



## DRILL STEM TEST REPORT

Prepared For: **Palmer Oil, Inc.**

PO Box 399  
Garden City, KS 67846

ATTN: Wyatt Urban

**Laura #21-3**

**21-32s-37w Stevens,KS**

Start Date: 2013.12.13 @ 09:31:00

End Date: 2013.12.13 @ 15:37:00

Job Ticket #: 55663                      DST #: 1

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

Printed: 2013.12.16 @ 15:29:00

Palmer Oil, Inc. 21-32s-37w Stevens,KS Laura #21-3 DST # 1 St. Louis 2013.12.13



# TRILOBITE TESTING, INC

## DRILL STEM TEST REPORT

Palmer Oil, Inc.  
PO Box 399  
Garden City, KS 67846  
ATTN: Wyatt Urban

**21-32s-37w Stevens, KS**

**Laura #21-3**

Job Ticket: 55663

**DST#: 1**

Test Start: 2013.12.13 @ 09:31:00

### GENERAL INFORMATION:

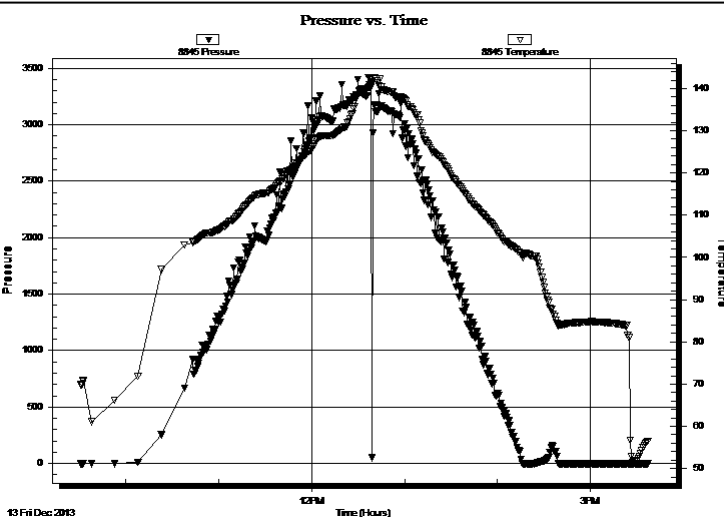
Formation: **St. Louis**  
Deviated: No Whipstock:                           ft (KB)  
Time Tool Opened:  
Time Test Ended: 15:37:00  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Sam Esparza  
Unit No: 64  
Interval: **6326.00 ft (KB) To 6410.00 ft (KB) (TVD)**  
Total Depth: 6410.00 ft (KB) (TVD)  
Reference Elevations: 3153.00 ft (KB)  
3140.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Good  
KB to GR/CF: 13.00 ft

### Serial #: 8845

### Outside

Press@RunDepth:                            psig @ 6327.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2013.12.13 End Date: 2013.12.13 Last Calib.: 2013.12.13  
Start Time: 09:31:05 End Time: 15:36:59 Time On Btm:  
Time Off Btm:

TEST COMMENT: IF:  
IS: MISRUN PACKER FAILURE  
FF:  
FS:



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
500.00	Mud 100m	5.36

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Palmer Oil, Inc.  
PO Box 399  
Garden City, KS 67846  
ATTN: Wyatt Urban

**21-32s-37w Stevens,KS**

**Laura #21-3**

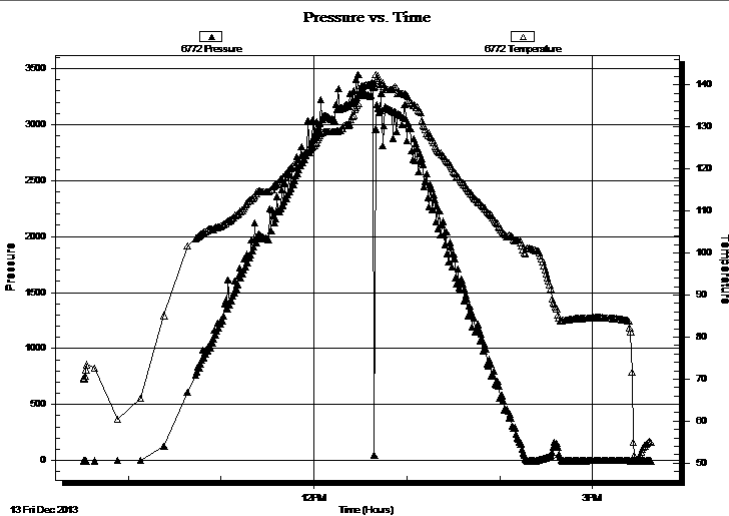
Job Ticket: 55663      **DST#: 1**  
Test Start: 2013.12.13 @ 09:31:00

