



## DRILL STEM TEST REPORT

Prepared For: **Chieftain Oil Co Inc**

PO Box 124  
Kiowa KS 67070

ATTN: Ron Molz/ Arden Ratz

### **Molz #19**

#### **2-35s-12w Barber,KS**

Start Date: 2013.07.18 @ 06:06:13

End Date: 2013.07.18 @ 15:49:58

Job Ticket #: 47515                      DST #: 1

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

Printed: 2013.07.22 @ 14:21:09

Chieftain Oil Co Inc  
2-35s-12w Barber,KS  
Molz #19  
DST # 1  
Mizner  
2013.07.18



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Chieftain Oil Co Inc

**2-35s-12w Barber,KS**

PO Box 124  
Kiowa KS 67070

**Molz #19**

Job Ticket: 47515

**DST#: 1**

ATTN: Ron Molz/ Arden Ratz

Test Start: 2013.07.18 @ 06:06:13

## GENERAL INFORMATION:

Formation: **Mizner**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:13:28

Time Test Ended: 15:49:58

Test Type: Conventional Bottom Hole (Initial)

Tester: Chris Staats

Unit No: 47

**Interval: 5093.00 ft (KB) To 5130.00 ft (KB) (TVD)**

Reference Elevations: 1389.00 ft (KB)

Total Depth: 5130.00 ft (KB) (TVD)

1377.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

**Serial #: 6773**

**Inside**

Press @ Run Depth: 192.26 psig @ 5094.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.18

End Date:

2013.07.18

Last Calib.:

2013.07.18

Start Time: 06:06:18

End Time:

15:49:58

Time On Btm:

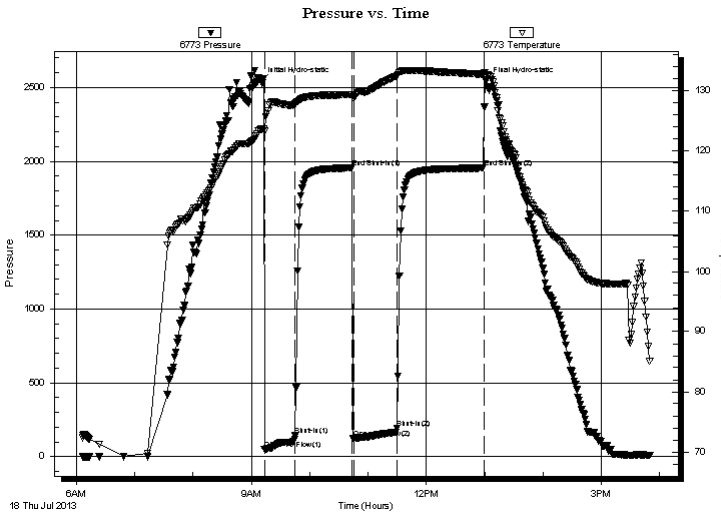
2013.07.18 @ 09:09:58

Time Off Btm:

2013.07.18 @ 13:01:13

**TEST COMMENT:** IF: Strong blow BOB 6 min  
IS: No blow back  
FF: Strong blow BOB 28 min  
FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2540.81	123.64	Initial Hydro-static
4	50.75	123.34	Open To Flow (1)
35	146.41	127.85	Shut-In(1)
94	1955.77	129.38	End Shut-In(1)
96	124.94	129.04	Open To Flow (2)
140	192.26	132.55	Shut-In(2)
229	1954.84	132.83	End Shut-In(2)
232	2538.79	132.74	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	680' GIP	0.00
186.00	M,W 2% mud 98% w ater	1.23
120.00	M,W slight oil cut 40% mud 60% w ater	1.68
60.00	O,W,M 2% oil 8% w ater 90% mud	0.84

## Gas Rates

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



**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Chieftain Oil Co Inc

**2-35s-12w Barber, KS**

PO Box 124  
Kiowa a KS 67070

**Molz #19**

Job Ticket: 47515

**DST#: 1**

ATTN: Ron Molz/ Arden Ratz

Test Start: 2013.07.18 @ 06:06:13

**GENERAL INFORMATION:**

Formation: **Mizner**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:13:28

Time Test Ended: 15:49:58

Interval: **5093.00 ft (KB) To 5130.00 ft (KB) (TVD)**

Total Depth: 5130.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: Chris Staats

Unit No: 47

Reference Elevations: 1389.00 ft (KB)

1377.00 ft (CF)

KB to GR/CF: 12.00 ft

**Serial #: 8676**

**Outside**

Press @ Run Depth: psig @ 5094.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.18

