



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N. Water STE 300  
Wichita KS. 67202+1216

ATTN: Mike Kidwell

### **Gray #1-20**

### **20-18s-7w Rice,KS**

Start Date: 2012.04.28 @ 12:20:05

End Date: 2012.04.28 @ 18:11:39

Job Ticket #: 47267                      DST #: 1

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

Printed: 2012.05.03 @ 14:50:23



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.  
 250 N. Water STE 300  
 Wichita KS. 67202+1216  
 ATTN: Mike Kidwell

**20-18s-7w Rice, KS**  
**Gray #1-20**  
 Job Ticket: 47267 **DST#: 1**  
 Test Start: 2012.04.28 @ 12:20:05

## GENERAL INFORMATION:

Formation: **LKC"C"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:54:00  
 Time Test Ended: 18:11:39  
 Interval: **2771.00 ft (KB) To 2805.00 ft (KB) (TVD)**  
 Total Depth: 2805.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Andy Carreira  
 Unit No: 39  
 Reference Elevations: 1670.00 ft (KB)  
 1662.00 ft (CF)  
 KB to GR/CF: 8.00 ft

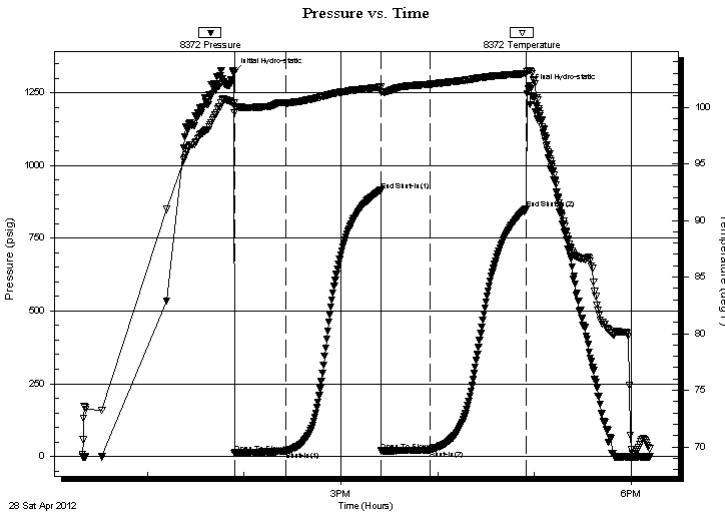
## Serial #: 8372

**Outside**

Press @ Run Depth: 22.89 psig @ 2772.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.04.28 End Date: 2012.04.28 Last Calib.: 2012.04.28  
 Start Time: 12:20:05 End Time: 18:11:40 Time On Btm: 2012.04.28 @ 13:53:20  
 Time Off Btm: 2012.04.28 @ 16:55:50

**TEST COMMENT:** IF:(30min) Blow Died in 2 min.  
 ISl:(60min) No Return  
 FF:(30min) No Blow  
 FSl:(60min) No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1317.92	100.40	Initial Hydro-static
1	10.83	99.55	Open To Flow (1)
33	17.82	100.38	Shut-In(1)
92	914.80	101.79	End Shut-In(1)
92	19.03	101.35	Open To Flow (2)
123	22.89	102.03	Shut-In(2)
182	850.13	102.97	End Shut-In(2)
183	1264.69	103.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w / oil spcks in tool.	0.05

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.  
250 N. Water STE 300  
Wichita KS. 67202+1216  
ATTN: Mike Kidwell

**20-18s-7w Rice,KS**  
**Gray #1-20**  
Job Ticket: 47267      **DST#: 1**  
Test Start: 2012.04.28 @ 12:20:05

**Tool Information**

Drill Pipe:	Length: 2512.00 ft	Diameter: 3.80 inches	Volume: 35.24 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 239.58 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 36.42 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	3.58 ft			String Weight: Initial	53000.00 lb
Depth to Top Packer:	2771.00 ft			Final	53000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	34.00 ft				
Tool Length:	57.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
Change Over Sub	1.00			2749.00	
Shut In Tool	5.00			2754.00	
Hydraulic tool	5.00			2759.00	
Safety Joint	3.00			2762.00	
Packer	5.00			2767.00	23.00      Bottom Of Top Packer
Packer	4.00			2771.00	
Stubb	1.00			2772.00	
Recorder	0.00	8017	Inside	2772.00	
Recorder	0.00	8372	Outside	2772.00	
Perforations	30.00			2802.00	
Bullnose	3.00			2805.00	34.00      Bottom Packers & Anchor

**Total Tool Length: 57.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co.

**20-18s-7w Rice,KS**

250 N. Water STE 300  
Wichita KS. 67202+1216

**Gray #1-20**

Job Ticket: 47267

**DST#: 1**

ATTN: Mike Kidwell

Test Start: 2012.04.28 @ 12:20:05

### 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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4300.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud w / oil spcks in tool.	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

