

## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Jeff Christian

### **Argabright #1-24**

### **24-3s-34w Rawlins,KS**

Start Date: 2017.10.26 @ 18:26:00

End Date: 2017.10.27 @ 02:48:30

Job Ticket #: 64695                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.11.02 @ 10:28:29



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**24-3s-34w Rawlins, KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64695

**DST#: 1**

ATTN: Jeff Christian

Test Start: 2017.10.26 @ 18:26:00

## GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:48:00

Time Test Ended: 02:48:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Bradley Walter

Unit No: 78

**Interval: 3671.00 ft (KB) To 3735.00 ft (KB) (TVD)**

Reference Elevations: 2897.00 ft (KB)

Total Depth: 3735.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 124.14 psig @ 3672.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.26

End Date:

2017.10.27

Last Calib.: 2017.10.27

Start Time: 18:26:05

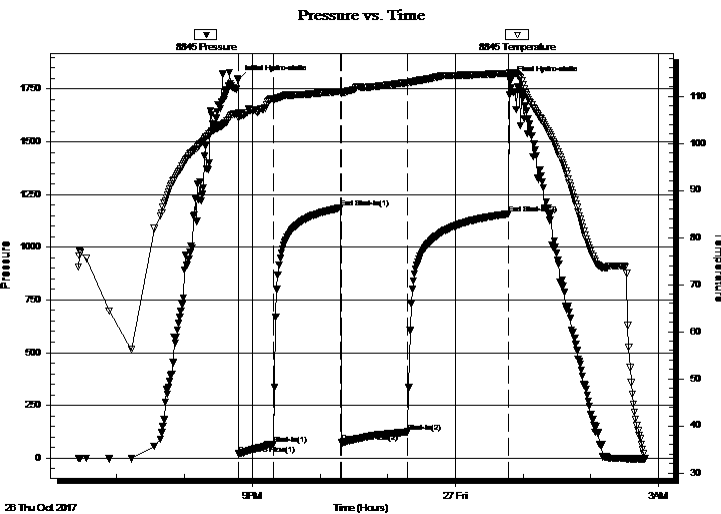
End Time:

02:48:29

Time On Btm: 2017.10.26 @ 20:47:45

Time Off Btm: 2017.10.27 @ 00:48:30

**TEST COMMENT:** IF: 5" blow  
IS: No return.  
FF: 6" blow.  
FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1795.82	106.39	Initial Hydro-static
1	20.34	105.43	Open To Flow (1)
32	65.65	109.39	Shut-In(1)
91	1187.30	110.99	End Shut-In(1)
91	73.19	110.61	Open To Flow (2)
150	124.14	112.81	Shut-In(2)
239	1158.18	114.83	End Shut-In(2)
241	1791.86	114.91	Final Hydro-static

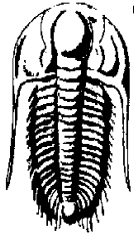
## Recovery

Length (ft)	Description	Volume (bbl)
240.00	mcw 30m 70w (oil specs)	1.50

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co.

**24-3s-34w Rawlins,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64695

**DST#: 1**

ATTN: Jeff Christian

Test Start: 2017.10.26 @ 18:26:00

## Tool Information

Drill Pipe:	Length: 3466.00 ft	Diameter: 3.80 inches	Volume: 48.62 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 49.63 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	3671.00 ft			Final	61000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	64.00 ft				
Tool Length:	91.00 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			3645.00	
Shut In Tool	5.00			3650.00	
Hydraulic tool	5.00			3655.00	
Jars	5.00			3660.00	
Safety Joint	2.00			3662.00	
Packer	5.00			3667.00	27.00 Bottom Of Top Packer
Packer	4.00			3671.00	
Stubb	1.00			3672.00	
Recorder	0.00	8365	Inside	3672.00	
Recorder	0.00	8845	Outside	3672.00	
Perforations	27.00			3699.00	
Change Over Sub	1.00			3700.00	
Drill Pipe	31.00			3731.00	
Change Over Sub	1.00			3732.00	
Bullnose	3.00			3735.00	64.00 Bottom Packers & Anchor

**Total Tool Length: 91.00**



**TRILOBITE  
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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**24-3s-34w Rawlins,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64695

**DST#: 1**

ATTN: Jeff Christian

Test Start: 2017.10.26 @ 18:26:00

## 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: 75.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
240.00	mcw 30m 70w (oil specs)	1.499

Total Length: 240.00 ft      Total Volume: 1.499 bbl

Num Fluid Samples: 0

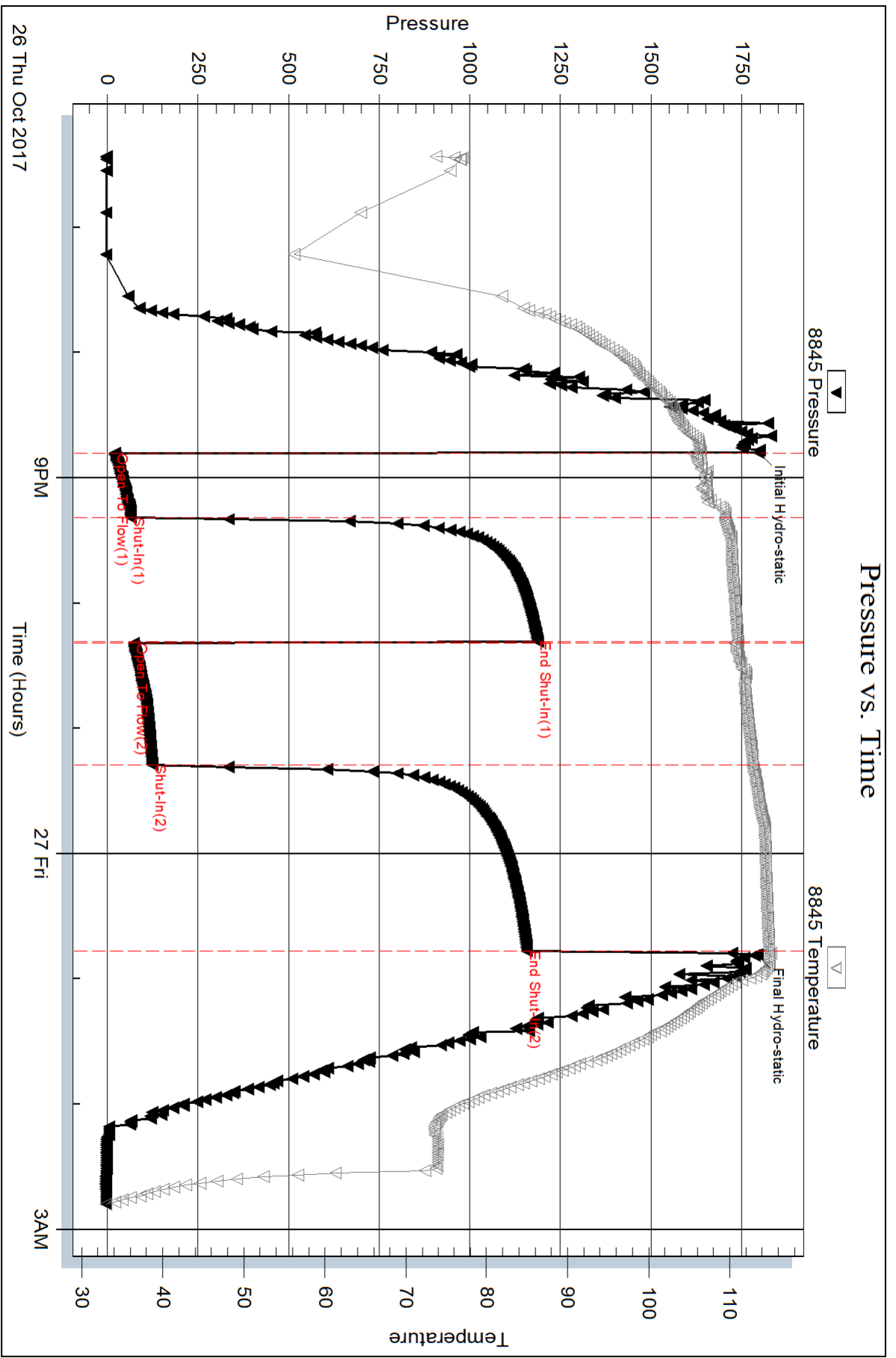
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .457 @ 56f = 19000ppm



