

## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.Inc.**

250 N Water ST STE 300 Wichita KS 67202

ATTN: Wes Hansen

### **Red Poll #10-21**

#### **21-10s-56w Lincoln,CO**

Start Date: 2017.08.27 @ 14:38:15

End Date: 2017.08.27 @ 21:49:30

Job Ticket #: 63842 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.09.01 @ 10:23:26

Murfin Drilling Co.Inc.

21-10s-56w Lincoln,CO

Red Poll #10-21

DST # 1

Ft. Scott Lower Ft.

2017.08.27



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

250 N Water ST STE 300 Wichita KS 67202

ATTN: Wes Hansen

**21-10s-56w Lincoln, CO**

**Red Poll #10-21**

Job Ticket: 63842

**DST#: 1**

Test Start: 2017.08.27 @ 14:38:15

### GENERAL INFORMATION:

Formation: **Ft. Scott Lower Ft.**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended: 21:49:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Mike Roberts

Unit No: 81

Interval: **7496.00 ft (KB) To 7550.00 ft (KB) (TVD)**

Total Depth: 7550.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 5505.00 ft (KB)

5490.00 ft (CF)

KB to GR/CF: 15.00 ft

**Serial #: 6749 Outside**

Press@RunDepth: psig @ 7545.00 ft (KB)

Start Date: 2017.08.27

End Date:

2017.08.27

Start Time: 14:38:15

End Time:

21:49:30

Capacity: 8000.00 psig

Last Calib.: 2017.08.27

Time On Btm: 2017.08.27 @ 18:07:15

Time Off Btm: 2017.08.27 @ 18:31:45

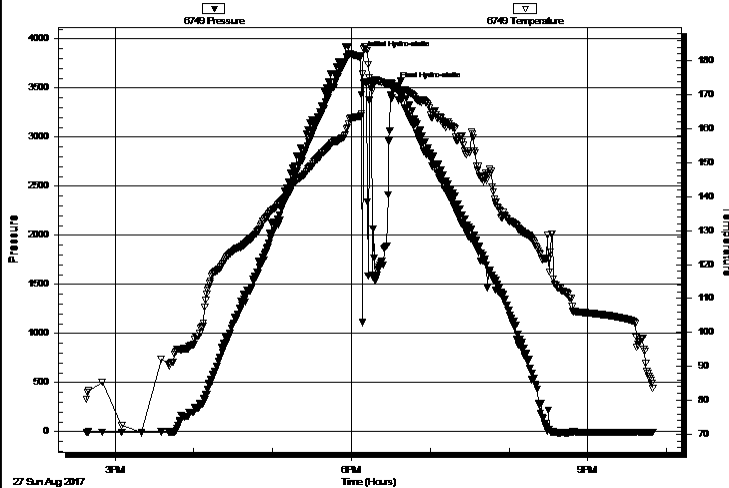
TEST COMMENT: IF: PACKER FAILURE

IS:

FF:

FS:

Pressure vs. Time



PRESSURE SUMMARY

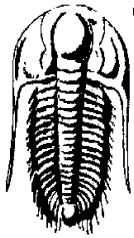
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3824.92	163.73	Initial Hydro-static
25	3509.43	172.59	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1356.00	mud 100% m	13.94

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

250 N Water ST STE 300 Wichita KS 67202

ATTN: Wes Hansen

**21-10s-56w Lincoln, CO**

**Red Poll #10-21**

Job Ticket: 63842

**DST#: 1**

Test Start: 2017.08.27 @ 14:38:15

### GENERAL INFORMATION:

Formation: **Ft. Scott Lower Ft.**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended: 21:49:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Mike Roberts

Unit No: 81

Interval: **7496.00 ft (KB) To 7550.00 ft (KB) (TVD)**

Total Depth: 7550.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 5505.00 ft (KB)

5490.00 ft (CF)

KB to GR/CF: 15.00 ft

**Serial #: 8672** Inside

Press@RunDepth: psig @ 7545.00 ft (KB)

Start Date: 2017.08.27

End Date:

2017.08.27

Start Time: 14:38:15

End Time:

21:49:30

Capacity: 8000.00 psig

Last Calib.: 1899.12.30

Time On Btm:

Time Off Btm:

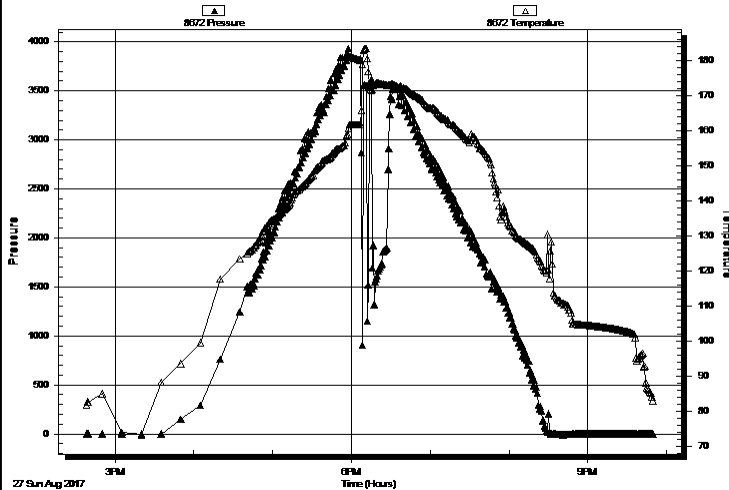
TEST COMMENT: IF: PACKER FAILURE

IS:

FF:

FS:

Pressure vs. Time



### PRESSURE SUMMARY

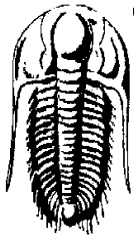
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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### Recovery

Length (ft)	Description	Volume (bbl)
1356.00	mud 100% m	13.94

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc.

**21-10s-56w Lincoln, CO**

250 N Water ST STE 300 Wichita KS 67202

**Red Poll #10-21**

Job Ticket: 63842

**DST#: 1**

ATTN: Wes Hansen

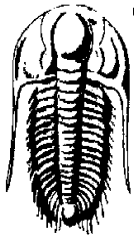
Test Start: 2017.08.27 @ 14:38:15

### Tool Information

Drill Pipe:	Length: 6943.00 ft	Diameter: 3.80 inches	Volume: 97.39 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: 25000.00 lb
Drill Collar:	Length: 558.00 ft	Diameter: 2.25 inches	Volume: 2.74 bbl	Weight to Pull Loose: 160000.0 lb
		Total Volume:	100.13 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 138000.0 lb
Depth to Top Packer:	7496.00 ft			Final 145000.0 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter:	7.88 inches	
Tool Comments:				

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			7473.00	
Shut In Tool	5.00			7478.00	
Hydraulic tool	5.00			7483.00	
Jars	5.00			7488.00	
Safety Joint	3.00			7491.00	
Packer	5.00			7496.00	24.00 Bottom Of Top Packer
Packer - Shale	0.00			7496.00	
Stubb	1.00			7497.00	
Perforations	4.00			7501.00	
Change Over Sub	1.00			7502.00	
Drill Pipe	32.00			7534.00	
Change Over Sub	1.00			7535.00	
Perforations	10.00			7545.00	
Recorder	0.00	8672	Inside	7545.00	
Recorder	0.00	6749	Outside	7545.00	
Bullnose	5.00			7550.00	54.00 Anchor Tool
<b>Total Tool Length:</b>	<b>78.00</b>				



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Murfin Drilling Co. Inc.