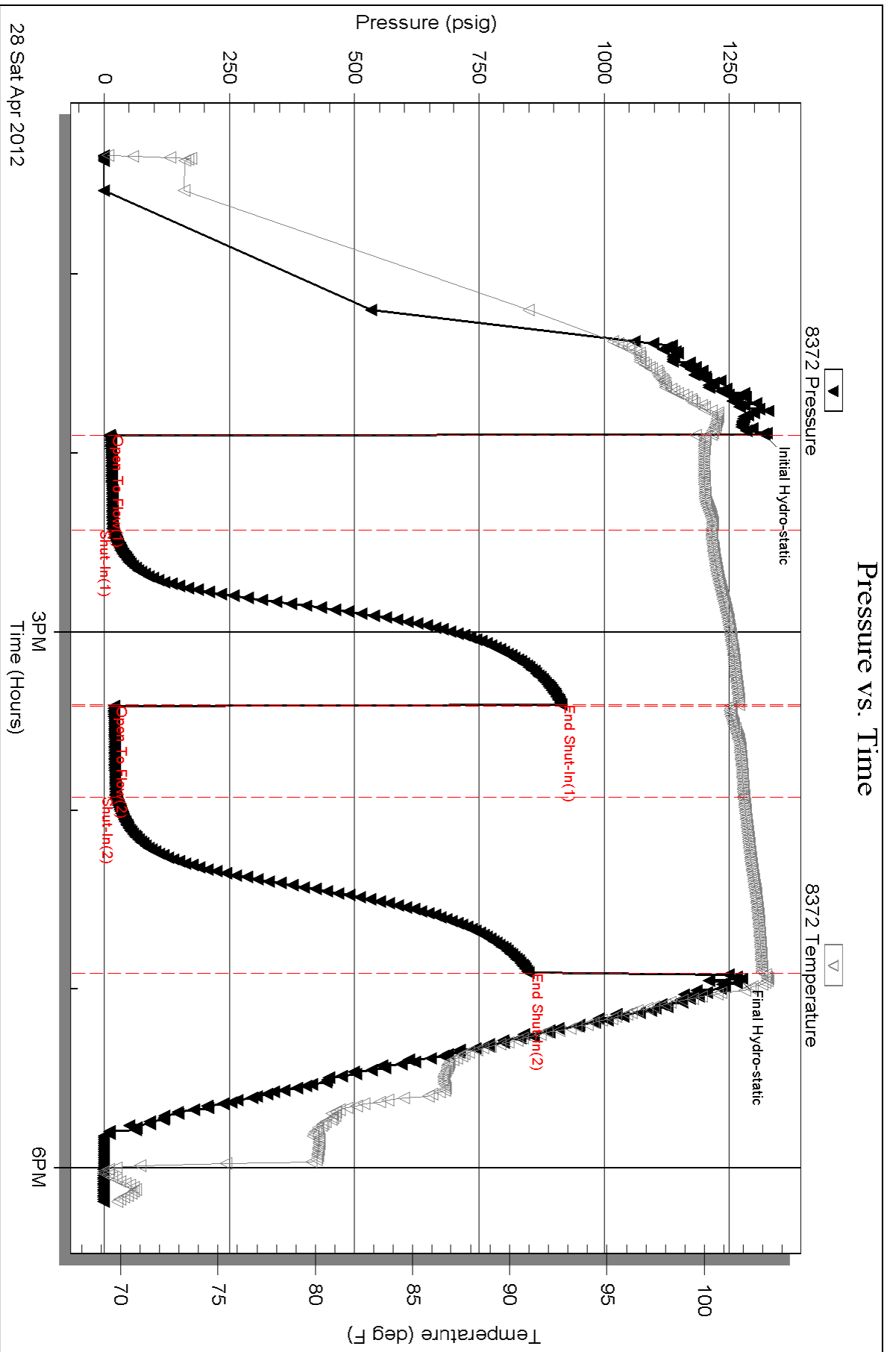
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



