



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Robert Hendrix

### **Burk Trust C #4-22**

### **22 1s 36w Rawlins KS**

Start Date: 2014.05.30 @ 03:00:00

End Date: 2014.05.30 @ 09:55:00

Job Ticket #: 58788                      DST #: 1

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

Printed: 2014.06.02 @ 15:23:51

Murfin Drilling Co Inc  
22 1s 36w Rawlins KS  
Burk Trust C #4-22  
DST # 1  
Oread  
2014.05.30



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

Job Ticket: 58788

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2014.05.30 @ 03:00:00

## GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:15:00

Time Test Ended: 09:55:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Robert Zodrow

Unit No: 46

**Interval: 4038.00 ft (KB) To 4078.00 ft (KB) (TVD)**

Reference Elevations: 3249.00 ft (KB)

Total Depth: 4078.00 ft (KB) (TVD)

3238.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6769 Outside**

Press@RunDepth: 27.42 psig @ 4039.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.30

End Date:

2014.05.30

Last Calib.:

2014.05.30

Start Time: 03:00:05

End Time:

09:54:59

Time On Btm:

2014.05.30 @ 05:14:30

Time Off Btm:

2014.05.30 @ 08:16:30

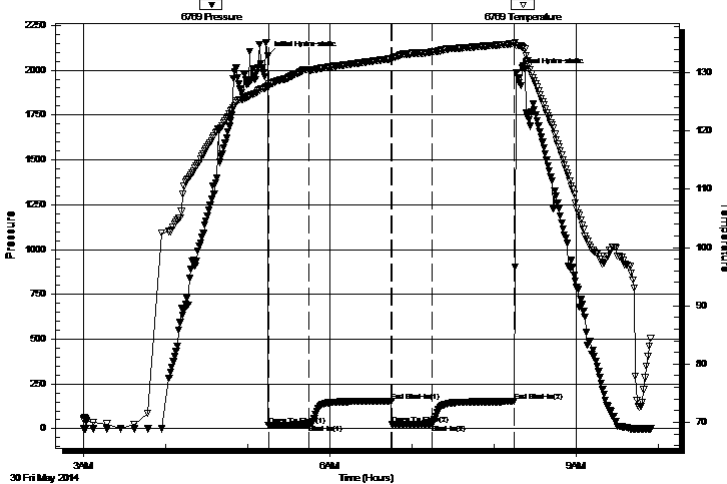
TEST COMMENT: 30-IF- Blow built to 1/8"

60-ISI- No return

30-FF- No blow

60-FSI- No return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2079.92	127.70	Initial Hydro-static
1	18.78	127.57	Open To Flow (1)
31	21.99	130.51	Shut-In(1)
91	152.86	132.43	End Shut-In(1)
91	23.34	132.48	Open To Flow (2)
121	27.42	133.59	Shut-In(2)
180	151.46	135.04	End Shut-In(2)
182	1988.73	134.66	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100%m	0.05

Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

Job Ticket: 58788

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2014.05.30 @ 03:00:00

## Tool Information

Drill Pipe:	Length: 3819.00 ft	Diameter: 3.88 inches	Volume: 55.85 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: 25000.00 lb
Drill Collar:	Length: 203.00 ft	Diameter: 2.25 inches	Volume: 1.00 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 56.85 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4038.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	67.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4016.00	
Hydraulic tool	5.00			4021.00	
Jars	5.00			4026.00	
Safety Joint	3.00			4029.00	
Packer	5.00			4034.00	27.00 Bottom Of Top Packer
Packer	4.00			4038.00	
Stubb	1.00			4039.00	
Recorder	0.00	8288	Inside	4039.00	
Recorder	0.00	6769	Outside	4039.00	
Perforations	3.00			4042.00	
Change Over Sub	1.00			4043.00	
Drill Pipe	31.00			4074.00	
Change Over Sub	1.00			4075.00	
Bullnose	3.00			4078.00	40.00 Bottom Packers & Anchor

**Total Tool Length: 67.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

Job Ticket: 58788

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2014.05.30 @ 03:00:00

### 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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud 100%m	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

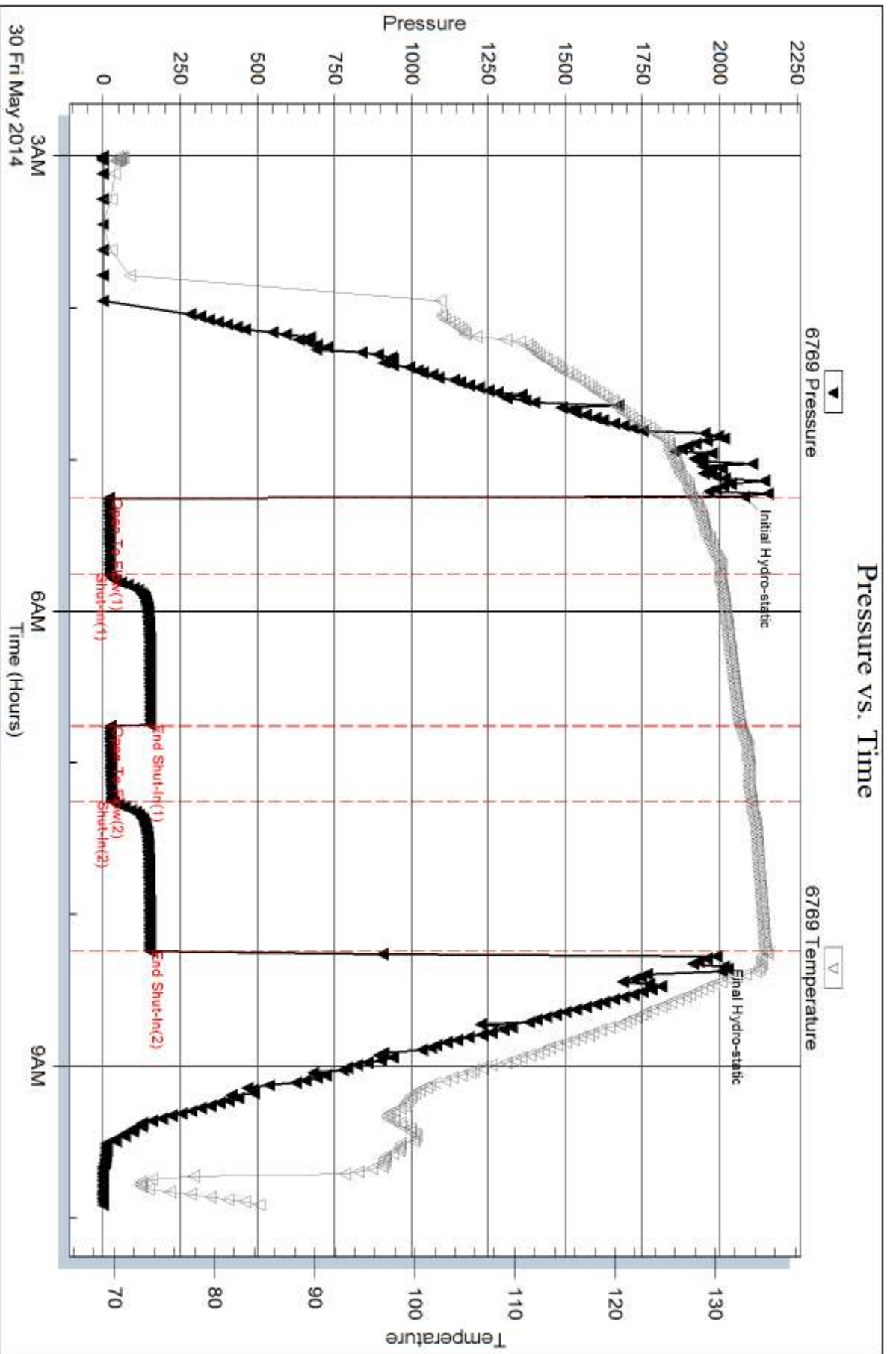
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