### GENERAL INFORMATION:

Formation: **St. Louis**  
 Deviated: No Whipstock:                      ft (KB)  
 Time Tool Opened:  
 Time Test Ended: 15:37:00  
 Interval: **6326.00 ft (KB) To 6410.00 ft (KB) (TVD)**  
 Total Depth: 6410.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Sam Esparza  
 Unit No: 64  
 Reference Elevations: 3153.00 ft (KB)  
 3140.00 ft (CF)  
 KB to GR/CF: 13.00 ft

**Serial #: 6772      Outside**  
 Press@RunDepth:                      psig @ 6327.00 ft (KB)  
 Start Date: 2013.12.13      End Date: 2013.12.13  
 Start Time: 09:31:05      End Time: 15:37:29  
 Capacity: 8000.00 psig  
 Last Calib.: 2013.12.13  
 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF:  
 IS: MISRUN PACKER FAILURE  
 FF:  
 FS:



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
500.00	Mud 100m	5.36

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Palmer Oil, Inc.  
PO Box 399  
Garden City, KS 67846  
ATTN: Wyatt Urban

**21-32s-37w Stevens,KS**  
**Laura #21-3**  
Job Ticket: 55663 **DST#: 1**  
Test Start: 2013.12.13 @ 09:31:00

## Tool Information

Drill Pipe:	Length: 6127.00 ft	Diameter: 3.80 inches	Volume: 85.95 bbl	Tool Weight: 2000.00 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: 181.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 86.84 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	6326.00 ft			Final 90000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	112.00 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			6299.00	
Shut In Tool	5.00			6304.00	
Hydraulic tool	5.00			6309.00	
Jars	5.00			6314.00	
Safety Joint	3.00			6317.00	
Packer	5.00			6322.00	28.00 Bottom Of Top Packer
Packer	4.00			6326.00	
Stubb	1.00			6327.00	
Recorder	0.00	6772	Outside	6327.00	
Recorder	0.00	8845	Outside	6327.00	
Perforations	13.00			6340.00	
Change Over Sub	1.00			6341.00	
Drill Pipe	63.00			6404.00	
Change Over Sub	1.00			6405.00	
Bullnose	5.00			6410.00	84.00 Bottom Packers & Anchor

**Total Tool Length: 112.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Palmer Oil, Inc.  
PO Box 399  
Garden City, KS 67846  
ATTN: Wyatt Urban

**21-32s-37w Stevens,KS**  
**Laura #21-3**  
Job Ticket: 55663      **DST#: 1**  
Test Start: 2013.12.13 @ 09:31:00

## 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: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 2200.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
500.00	Mud 100m	5.365