**21-10s-56w Lincoln, CO**

250 N Water ST STE 300 Wichita KS 67202

**Red Poll #10-21**

Job Ticket: 63842

**DST#: 1**

ATTN: Wes Hansen

Test Start: 2017.08.27 @ 14:38:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.16 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 550.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1356.00	mud 100%m	13.938

Total Length: 1356.00 ft

Total Volume: 13.938 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

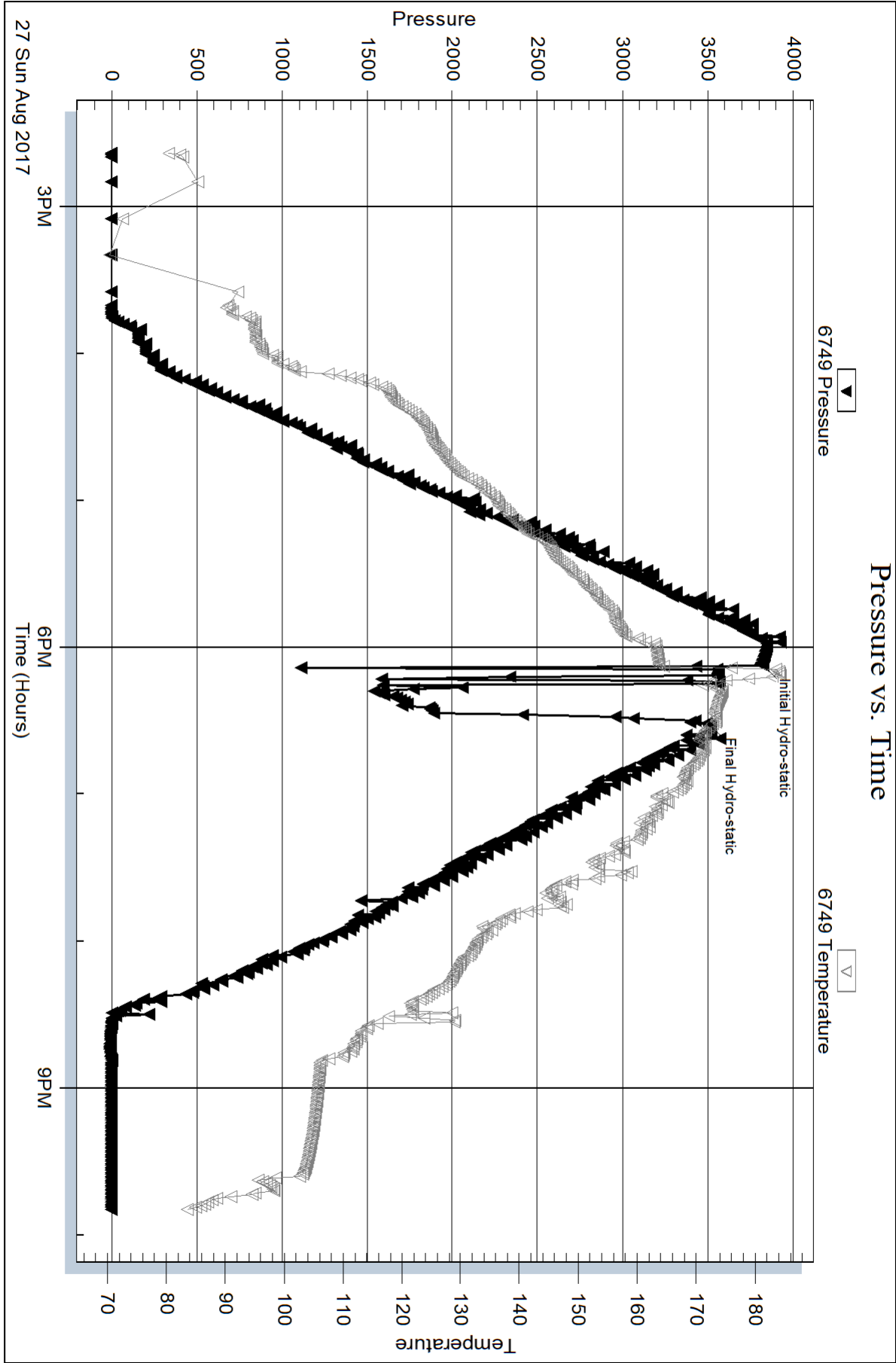
Recovery Comments:

Serial #: 6749

Outside    Murfin Drilling Co. Inc.