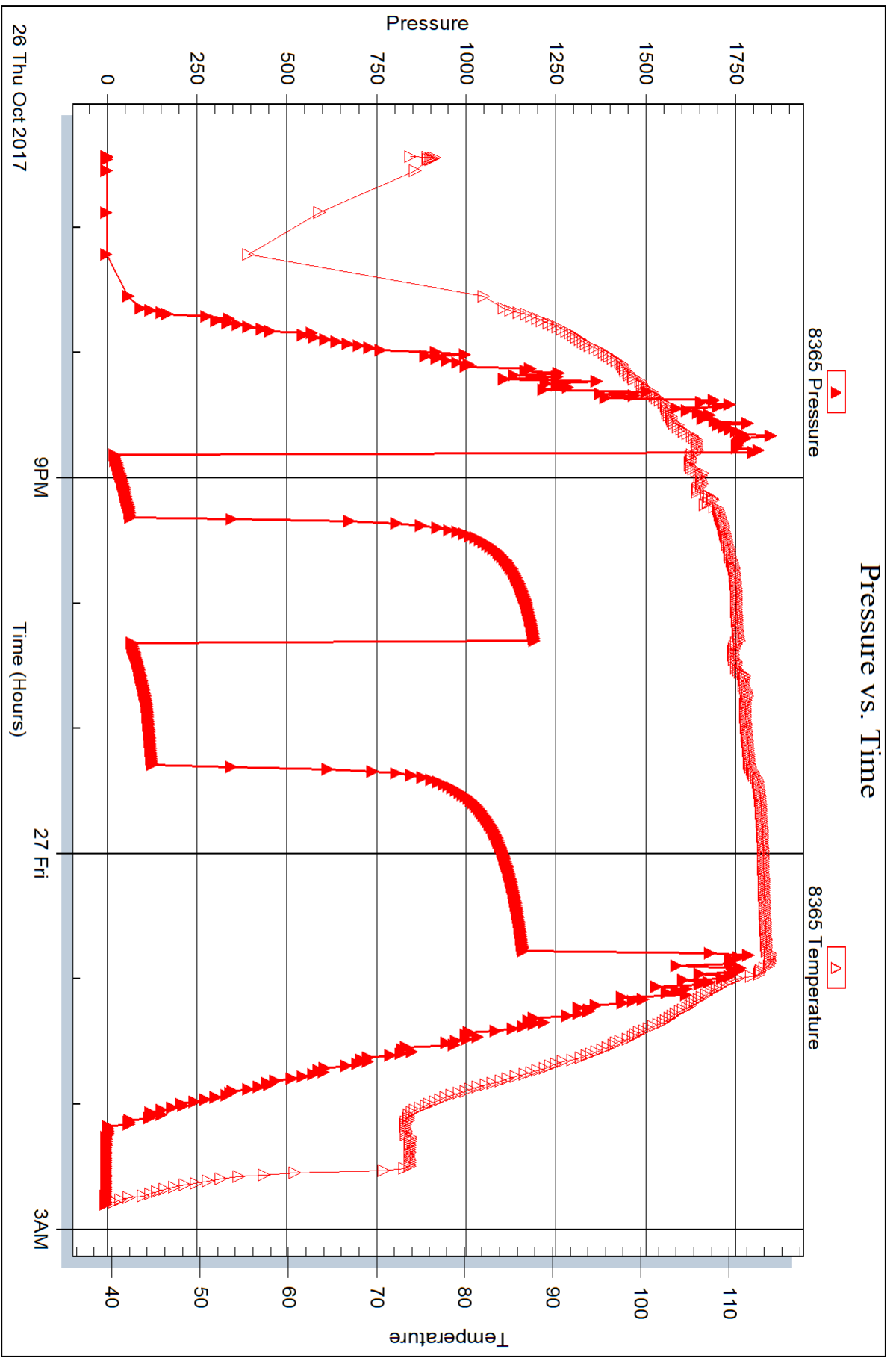
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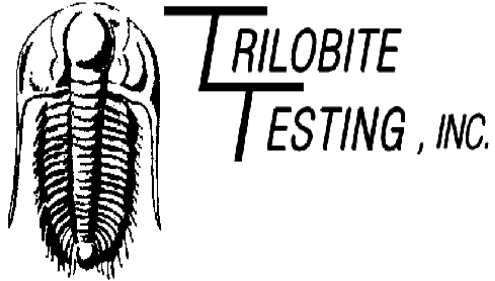
Inside

Murfin Drilling Co.