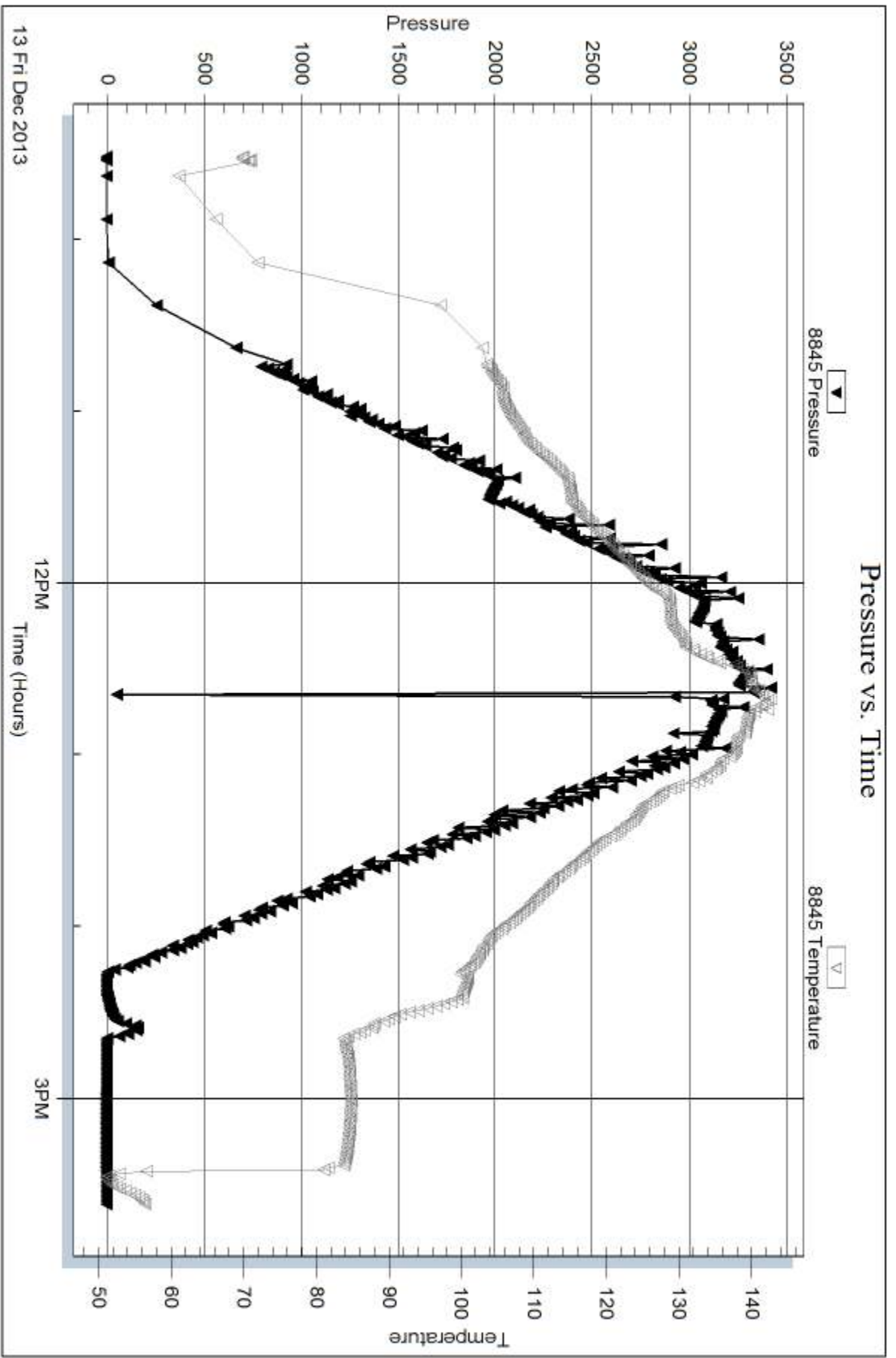
Total Length: 500.00 ft      Total Volume: 5.365 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

Serial #: 8845

Outside Palmer Oil, Inc.