Red Poll #10-21

DST Test Number: 1



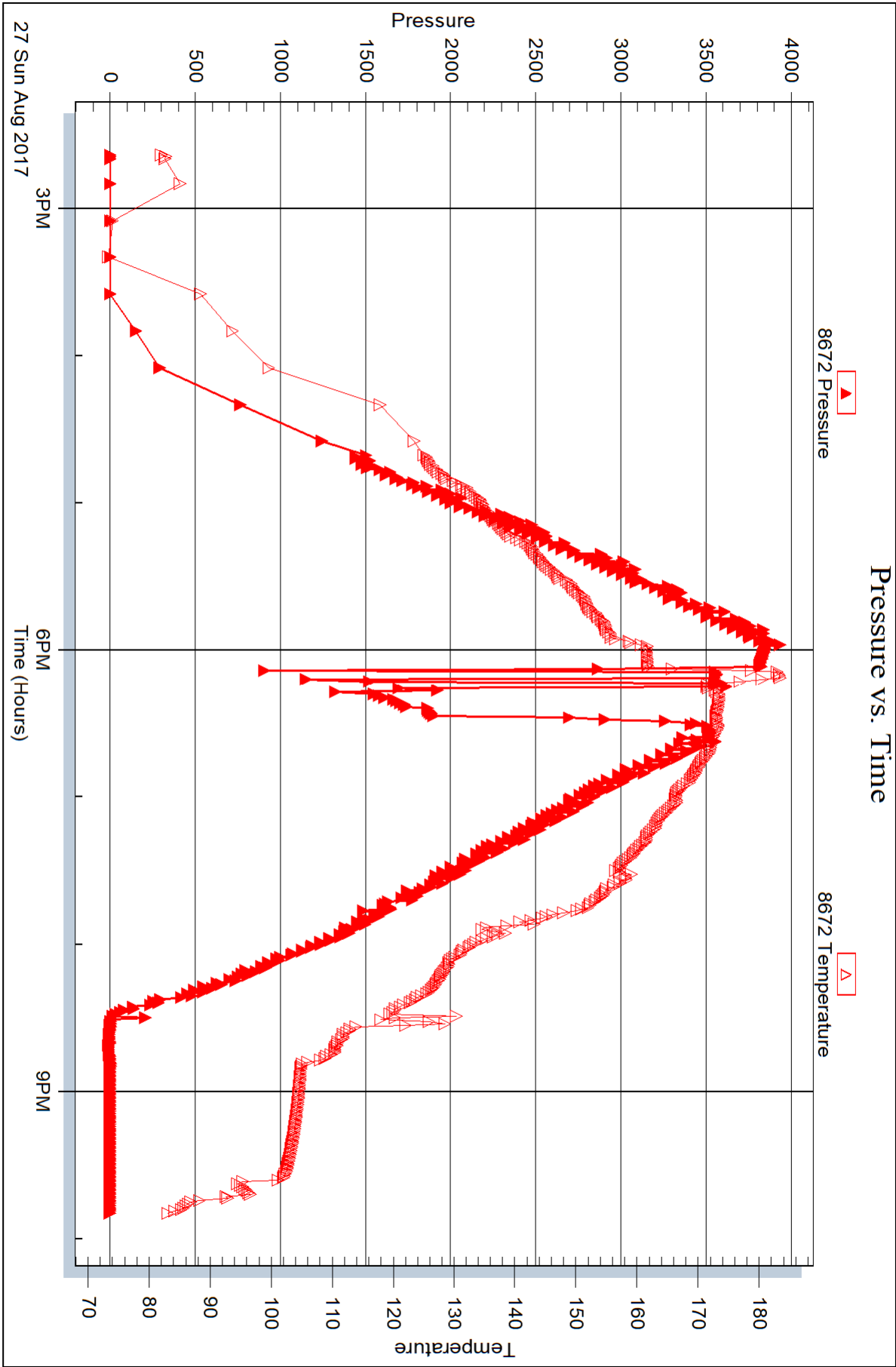
Serial #: 8672

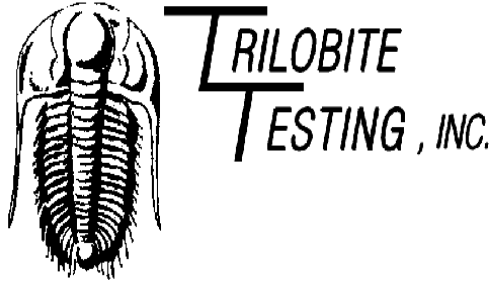
Inside

Murfin Drilling Co. Inc.

Red Poll #10-21

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.Inc.**

250 N Water ST STE 300 Wichita KS 67202

ATTN: Wes Hansen

### **Red Poll #10-21**

#### **21-10s-56w Lincoln,CO**

Start Date: 2017.08.28 @ 09:53:15

End Date: 2017.08.28 @ 16:37:30

Job Ticket #: 63843                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.09.01 @ 10:22:26

Murfin Drilling Co.Inc.

21-10s-56w Lincoln,CO

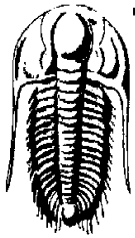
Red Poll #10-21

DST # 2

Ft. Scott. Lower Ft.

2017.08.28





**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

250 N Water ST STE 300 Wichita KS 67202

ATTN: Wes Hansen

**21-10s-56w Lincoln, CO**

**Red Poll #10-21**

Job Ticket: 63843

**DST#: 2**

Test Start: 2017.08.28 @ 09:53:15

### GENERAL INFORMATION:

Formation: **Ft. Scott. Lower Ft.**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended: 16:37:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

**Interval: 7474.00 ft (KB) To 7550.00 ft (KB) (TVD)**

Total Depth: 7550.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 5505.00 ft (KB)

5490.00 ft (CF)

KB to GR/CF: 15.00 ft

**Serial #: 6749 Outside**

Press@RunDepth: psig @ 7545.00 ft (KB)

Start Date: 2017.08.28

End Date:

2017.08.28

Start Time: 09:53:15

End Time:

16:37:30

Capacity: 8000.00 psig

Last Calib.: 2017.08.28

Time On Btm: 2017.08.28 @ 12:56:15

Time Off Btm: 2017.08.28 @ 13:12:30

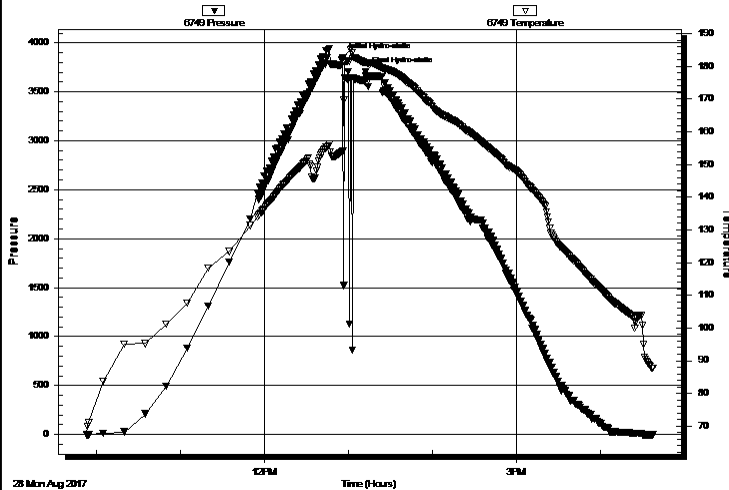
TEST COMMENT: IF: PACKER FAILURE

IS:

FF:

FS:

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3844.51	154.06	Initial Hydro-static
17	3701.27	181.21	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
942.00	MUD 100%M	8.13

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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\* Recovery from multiple tests



**TRILOBITE**  
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## DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

250 N Water ST STE 300 Wichita KS 67202

ATTN: Wes Hansen

**21-10s-56w Lincoln, CO**

**Red Poll #10-21**

Job Ticket: 63843

**DST#: 2**

Test Start: 2017.08.28 @ 09:53:15

### GENERAL INFORMATION:

Formation: **Ft. Scott. Lower Ft.**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended: 16:37:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

**Interval: 7474.00 ft (KB) To 7550.00 ft (KB) (TVD)**

Total Depth: 7550.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 5505.00 ft (KB)

5490.00 ft (CF)

KB to GR/CF: 15.00 ft

**Serial #: 8672 Inside**

Press@RunDepth: psig @ 7545.00 ft (KB)

Start Date: 2017.08.28

End Date:

2017.08.28

Start Time: 09:53:15

End Time:

16:37:30

Capacity: 8000.00 psig

Last Calib.: 2017.08.28

Time On Btm:

Time Off Btm:

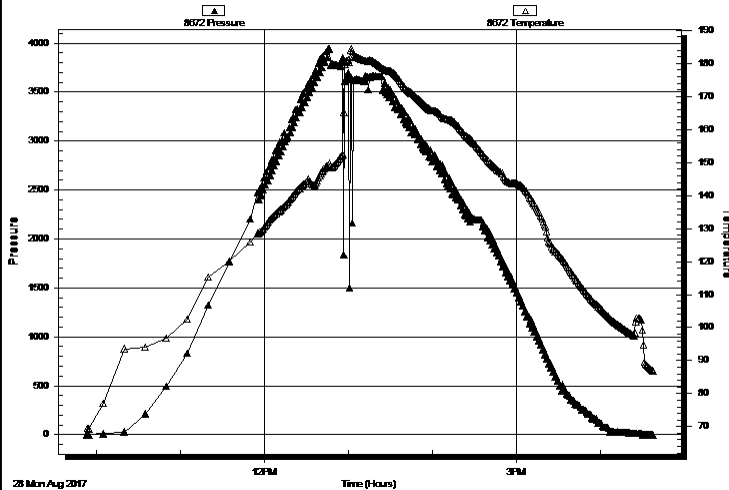
TEST COMMENT: IF: PACKER FAILURE

IS:

FF:

FS:

Pressure vs. Time



### PRESSURE SUMMARY

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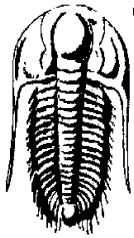
### Recovery

Length (ft)	Description	Volume (bbl)
942.00	MUD 100%M	8.13

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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\* Recovery from multiple tests



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc.