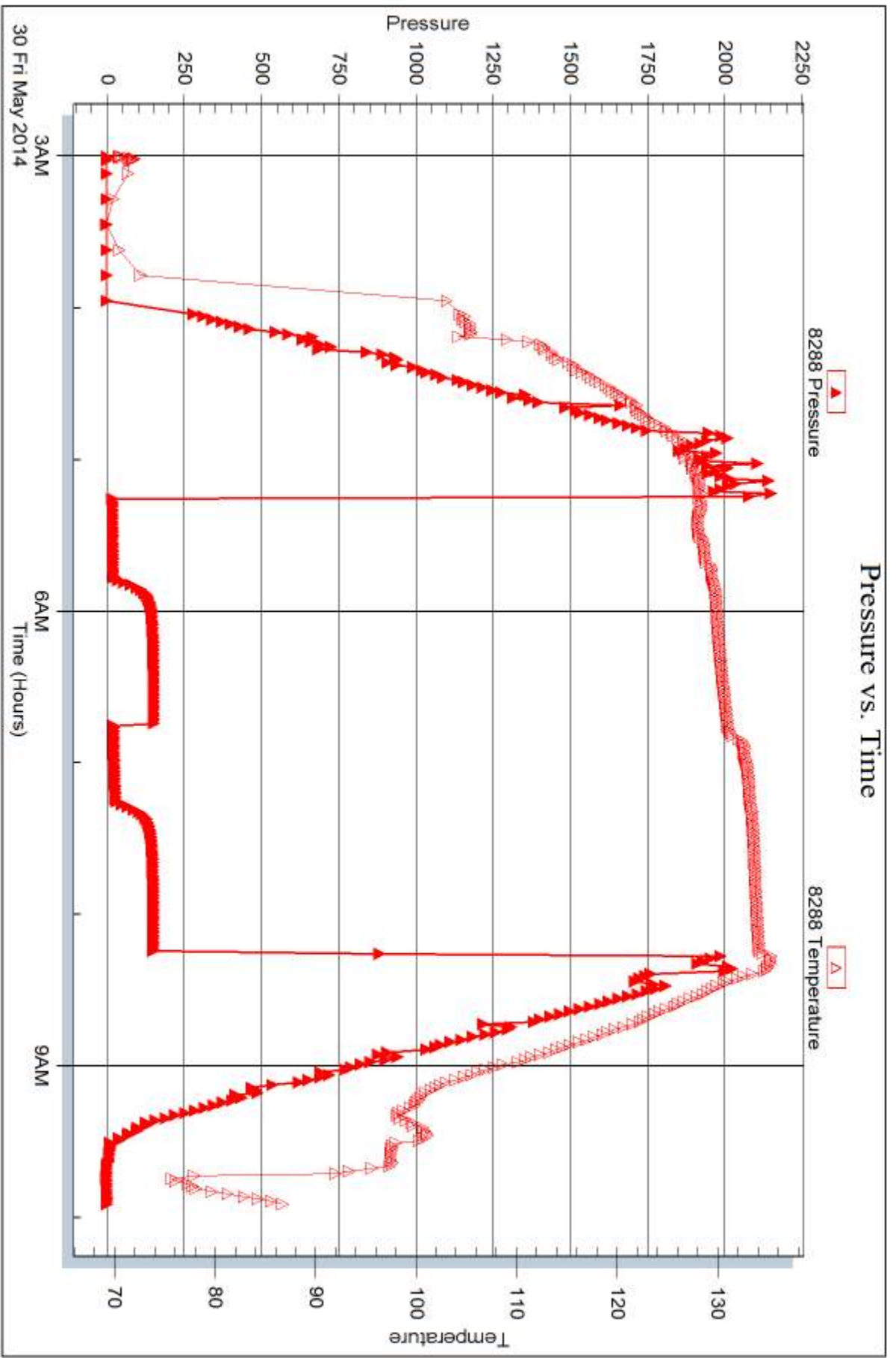
Serial #: 8298

Inside

Murfin Drilling Co Inc

Burk Trust C #4-22

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 58788

Printed: 2014.06.02 @ 15:23:52



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Robert Hendrix

### **Burk Trust C #4-22**

### **22 1s 36w Rawlins KS**

Start Date: 2014.05.31 @ 05:15:05

End Date: 2014.05.31 @ 13:11:59

Job Ticket #: 58789                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.02 @ 15:23:22

Murfin Drilling Co Inc

22 1s 36w Rawlins KS

Burk Trust C #4-22

DST # 2

LKC "A-D"

2014.05.31





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

Job Ticket: 58789

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2014.05.31 @ 05:15:05

## GENERAL INFORMATION:

Formation: **LKC "A-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:13:00

Time Test Ended: 13:11:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Robert Zodrow

Unit No: 46

**Interval: 4193.00 ft (KB) To 4246.00 ft (KB) (TVD)**

Reference Elevations: 3249.00 ft (KB)

Total Depth: 4246.00 ft (KB) (TVD)

3238.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8288**

**Inside**

Press@RunDepth: 101.78 psig @ 4194.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.31

End Date:

2014.05.31

Last Calib.:

2014.05.31

Start Time:

05:15:05

End Time:

13:11:59

Time On Btm:

2014.05.31 @ 07:10:30

Time Off Btm:

2014.05.31 @ 11:19:29

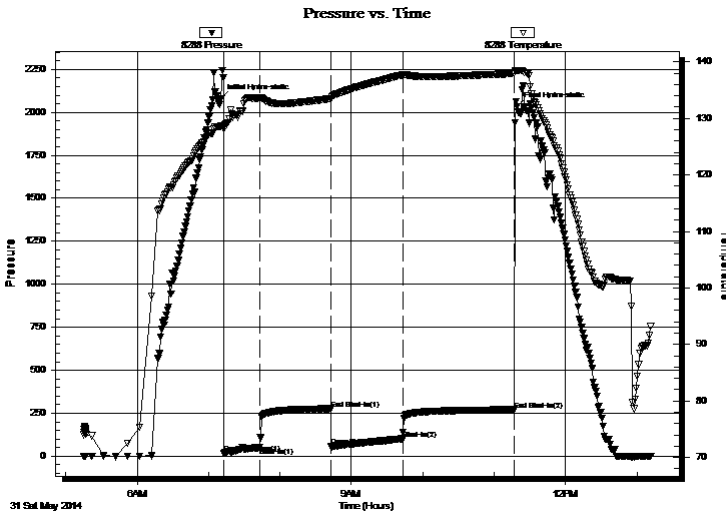
TEST COMMENT: 30-IF- Blow built to 2 3/4"

60-ISI- No return

60-FF- Blow started in 20 mins built to 2"

90-FSI- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2079.52	128.61	Initial Hydro-static
3	18.81	128.19	Open To Flow (1)
33	51.28	133.63	Shut-In(1)
92	276.67	133.50	End Shut-In(1)
93	55.86	133.33	Open To Flow (2)
153	101.78	137.71	Shut-In(2)
246	270.42	137.95	End Shut-In(2)
249	2032.21	138.49	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
200.00	ow cm 10%o 25%w 65%m	0.98

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

ATTN: Robert Hendrix

Job Ticket: 58789

**DST#: 2**

Test Start: 2014.05.31 @ 05:15:05

**GENERAL INFORMATION:**

Formation: **LKC "A-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:13:00

Time Test Ended: 13:11:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Robert Zodrow

Unit No: 46

Interval: **4193.00 ft (KB) To 4246.00 ft (KB) (TVD)**

Reference Elevations: 3249.00 ft (KB)

Total Depth: 4246.00 ft (KB) (TVD)