Laura #21-3

DST Test Number: 1



Tribble Testing, Inc

Ref. No: 55663

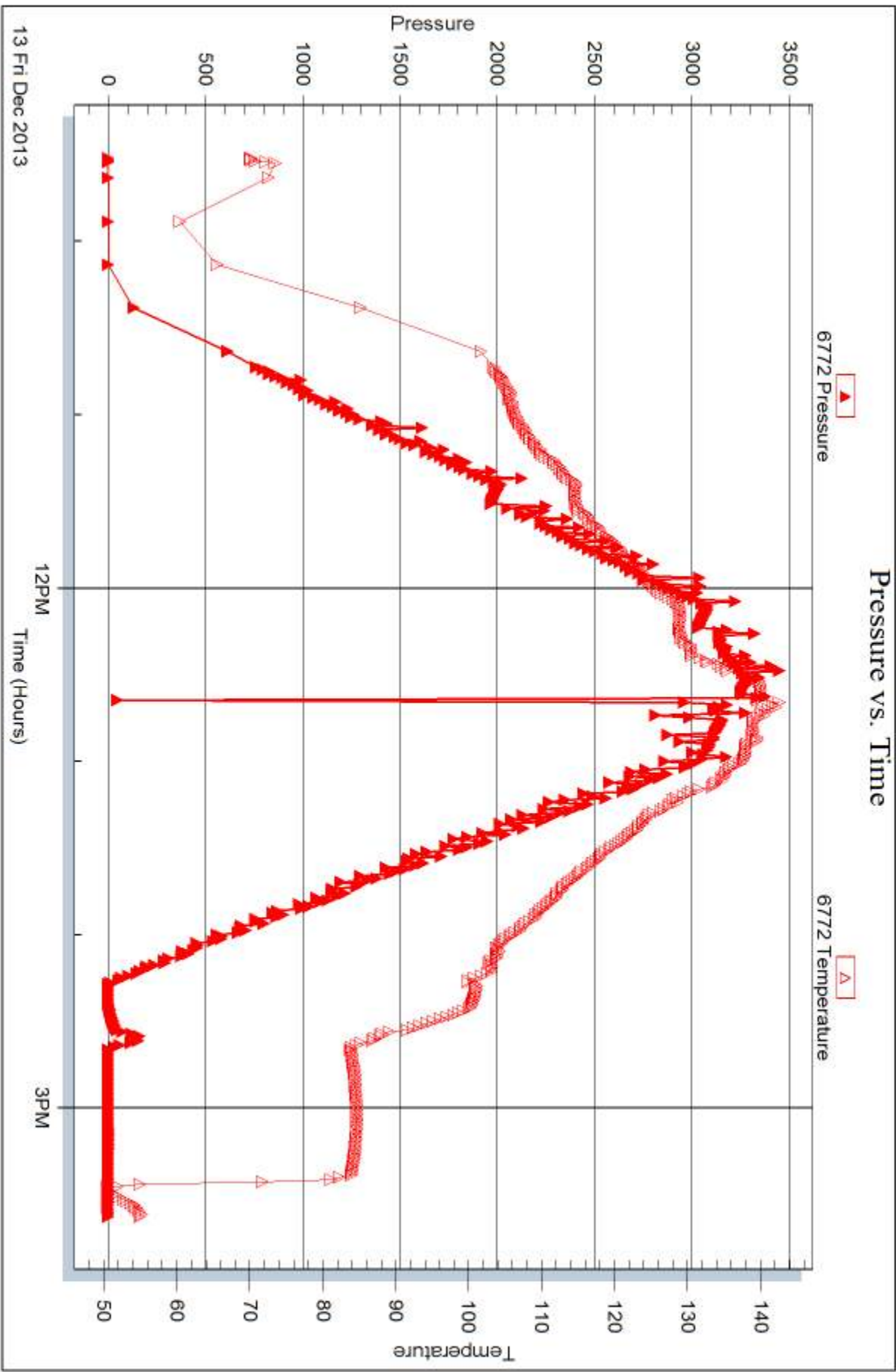
Printed: 2013.12.16 @ 15:29:02

Serial #: 6772

Outside Palmer Oil, Inc.

Laura #21-3

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 55663

Printed: 2013.12.16 @ 15:29:02



## DRILL STEM TEST REPORT

Prepared For: **Palmer Oil, Inc.**

PO Box 399  
Garden City, KS 67846

ATTN: Wyatt Urban

**Laura #21-3**

**21-32s-37w Stevens,KS**

Start Date: 2013.12.13 @ 16:04:00

End Date: 2013.12.13 @ 22:55:30

Job Ticket #: 55664                      DST #: 2

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

Printed: 2013.12.16 @ 15:26:12

Palmer Oil, Inc. 21-32s-37w Stevens,KS Laura #21-3 DST # 2 St. Louis 2013.12.13







**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Palmer Oil, Inc.  
 PO Box 399  
 Garden City, KS 67846  
 ATTN: Wyatt Urban