**21-10s-56w Lincoln, CO**

250 N Water ST STE 300 Wichita KS 67202

**Red Poll #10-21**

Job Ticket: 63843

**DST#: 2**

ATTN: Wes Hansen

Test Start: 2017.08.28 @ 09:53:15

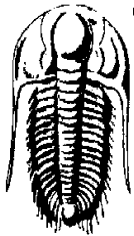
### Tool Information

Drill Pipe:	Length: 6910.00 ft	Diameter: 3.80 inches	Volume: 96.93 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:	25000.00 lb
Drill Collar:	Length: 558.00 ft	Diameter: 2.25 inches	Volume: 2.74 bbl	Weight to Pull Loose:	150000.0 lb
		Total Volume:	99.67 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	128000.0 lb
Depth to Top Packer:	7476.00 ft			Final	135000.0 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	74.00 ft				
Tool Length:	98.00 ft				
Number of Packers:	2	Diameter:	7.88 inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			7453.00	
Shut In Tool	5.00			7458.00	
Hydraulic tool	5.00			7463.00	
Jars	5.00			7468.00	
Safety Joint	3.00			7471.00	
Packer	5.00			7476.00	24.00 Bottom Of Top Packer
Packer - Shale	0.00			7476.00	
Stubb	1.00			7477.00	
Perforations	2.00			7479.00	
Change Over Sub	1.00			7480.00	
Drill Pipe	64.00			7544.00	
Change Over Sub	1.00			7545.00	
Recorder	0.00	8672	Inside	7545.00	
Recorder	0.00	6749	Outside	7545.00	
Bullnose	5.00			7550.00	74.00 Anchor Tool

**Total Tool Length: 98.00**



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Murfin Drilling Co. Inc.

**21-10s-56w Lincoln, CO**

250 N Water ST STE 300 Wichita KS 67202

**Red Poll #10-21**

Job Ticket: 63843

**DST#: 2**

ATTN: Wes Hansen

Test Start: 2017.08.28 @ 09:53:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.15 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 550.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
942.00	MUD 100%M	8.131

Total Length: 942.00 ft

Total Volume: 8.131 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

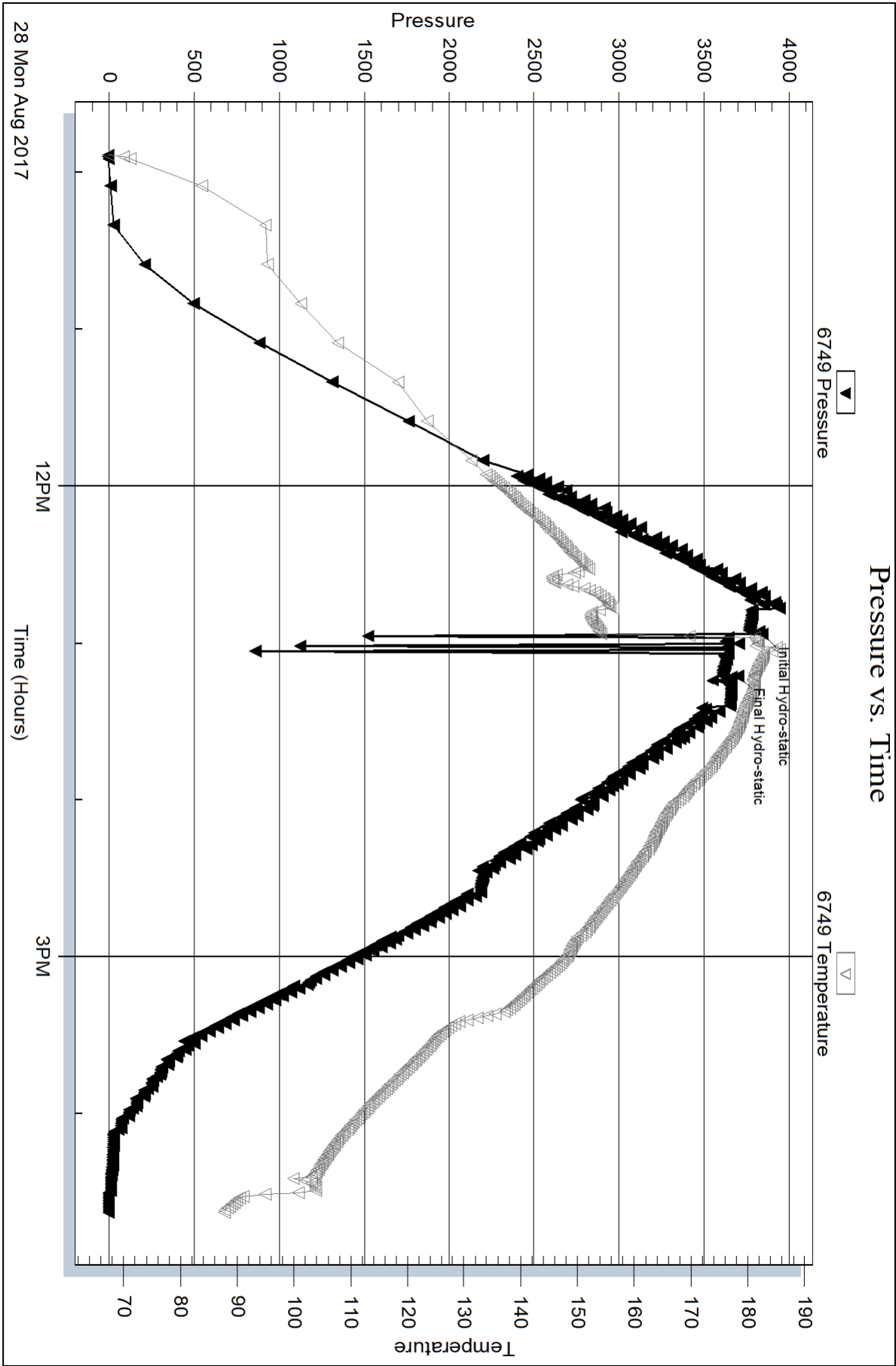
Recovery Comments:

Serial #: 6749

Outside     Murfin Drilling Co. Inc.