3238.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6769 Outside**

Press@RunDepth: psig @ 4194.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.31 End Date: 2014.05.31

Last Calib.: 2014.05.31

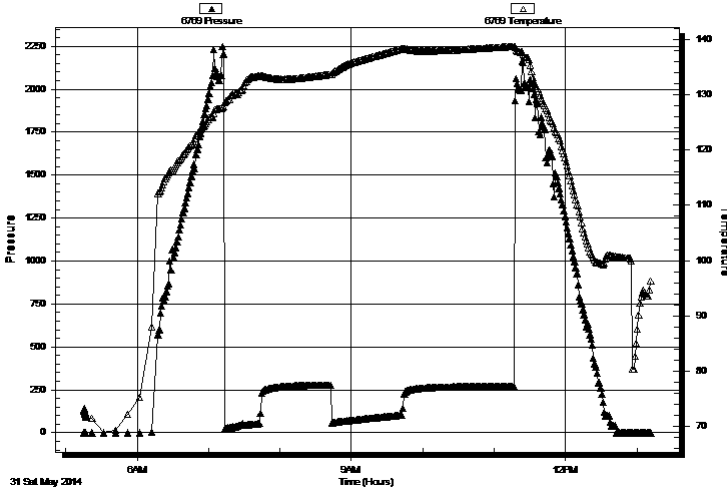
Start Time: 05:15:05 End Time: 13:11:59

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF- Blow built to 2 3/4"  
60-ISI- No return  
60-FF- Blow started in 20 mins built to 2"  
90-FSI- No return

Pressure vs. Time



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
200.00	ow cm 10%o 25%w 65%m	0.98

\* Recovery from multiple tests

**Gas Rates**

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

Job Ticket: 58789

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2014.05.31 @ 05:15:05

## Tool Information

Drill Pipe:	Length: 3976.00 ft	Diameter: 3.88 inches	Volume: 58.15 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: 25000.00 lb
Drill Collar:	Length: 203.00 ft	Diameter: 2.25 inches	Volume: 1.00 bbl	Weight to Pull Loose: 86000.00 lb
			<u>Total Volume: 59.15 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4193.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	53.00 ft			
Tool Length:	80.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4171.00	
Hydraulic tool	5.00			4176.00	
Jars	5.00			4181.00	
Safety Joint	3.00			4184.00	
Packer	5.00			4189.00	27.00 Bottom Of Top Packer
Packer	4.00			4193.00	
Stubb	1.00			4194.00	
Recorder	0.00	8288	Inside	4194.00	
Recorder	0.00	6769	Outside	4194.00	
Perforations	16.00			4210.00	
Change Over Sub	1.00			4211.00	
Drill Pipe	31.00			4242.00	
Change Over Sub	1.00			4243.00	
Bullnose	3.00			4246.00	53.00 Bottom Packers & Anchor

**Total Tool Length: 80.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

Job Ticket: 58789

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2014.05.31 @ 05:15:05

### 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:

25000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
200.00	ow cm 10%o 25%w 65%m	0.984

Total Length: 200.00 ft      Total Volume: 0.984 bbl

Num Fluid Samples: 0

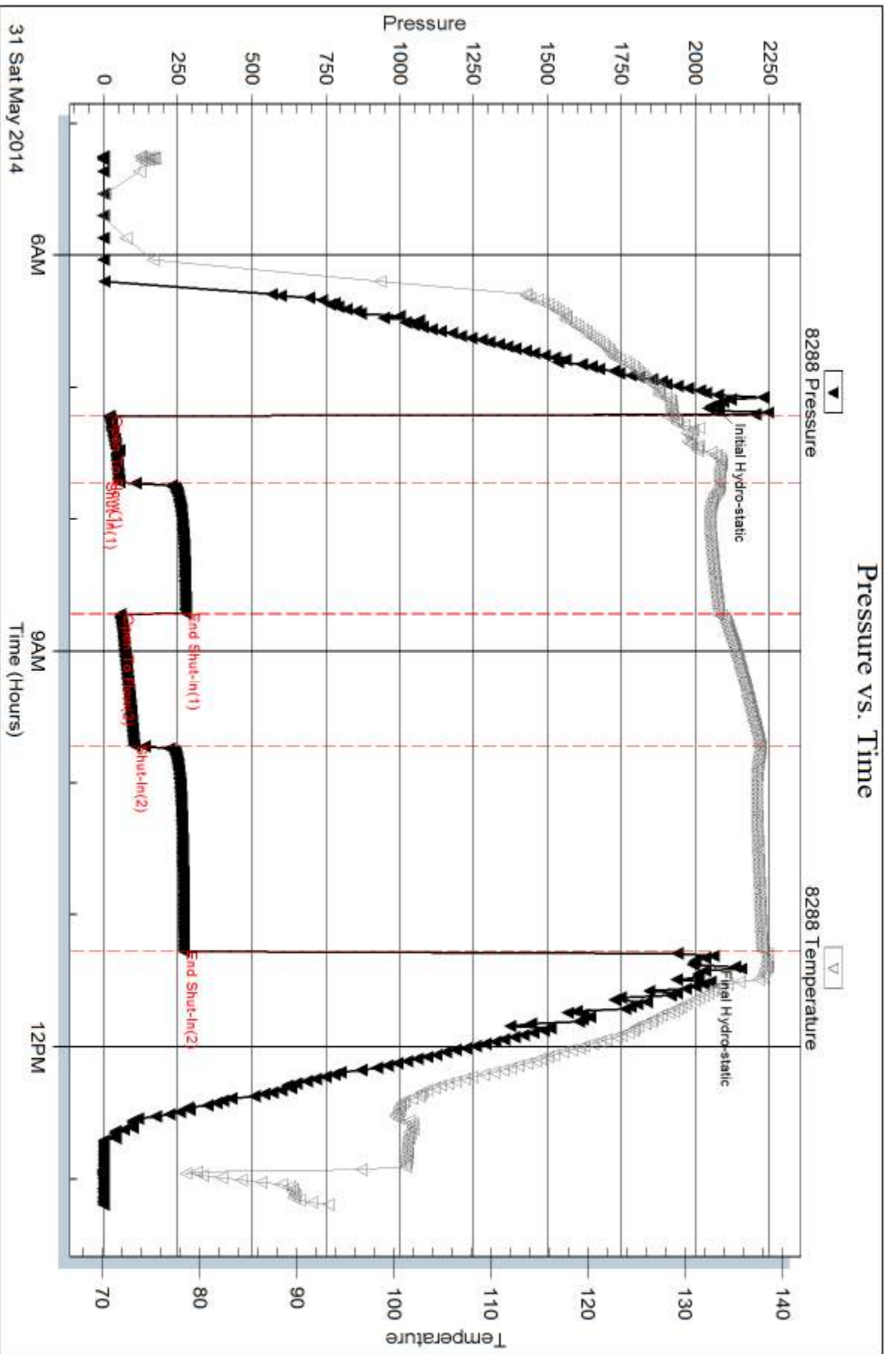
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .217@91deg f=25000

