>    </u>
				Extra Packer <u>    </u>
				Elec. Rec. <input checked="" type="checkbox"/> <u>150</u>
				Mileage <u>60</u>
				Other <u>    </u>
				TOTAL PRICE \$ <u>1295</u>

TRILOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGE 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.

Approved By [Signature]  
 Our Representative John J. Schmidt

1:46  
 T-Started 15:00  
 T-Open 17:03  
 T-Pulled 18:38  
 T-Out 2206  
 T-Off Location 23:20  
 Test BOTTOM HOLE 800  
 Jars      200  
 Safety Joint  50  
 Straddle       
 Circ. Sub  35  
 Sampler       
 Extra Packer       
 Elec. Rec.  150  
 Mileage 60  
 Other       
 TOTAL PRICE \$ 1295

**CHART PAGE**

This is a photocopy of the actual AK-1 recorder chart