Red Poll #10-21

DST Test Number: 2



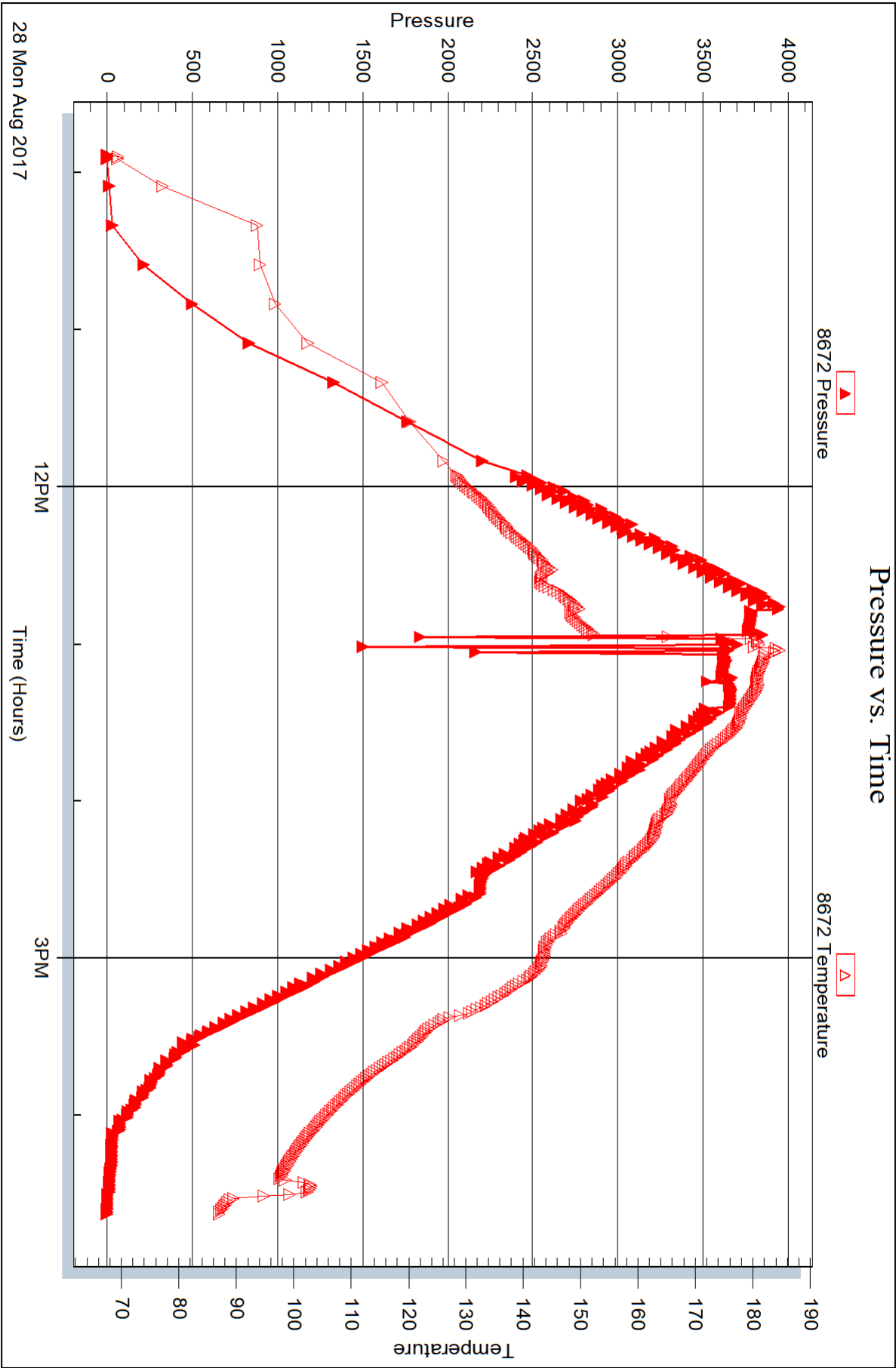
Serial #: 8672

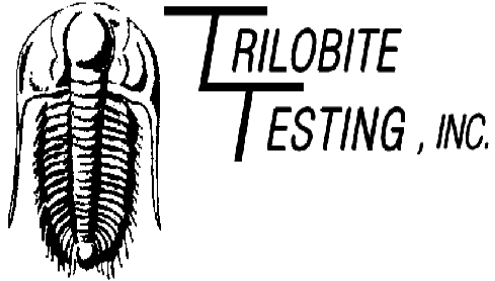
Inside

Murfin Drilling Co. Inc.

Red Poll #10-21

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.Inc.**

250 N Water ST STE 300 Wichita KS 67202

ATTN: Wes Hansen

### **Red Poll #10-21**

#### **21-10s-56w Lincoln,CO**

Start Date: 2017.08.31 @ 04:10:15

End Date: 2017.08.31 @ 13:32:45

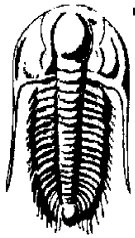
Job Ticket #: 63844 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.09.01 @ 10:21:53



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

250 N Water ST STE 300 Wichita KS 67202

ATTN: Wes Hansen

**21-10s-56w Lincoln, CO**

**Red Poll #10-21**

Job Ticket: 63844

**DST#: 3**

Test Start: 2017.08.31 @ 04:10:15

### GENERAL INFORMATION:

Formation: **Miss**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:22:00

Time Test Ended: 13:32:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

**Interval: 8198.00 ft (KB) To 8300.00 ft (KB) (TVD)**

Total Depth: 8300.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 5505.00 ft (KB)

5490.00 ft (CF)

KB to GR/CF: 15.00 ft

**Serial #: 6749 Outside**

Press@RunDepth: psig @ 8295.00 ft (KB)

Start Date: 2017.08.31

End Date:

2017.08.31

Start Time: 04:10:15

End Time:

13:32:45

Capacity: 8000.00 psig

Last Calib.: 2017.08.31

Time On Btm: 2017.08.31 @ 07:21:15

Time Off Btm: 2017.08.31 @ 08:23:15

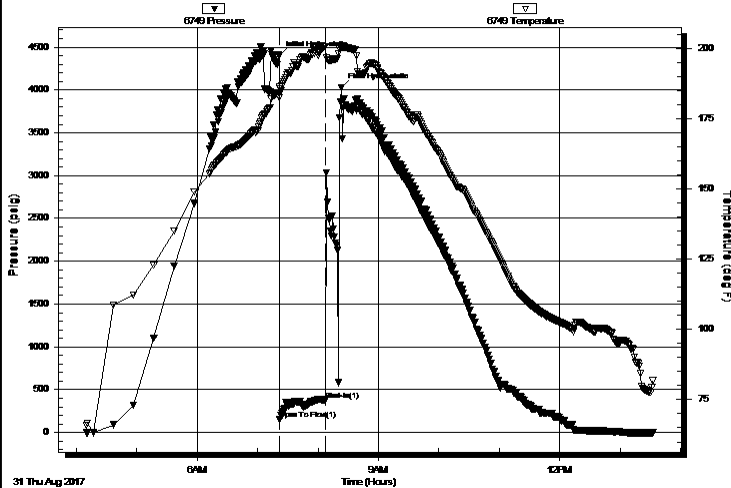
TEST COMMENT: IF:BOB in 4 min.

