



## DRILL STEM TEST REPORT

Prepared For: **Shakespeare Oil Co Inc.**

202 W Main St  
Salem IL 62881

ATTN: Mac Armstrong

### **Nichols #2-15**

#### **15-16s-34w Scott,KS**

Start Date: 2014.11.26 @ 08:02:00

End Date: 2014.11.26 @ 16:38:30

Job Ticket #: 58634                      DST #: 1

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

Printed: 2014.11.28 @ 16:51:54



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Shakespeare Oil Co Inc.

**15-16s-34w Scott,KS**

202 W Main St  
Salem IL 62881

**Nichols #2-15**

Job Ticket: 58634

**DST#: 1**

ATTN: Mac Armstrong

Test Start: 2014.11.26 @ 08:02:00

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:17:00

Time Test Ended: 16:38:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Justin Harris

Unit No: 58

**Interval: 4438.00 ft (KB) To 4480.00 ft (KB) (TVD)**

Reference Elevations: 3134.00 ft (KB)

Total Depth: 4480.00 ft (KB) (TVD)

3122.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 12.00 ft

**Serial #: 6625 Outside**

Press@RunDepth: 224.54 psig @ 4476.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.26

End Date:

2014.11.26

Last Calib.:

2014.11.26

Start Time: 08:02:01

End Time:

16:38:30

Time On Btm:

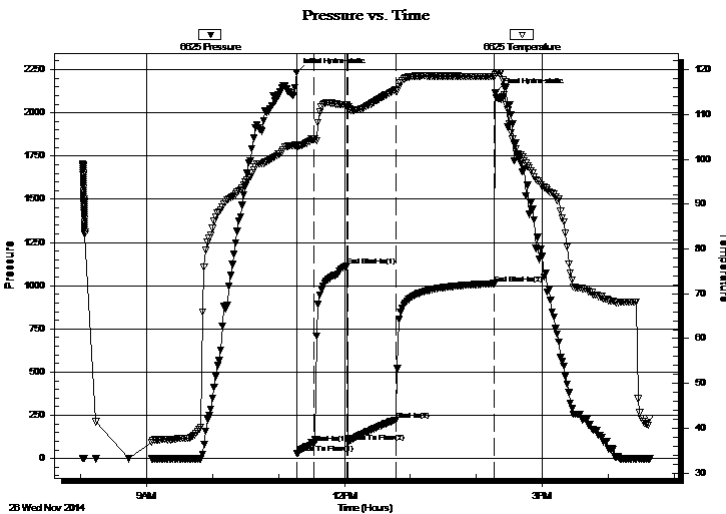
2014.11.26 @ 11:16:30

Time Off Btm:

2014.11.26 @ 14:17:30

TEST COMMENT: 15: B.O.B in 4 1/2 mins.  
30: Weak surface blow .  
45: B.O.B in 4 1/2 mins.  
90: Weak surface blow .

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2233.90	103.27	Initial Hydro-static
1	31.49	102.84	Open To Flow (1)
16	88.20	104.60	Shut-In(1)
46	1112.90	112.08	End Shut-In(1)
47	97.02	111.64	Open To Flow (2)
91	224.54	115.48	Shut-In(2)
180	1012.27	118.42	End Shut-In(2)
181	2115.02	118.97	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
252.00	gmco 30g 20m 50o	3.53
252.00	gmco 10g 20m 70o	3.53
40.00	clean oil 5g 95o	0.56
0.00	GIP 587'	0.00

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Shakespeare Oil Co Inc.

**15-16s-34w Scott, KS**

202 W Main St  
Salem IL 62881

**Nichols #2-15**

Job Ticket: 58634

**DST#: 1**

ATTN: Mac Armstrong

Test Start: 2014.11.26 @ 08:02:00

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:17:00

Time Test Ended: 16:38:30

**Interval: 4438.00 ft (KB) To 4480.00 ft (KB) (TVD)**

Total Depth: 4480.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Test Type: Conventional Bottom Hole (Initial)

Tester: Justin Harris

Unit No: 58

Reference Elevations: 3134.00 ft (KB)

3122.00 ft (CF)

KB to GR/CF: 12.00 ft

## Serial #: 8319

Press@RunDepth: psig @ ft (KB)