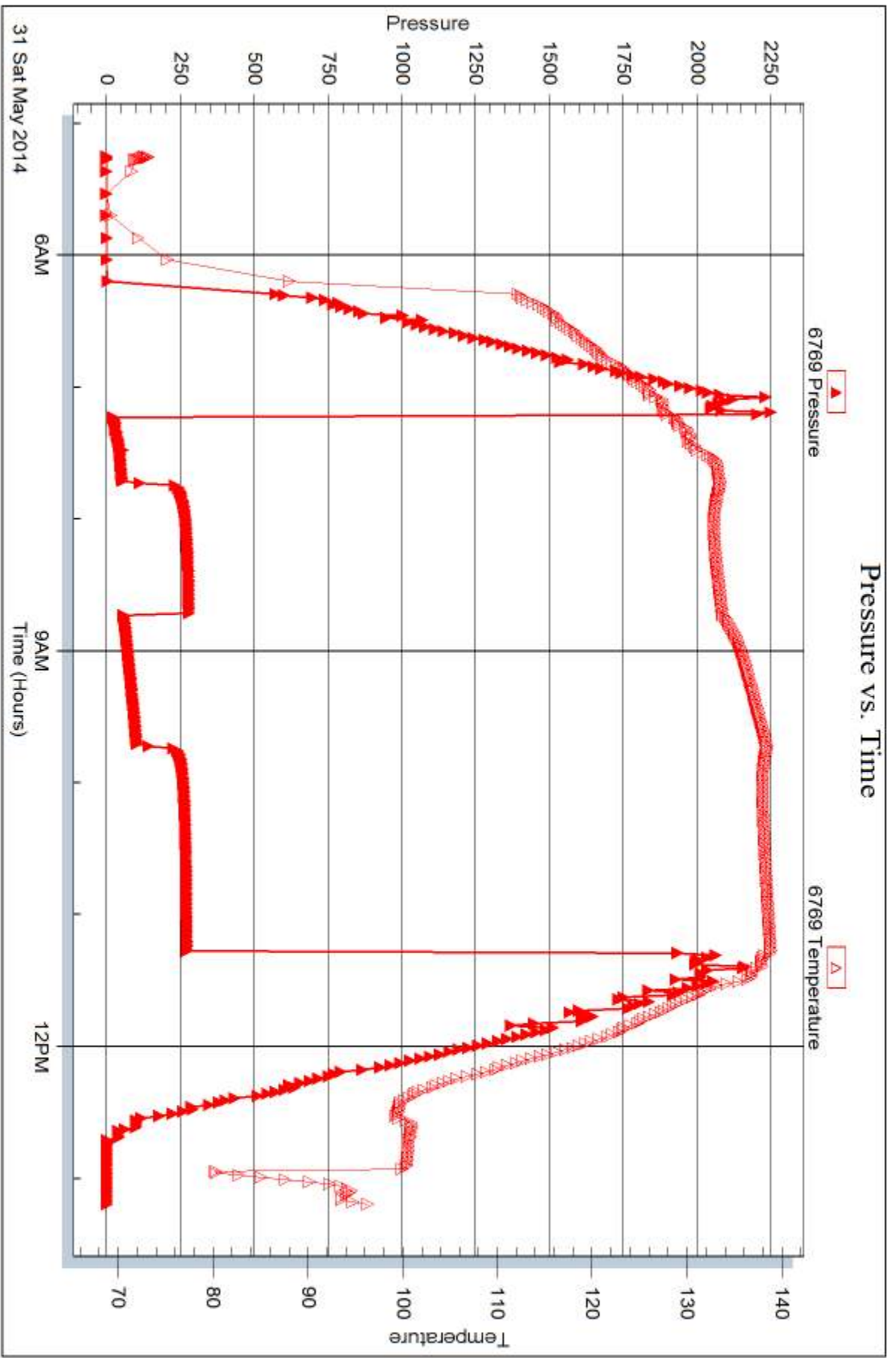


Serial #: 6769

Outside Murfin Drilling Co Inc

Burk Trust C #4-22

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 58789

Printed: 2014.06.02 @ 15:23:23



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Robert Hendrix

### **Burk Trust C #4-22**

### **22 1s 36w Rawlins KS**

Start Date: 2014.06.01 @ 00:15:00

End Date: 2014.06.01 @ 08:02:30

Job Ticket #: 58790                      DST #: 3

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

Printed: 2014.06.02 @ 15:22:53



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

Job Ticket: 58790

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2014.06.01 @ 00:15:00

## GENERAL INFORMATION:

Formation: **LKC "G"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 02:05:30  
 Tester: Robert Zodrow  
 Time Test Ended: 08:02:30  
 Unit No: 46  
 Interval: **4258.00 ft (KB) To 4310.00 ft (KB) (TVD)**  
 Reference Elevations: 3249.00 ft (KB)  
 Total Depth: 4310.00 ft (KB) (TVD)  
 3238.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 11.00 ft

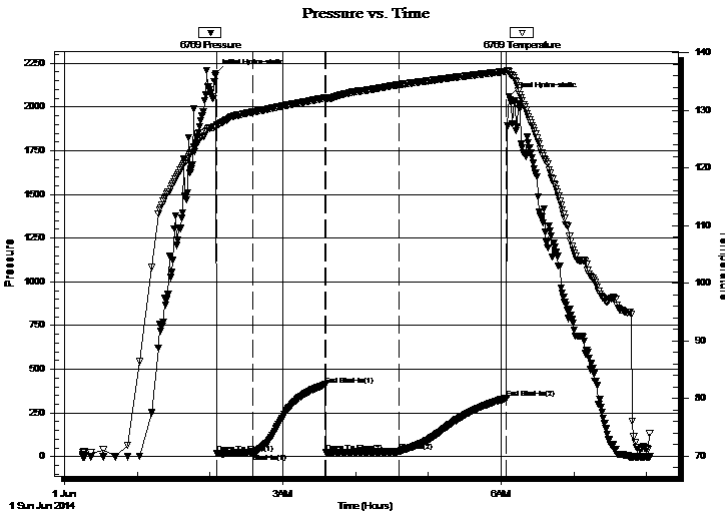
## Serial #: 6769

Outside

Press@RunDepth: 29.30 psig @ 4259.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.06.01 End Date: 2014.06.01 Last Calib.: 2014.06.01  
 Start Time: 00:15:05 End Time: 08:02:29 Time On Btm: 2014.06.01 @ 02:05:00  
 Time Off Btm: 2014.06.01 @ 06:06:30

TEST COMMENT: 30-IS- Blow built to 1/2"  
 60-IS- No return  
 60-FF- No blow  
 90-FSI- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2191.03	127.01	Initial Hydro-static
1	20.58	127.54	Open To Flow (1)
30	21.86	129.68	Shut-In(1)
90	411.27	132.13	End Shut-In(1)
91	26.92	132.13	Open To Flow (2)
151	29.30	134.43	Shut-In(2)
240	335.28	136.77	End Shut-In(2)
242	2060.21	136.68	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	ocm 20%o 80%m	0.02

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

ATTN: Robert Hendrix

Job Ticket: 58790

**DST#: 3**

Test Start: 2014.06.01 @ 00:15:00

## GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:05:30

Time Test Ended: 08:02:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Robert Zodrow

Unit No: 46

**Interval: 4258.00 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: 3249.00 ft (KB)

3238.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8521**

**Inside**

Press@RunDepth: psig @ 4259.00 ft (KB)

Start Date: 2014.06.01

End Date:

2014.06.01

Start Time: 00:15:05

End Time:

08:01:59

Capacity: 8000.00 psig

Last Calib.:

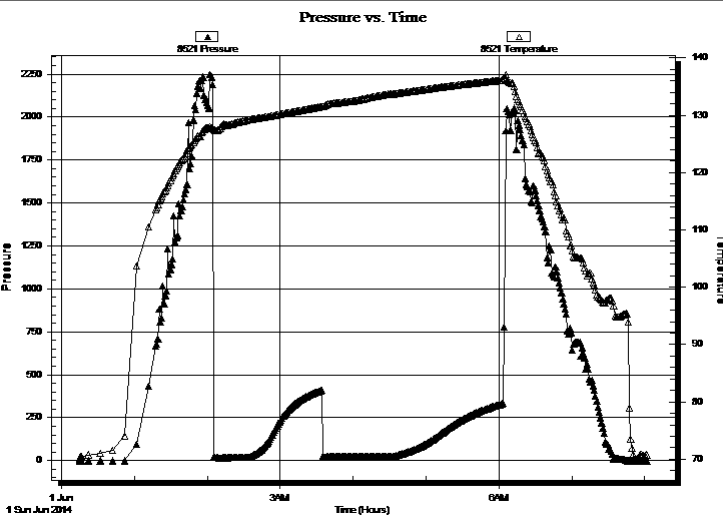
2014.06.01

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 30-IF- Blow built to 1/2"  
60-ISI- No return  
60-FF- No blow  
90-FSI- No return