IS:STUCK

FF:

FS:

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	4405.09	182.44	Initial Hydro-static
1	157.18	186.36	Open To Flow (1)
46	380.42	200.63	Shut-In(1)
62	4024.88	200.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	gcm 5%g 95%m (collars)	0.91
186.00	gcmo 5%g 15%m 80%o (collars)	0.91
186.00	w cgm 2%w 5%g 5%m 88%o (collars)	0.91
288.00	gcmo 5%g b20%m 75%o	4.04
192.00	gcom 2%g 3%o 95%m	2.69

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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\* Recovery from multiple tests





**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

250 N Water ST STE 300 Wichita KS 67202

ATTN: Wes Hansen

**21-10s-56w Lincoln, CO**

**Red Poll #10-21**

Job Ticket: 63844

**DST#: 3**

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### GENERAL INFORMATION:

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Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

**Interval: 8198.00 ft (KB) To 8300.00 ft (KB) (TVD)**

Total Depth: 8300.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 5505.00 ft (KB)

5490.00 ft (CF)

KB to GR/CF: 15.00 ft

**Serial #: 8672 Inside**

Press@RunDepth: psig @ 8295.00 ft (KB)

Start Date: 2017.08.31

End Date:

2017.08.31

Start Time: 04:10:15

End Time:

13:32:45

Capacity: 8000.00 psig

Last Calib.: 2017.08.31

Time On Btm:

Time Off Btm:

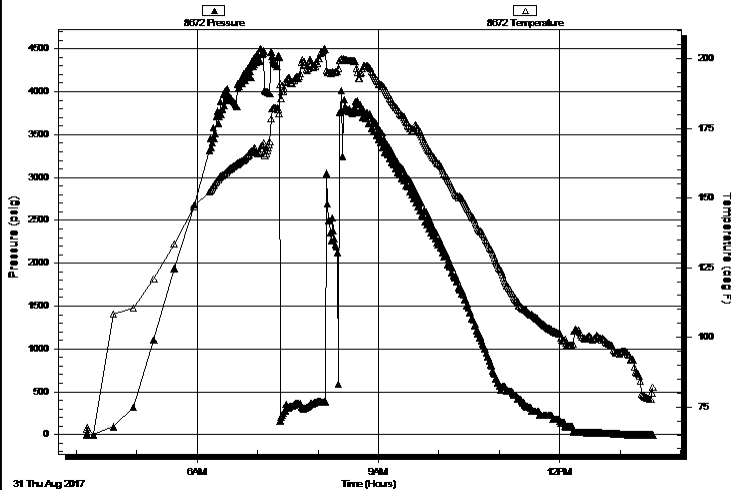
TEST COMMENT: IF:BOB in 4 min.

IS:STUCK

FF:

FS:

Pressure vs. Time



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
186.00	gcm 5%g 95%m (collars)	0.91
186.00	gcmo 5%g 15%m 80%o (collars)	0.91
186.00	w cgm 2%w 5%g 5%m 88%o (collars)	0.91
288.00	gcmo 5%g b20%m 75%o	4.04
192.00	gcom 2%g 3%o 95%m	2.69

### 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.

**21-10s-56w Lincoln, CO**

250 N Water ST STE 300 Wichita KS 67202

**Red Poll #10-21**

Job Ticket: 63844

**DST#: 3**

ATTN: Wes Hansen

Test Start: 2017.08.31 @ 04:10:15

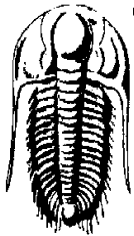
### Tool Information

Drill Pipe:	Length: 7625.00 ft	Diameter: 3.80 inches	Volume: 106.96 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:	25000.00 lb
Drill Collar:	Length: 558.00 ft	Diameter: 2.25 inches	Volume: 2.74 bbl	Weight to Pull Loose:	220000.0 lb
		Total Volume:	109.70 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	140000.0 lb
Depth to Top Packer:	8198.00 ft			Final	150000.0 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	102.00 ft				
Tool Length:	126.00 ft				
Number of Packers:	2	Diameter:	7.88 inches		
Tool Comments:					

### Tool Description

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

Change Over Sub	1.00			8175.00	
Shut In Tool	5.00			8180.00	
Hydraulic tool	5.00			8185.00	
Jars	5.00			8190.00	
Safety Joint	3.00			8193.00	
Packer	5.00			8198.00	24.00 Bottom Of Top Packer
Packer - Shale	0.00			8198.00	
Stubb	1.00			8199.00	
Perforations	2.00			8201.00	
Change Over Sub	1.00			8202.00	
Drill Pipe	63.00			8265.00	
Change Over Sub	1.00			8266.00	
Perforations	29.00			8295.00	
Recorder	0.00	8672	Inside	8295.00	
Recorder	0.00	6749	Outside	8295.00	
Bullnose	5.00			8300.00	102.00 Anchor Tool
<b>Total Tool Length:</b>	<b>126.00</b>				



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Murfin Drilling Co. Inc.

**21-10s-56w Lincoln, CO**

250 N Water ST STE 300 Wichita KS 67202

**Red Poll #10-21**

Job Ticket: 63844

**DST#: 3**

ATTN: Wes Hansen

Test Start: 2017.08.31 @ 04:10:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 450.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	gcm 5%g 95%m (collars)	0.915
186.00	gcmo 5%g 15%m 80%o (collars)	0.915
186.00	w cgmo 2%w 5%g 5%m 88%o (collars)	0.915
288.00	gcmo 5%g b20%m 75%o	4.040
192.00	gcom 2%g 3%o 95%m	2.693

Total Length: 1038.00 ft

Total Volume: 9.478 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API= 35 @ 80 corrected to 33