Start Date: 2014.11.26

End Date: 2014.11.26

Capacity: 8000.00 psig

Last Calib.: 2014.11.26

Start Time: 08:02:01

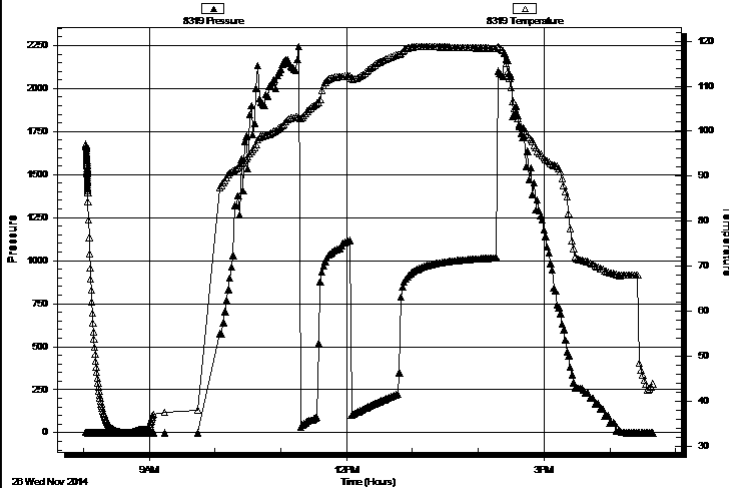
End Time: 16:39:00

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 15: B.O.B in 4 1/2 mins.  
30: Weak surface blow.  
45: B.O.B in 4 1/2 mins.  
90: Weak surface blow.

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
252.00	gmco 30g 20m 50o	3.53
252.00	gmco 10g 20m 70o	3.53
40.00	clean oil 5g 95o	0.56
0.00	GIP 587'	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shakespeare Oil Co Inc.

**15-16s-34w Scott,KS**

202 W Main St  
Salem IL 62881

**Nichols #2-15**

Job Ticket: 58634

**DST#: 1**

ATTN: Mac Armstrong

Test Start: 2014.11.26 @ 08:02:00

## Tool Information

Drill Pipe:	Length: 4441.00 ft	Diameter: 3.80 inches	Volume: 62.30 bbl	Tool Weight: 2500.00 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 62.30 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	4438.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	70.00 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			4411.00	
Shut In Tool	5.00			4416.00	
Hydraulic tool	5.00			4421.00	
Jars	5.00			4426.00	
Safety Joint	3.00			4429.00	
Packer	5.00			4434.00	28.00 Bottom Of Top Packer
Packer	4.00			4438.00	
Stubb	1.00			4439.00	
Perforations	4.00			4443.00	
Change Over Sub	1.00			4444.00	
Drill Pipe	31.00			4475.00	
Change Over Sub	1.00			4476.00	
Recorder	0.00	6625	Outside	4476.00	
Recorder	0.00	8679	Inside	4476.00	
Bullnose	4.00			4480.00	42.00 Bottom Packers & Anchor

**Total Tool Length: 70.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Shakespeare Oil Co Inc.

**15-16s-34w Scott,KS**

202 W Main St  
Salem IL 62881

**Nichols #2-15**

Job Ticket: 58634

**DST#: 1**

ATTN: Mac Armstrong

Test Start: 2014.11.26 @ 08:02:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 72.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
252.00	gmco 30g 20m 50o	3.535
252.00	gmco 10g 20m 70o	3.535
40.00	clean oil 5g 95o	0.561
0.00	GIP 587'	0.000