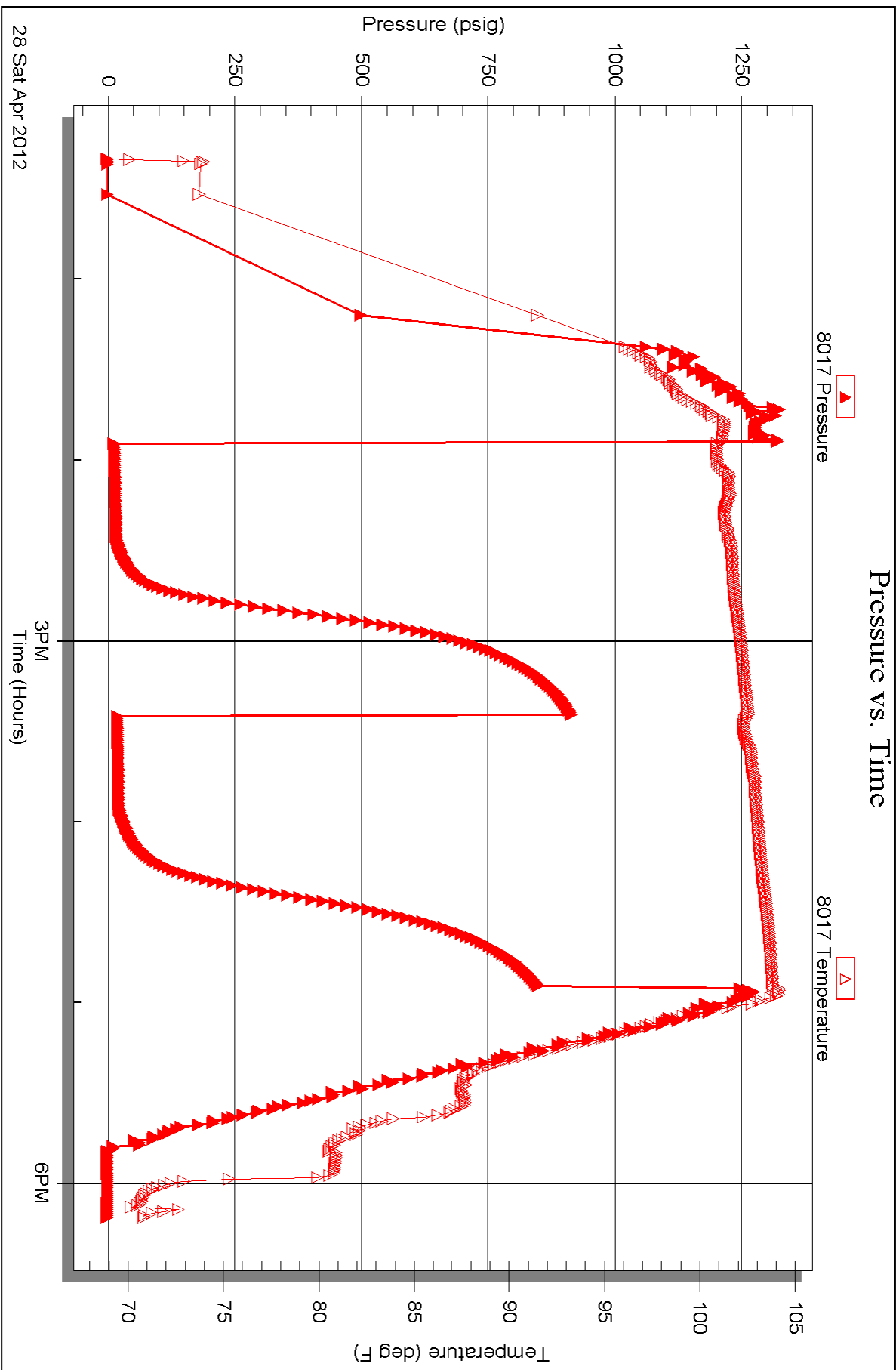
Serial #: 8017

Inside

Murfin Drilling Co.

Gray #1-20

DST Test Number: 1





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
MAY 03 2012

## Test Ticket

NO. 47267

BY: \_\_\_\_\_

Well Name & No. Gray #1-20 Test No. 1 Date 4-28-12  
 Company Murfin Drilling Co Elevation 1670 KB 1662 GL  
 Address 250 N Water, STE 300 Wichita Ks. 67202-1216  
 Co. Rep / Geo. Mike Kidwell Rig Murfin 21  
 Location: Sec. 20 Twp. 18s Rge. 7W Co. RICE State Ks.

Interval Tested 2771-2805 Zone Tested LKC "C"  
 Anchor Length 34' Drill Pipe Run 2512 Mud Wt. 9.0  
 Top Packer Depth 2766 Drill Collars Run 239.58 Vis 48  
 Bottom Packer Depth 2771 Wt. Pipe Run 0 WL 7.2  
 Total Depth 2805 Chlorides 4300 ppm System LCM 1/2#

Blow Description IF: Blow died in 2 min.  
ISI: NO RETURN  
FF: NO BLOW  
FSP: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud w/oil spks INTOO</u>				
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

Rec Total 10 BHT 102° Gravity API RW @ ° F Chlorides ppm  
 (A) Initial Hydrostatic 1317  Test 1150' T-On Location 11:37  
 (B) First Initial Flow 10  Jars T-Started 12:20  
 (C) First Final Flow 17  Safety Joint 75' T-Open 13:55  
 (D) Initial Shut-In 914  Circ Sub T-Pulled 16:55  
 (E) Second Initial Flow 19  Hourly Standby 18:12 T-Out  
 (F) Second Final Flow 22  Mileage 188 RT ( ) 291.40 Comments 47 hrs of standby  
 (G) Final Shut-In 850  Sampler x 2 4:30 5:15 pm loaded  
 (H) Final Hydrostatic 1264  Straddle tools  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies

Initial Open 30  Shale Packer  
 Initial Shut-In 60  Extra Packer  
 Final Flow 30  Extra Recorder  
 Final Shut-In 60  Day Standby 1 day 23 hrs Sub Total 800  
 Accessibility  
 Sub Total 1807.80 Total 2607.80 MP/DST Disc't

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.