End Date: 2013.07.18

Last Calib.: 2013.07.18

Start Time: 06:01:47

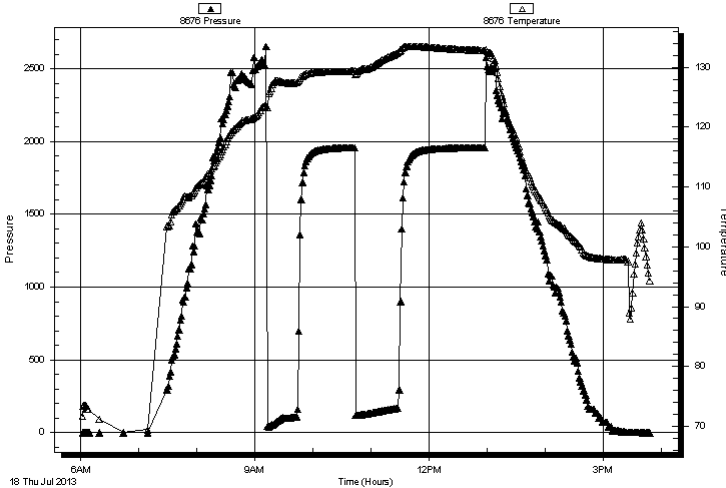
End Time: 15:47:57

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF: Strong blow BOB 6 min  
IS: No blow back  
FF: Strong blow BOB 28 min  
FS: No blow back

**Pressure vs. Time**



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
0.00	680' GIP	0.00
186.00	M,W 2% mud 98% w ater	1.23
120.00	M,W slight oil cut 40% mud 60% w ater	1.68
60.00	O,W,M 2% oil 8% w ater 90% mud	0.84

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Chieftain Oil Co Inc

**2-35s-12w Barber,KS**

PO Box 124  
Kiowa KS 67070

**Molz #19**

Job Ticket: 47515

**DST#: 1**

ATTN: Ron Molz/ Arden Ratz

Test Start: 2013.07.18 @ 06:06:13

## Tool Information

Drill Pipe:	Length: 4944.00 ft	Diameter: 3.80 inches	Volume: 69.35 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 151.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 70.09 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	5093.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	61.00 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			5070.00	
Shut In Tool	5.00			5075.00	
Hydraulic tool	5.00			5080.00	
Safety Joint	3.00			5083.00	
Packer	5.00			5088.00	24.00 Bottom Of Top Packer
Packer	5.00			5093.00	
Stubb	1.00			5094.00	
Recorder	0.00	8676	Outside	5094.00	
Recorder	0.00	6773	Inside	5094.00	
Perforations	2.00			5096.00	
Change Over Sub	0.50			5096.50	
Drill Pipe	30.00			5126.50	
Change Over Sub	0.50			5127.00	
Bullnose	3.00			5130.00	37.00 Bottom Packers & Anchor

**Total Tool Length: 61.00**



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TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Chieftain Oil Co Inc

**2-35s-12w Barber,KS**

PO Box 124  
Kiowa KS 67070

**Molz #19**

Job Ticket: 47515

**DST#: 1**

ATTN: Ron Molz/ Arden Ratz

Test Start: 2013.07.18 @ 06:06:13

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

18000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.96 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4300.00 ppm

Filter Cake: 0.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	680' GIP	0.000
186.00	M,W 2% mud 98% water	1.234
120.00	M,W slight oil cut 40% mud 60% water	1.683
60.00	O,W,M 2% oil 8% water 90% mud	0.842