Total Length: 544.00 ft

Total Volume: 7.631 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

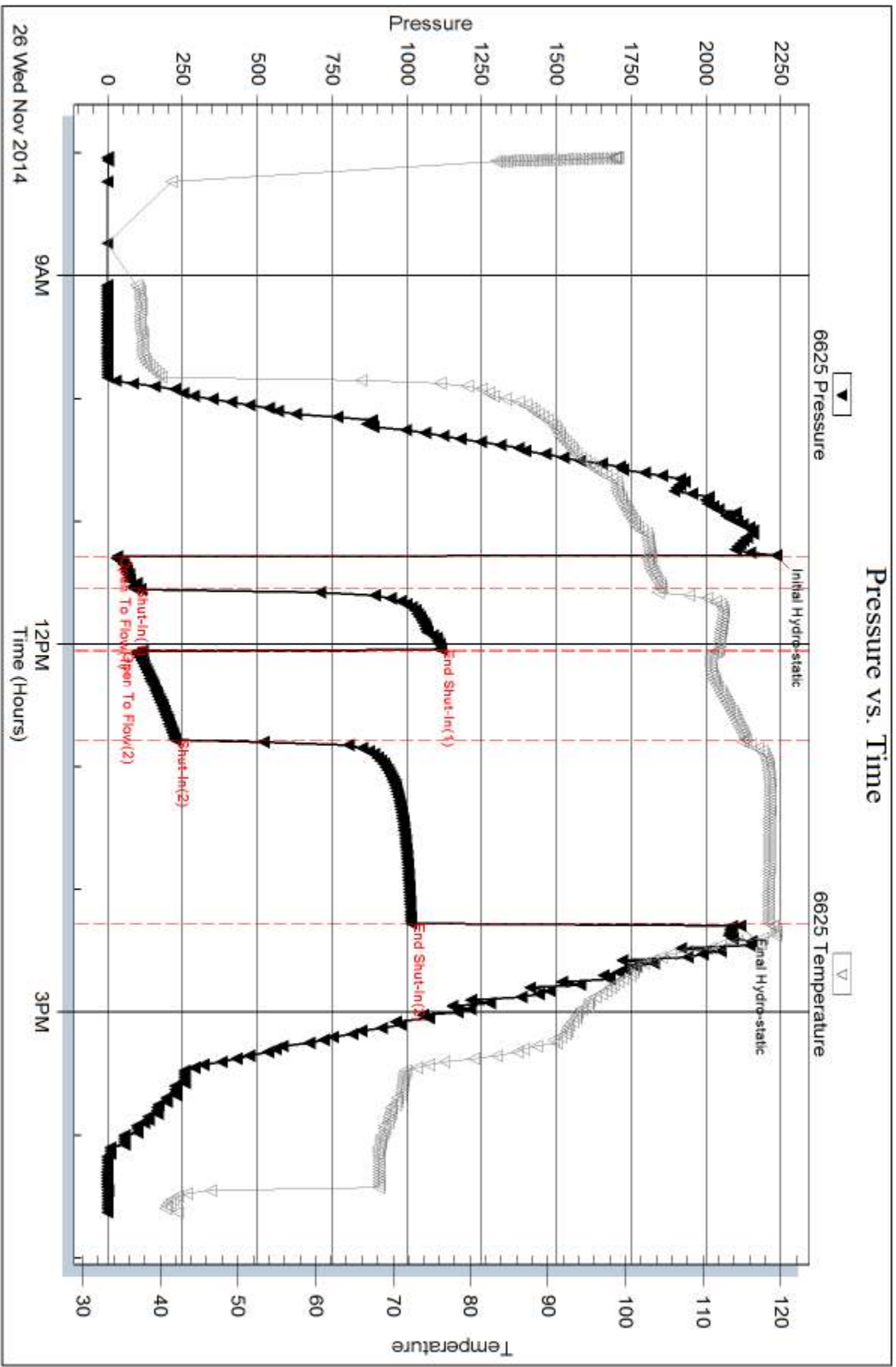
Recovery Comments:

Serial #: 6625

Outside Shakespeare Oil Co Inc.