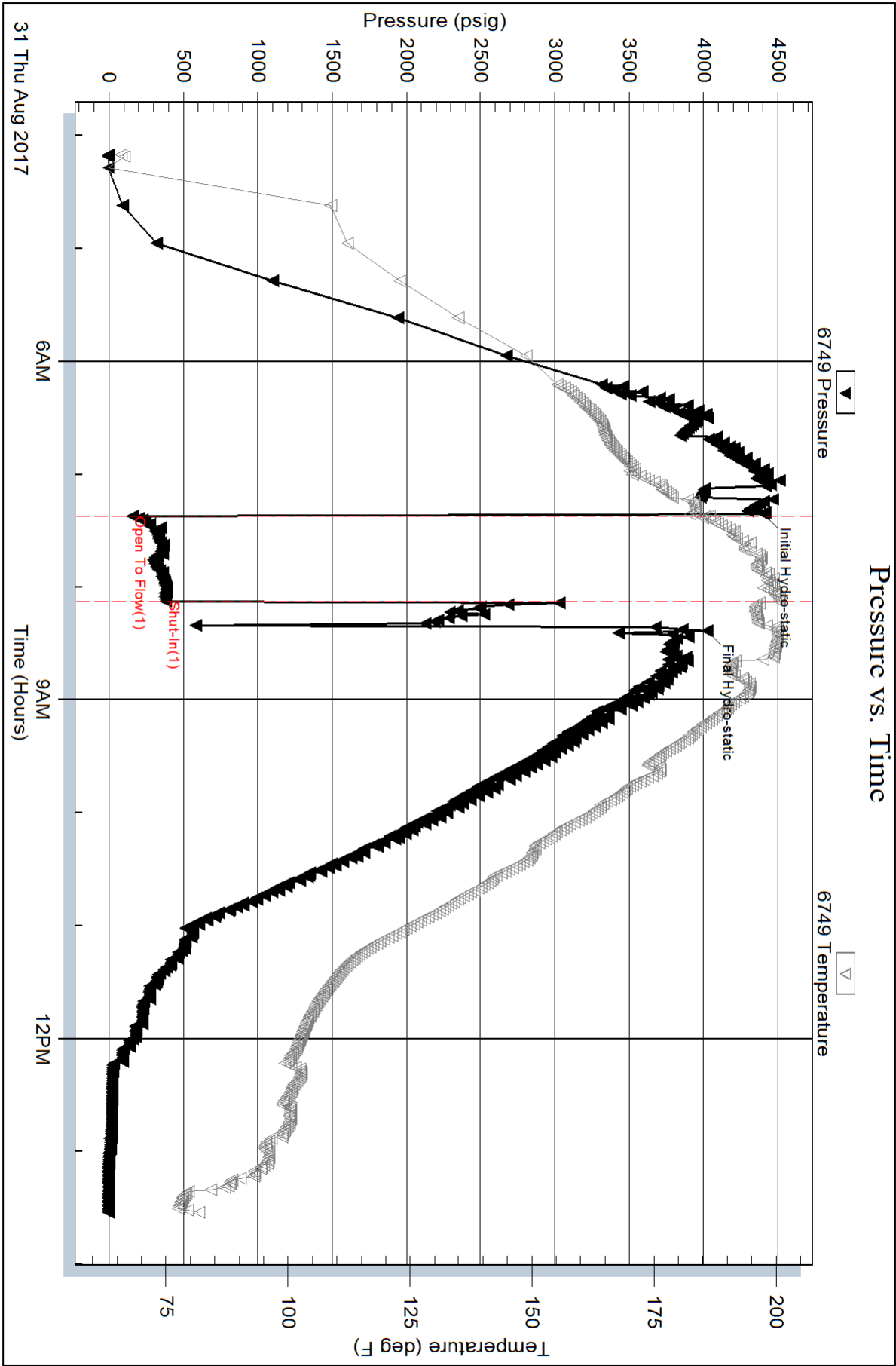
Not able to get chlorides check as water was close to bottom of sample

Serial #: 6749

Outside     Murfin Drilling Co. Inc.

Red Poll #10-21

DST Test Number: 3



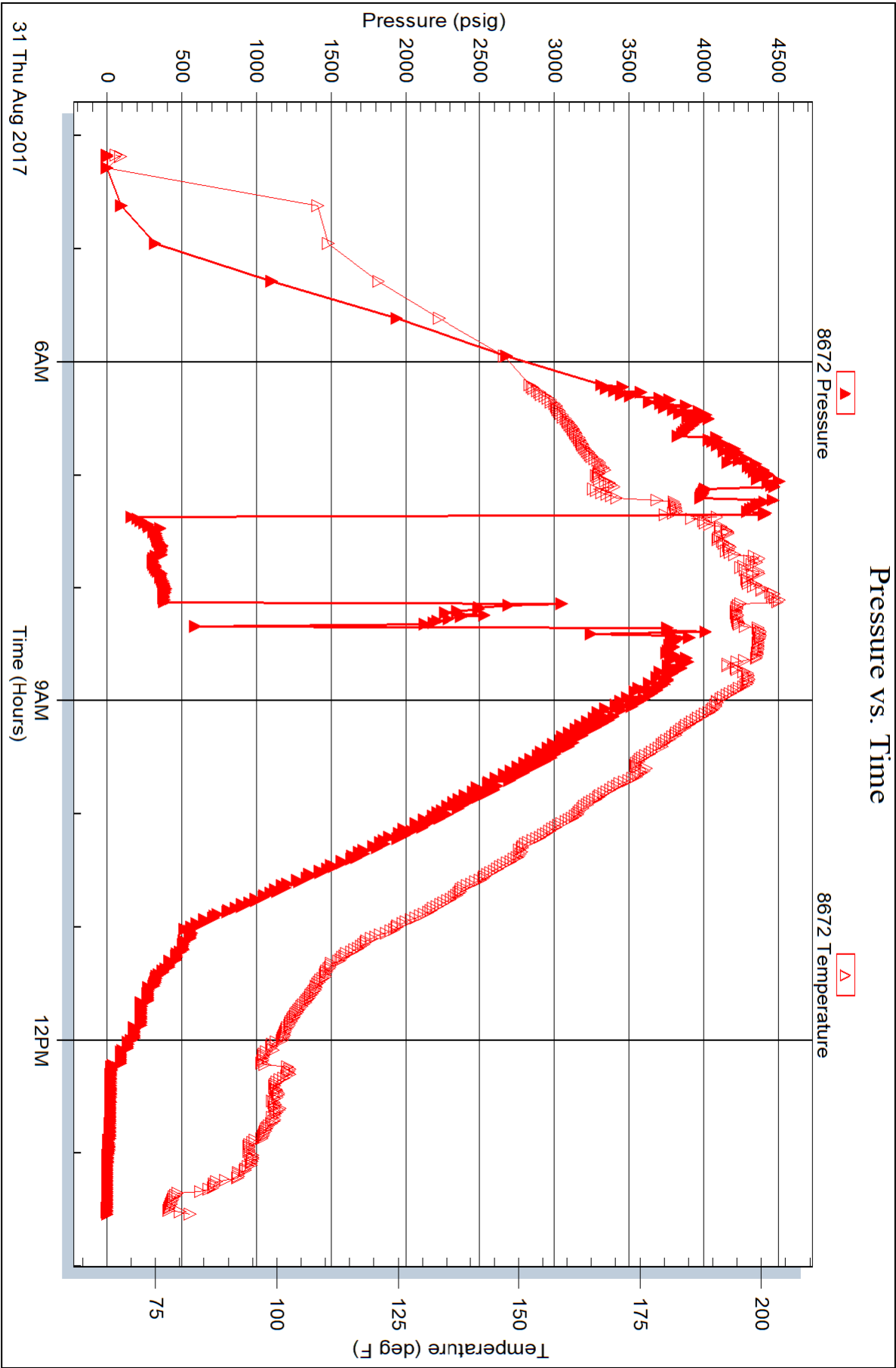
Serial #: 8672

Inside

Murfin Drilling Co. Inc.