Total Length: 366.00 ft

Total Volume: 3.759 bbl

Num Fluid Samples: 0

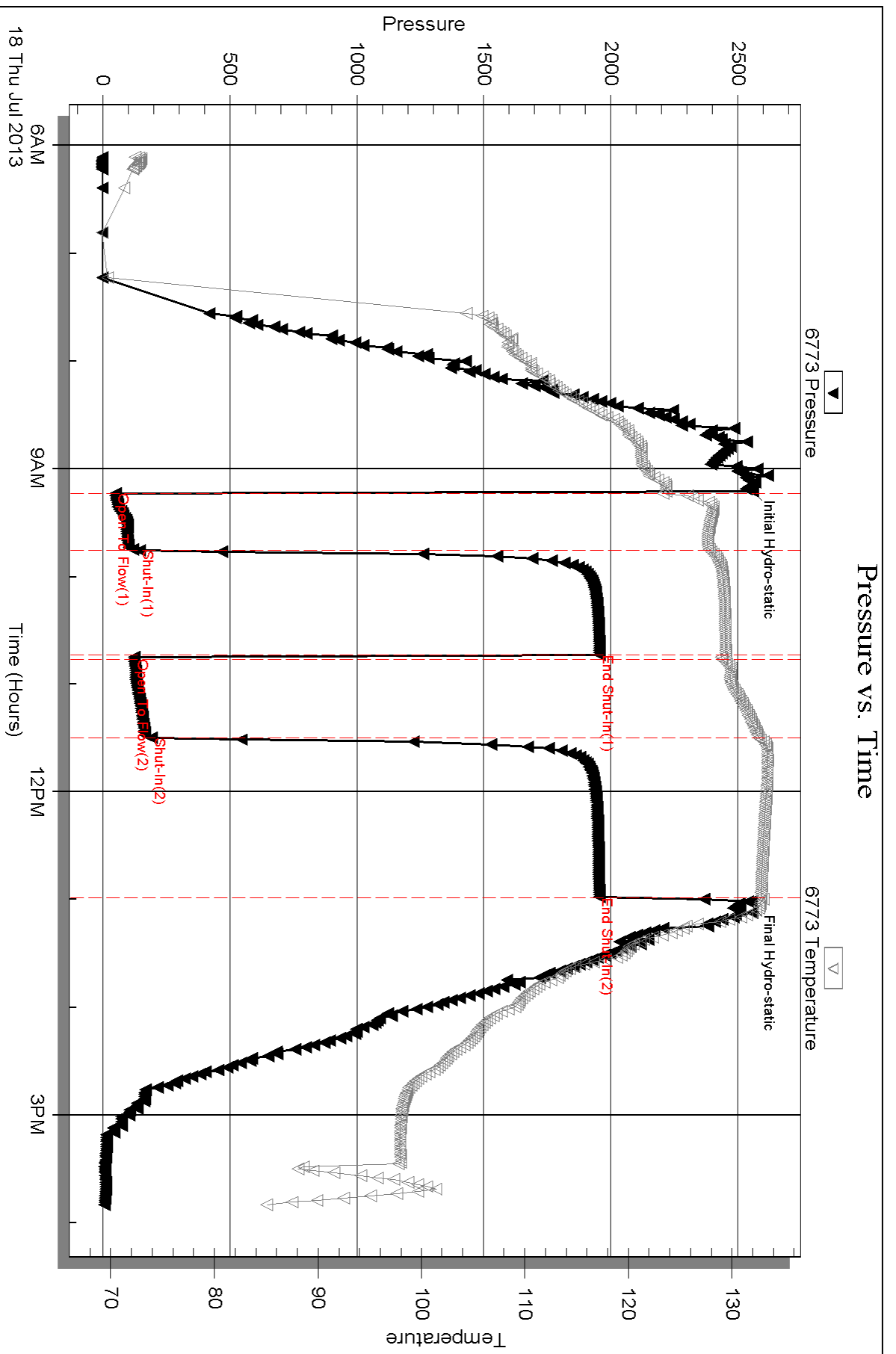
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