Nichols #2-15

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 59634

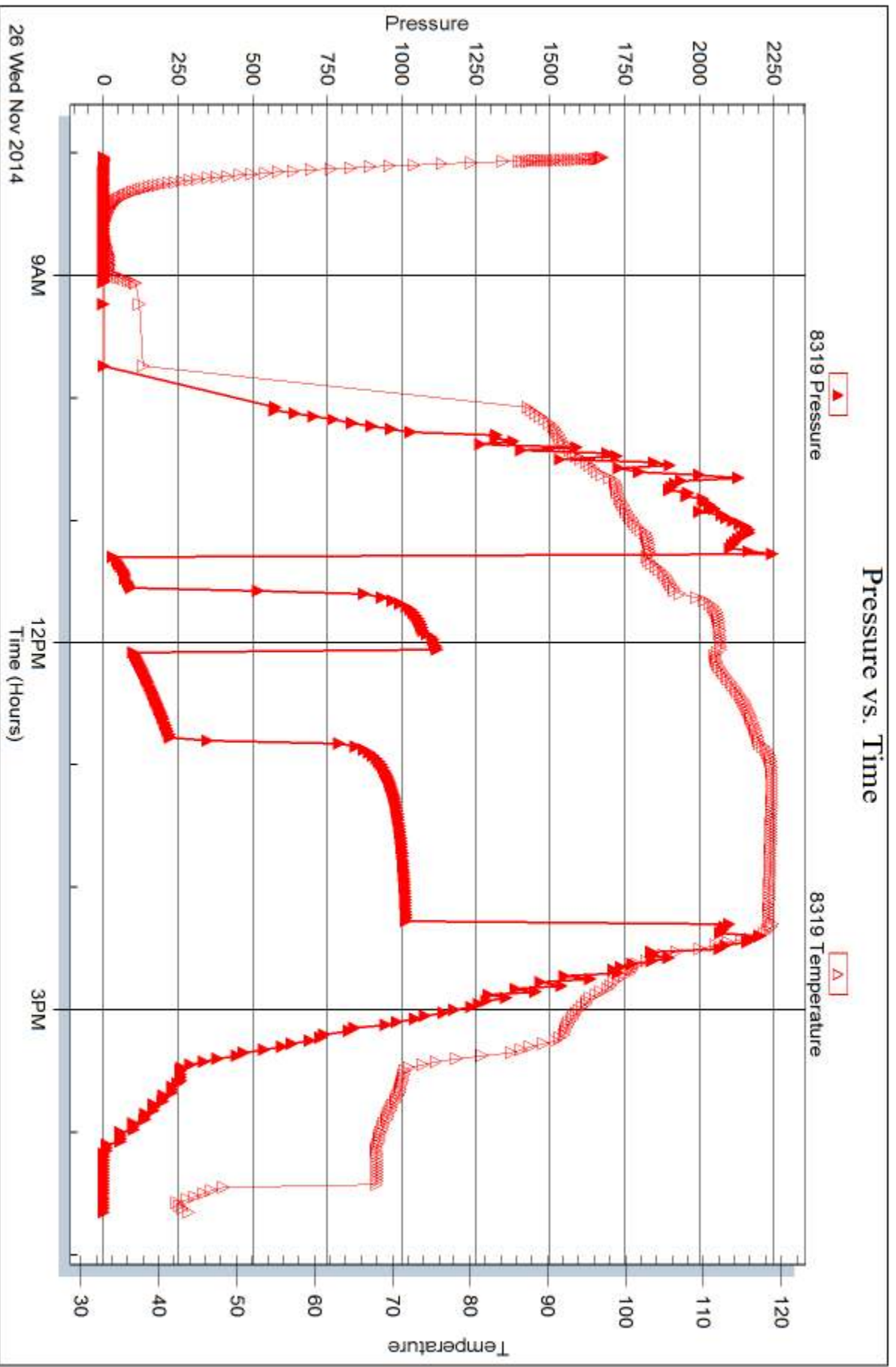
Printed: 2014.11.28 @ 16:51:55

Serial #: 8319

Shakespeare Oil Co Inc.

Nichols #2-15

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 58634

Printed: 2014.11.28 @ 16:51:55



## DRILL STEM TEST REPORT

Prepared For: **Shakespeare Oil Co Inc.**

202 W Main St  
Salem IL 62881

ATTN: Mac Armstrong

### **Nichols #2-15**

#### **15-16s-34w Scott,KS**

Start Date: 2014.11.28 @ 03:54:00

End Date: 2014.11.28 @ 11:50:45

Job Ticket #: 58505                      DST #: 2

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

Printed: 2014.11.28 @ 16:51:06





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Shakespeare Oil Co Inc.