Argabright #1-24

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Jeff Christian

### **Argabright #1-24**

### **24-3s-34w Rawlins,KS**

Start Date: 2017.10.27 @ 10:18:00

End Date: 2017.10.27 @ 17:31:30

Job Ticket #: 64696                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

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**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**24-3s-34w Rawlins, KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64696

**DST#: 2**

ATTN: Jeff Christian

Test Start: 2017.10.27 @ 10:18:00

## GENERAL INFORMATION:

Formation: **Lower Lecompton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:35:15

Time Test Ended: 17:31:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

**Interval: 3730.00 ft (KB) To 3780.00 ft (KB) (TVD)**

Reference Elevations: 2897.00 ft (KB)

Total Depth: 3780.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 74.04 psig @ 3731.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.27 End Date: 2017.10.27

Last Calib.: 2017.10.27

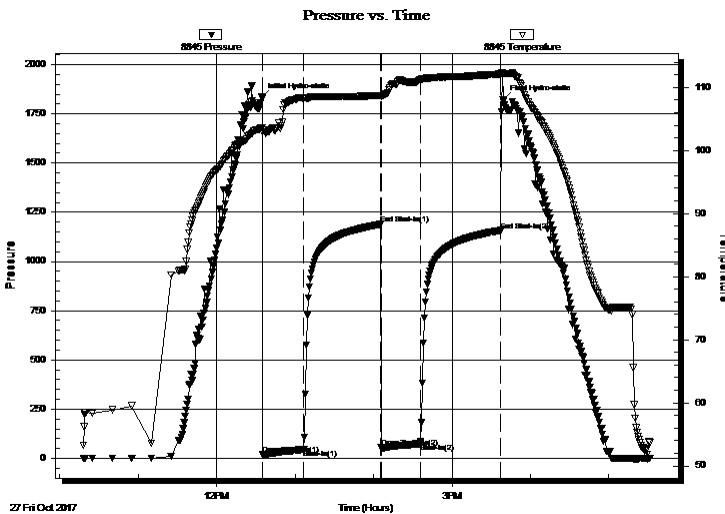
Start Time: 10:18:05 End Time: 17:31:29

Time On Btm: 2017.10.27 @ 12:34:15

Time Off Btm: 2017.10.27 @ 15:39:00

**TEST COMMENT:** IF: 3" blow.  
IS: No return.  
FF: 2 1/2" blow.  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1834.14	103.66	Initial Hydro-static
1	19.82	102.93	Open To Flow (1)
33	45.28	108.31	Shut-In(1)
91	1188.62	108.74	End Shut-In(1)
92	54.15	108.52	Open To Flow (2)
122	74.04	111.24	Shut-In(2)
183	1157.38	112.12	End Shut-In(2)
185	1820.22	112.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
150.00	sow cm 1o 24w 75m	0.74

\* 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.

**24-3s-34w Rawlins,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64696

**DST#: 2**

ATTN: Jeff Christian

Test Start: 2017.10.27 @ 10:18:00

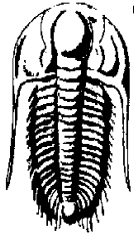
## Tool Information

Drill Pipe:	Length: 3530.00 ft	Diameter: 3.80 inches	Volume: 49.52 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 50.53 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3730.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	50.00 ft				
Tool Length:	77.00 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			3704.00	
Shut In Tool	5.00			3709.00	
Hydraulic tool	5.00			3714.00	
Jars	5.00			3719.00	
Safety Joint	2.00			3721.00	
Packer	5.00			3726.00	27.00 Bottom Of Top Packer
Packer	4.00			3730.00	
Stubb	1.00			3731.00	
Recorder	0.00	8365	Inside	3731.00	
Recorder	0.00	8845	Outside	3731.00	
Perforations	13.00			3744.00	
Change Over Sub	1.00			3745.00	
Drill Pipe	31.00			3776.00	
Change Over Sub	1.00			3777.00	
Bullnose	3.00			3780.00	50.00 Bottom Packers & Anchor

**Total Tool Length: 77.00**



**TRILOBITE  
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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**24-3s-34w Rawlins,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64696

**DST#: 2**

ATTN: Jeff Christian

Test Start: 2017.10.27 @ 10:18:00

## 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: 75.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
150.00	sow cm 1o 24w 75m	0.738

Total Length: 150.00 ft      Total Volume: 0.738 bbl

Num Fluid Samples: 0

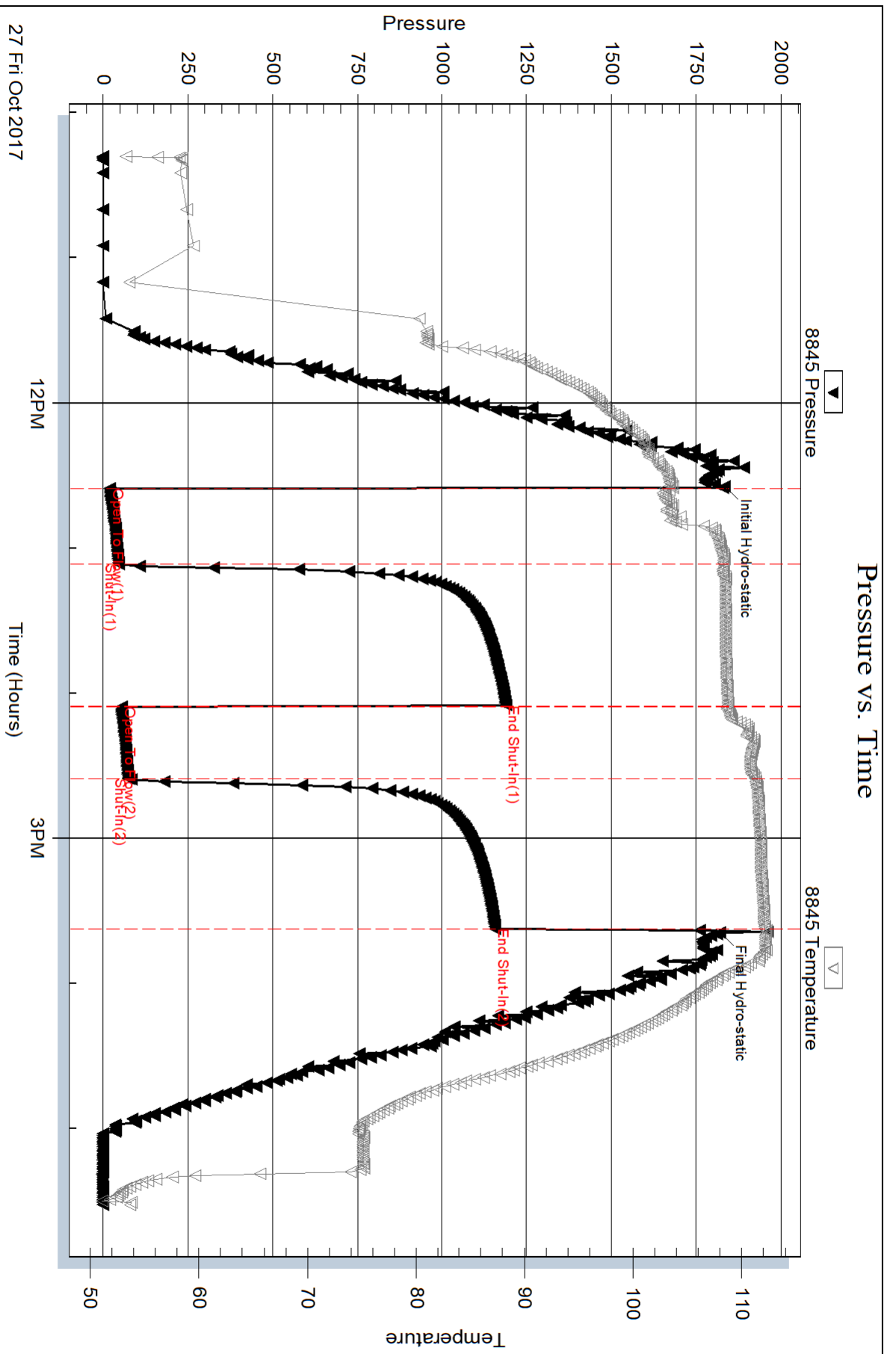
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