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	ocm 20%o 80%m	0.02

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

Job Ticket: 58790

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2014.06.01 @ 00:15:00

## Tool Information

Drill Pipe:	Length: 4037.00 ft	Diameter: 3.88 inches	Volume: 59.04 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:	25000.00 lb
Drill Collar:	Length: 203.00 ft	Diameter: 2.25 inches	Volume: 1.00 bbl	Weight to Pull Loose:	84000.00 lb
			<u>Total Volume: 60.04 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	76000.00 lb
Depth to Top Packer:	4258.00 ft			Final	76000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	52.00 ft				
Tool Length:	79.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4236.00	
Hydraulic tool	5.00			4241.00	
Jars	5.00			4246.00	
Safety Joint	3.00			4249.00	
Packer	5.00			4254.00	27.00 Bottom Of Top Packer
Packer	4.00			4258.00	
Stubb	1.00			4259.00	
Recorder	0.00	8521	Inside	4259.00	
Recorder	0.00	6769	Outside	4259.00	
Perforations	15.00			4274.00	
Change Over Sub	1.00			4275.00	
Drill Pipe	31.00			4306.00	
Change Over Sub	1.00			4307.00	
Bullnose	3.00			4310.00	52.00 Bottom Packers & Anchor

**Total Tool Length: 79.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

Job Ticket: 58790

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2014.06.01 @ 00:15:00

## 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: 48.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	ocm 20%o 80%m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbf

Num Fluid Samples: 0

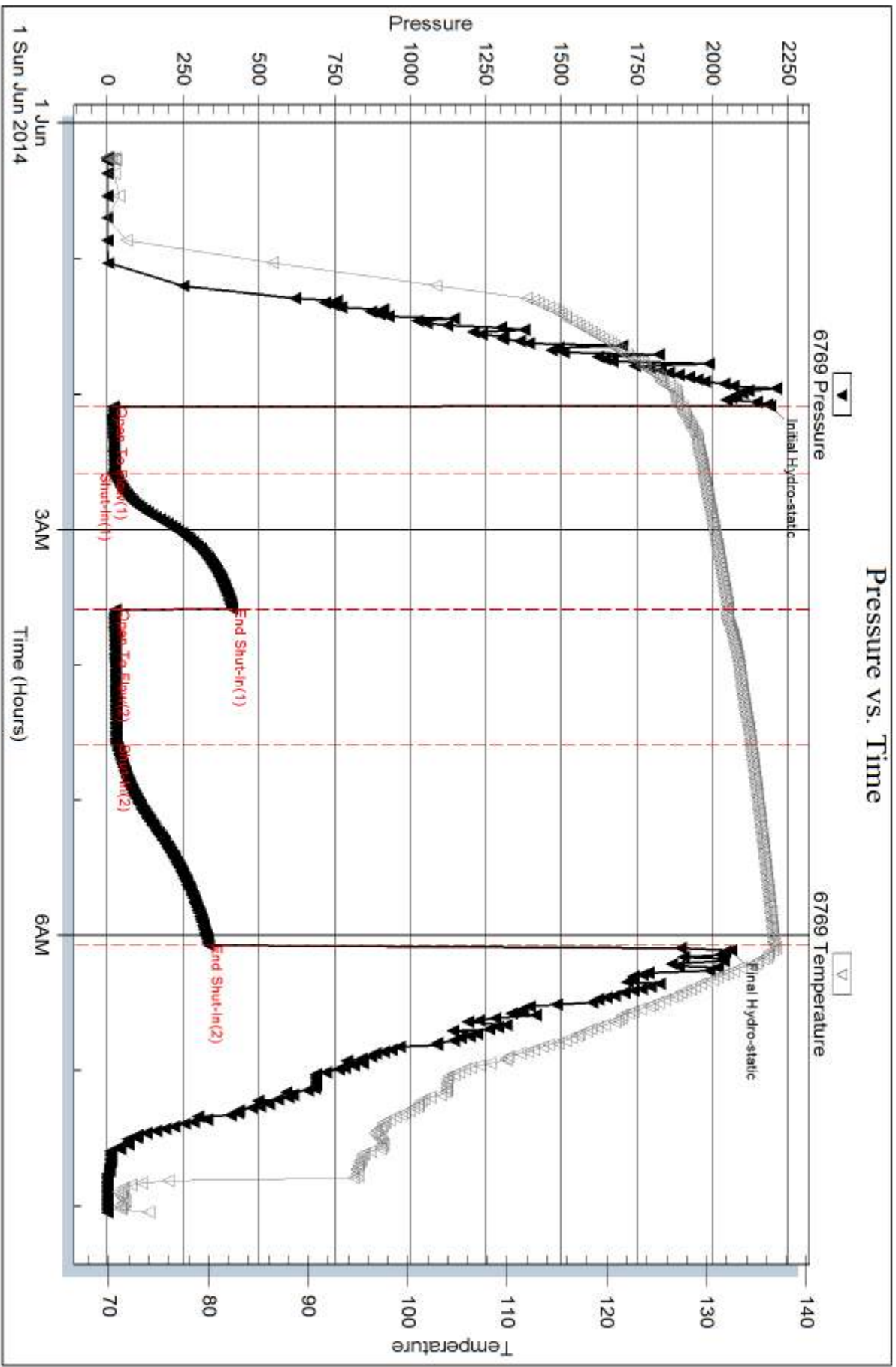
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