**15-16s-34w Scott,KS**

202 W Main St  
Salem IL 62881

**Nichols #2-15**

Job Ticket: 58505

**DST#: 2**

ATTN: Mac Armstrong

Test Start: 2014.11.28 @ 03:54:00

## GENERAL INFORMATION:

Formation: **Johnson Zone**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:54:45

Time Test Ended: 11:50:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Jace McKinney

Unit No: 75

**Interval: 4622.00 ft (KB) To 4722.00 ft (KB) (TVD)**

Reference Elevations: 3134.00 ft (KB)

Total Depth: 4722.00 ft (KB) (TVD)

3122.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 12.00 ft

## Serial #: 8675

Inside

Press@RunDepth: 55.31 psig @ 4639.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.28

End Date:

2014.11.28

Last Calib.:

2014.11.28

Start Time: 03:54:15

End Time:

11:50:45

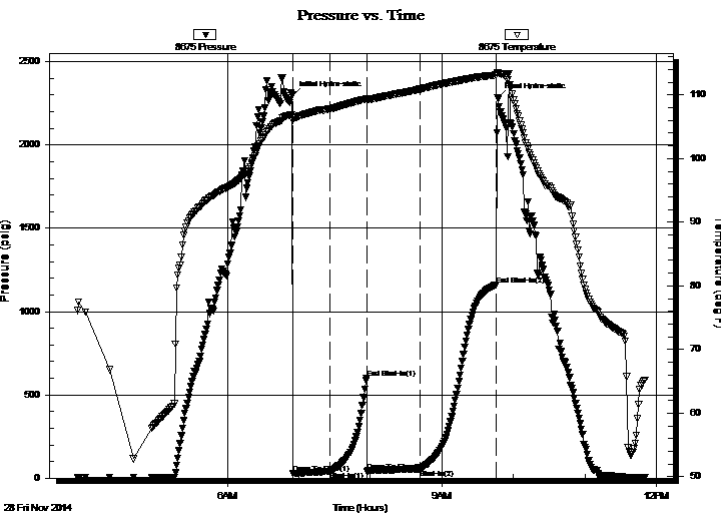
Time On Btm:

2014.11.28 @ 06:54:30

Time Off Btm:

2014.11.28 @ 09:47:00

**TEST COMMENT:** Built to 6" blow  
Bled off for 3 min, No return blow  
B.O.B. in 23 min.  
Bled off for 5 min, No return blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2298.91	106.91	Initial Hydro-static
1	26.93	105.90	Open To Flow (1)
32	40.38	107.80	Shut-In(1)
63	599.90	109.37	End Shut-In(1)
63	42.05	109.20	Open To Flow (2)
107	55.31	110.89	Shut-In(2)
172	1160.97	113.09	End Shut-In(2)
173	2286.46	113.52	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	282' GIP	0.00
93.00	ocgm 15%O 30%G 55%M	1.30

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Shakespeare Oil Co Inc.

**15-16s-34w Scott,KS**

202 W Main St  
Salem IL 62881

**Nichols #2-15**

Job Ticket: 58505

**DST#: 2**

ATTN: Mac Armstrong

Test Start: 2014.11.28 @ 03:54:00

## Tool Information

Drill Pipe:	Length: 4598.30 ft	Diameter: 3.80 inches	Volume: 64.50 bbl	Tool Weight: 1500.00 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 64.50 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.80 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	4622.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	100.00 ft			
Tool Length:	127.50 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4595.50	
Shut In Tool	5.00			4600.50	
Hydraulic tool	5.00			4605.50	
Jars	5.00			4610.50	
Safety Joint	2.50			4613.00	
Packer	5.00			4618.00	27.50 Bottom Of Top Packer
Packer	4.00			4622.00	
Stubb	1.00			4623.00	
Perforations	15.00			4638.00	
Change Over Sub	1.00			4639.00	
Recorder	0.00	8675	Inside	4639.00	
Recorder	0.00	8650	Outside	4639.00	
Drill Pipe	64.00			4703.00	
Change Over Sub	1.00			4704.00	
Perforations	14.00			4718.00	
Bullnose	4.00			4722.00	100.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>127.50</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Shakespeare Oil Co Inc.