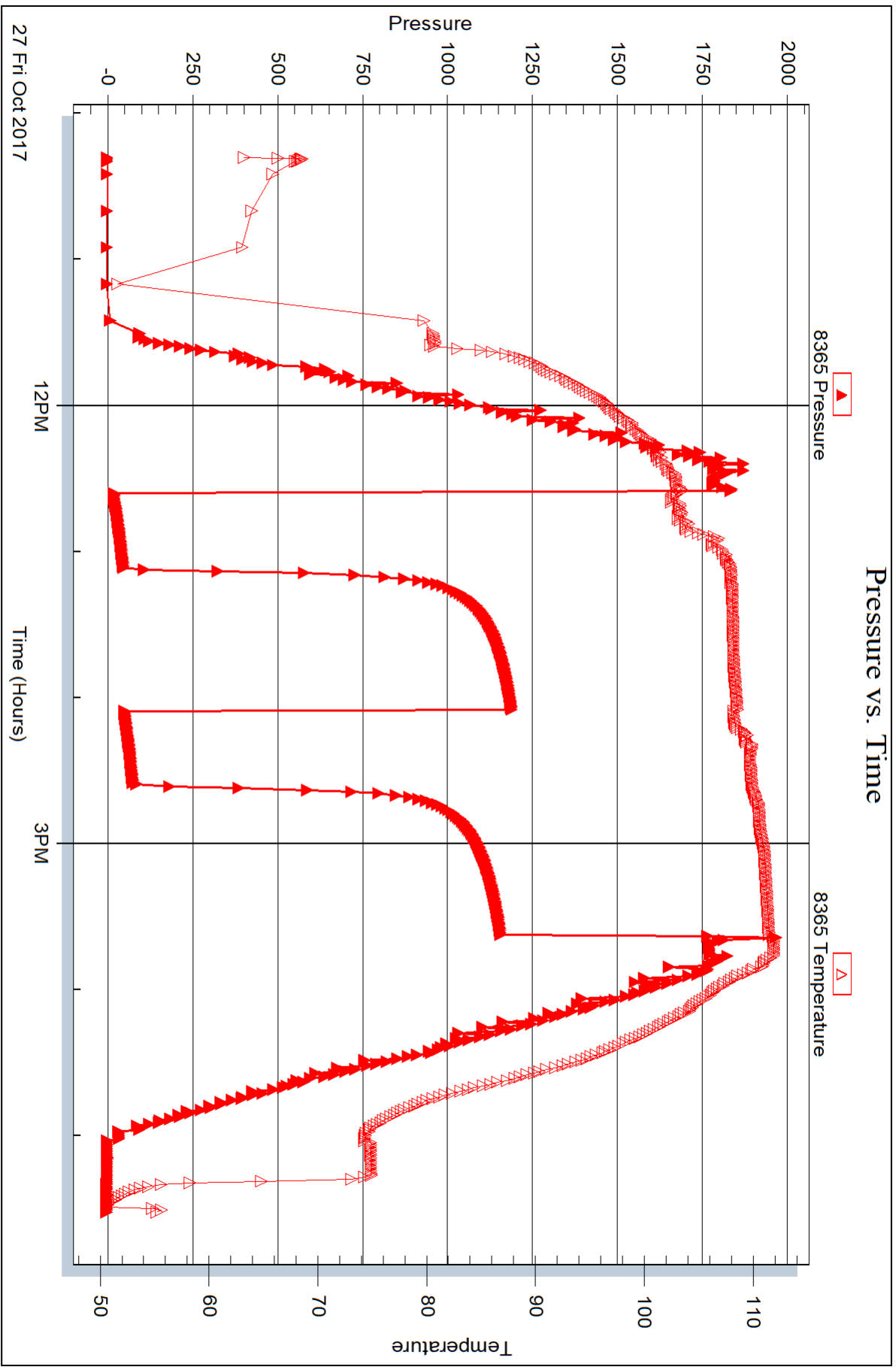
Serial #: 8365

Inside

Murfin Drilling Co.

Argabright #1-24

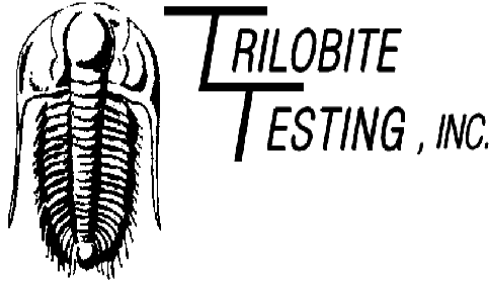
DST Test Number: 2



Triobite Testing, Inc

Ref. No: 64696

Printed: 2017.11.02 @ 10:28:07



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Jeff Christian

### **Argabright #1-24**

#### **24-3s-34w Rawlins,KS**

Start Date: 2017.10.28 @ 02:18:00

End Date: 2017.10.28 @ 09:23:10

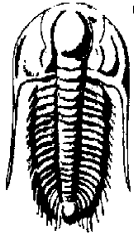
Job Ticket #: 64697                      DST #: 3

Trilobite Testing, Inc

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**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**24-3s-34w Rawlins, KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64697