**21-32s-37w Stevens,KS**

**Laura #21-3**

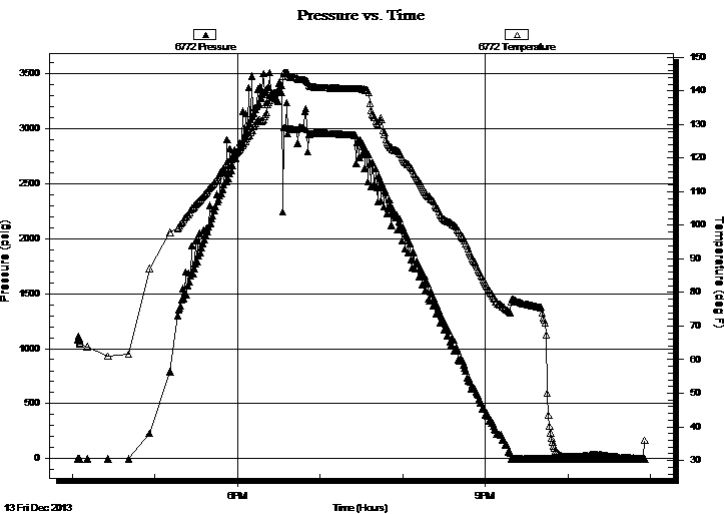
Job Ticket: 55664      **DST#: 2**  
 Test Start: 2013.12.13 @ 16:04:00

**GENERAL INFORMATION:**

Formation: **St. Louis**  
 Deviated: No      Whipstock:      ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened:  
 Tester: Sam Esparza  
 Time Test Ended: 22:55:30  
 Unit No: 64  
 Interval: **6310.00 ft (KB) To 6410.00 ft (KB) (TVD)**  
 Reference Elevations: 3153.00 ft (KB)  
 Total Depth: 6410.00 ft (KB) (TVD)  
 3140.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 13.00 ft

**Serial #: 6772      Outside**  
 Press@RunDepth:      psig @ 6311.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2013.12.13      End Date: 2013.12.13      Last Calib.: 2013.12.13  
 Start Time: 16:04:05      End Time: 22:55:44      Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF:  
 IS: MISRUN PACKER FAILURE  
 FF:  
 FS:



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

Recovery		
Length (ft)	Description	Volume (bbl)
650.00	MUD 100m	7.47

\* Recovery from multiple tests

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Palmer Oil, Inc.

**21-32s-37w Stevens,KS**

PO Box 399  
Garden City, KS 67846

**Laura #21-3**

Job Ticket: 55664

**DST#: 2**

ATTN: Wyatt Urban

Test Start: 2013.12.13 @ 16:04:00

## Tool Information

Drill Pipe:	Length: 6121.00 ft	Diameter: 3.80 inches	Volume: 85.86 bbl	Tool Weight: 2000.00 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: 181.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 110000.0 lb
			<u>Total Volume: 86.75 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	6310.00 ft			Final 90000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	100.00 ft			
Tool Length:	128.00 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			6283.00	
Shut In Tool	5.00			6288.00	
Hydraulic tool	5.00			6293.00	
Jars	5.00			6298.00	
Safety Joint	3.00			6301.00	
Packer	5.00			6306.00	28.00 Bottom Of Top Packer
Packer	4.00			6310.00	
Stubb	1.00			6311.00	
Recorder	0.00	6772	Outside	6311.00	
Recorder	0.00	8845	Outside	6311.00	
Perforations	29.00			6340.00	
Change Over Sub	1.00			6341.00	
Drill Pipe	63.00			6404.00	
Change Over Sub	1.00			6405.00	
Bullnose	5.00			6410.00	100.00 Bottom Packers & Anchor

**Total Tool Length: 128.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Palmer Oil, Inc.  
PO Box 399  
Garden City, KS 67846  
ATTN: Wyatt Urban