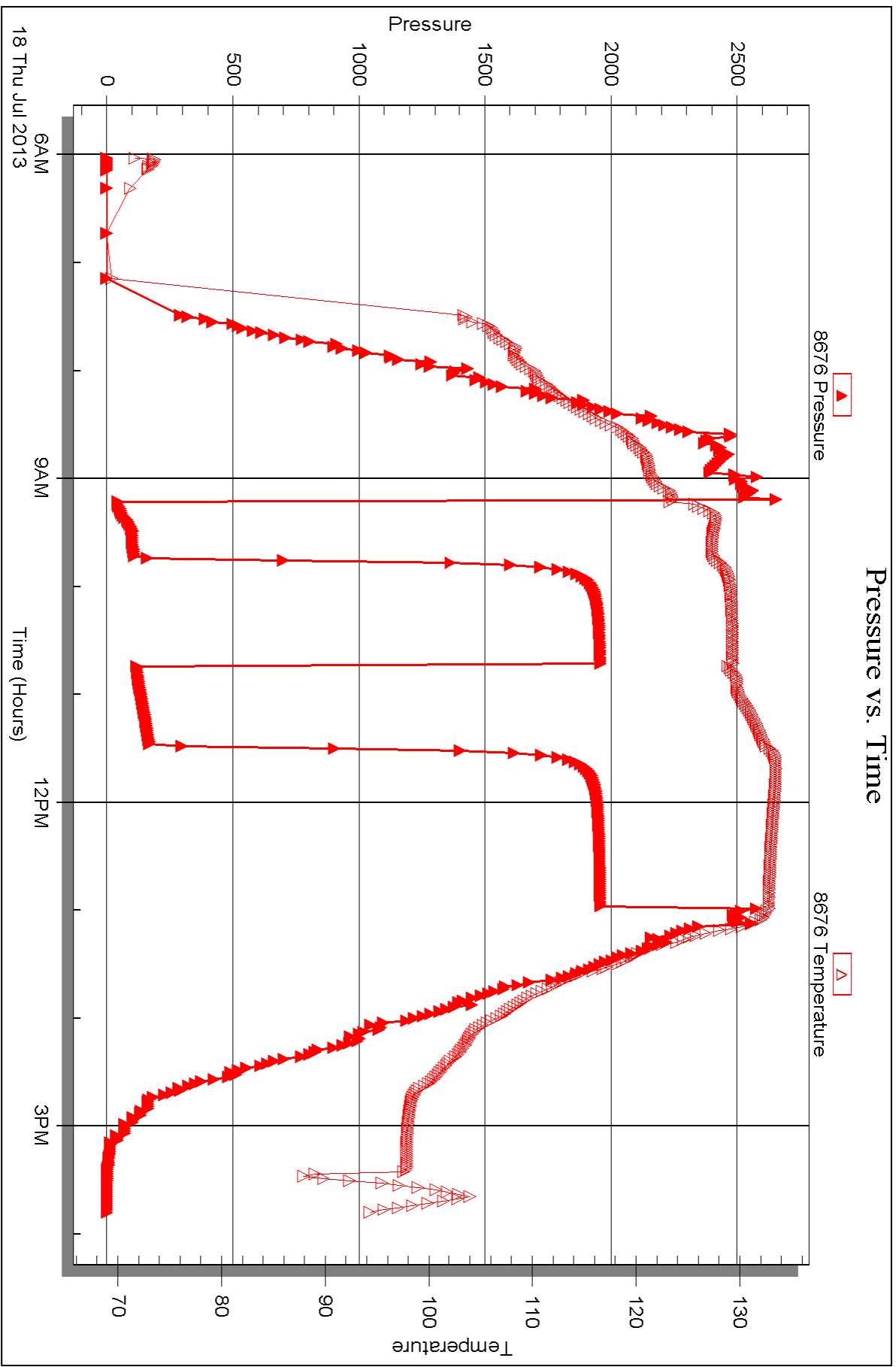


Serial #: 8676

Outside Chieftain Oil Co Inc

Molz #19

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Chieftain Oil Co Inc**

PO Box 124  
Kiowa KS 67070

ATTN: Ron Molz/ Arden Ratz

### **Molz #19**

### **2-35s-12w Barber,KS**

Start Date: 2013.07.19 @ 14:54:01

End Date: 2013.07.20 @ 00:48:01

Job Ticket #: 47516                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.07.22 @ 14:17:29





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Chieftain Oil Co Inc

**2-35s-12w Barber,KS**

PO Box 124  
Kiowa KS 67070

**Molz #19**

Job Ticket: 47516

**DST#: 2**

ATTN: Ron Molz/ Arden Ratz

Test Start: 2013.07.19 @ 14:54:01

## GENERAL INFORMATION:

Formation: **Simpson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:59:01

Time Test Ended: 00:48:01

Test Type: Conventional Bottom Hole (Reset)

Tester: Chris Staats

Unit No: 47

**Interval: 5270.00 ft (KB) To 5299.00 ft (KB) (TVD)**

Reference Elevations: 1389.00 ft (KB)

Total Depth: 5299.00 ft (KB) (TVD)

1377.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

**Serial #: 6773**

**Inside**

Press @ Run Depth: 247.06 psig @ 5271.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.19

End Date:

2013.07.20

Last Calib.:

2013.07.20

Start Time: 14:54:06

End Time:

00:48:01

Time On Btm:

2013.07.19 @ 17:54:31

Time Off Btm:

2013.07.19 @ 21:46:01

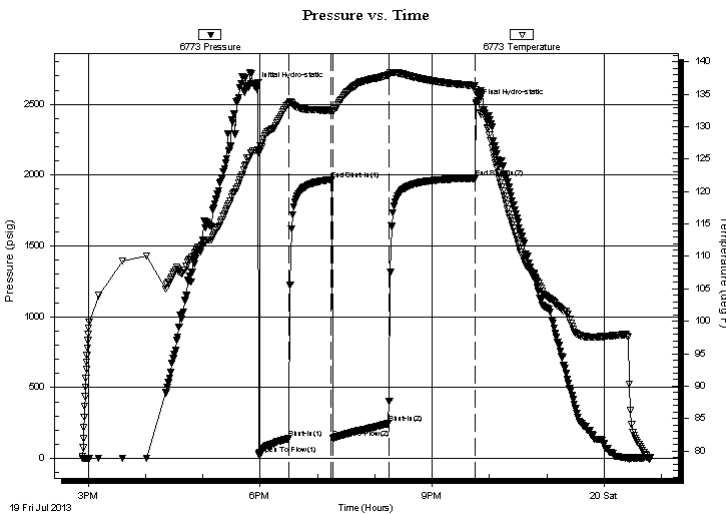
TEST COMMENT: IF: Strong blow 10 1/2 "