**DST#: 3**

ATTN: Jeff Christian

Test Start: 2017.10.28 @ 02:18:00

## GENERAL INFORMATION:

Formation: **LKC A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:32:56

Time Test Ended: 09:23:10

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

**Interval: 3781.00 ft (KB) To 3838.00 ft (KB) (TVD)**

Reference Elevations: 2897.00 ft (KB)

Total Depth: 3838.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8365**

**Inside**

Press@RunDepth: 20.47 psig @ 3782.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.28

End Date: 2017.10.28

Last Calib.: 2017.10.28

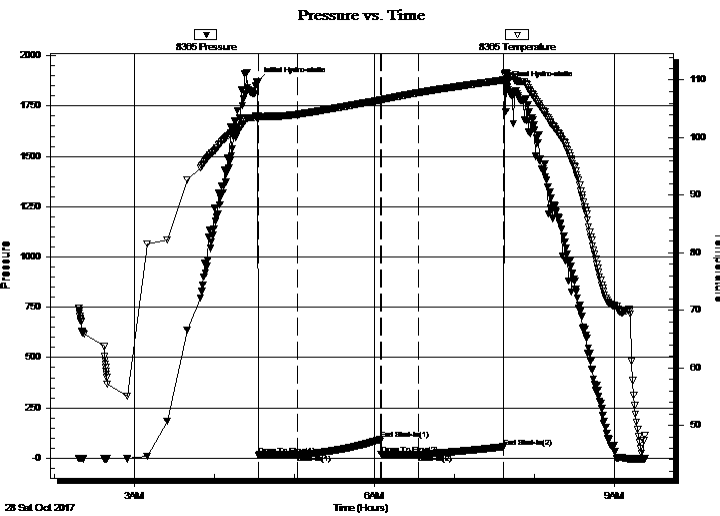
Start Time: 02:18:05

End Time: 09:23:11

Time On Btm: 2017.10.28 @ 04:32:26

Time Off Btm: 2017.10.28 @ 07:37:56

**TEST COMMENT:** IF: 1 1/2" blow .  
IS: No return.  
FF: 1/2" blow .  
FSI: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1869.76	103.73	Initial Hydro-static
1	16.17	103.32	Open To Flow (1)
30	17.29	104.04	Shut-In(1)
92	93.10	106.51	End Shut-In(1)
93	19.43	106.53	Open To Flow (2)
121	20.47	107.81	Shut-In(2)
185	56.61	109.98	End Shut-In(2)
186	1853.37	111.07	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	mud 100m (oil specs)	0.07
0.00	Gassy Odor	0.00

\* 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.

**24-3s-34w Rawlins,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64697

**DST#: 3**

ATTN: Jeff Christian

Test Start: 2017.10.28 @ 02:18:00

## Tool Information

Drill Pipe:	Length: 3558.00 ft	Diameter: 3.80 inches	Volume: 49.91 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 50.92 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	3781.00 ft			Final	55000.00 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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3755.00	
Shut In Tool	5.00			3760.00	
Hydraulic tool	5.00			3765.00	
Jars	5.00			3770.00	
Safety Joint	2.00			3772.00	
Packer	5.00			3777.00	27.00 Bottom Of Top Packer
Packer	4.00			3781.00	
Stubb	1.00			3782.00	
Recorder	0.00	8365	Inside	3782.00	
Recorder	0.00	8845	Outside	3782.00	
Perforations	20.00			3802.00	
Change Over Sub	1.00			3803.00	
Drill Pipe	31.00			3834.00	
Change Over Sub	1.00			3835.00	
Bullnose	3.00			3838.00	57.00 Bottom Packers & Anchor

**Total Tool Length: 84.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**24-3s-34w Rawlins,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64697

**DST#: 3**

ATTN: Jeff Christian

Test Start: 2017.10.28 @ 02:18:00

## 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: 85.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	mud 100m (oil specs)	0.074
0.00	Gassy Odor	0.000

Total Length: 15.00 ft      Total Volume: 0.074 bbl

Num Fluid Samples: 0

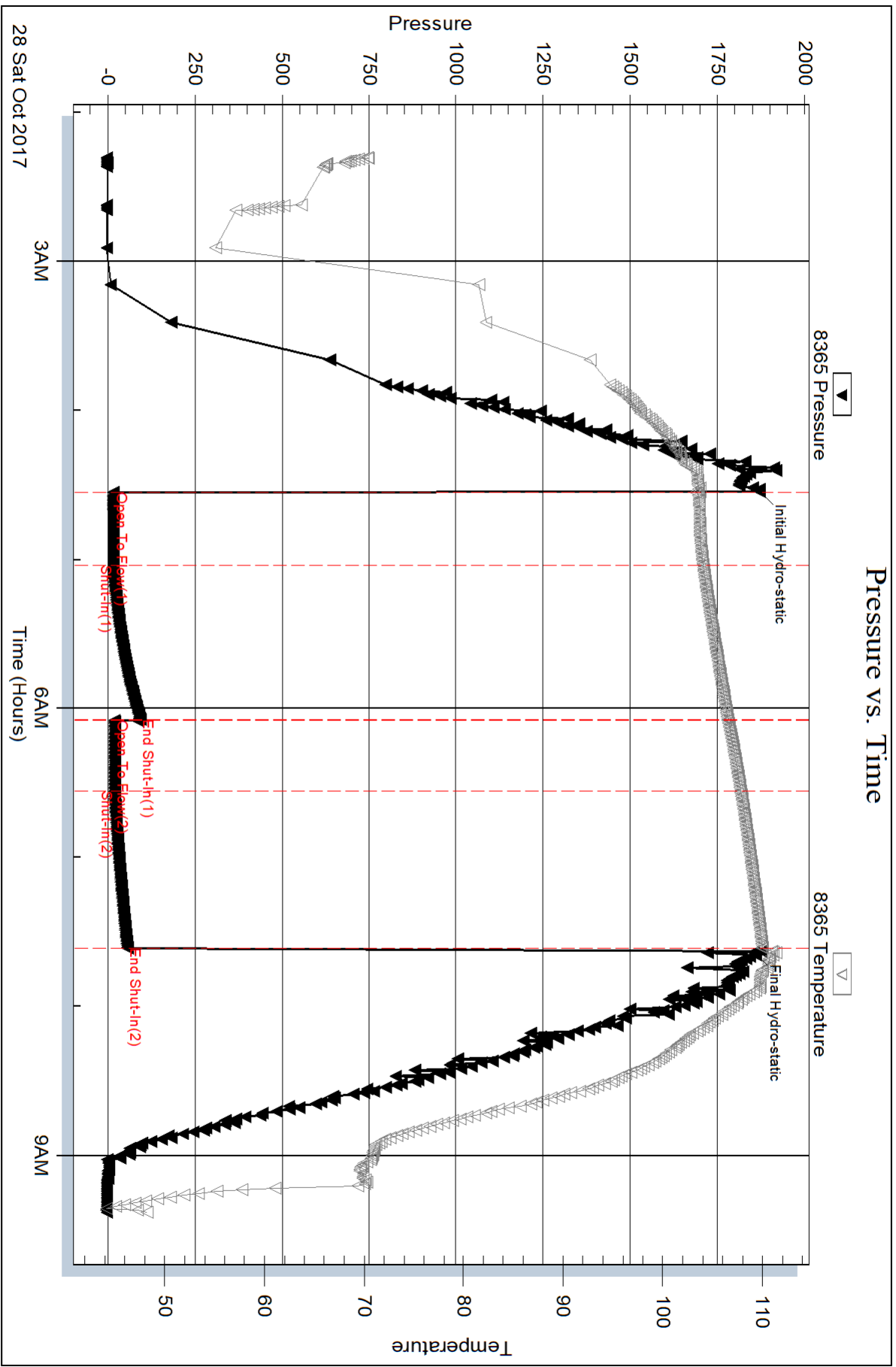
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