**21-32s-37w Stevens,KS**  
**Laura #21-3**  
Job Ticket: 55664      **DST#: 2**  
Test Start: 2013.12.13 @ 16:04:00

## 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: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 2200.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
650.00	MUD 100m	7.469

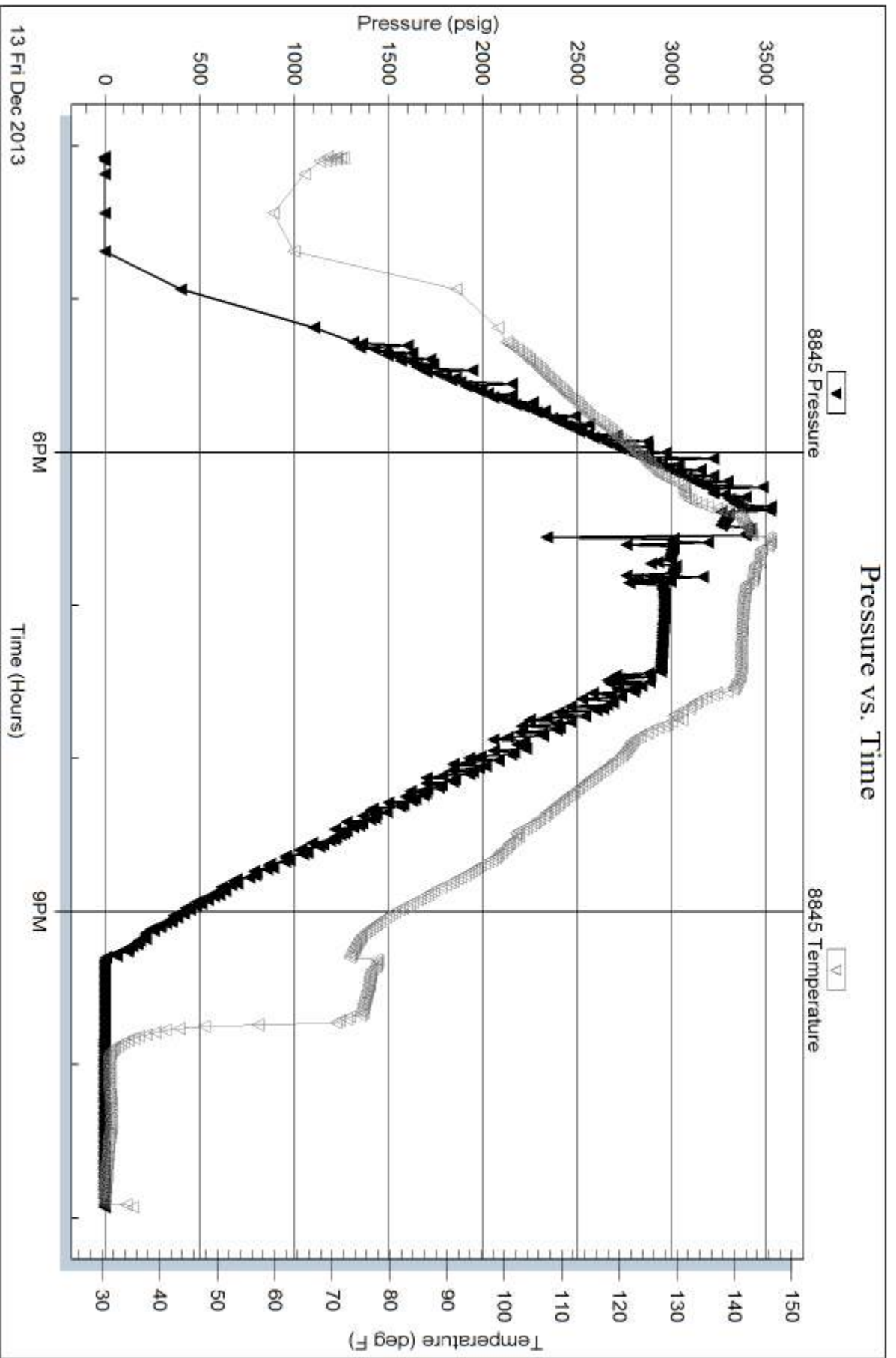
Total Length: 650.00 ft      Total Volume: 7.469 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

Serial #: 8845

Outside Palmer Oil, Inc.