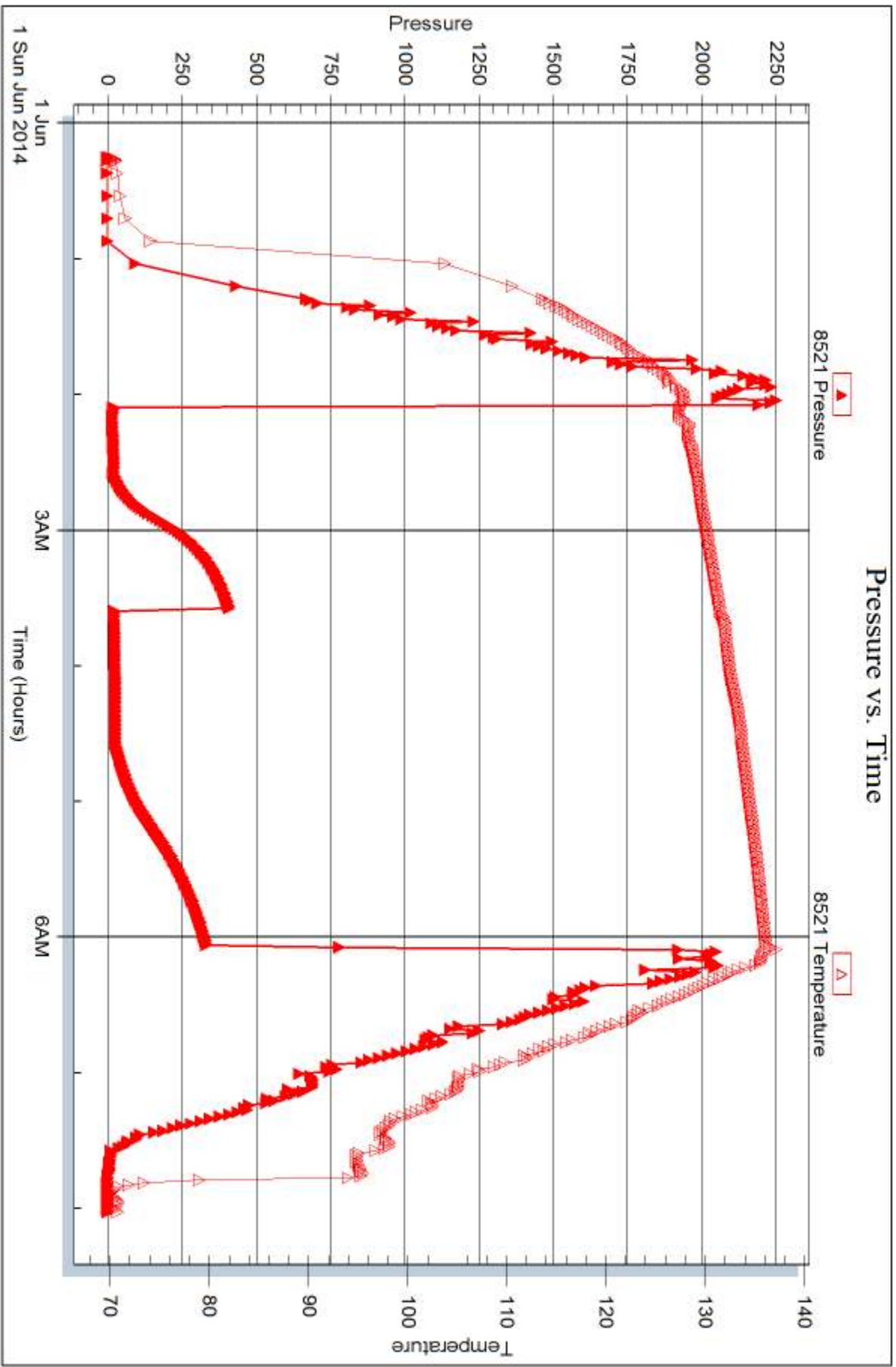
Serial #: 8521

Inside

Murfin Drilling Co Inc

Burk Trust C #4-22

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Robert Hendrix

### **Burk Trust C #4-22**

### **22 1s 36w Rawlins KS**

Start Date: 2014.06.01 @ 21:45:00

End Date: 2014.06.02 @ 04:54:00

Job Ticket #: 58791                      DST #: 4

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

Printed: 2014.06.02 @ 15:22:14



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

Job Ticket: 58791

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2014.06.01 @ 21:45:00

## GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:59:00

Time Test Ended: 04:54:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Robert Zodrow

Unit No: 46

**Interval: 4339.00 ft (KB) To 4396.00 ft (KB) (TVD)**

Reference Elevations: 3249.00 ft (KB)

Total Depth: 4078.00 ft (KB) (TVD)

3238.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6769 Outside**

Press@RunDepth: 24.75 psig @ 4340.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.01

End Date:

2014.06.02

Last Calib.:

2014.06.02

Start Time: 21:45:05

End Time:

04:53:59

Time On Btm:

2014.06.01 @ 23:58:30

Time Off Btm:

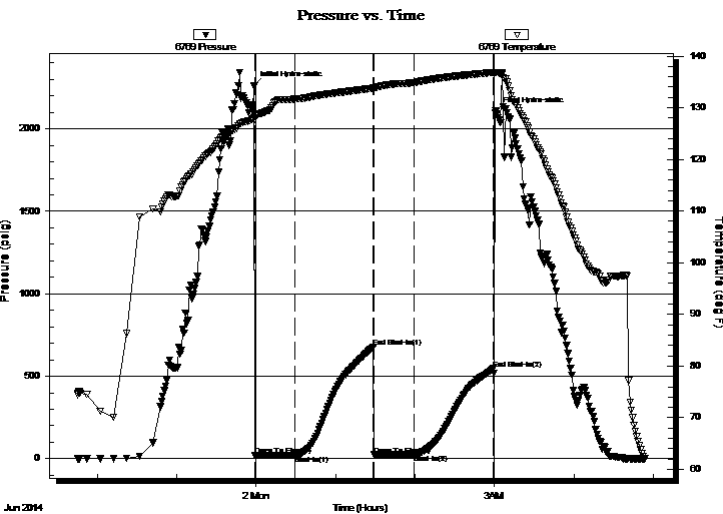
2014.06.02 @ 03:01:00

TEST COMMENT: 30-IF- Blow built to 1/8" died in 27 mins

60-ISI- No return

30-FF-No blow

60-FSI- Noreturn



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2264.49	128.10	Initial Hydro-static
1	19.18	127.75	Open To Flow (1)
31	22.07	131.68	Shut-In(1)
90	678.74	133.79	End Shut-In(1)
91	23.59	133.75	Open To Flow (2)
121	24.75	134.90	Shut-In(2)
181	545.80	136.83	End Shut-In(2)
183	2107.27	136.76	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Murfin Drilling Co Inc

250 N Water STE 300  
Wichita KS 67202

ATTN: Robert Hendrix

**22 1s 36w Rawlins KS**

**Burk Trust C #4-22**

Job Ticket: 58791

**DST#: 4**

Test Start: 2014.06.01 @ 21:45:00

**GENERAL INFORMATION:**

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:59:00

Time Test Ended: 04:54:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Robert Zodrow

Unit No: 46

**Interval: 4339.00 ft (KB) To 4396.00 ft (KB) (TVD)**

Total Depth: 4078.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3249.00 ft (KB)

3238.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8521 Inside**

Press@RunDepth: psig @ 4340.00 ft (KB)

Start Date: 2014.06.01

End Date:

2014.06.02

Start Time: 21:45:05

End Time:

04:53:29

Capacity: 8000.00 psig

Last Calib.:

2014.06.02

Time On Btm:

Time Off Btm:

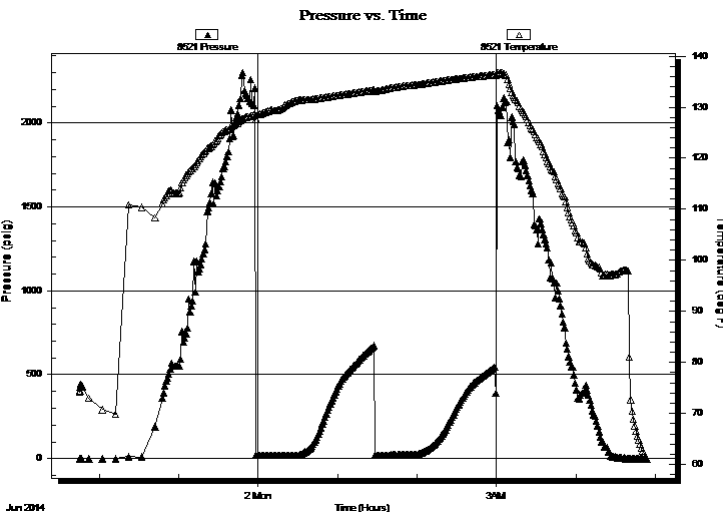
**TEST COMMENT:** 30-IF- Blow built to 1/8" died in 27 mins

60-ISI- No return

30-FF-No blow

60-FSI- Noreturn

**PRESSURE SUMMARY**



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

**Recovery**

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

**Gas Rates**

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

Job Ticket: 58791

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2014.06.01 @ 21:45:00

## Tool Information

Drill Pipe:	Length: 4131.00 ft	Diameter: 3.88 inches	Volume: 60.41 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: 25000.00 lb
Drill Collar:	Length: 203.00 ft	Diameter: 2.25 inches	Volume: 1.00 bbl	Weight to Pull Loose: 88000.00 lb
			<u>Total Volume: 61.41 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4339.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	84.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4317.00	
Hydraulic tool	5.00			4322.00	
Jars	5.00			4327.00	
Safety Joint	3.00			4330.00	
Packer	5.00			4335.00	27.00 Bottom Of Top Packer
Packer	4.00			4339.00	
Stubb	1.00			4340.00	
Recorder	0.00	8521	Inside	4340.00	
Recorder	0.00	6769	Outside	4340.00	
Perforations	20.00			4360.00	
Change Over Sub	1.00			4361.00	
Drill Pipe	31.00			4392.00	
Change Over Sub	1.00			4393.00	
Bullnose	3.00			4396.00	57.00 Bottom Packers & Anchor