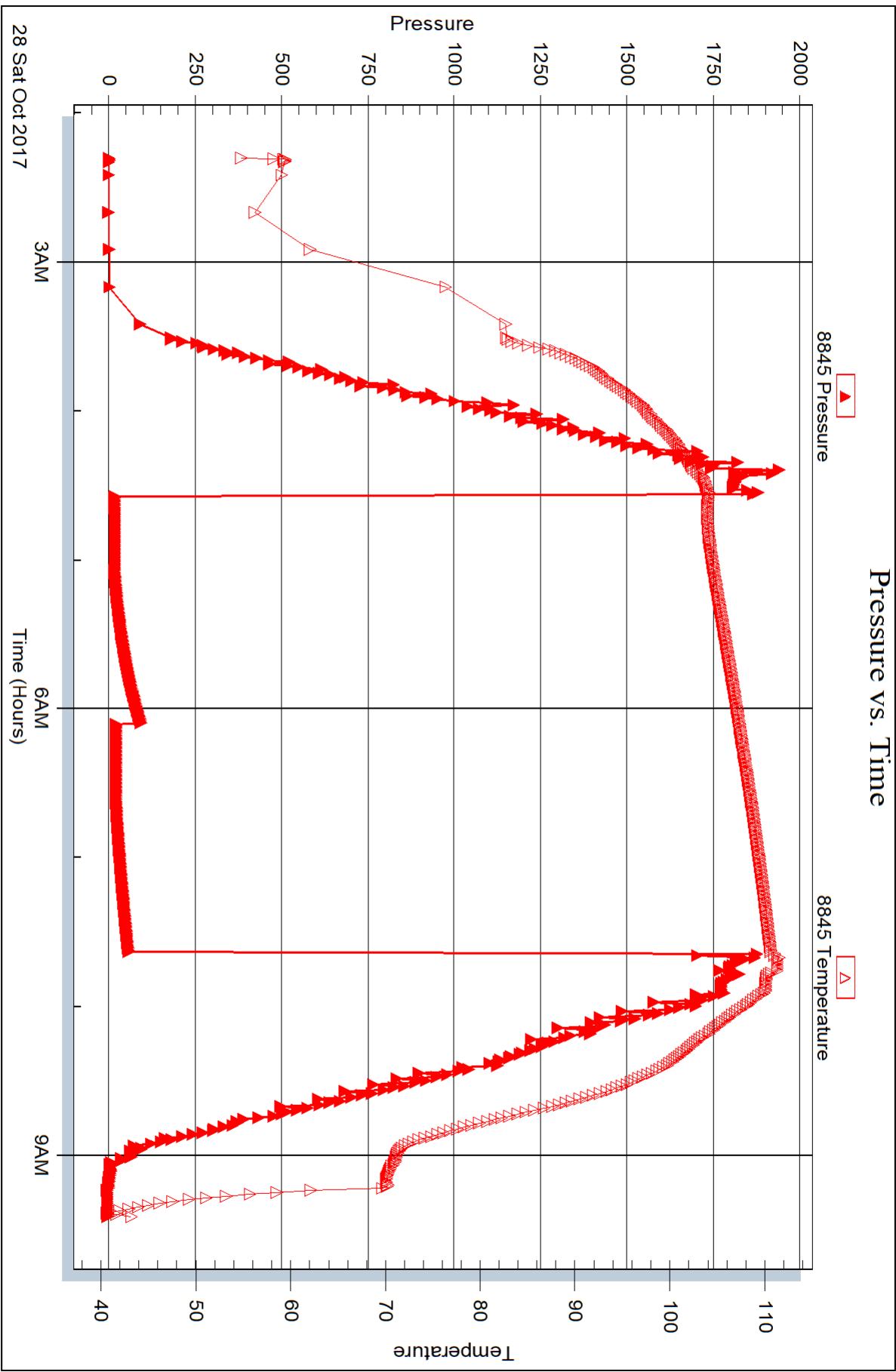


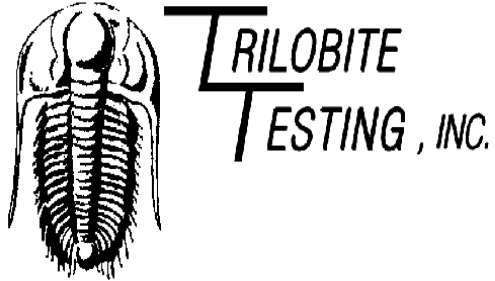
Serial #: 8845

Outside Murfin Drilling Co.