Laura #21-3

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 55664

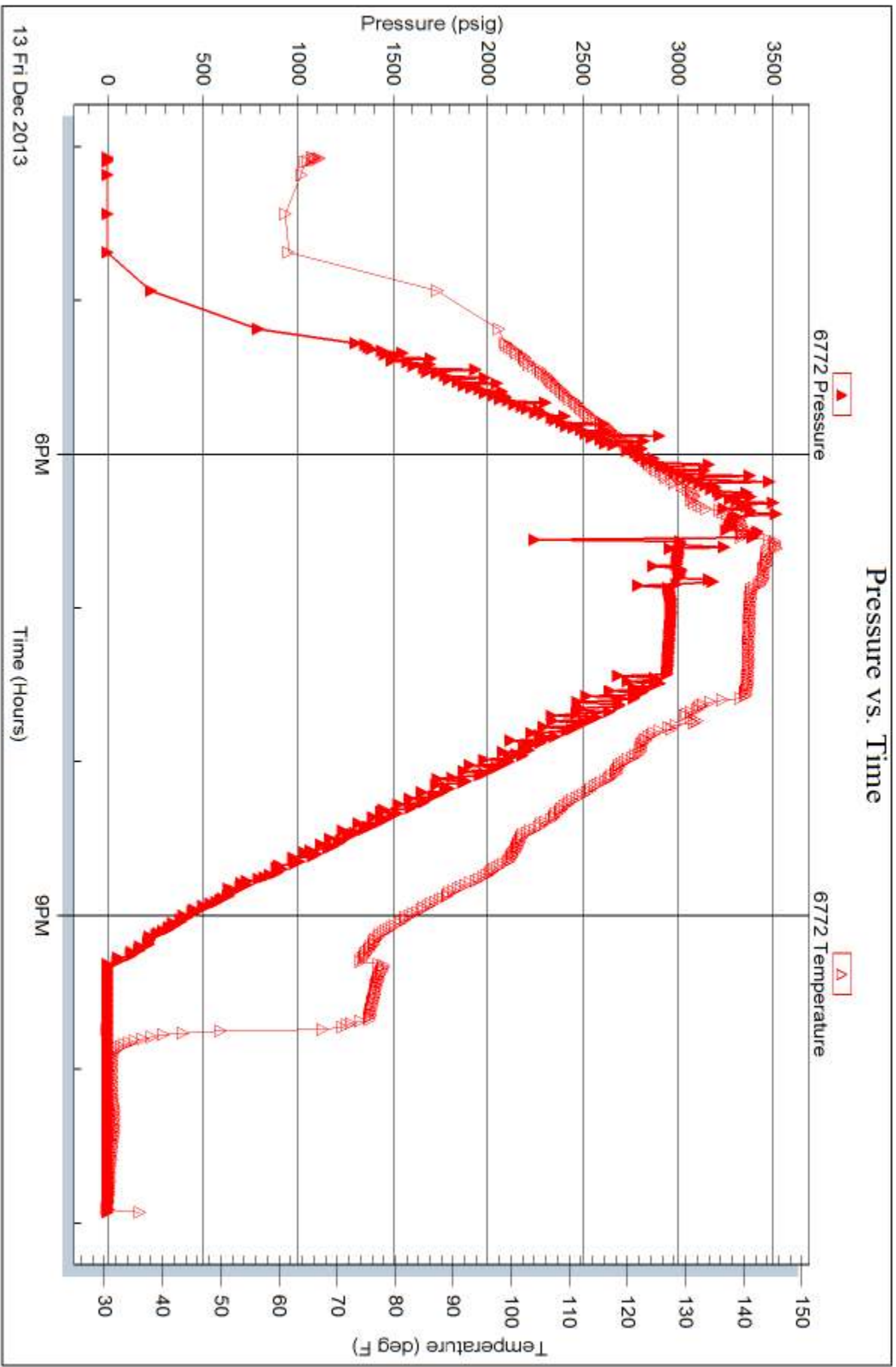
Printed: 2013.12.16 @ 15:26:14

Serial #: 6772

Outside Palmer Oil, Inc.