Red Poll #10-21

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **63842**

Well Name & No. Red Poll # 10-21 Test No. 1 Date 8-27-17  
 Company Martin Drilling Company Inc Elevation 5505 KB 5490 GL  
 Address 250 N Water St. STE 300 Wichita KS 67202  
 Co. Rep / Geo. Wes Hansen Rig Martin 25  
 Location: Sec. 21 Twp. 10S Rge. 56W Co. Lincoln State CO

Interval Tested 7496 - 7550 Zone Tested FL Scott Lwr FS  
 Anchor Length 54 Drill Pipe Run 6943 Mud Wt. 9.1  
 Top Packer Depth 7491 Drill Collars Run ~~558~~ 558 Vis 52  
 Bottom Packer Depth 7496 Wt. Pipe Run Ø WL 6.2  
 Total Depth 7550 Chlorides 550 ppm System LCM 8

Blow Description IF:  
IS:  
FF:  
FS:

Rec	Feet of	%gas	%oil	%water	%mud
<u>1356</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 1356 BHT 175 Gravity — API RW — @ — °F Chlorides — ppm  
 (A) Initial Hydrostatic 3824 ☒ Test 1650 T-On Location 12:30 KSTime  
 (B) First Initial Flow — ☒ Jars 250 T-Started 14:38  
 (C) First Final Flow — ☒ Safety Joint 75 T-Open 18:08  
 (D) Initial Shut-In — ☒ Circ Sub NC T-Pulled —  
 (E) Second Initial Flow — ☐ Hourly Standby — T-Out 21:49  
 (F) Second Final Flow — ☒ Mileage 468 RT - #351.0% Comments —  
 (G) Final Shut-In — ☐ Sampler —  
 (H) Final Hydrostatic 3509 ☐ Straddle —  
☒ Shale Packer 250+250 ☐ Ruined Shale Packer —  
☒ Extra Packer Shale ☐ Ruined Packer —  
☐ Extra Recorder — ☐ Extra Copies —  
☐ Day Standby — Sub Total 0  
☐ Accessibility — Total 2826.00  
 Sub Total 2826 MP/DST Disc't —

Initial Open —  
 Initial Shut-In —  
 Final Flow —  
 Final Shut-In —

Approved By Wesley Hansen

Our Representative Mike Rohrbach





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **63843**

Well Name & No. Red Poll # 10-21 Test No. 2 Date 8-28-17  
 Company Murfin Drilling Company Inc. Elevation 5505 KB 5490 GL  
 Address 250 N. Water St. STE 300 Wichita KS 67202  
 Co. Rep / Geo. Wes Hansen Rig Murfin 25  
 Location: Sec. 21 Twp. 10S Rge. 56W Co. Lincoln State KO

Interval Tested 7476-7550 Zone Tested Ft. Scott Lower Ft. Scott  
 Anchor Length 74 Drill Pipe Run 6910 Mud Wt. 9.1  
 Top Packer Depth 7471 Drill Collars Run 558 Vis 52  
 Bottom Packer Depth 7476 Wt. Pipe Run 0 WL 6.2  
 Total Depth 7550 Chlorides 550 ppm System LCM 8  
 Blow Description IF: IS: FF: FS: Packer Failure

Rec	Feet of	%gas	%oil	%water	%mud
<u>942</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 942 BHT 177 Gravity 1650 API RW 250 @ 75 °F Chlorides 550 ppm  
 (A) Initial Hydrostatic 3884 ☒ Test 1650 T-On Location 09:15 KS  
 (B) First Initial Flow 3884 ☒ Jars 250 T-Started 09:53  
 (C) First Final Flow 3884 ☒ Safety Joint 75 T-Open 12:57  
 (D) Initial Shut-In 3884 ☒ Circ Sub NC T-Pulled 16:37 13:03  
 (E) Second Initial Flow 3884 ☐ Hourly Standby 351 T-Out 16:37  
 (F) Second Final Flow 3884 ☒ Mileage 351 Comments  
 (G) Final Shut-In 3884 ☐ Sampler  
 (H) Final Hydrostatic 3701 ☐ Straddle 250+250  
☒ Shale Packer Shale ☐ Ruined Shale Packer  
☒ Extra Packer Shale ☐ Ruined Packer  
☐ Extra Recorder 0 ☐ Extra Copies  
☒ Day Standby 2826 Sub Total 2826.00  
☐ Accessibility 2826 Total 2826.00  
 Sub Total 2826 MP/DST Disc't

Initial Open  
 Initial Shut-In  
 Final Flow  
 Final Shut-In

Approved By Wesley Hansen

Our Representative Mike Roberts

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. **63844**

Well Name & No. Red Poll #10-21 Test No. 3 Date 8-31-17  
 Company Murfin Drilling Company Inc Elevation 5505 KB 5490 GL  
 Address 250 N. Water St STE 300 Wichita KS 67202  
 Co. Rep / Geo. Wes Hansen Rig Murfin 25  
 Location: Sec. 21 Twp. 10S Rge. 56W Co. Lincoln State CO

Interval Tested 8198-8300 Zone Tested Osage  
 Anchor Length 102 Drill Pipe Run 7625 Mud Wt. 9.2  
 Top Packer Depth 8193 Drill Collars Run 558 Vis 65  
 Bottom Packer Depth 8198 Wt. Pipe Run Ø WL 6.2  
 Total Depth 8300 Chlorides 450 ppm System LCM 7  
 Blow Description IF: BOB IN 4 Min  
IS:  
FF: Stuck  
FS:

Rec	Feet of	%gas	%oil	%water	%mud
<u>192</u>	<u>gcom</u>	<u>2</u>	<u>3</u>	<u>95</u>	<u>5</u>
<u>288</u>	<u>gcmo</u>	<u>5</u>	<u>75</u>	<u>20</u>	<u>5</u>
<u>186</u>	<u>wcgm (Collars)</u>	<u>5</u>	<u>88</u>	<u>2</u>	<u>5</u>
<u>186</u>	<u>gcmo (Collars)</u>	<u>5</u>	<u>80</u>	<u>15</u>	<u>5</u>
<u>186</u>	<u>gcm (Collars)</u>	<u>5</u>	<u>95</u>	<u>5</u>	<u>5</u>
Rec Total	<u>1038</u> BHT <u>200</u>	Gravity <u>33</u>	API RW <u>—</u>	@ <u>—</u> °F	Chlorides <u>—</u> ppm

(A) Initial Hydrostatic 4405 ☒ Test 1850 T-On Location 03:34  
 (B) First Initial Flow 157 ☒ Jars 250 T-Started 04:10  
 (C) First Final Flow 380 ☒ Safety Joint 75 T-Open 07:22  
 (D) Initial Shut-In Stuck ☒ Circ Sub NC T-Pulled —  
 (E) Second Initial Flow Stuck ☒ Hourly Standby — T-Out 13:32  
 (F) Second Final Flow Long up ☒ Mileage mileage to get Comments Ruined Both  
 (G) Final Shut-In — ☐ Sampler Packer 400RT Packers  
 (H) Final Hydrostatic 4024 ☐ Straddle — ☒ Ruined Shale Packer 350  
☒ Shale Packer 250 ☒ Ruined Packer 600  
☒ Extra Packer Long-Shale Packer ☐ Extra Copies —  
☐ Extra Recorder 500 Sub Total —  
☐ Day Standby 1.5d 22.75h Total —  
☐ Accessibility — MP/DST Disc't —  
 Sub Total —

Approved By Wesley D. Hansen

Our Representative Mike Roberts

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