IS: No blow back

FF: Strong blow BOB 42 min

FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2624.10	126.33	Initial Hydro-static
5	31.83	126.15	Open To Flow (1)
36	140.05	133.57	Shut-In(1)
80	1968.78	132.51	End Shut-In(1)
82	144.09	132.27	Open To Flow (2)
140	247.06	137.98	Shut-In(2)
231	1979.13	136.33	End Shut-In(2)
232	2505.45	135.66	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
50.00	W,M 40% w ater 60% mud Slight Oil Cut	0.25
372.00	W,M 10% mud 90% w ater	4.30

## Gas Rates

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

\* Recovery from multiple tests



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# DRILL STEM TEST REPORT

Chieftain Oil Co Inc

**2-35s-12w Barber,KS**

PO Box 124  
Kiowa KS 67070

**Molz #19**

Job Ticket: 47516

**DST#: 2**

ATTN: Ron Molz/ Arden Ratz

Test Start: 2013.07.19 @ 14:54:01

## GENERAL INFORMATION:

Formation: **Simpson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:59:01

Time Test Ended: 00:48:01

Test Type: Conventional Bottom Hole (Reset)

Tester: Chris Staats

Unit No: 47

**Interval: 5270.00 ft (KB) To 5299.00 ft (KB) (TVD)**

Reference Elevations: 1389.00 ft (KB)

Total Depth: 5299.00 ft (KB) (TVD)

1377.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

**Serial #: 8676 Outside**

Press @ Run Depth: psig @ 5271.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.19 End Date: 2013.07.20

Last Calib.: 2013.07.20

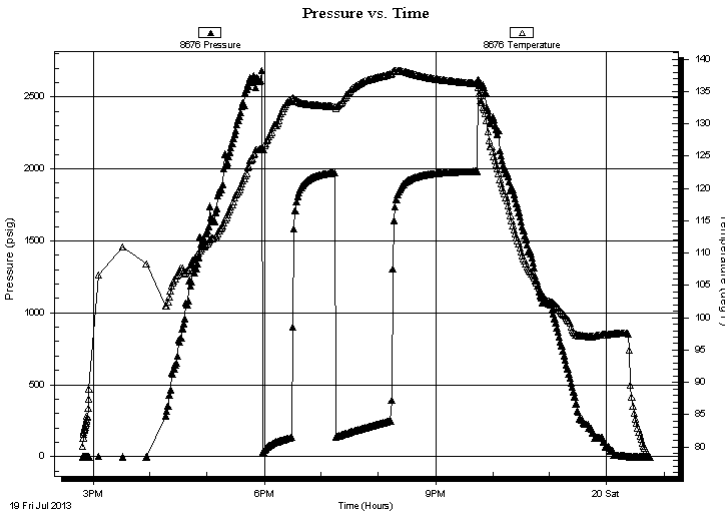
Start Time: 14:49:06 End Time: 00:46:01

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF: Strong blow 10 1/2 "  
IS: No blow back  
FF: Strong blow BOB 42 min  
FS: No blow back

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
50.00	W,M 40% w ater 60% mud Slight Oil Cut	0.25
372.00	W,M 10% mud 90% w ater	4.30

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Chieftain Oil Co Inc

**2-35s-12w Barber,KS**

PO Box 124  
Kiowa KS 67070

**Molz #19**

Job Ticket: 47516

**DST#: 2**

ATTN: Ron Molz/ Arden Ratz

Test Start: 2013.07.19 @ 14:54:01

## Tool Information

Drill Pipe:	Length: 5124.00 ft	Diameter: 3.80 inches	Volume: 71.88 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 151.00 ft	Diameter: 2.25 inches	Volume: 0.74 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 72.62 bbl</u>	Tool Chased	2.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	5270.00 ft			Final	61000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	29.00 ft				
Tool Length:	53.00 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			5247.00	
Shut In Tool	5.00			5252.00	
Hydraulic tool	5.00			5257.00	
Safety Joint	3.00			5260.00	
Packer	5.00			5265.00	24.00 Bottom Of Top Packer
Packer	5.00			5270.00	
Stubb	1.00			5271.00	
Recorder	0.00	8676	Outside	5271.00	
Recorder	0.00	6773	Inside	5271.00	
Perforations	25.00			5296.00	
Bullnose	3.00			5299.00	29.00 Bottom Packers & Anchor