Laura #21-3

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 55664

Printed: 2013.12.16 @ 15:26:15



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55663

Well Name & No. Lanna #21-3 Test No. 1 Date 12/13/13  
 Company Palmer Oil, Inc. Elevation 3153 KB 3140 GL  
 Address 3118 Cummings RD P.O. Box 399 Garden city, KS 67846  
 Co. Rep / Geo. Wyatt Urban Rig Duke #9  
 Location: Sec. 21 Twp. 32S Rge. 37W Co. Stevens State KS

Interval Tested 6326-6410 Zone Tested St. Louis  
 Anchor Length 84 Drill Pipe Run 6127 Mud Wt. 9.4  
 Top Packer Depth 6322 Drill Collars Run 181 Vis 57  
 Bottom Packer Depth 6326 Wt. Pipe Run 0 WL 8.0  
 Total Depth 6410 Chlorides 2200 ppm System LCM 3

Blow Description IR:  
ISI:  
FF: Misrun Packer Failure.  
FSI:

Rec	Feet of	%gas	%oil	%water	%mud
<u>500</u>	<u>Mud</u>			<u>100</u>	

Rec Total 500 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic  Test 1250 T-On Location 8:35  
 (B) First Initial Flow  Jars 250 T-Started 9:31  
 (C) First Final Flow  Safety Joint 75 T-Open N/A  
 (D) Initial Shut-In  Circ Sub \_\_\_\_\_ T-Pulled N/A  
 (E) Second Initial Flow  Hourly Standby \_\_\_\_\_ T-Out 15:37  
 (F) Second Final Flow  Mileage 220 R/H 341 Comments \_\_\_\_\_  
 (G) Final Shut-In  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer 320  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In  Day Standby \_\_\_\_\_ Total 2236  
 Final Flow  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In \_\_\_\_\_ Sub Total 1916

Approved By \_\_\_\_\_ Our Representative \_\_\_\_\_

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. 55664

Well Name & No. Laura #21-3 Test No. 2 Date 12/13/13  
 Company Palmer Oil, Inc. Elevation 3153 KB 3K10 GL  
 Address 3118 Cummings Rd P.O. Box 399 Garden City, KS 67846  
 Co. Rep / Geo. Wyatt Urban Rig Duke #9  
 Location: Sec. 21 Twp. 32S Rge. 37W Co. Stevens State KS

Interval Tested 6310-6410 Zone Tested ST. Louis  
 Anchor Length 100 Drill Pipe Run 6121 Mud Wt. 9.4  
 Top Packer Depth 6306 Drill Collars Run 181 Vis 57  
 Bottom Packer Depth 6310 Wt. Pipe Run 65 WL 8.0  
 Total Depth 6410 Chlorides 2200 ppm System LCM 3

Blow Description IF:  
ISI:  
FF: Misrun Packer Failure  
FSI:

Rec	Feet of	%gas	%oil	%water	%mud
<u>650</u>	<u>Mud</u>			<u>100</u>	

Rec Total 650 BHT — Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic X Test 1250 T-On Location 8:35  
 (B) First Initial Flow X Jars 250 T-Started 16:04  
 (C) First Final Flow X Safety Joint 75 T-Open N/A  
 (D) Initial Shut-In X Circ Sub N/C T-Pulled N/A  
 (E) Second Initial Flow X Hourly Standby — T-Out 22:56  
 (F) Second Final Flow X Mileage 220 RTT Comments boxed Tools  
 (G) Final Shut-In X Sampler —  
 (H) Final Hydrostatic X Straddle —  Ruined Shale Packer —  
 Ruined Packer 320  
 Extra Copies —  
 Initial Open —  Extra Packer — Sub Total 0  
 Initial Shut-In —  Extra Recorder — Total 1895  
 Final Flow —  Day Standby — MP/DST Disc't —  
 Final Shut-In —  Accessibility —  
 Sub Total 1575

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.