**Total Tool Length: 84.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc

**22 1s 36w Rawlins KS**

250 N Water STE 300  
Wichita KS 67202

**Burk Trust C #4-22**

Job Ticket: 58791

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2014.06.01 @ 21:45:00

### 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: 72.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

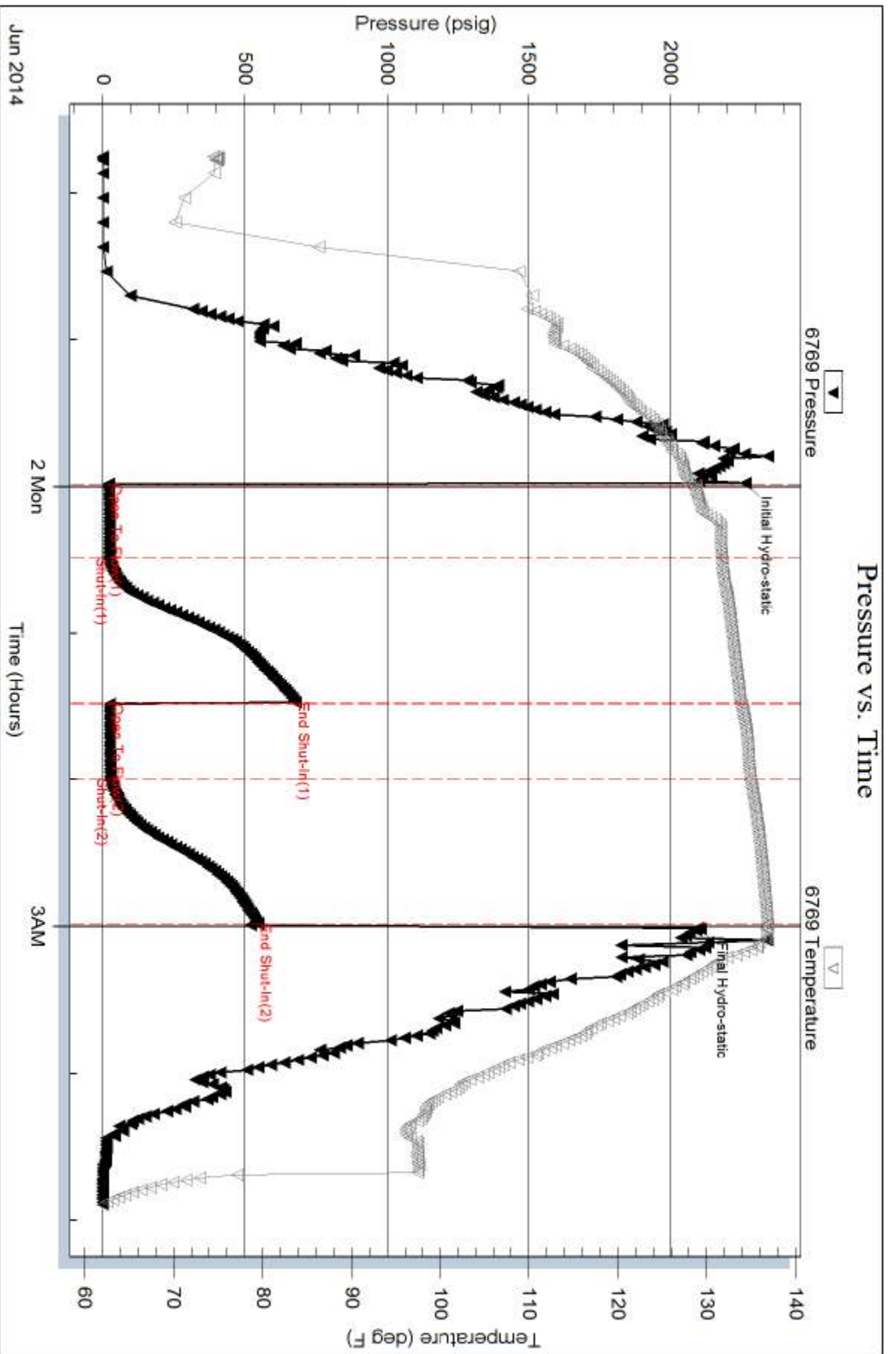
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