**Total Tool Length: 53.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Chieftain Oil Co Inc

**2-35s-12w Barber,KS**

PO Box 124  
Kiowa KS 67070

**Molz #19**

Job Ticket: 47516

**DST#: 2**

ATTN: Ron Molz/ Arden Ratz

Test Start: 2013.07.19 @ 14:54:01

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

94000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4700.00 ppm

Filter Cake: 0.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	W,M 40% water 60% mud Slight Oil Cut	0.246
372.00	W,M 10% mud 90% water	4.298

Total Length: 422.00 ft

Total Volume: 4.544 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

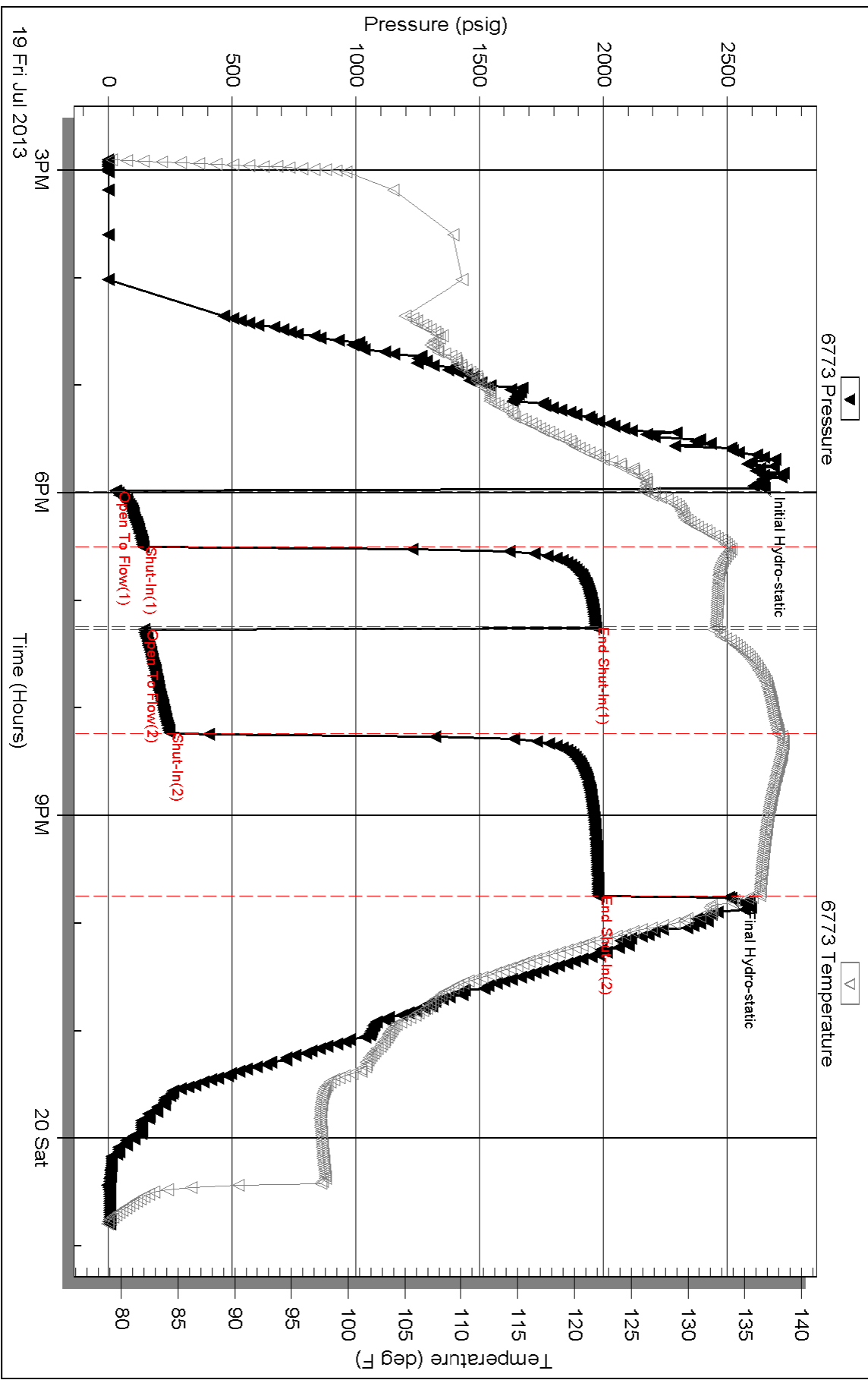
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