**15-16s-34w Scott,KS**

202 W Main St  
Salem IL 62881

**Nichols #2-15**

Job Ticket: 58505

**DST#: 2**

ATTN: Mac Armstrong

Test Start: 2014.11.28 @ 03:54:00

## 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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	282' GIP	0.000
93.00	ocgm 15%O 30%G 55%M	1.305

Total Length: 93.00 ft      Total Volume: 1.305 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

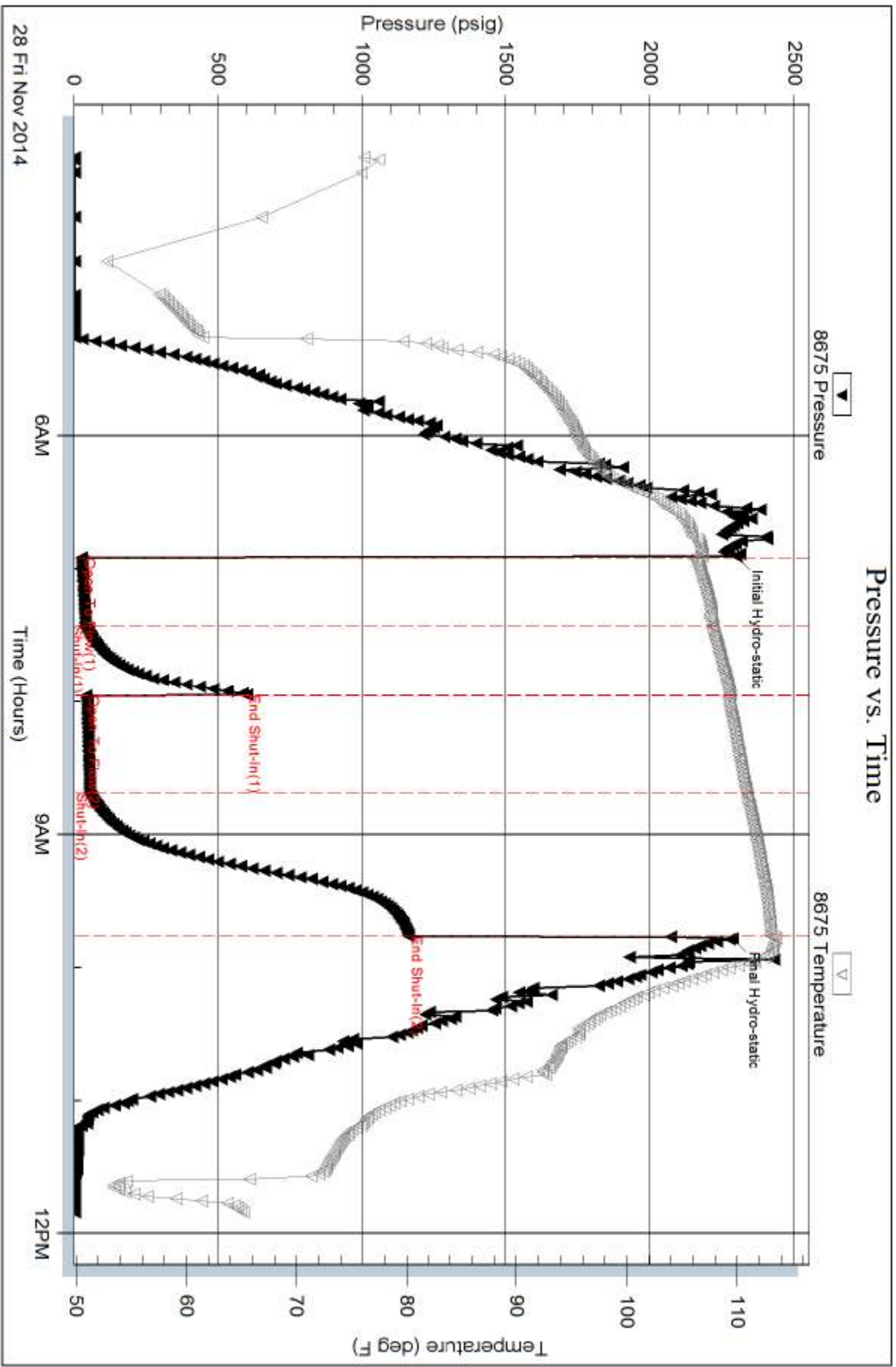
Serial #: 8675

Inside

Shakespeare Oil Co Inc.