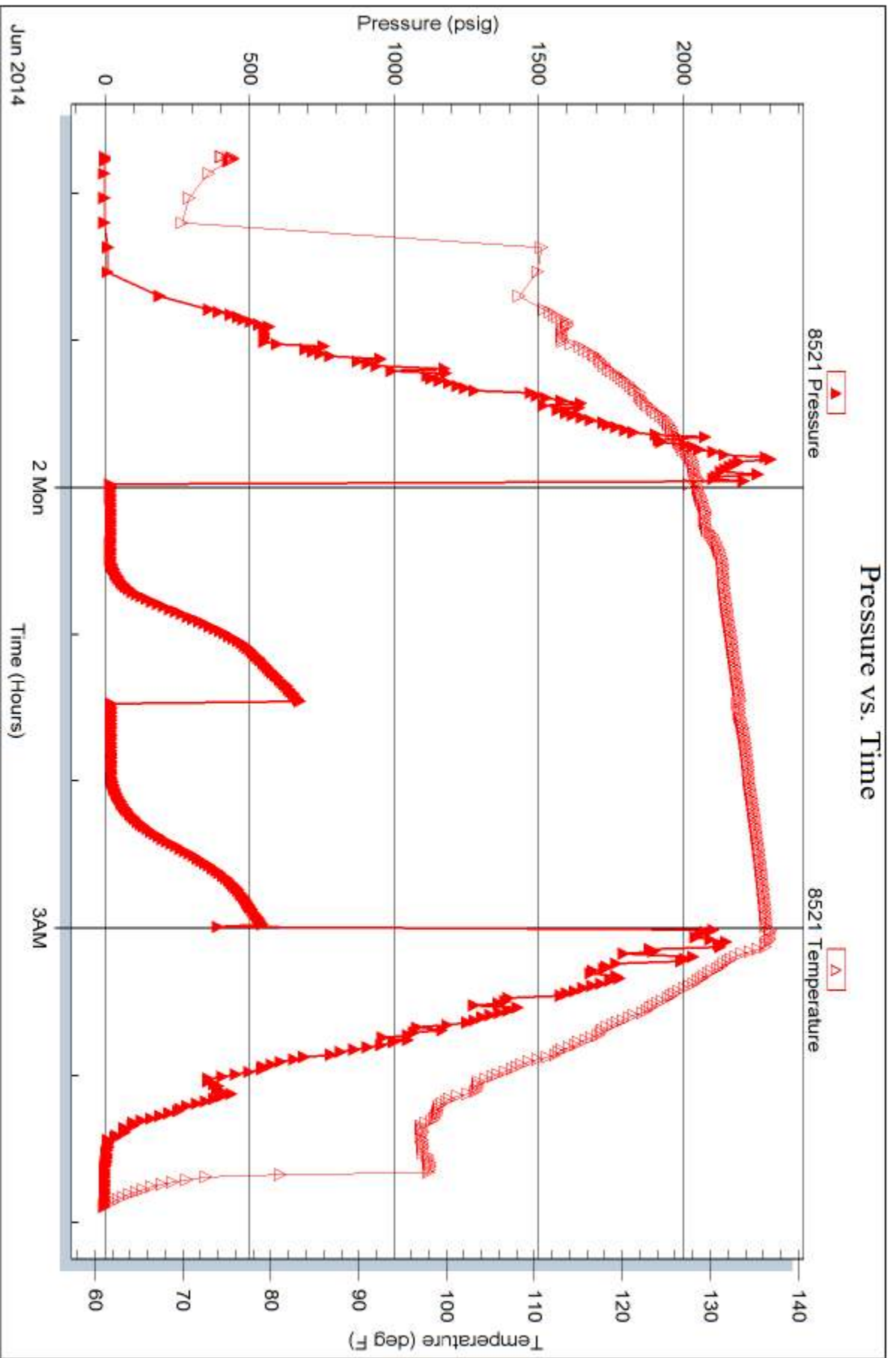
Serial #: 8521

Inside

Murfin Drilling Co Inc

Burk Trust C #4-22

DST Test Number: 4





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58788

4/10

Well Name & No. Berk Trust C 4-22 Test No. 1 Date 5-30-2014  
 Company Murfin Drilling Co. Inc Elevation 3249 KB 3238 GL  
 Address 250 N Water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin 2  
 Location: Sec. 22 Twp. 1 Rge. 36 Co. Rawlins State KS.

Interval Tested 4038 - 4078 Zone Tested Oread  
 Anchor Length 50 Drill Pipe Run 3819 Mud Wt. 8.9  
 Top Packer Depth 4034 Drill Collars Run ~~400~~ 203 Vis 60  
 Bottom Packer Depth 4038 Wt. Pipe Run 0 WL 6.0  
 Total Depth 4078 Chlorides 800 ppm System LCM 11

Blow Description IP - Blow built to 1/8"  
LSI - No return  
FP - No blow  
PSL - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>mud</u>			<u>100</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 135 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2080  Test 1250 T-On Location 02:00 5-30  
 (B) First Initial Flow 19  Jars 250 T-Started 03:00 5-30  
 (C) First Final Flow 22  Safety Joint 75 T-Open 05:15 5-30  
 (D) Initial Shut-In 153  Circ Sub \_\_\_\_\_ T-Pulled 08:15 5-30  
 (E) Second Initial Flow 23  Hourly Standby \_\_\_\_\_ T-Out 09:55 5-30  
 (F) Second Final Flow 27  Mileage 110 RT 170.50  
 (G) Final Shut-In 151  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1989  Straddle \_\_\_\_\_

Initial Open 30  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Ruined Packer \_\_\_\_\_  
 Final Flow 30  Extra Packer \_\_\_\_\_  
 Final Shut-In 60  Extra Recorder \_\_\_\_\_  
 Sub Total 0  
 Total 1745.50  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1745.50

Approved By R.D. Ship Our Representative Robert Zolnow

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. 58789

4/10

Well Name & No. Bark Trust C 4-22 Test No. 2 Date 5-31-2014  
 Company Murfin Drilling CO Inc Elevation 3249 KB 3238 GL  
 Address 250 N Water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin 2  
 Location: Sec. 22 Twp. 1 Rge. 36 Co. Rawlins State KS

Interval Tested 4193 - 4246 Zone Tested LKC "A-0"  
 Anchor Length 53 Drill Pipe Run 3976 Mud Wt. 9.2  
 Top Packer Depth 4189 Drill Collars Run 203 Vis 55  
 Bottom Packer Depth 4193 Wt. Pipe Run 0 WL 6.4  
 Total Depth 4246 Chlorides 1,100 ppm System LCM 11

Blow Description IF - Blow built to 2 3/4"  
ISI - NO return  
PF - Blow started in 20mins built to 2"  
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>200</u>	<u>owcm</u>	<u>10</u>	<u>25</u>	<u>65</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 200 BHT 139 Gravity - API RW 217 @ 91 °F Chlorides 25,000 ppm  
 (A) Initial Hydrostatic 2203  Test 1250 T-On Location 04:45 5-31  
 (B) First Initial Flow 21  Jars 250 T-Started 05:35 5-31  
 (C) First Final Flow 54  Safety Joint 75 T-Open 07:13 5-31  
 (D) Initial Shut-In 279  Circ Sub \_\_\_\_\_ T-Pulled 11:16 5-31  
 (E) Second Initial Flow ~~100~~ 57  Hourly Standby \_\_\_\_\_ T-Out 13:12 5-31  
 (F) Second Final Flow 103  Mileage 110 RT 170.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 271  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2079  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90  
 Sub Total 0  
 Total 1745.50  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1745.50

Approved By Rob D. White Our Representative Robert Zochow

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. 58790

Well Name & No. Burk Trust C 4-22 Test No. 3 Date 5-31-2014  
 Company Murfin Drilling CO Inc. Elevation 3249 KB 3238 GL  
 Address 250 N water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin 2  
 Location: Sec. 22 Twp. 1 Rge. 36 Co. Rawlins State KS

Interval Tested 4258 - 4310 Zone Tested LKC "A"  
 Anchor Length 52 Drill Pipe Run 4037 Mud Wt. 9.3  
 Top Packer Depth 4254 Drill Collars Run 203 Vis 48  
 Bottom Packer Depth 4258 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4310 Chlorides 1,100 ppm System LCM 8.0  
 Blow Description RF - Blow built to 1/2"  
ISI - No return  
FF - No blow  
FSL - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>0cm</u>	<u>20</u>		<u>80</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 5 BHT 137 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2191  Test 1250 T-On Location 23:45 5-31  
 (B) First Initial Flow 21  Jars 250 T-Started 00:15 6-1  
 (C) First Final Flow 22  Safety Joint 75 T-Open 02:05 6-1  
 (D) Initial Shut-In 411  Circ Sub \_\_\_\_\_ T-Pulled 06:05 6-1  
 (E) Second Initial Flow 27  Hourly Standby \_\_\_\_\_ T-Out 08:02 6-1  
 (F) Second Final Flow 29  Mileage 110 RT 170.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 335  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2060  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1745.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1745.50

Approved By Robert Hendrix Our Representative Robert Zedrow  
 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. 58791

Well Name & No. Burk Trust C 4-22 Test No. 4 Date 6-1-2014  
 Company Morfin Drilling CO Inc Elevation 3249 KB 3238 GL  
 Address 250 N water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Robert Hendrix Rig morfin 2  
 Location: Sec. 22 Twp. 1 Rge. 36 Co. Rawlins State KS

Interval Tested 4339 - 4396 Zone Tested LKC "J"  
 Anchor Length 57 Drill Pipe Run 4131 Mud Wt. 9.3  
 Top Packer Depth 4335 Drill Collars Run 203 Vis 72  
 Bottom Packer Depth 4339 Wt. Pipe Run 0 WL 6.8  
 Total Depth 4396 Chlorides 1,100 ppm System LCM 10  
 Blow Description IF - Blow built to 1/8" died in 27 mins  
ISI - NO return  
FF - NO blow  
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud</u>			<u>100</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 5 BHT 137 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2264  Test 1250 T-On Location 21:15 6-1  
 (B) First Initial Flow 19  Jars 250 T-Started 21:45 6-1  
 (C) First Final Flow 22  Safety Joint 75 T-Open 23:59 6-1  
 (D) Initial Shut-In 679  Circ Sub \_\_\_\_\_ T-Pulled 02:59 6-2  
 (E) Second Initial Flow 24  Hourly Standby \_\_\_\_\_ T-Out 04:54 6-2  
 (F) Second Final Flow 25  Mileage 110 RT 170.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 546  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2107  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1745.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1745.50

Approved By Robert D. Why Our Representative Robert Zechow  
 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.