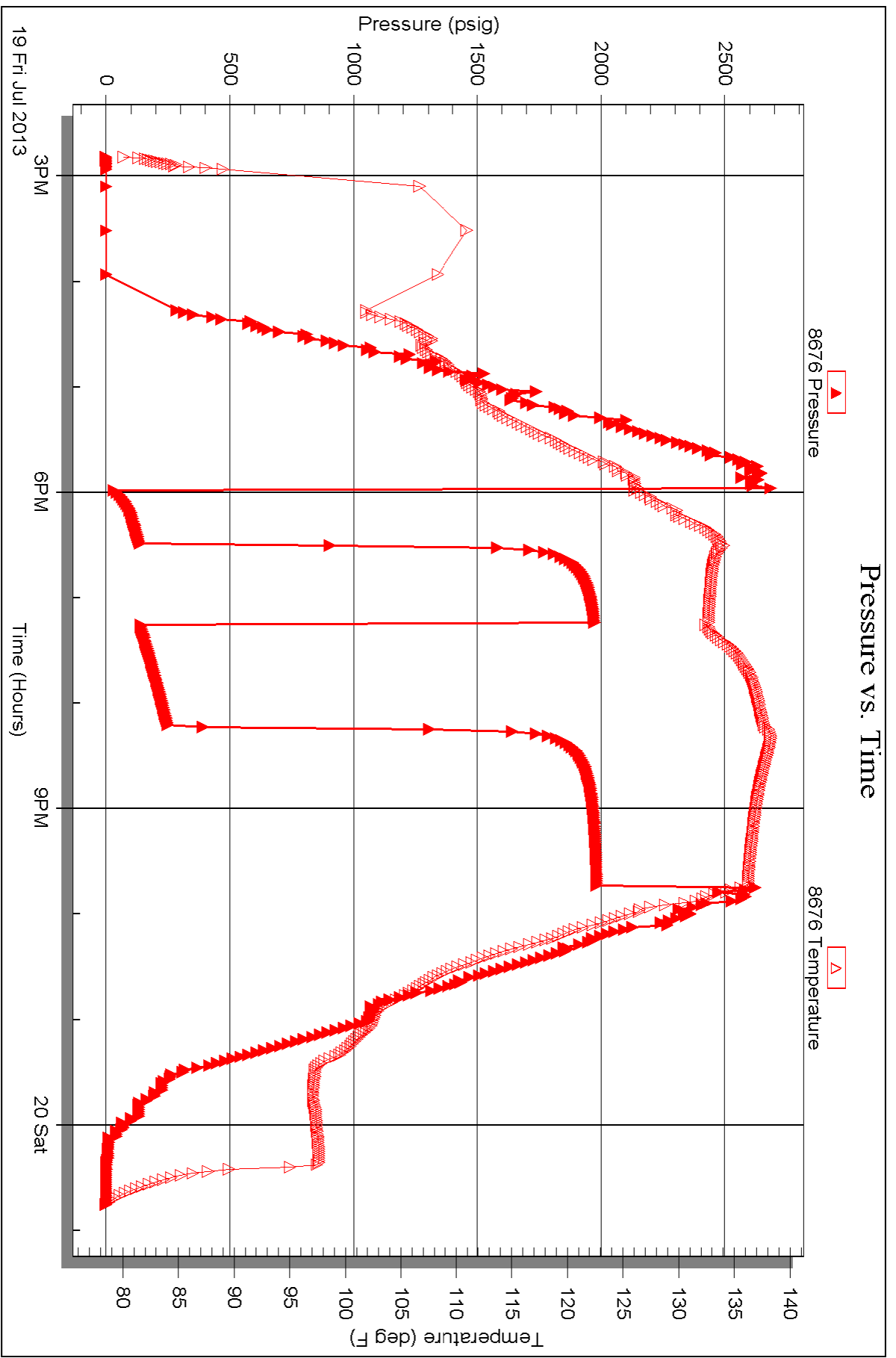


Serial #: 8676

Outside Chieftain Oil Co Inc

Molz #19

DST Test Number: 2





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47515

4/10

Well Name & No. Molz #19 Test No. 1 Date 7-18-13  
 Company Chieftain Oil Co INC Elevation 1389 KB 1377 GL  
 Address 101 S 5th street Pobox 124 Kiowa KS 67070  
 Co. Rep / Geo. Ron Molz / Ardew Ratzlaff Rig Fossall Rig #3  
 Location: Sec. 2 Twp. 35 Rge. 12 Co. Barber State KS