Nichols #2-15

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 58505

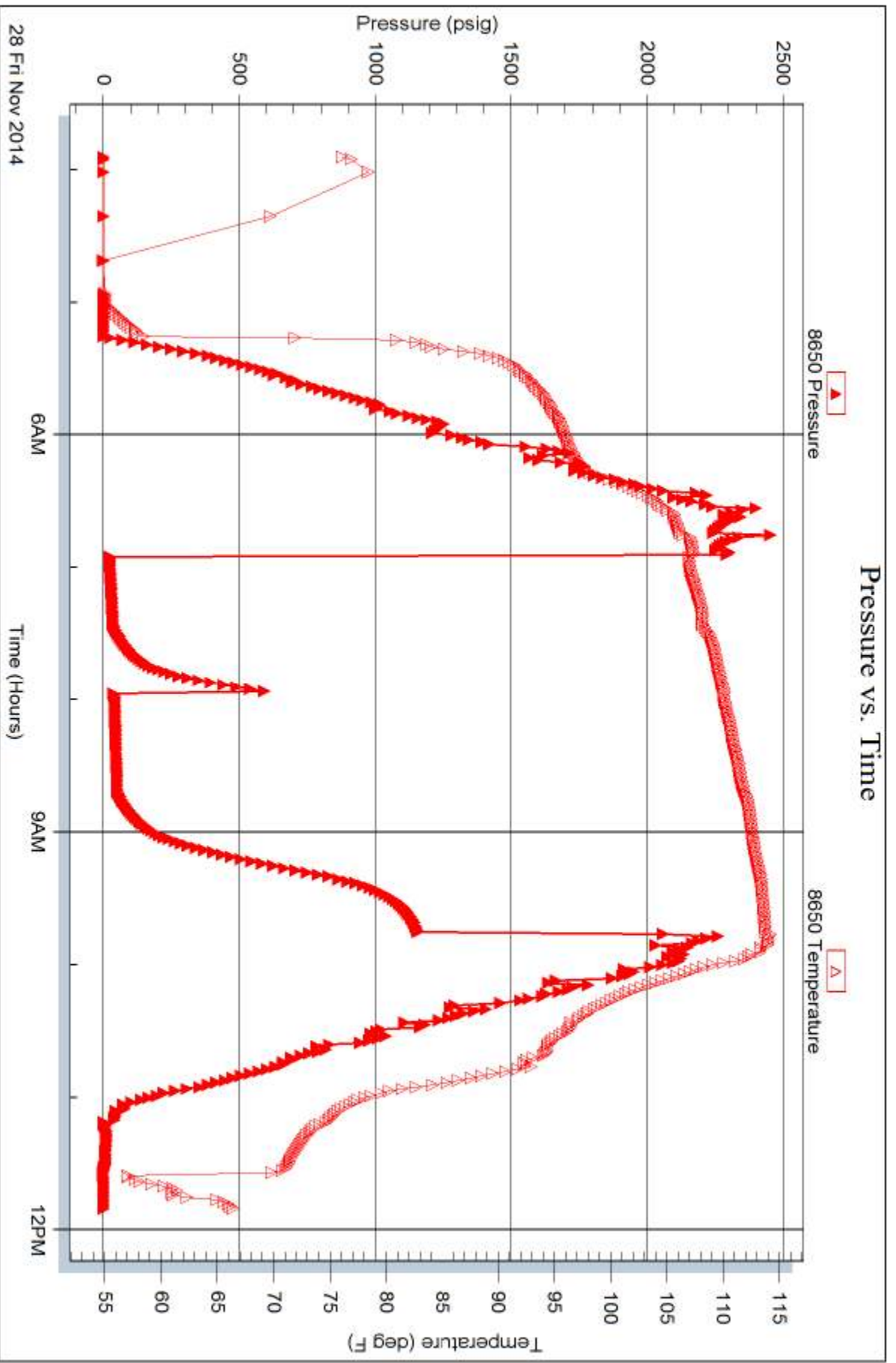
Printed: 2014, 11, 28 @ 16:51:07

Serial #: 8650

Outside Shakespeare Oil Co Inc.

Nichols #2-15

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 58505

Printed: 2014.11.28 @ 16:51:07



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58634

4/10

Well Name & No. Nichols 2-15 Test No. 1 Date 11-26-14  
 Company Snakepoare oil Company Inc Elevation 3134 KB 3122 GL  
 Address 202 W Main ST Salem IL 62881  
 Co. Rep / Geo. Mac Armstrong Rig Southwind #70  
 Location: Sec. 15 Twp. 16s Rge. 34W Co. Scott State KS

Interval Tested 4438 4480 Zone Tested Marmaton  
 Anchor Length 42 Drill Pipe Run 4441 Mud Wt. 9.4  
 Top Packer Depth 4434 Drill Collars Run 0 Vis 72  
 Bottom Packer Depth 4438 Wt. Pipe Run 0 WL 8.0  
 Total Depth 4480 Chlorides 5600 ppm System LCM 2

Blow Description 15 B.O.B in 4 1/2 min  
30 Weak surface blow  
45 B.O.B in 4 1/2 min  
90 Weak surface Blow

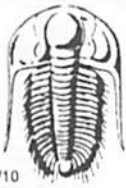
Rec	Feet of	%gas	%oil	%water	%mud
<u>252</u>	<u>gmco</u>	<u>30</u>	<u>50</u>	<u>20</u>	<u>0</u>
<u>252</u>	<u>gmco</u>	<u>10</u>	<u>70</u>	<u>20</u>	<u>0</u>
<u>40</u>	<u>clean oil</u>	<u>5</u>	<u>95</u>	<u>0</u>	<u>0</u>
	<u>GIP 587'</u>				

Rec Total 544 BHT 118 Gravity 31 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 2234  Test 1250 T-On Location 7:20  
 (B) First Initial Flow 32  Jars 250 T-Started 8:02  
 (C) First Final Flow 88  Safety Joint 75 T-Open 11:16  
 (D) Initial Shut-In 113  Circ Sub N/C T-Pulled 14:16  
 (E) Second Initial Flow 97  Hourly Standby \_\_\_\_\_ T-Out 14:39  
 (F) Second Final Flow 225  Mileage 48 RT 74.40  
 (G) Final Shut-In 1012  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2015  Straddle \_\_\_\_\_

Shale Packer 250  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 15  Day Standby \_\_\_\_\_  
 Initial Shut-In 30  Accessibility \_\_\_\_\_  
 Final Flow 45 Sub Total 0  
 Final Shut-In 90 Total 1899.40  
 Sub Total 1899.40 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Justin Harris  
 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. 58505

4/10

Well Name & No. Nichols 2-15 Test No. 2 Date 11/28/14  
 Company Shakespeare Oil Company, Inc Elevation ~~6000~~ 3134 KB 3122 GL  
 Address 202 W Main St, Salem IL, 62881-1519  
 Co. Rep / Geo. Max Armstrong Rig Southwing Rig 70  
 Location: Sec. 15 Twp. 11es Rge. 34w Co. Scott County State IL

Interval Tested 4622-4722 Zone Tested Johnson Zone  
 Anchor Length 100 Drill Pipe Run 4598.30 Mud Wt. 9.3  
 Top Packer Depth 4618 Drill Collars Run \_\_\_\_\_ Vis 54  
 Bottom Packer Depth 4622 Wt. Pipe Run \_\_\_\_\_ WL 8.8  
 Total Depth 4722 Chlorides 6,800 ppm System LCM 2#

Blow Description Built to 6" below  
Bled off for 3 min. No return below  
B.O.B. in 23 min

Bled off for 5 min. No return below

Rec	Feet of	%gas	%oil	%water	%mud
<u>0</u>	<u>282 feet Gas In Pipe</u>				
<u>93</u>	<u>000M</u>	<u>30</u>	<u>15</u>	<u>55</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 93 BHT 113 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm  
 (A) Initial Hydrostatic 2,299  Test 1250 T-On Location 02:45  
 (B) First Initial Flow 27  Jars 250 T-Started 03:54  
 (C) First Final Flow 40  Safety Joint 75 T-Open 06:57  
 (D) Initial Shut-In 600  Circ Sub N/C T-Pulled 09:42  
 (E) Second Initial Flow 42  Hourly Standby \_\_\_\_\_ T-Out 11:50  
 (F) Second Final Flow 55  Mileage 48 x 2 74.40 + 74.40 Comments Had to short trip  
 (G) Final Shut-In 1,161  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2,286  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer 250  Ruined Packer \_\_\_\_\_

Initial Open 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 45  Day Standby \_\_\_\_\_ Total 1973.80  
 Final Shut-In 60  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1973.80

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.