Interval Tested 5093-5130 Zone Tested Mizner  
 Anchor Length 37' Drill Pipe Run 4944 Mud Wt. 9.5  
 Top Packer Depth 5088 Drill Collars Run 151 Vis 52  
 Bottom Packer Depth 5093 Wt. Pipe Run 0 WL 8.0  
 Total Depth \_\_\_\_\_ Chlorides 4300 ppm System LCM 4A

Blow Description IF: Strong blow BOB 6min  
ISI: NO blow back  
FF: Strong blow BOB 28min  
FSS: NO blow back

Rec	Feet of	%gas	%oil	%water	%mud
	<u>680' GIP</u>				
Rec <u>60</u>	Feet of <u>O, W, M</u>	%gas <u>2</u>	%oil <u>8</u>	%water <u>90</u>	%mud
Rec <u>120</u>	Feet of <u>M, W slight oil GUT</u>	%gas	%oil <u>60</u>	%water <u>40</u>	%mud
Rec <u>186</u>	Feet of <u>M, W</u>	%gas	%oil <u>98</u>	%water <u>2</u>	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 366' BHT 132 Gravity - API RW 26 @ 94 °F Chlorides 18000 ppm

(A) Initial Hydrostatic 2540  Test 1350 T-On Location 5:45  
 (B) First Initial Flow 50  Jars T-Started 6:06  
 (C) First Final Flow 146  Safety Joint 75 T-Open 9:13  
 (D) Initial Shut-In 1955  Circ Sub T-Pulled 13:00  
 (E) Second Initial Flow 124  Hourly Standby T-Out 15:40  
 (F) Second Final Flow 192  Mileage 110 miles 170.50  
 (G) Final Shut-In 1954  Sampler  
 (H) Final Hydrostatic 2538  Straddle  Ruined Shale Packer  
 Shale Packer 250  Ruined Packer  
 Extra Packer  Extra Copies  
 Extra Recorder Sub Total 0  
 Day Standby Total 1845.50  
 Accessibility MP/DST Disc't yes  
 Sub Total 1845.50

Approved By Ardew Ratzlaff Our Representative Chris [Signature]

Trilobite Testing Inc. shall not be liable for damaged or 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.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47516

Well Name & No. Mol 2 #19 Test No. 2 Date 7-19-13  
 Company Chieftain Oil Co INC Elevation 1389 KB 1377 GL  
 Address 101 S 5th Street Po box 124 Kiowa KS 67070  
 Co. Rep / Geo. Ron Molz / Arden Ratzlaff Rig Fossil Rig #3  
 Location: Sec. 2 Twp. 35 Rge. 12 Co. Barber State KS

Interval Tested 5270 - 5299 Zone Tested Simpson  
 Anchor Length 29' Drill Pipe Run 5124 Mud Wt. 9.5  
 Top Packer Depth 5265 Drill Collars Run 151 Vis 58  
 Bottom Packer Depth 5270 Wt. Pipe Run \_\_\_\_\_ WL 8.0  
 Total Depth 5299 Chlorides 4700 ppm System LCM 5#  
 Blow Description IF: Strong blow 10 1/2"  
ISF: NO blow back  
FF: Strong blow BOB 42 min  
FSI: NO blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>50'</u>	Feet of <u>W, M slight oil cut</u>	%gas	%oil <u>40</u>	%water <u>60</u>	%mud
Rec <u>372'</u>	Feet of <u>M, W</u>	%gas	%oil <u>90</u>	%water <u>10</u>	%mud
Rec _____	Feet of _____	%gas	%oil _____	%water _____	%mud
Rec _____	Feet of _____	%gas	%oil _____	%water _____	%mud

Rec Total 422' BHT 135 Gravity \_\_\_\_\_ API RW 07 @ 83 °F Chlorides 94,000 ppm

(A) Initial Hydrostatic 2624  Test 1350 T-On Location 14:20  
 (B) First Initial Flow 31  Jars \_\_\_\_\_ T-Started 14:54  
 (C) First Final Flow 140  Safety Joint 75 T-Open 17:59  
 (D) Initial Shut-In 1968  Circ Sub \_\_\_\_\_ T-Pulled 21:45  
 (E) Second Initial Flow 144  Hourly Standby \_\_\_\_\_ T-Out 00:40  
 (F) Second Final Flow 247  Mileage 40 miles 170.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 1979  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2505  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer 250  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1845.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1845.50

Approved By Arden Ratzlaff Our Representative Chris [Signature]

TriLOBite Testing Inc. shall not be liable for damaged or 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.