Argabright #1-24

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Jeff Christian

### **Argabright #1-24**

#### **24-3s-34w Rawlins,KS**

Start Date: 2017.10.28 @ 17:11:00

End Date: 2017.10.29 @ 00:24:30

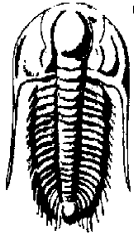
Job Ticket #: 64698                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.11.02 @ 10:27:17



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**24-3s-34w Rawlins, KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64698

**DST#: 4**

ATTN: Jeff Christian

Test Start: 2017.10.28 @ 17:11:00

## GENERAL INFORMATION:

Formation: **LKC B - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:34:30

Time Test Ended: 00:24:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

**Interval: 3830.00 ft (KB) To 3884.00 ft (KB) (TVD)**

Reference Elevations: 2897.00 ft (KB)

Total Depth: 3884.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 65.49 psig @ 3831.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.28

End Date:

2017.10.29

Last Calib.:

2017.10.29

Start Time: 17:11:05

End Time:

00:24:29

Time On Btm:

2017.10.28 @ 19:34:15

Time Off Btm:

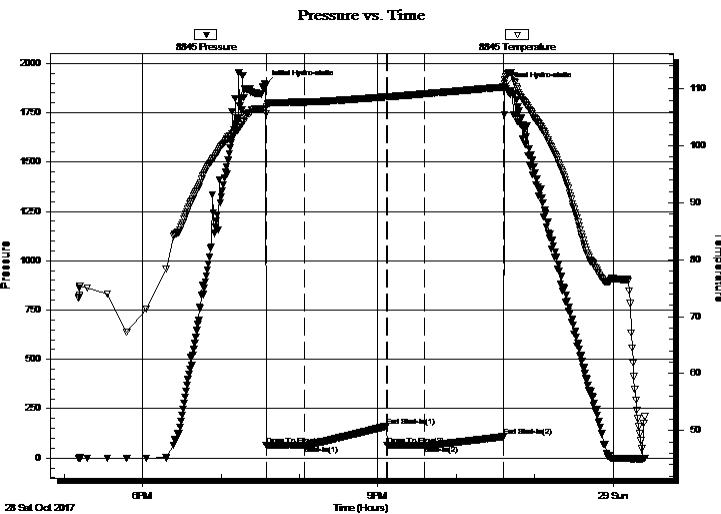
2017.10.28 @ 22:37:15

**TEST COMMENT:** IF: Tool slid 12', mud fell 10', bled off excess blow . - Surface blow remainder of open.

IS: No return.

FF: No blow .

FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1892.41	106.60	Initial Hydro-static
1	64.20	105.65	Open To Flow (1)
30	64.63	107.69	Shut-In(1)
93	160.18	108.61	End Shut-In(1)
93	64.87	108.59	Open To Flow (2)
122	65.49	109.12	Shut-In(2)
182	107.65	110.31	End Shut-In(2)
183	1880.72	111.61	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
80.00	mud 100m	0.39

\* 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.

**24-3s-34w Rawlins,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64698

**DST#: 4**

ATTN: Jeff Christian

Test Start: 2017.10.28 @ 17:11:00

## Tool Information

Drill Pipe:	Length: 3620.00 ft	Diameter: 3.80 inches	Volume: 50.78 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume: 51.79 bbl</u>	Tool Chased	12.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3830.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	54.00 ft				
Tool Length:	81.00 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			3804.00	
Shut In Tool	5.00			3809.00	
Hydraulic tool	5.00			3814.00	
Jars	5.00			3819.00	
Safety Joint	2.00			3821.00	
Packer	5.00			3826.00	27.00 Bottom Of Top Packer
Packer	4.00			3830.00	
Stubb	1.00			3831.00	
Recorder	0.00	8365	Inside	3831.00	
Recorder	0.00	8845	Outside	3831.00	
Perforations	17.00			3848.00	
Change Over Sub	1.00			3849.00	
Drill Pipe	31.00			3880.00	
Change Over Sub	1.00			3881.00	
Bullnose	3.00			3884.00	54.00 Bottom Packers & Anchor

**Total Tool Length: 81.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**24-3s-34w Rawlins,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64698

**DST#: 4**

ATTN: Jeff Christian

Test Start: 2017.10.28 @ 17:11:00

## 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: 75.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
80.00	mud 100m	0.393

Total Length: 80.00 ft      Total Volume: 0.393 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

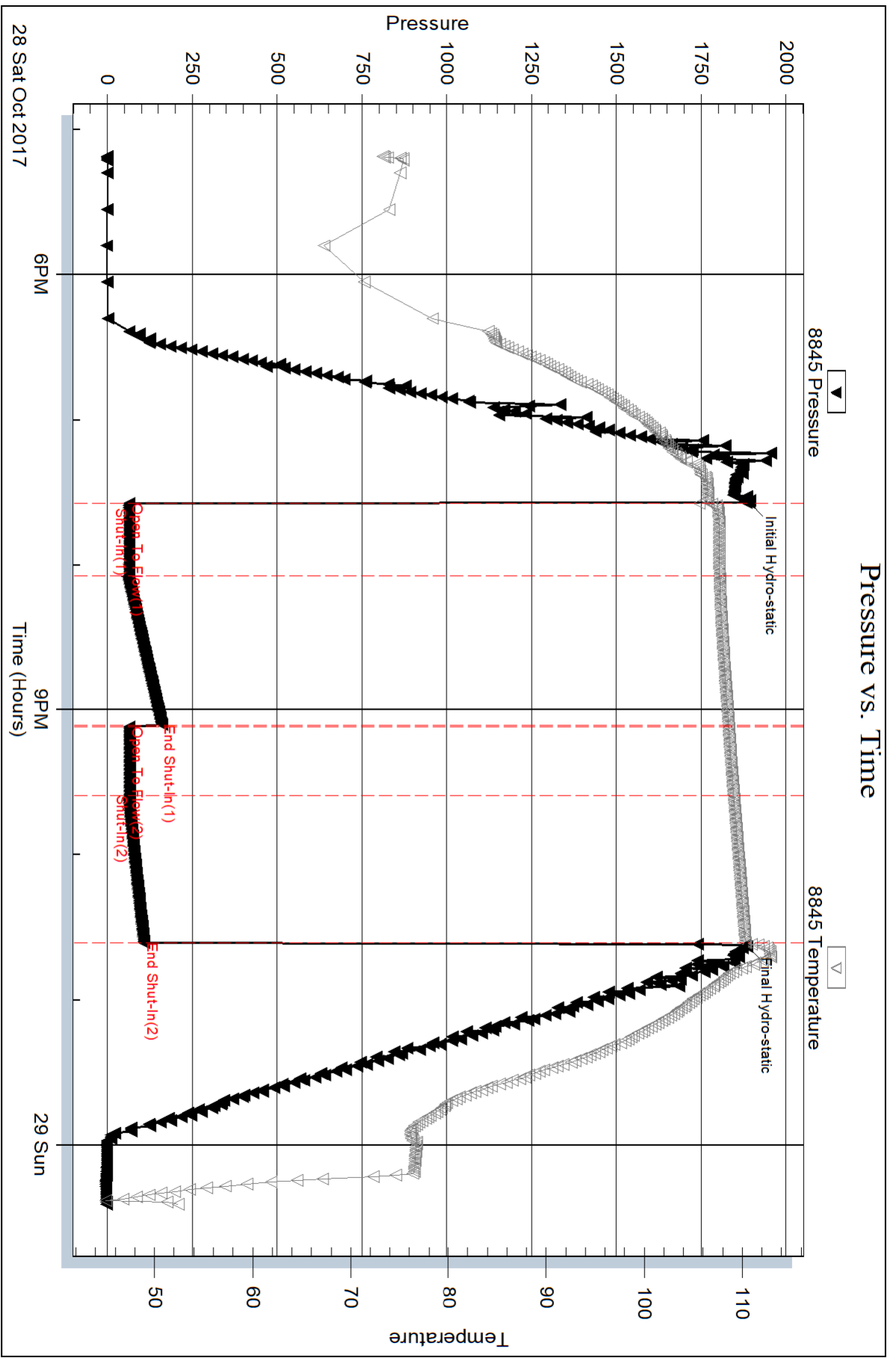
Recovery Comments:

Serial #: 8845

Outside Murfin Drilling Co.

Argabright #1-24

DST Test Number: 4



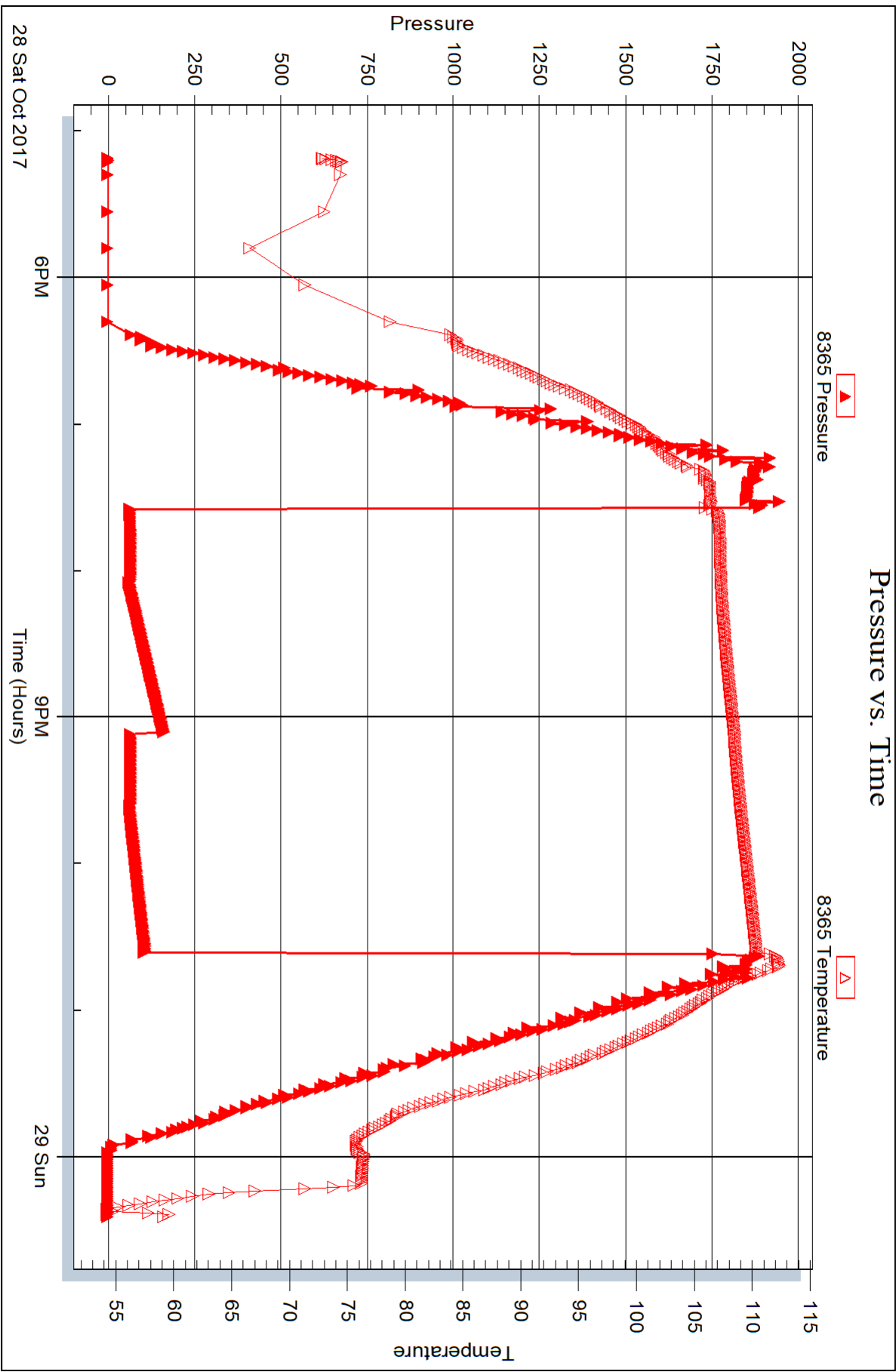
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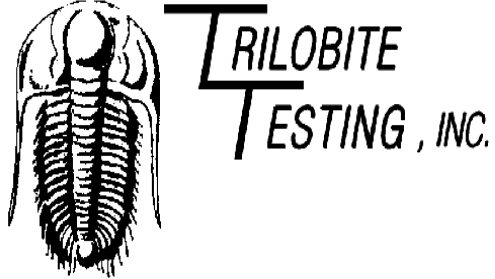
Inside

Murfin Drilling Co.

Argabright #1-24

DST Test Number: 4





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Jeff Christian

### **Argabright #1-24**

#### **24-3s-34w Rawlins,KS**

Start Date: 2017.10.29 @ 08:59:00

End Date: 2017.10.29 @ 15:42:00

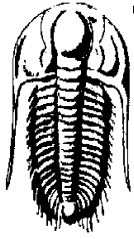
Job Ticket #: 64699                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.11.02 @ 10:26:45



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**24-3s-34w Rawlins, KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64699

**DST#: 5**

ATTN: Jeff Christian

Test Start: 2017.10.29 @ 08:59:00

## GENERAL INFORMATION:

Formation: **LKC F - G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:50:00

Time Test Ended: 15:42:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

**Interval: 3878.00 ft (KB) To 3927.00 ft (KB) (TVD)**

Reference Elevations: 2897.00 ft (KB)

Total Depth: 3927.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 26.84 psig @ 3879.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.29

End Date: 2017.10.29

Last Calib.: 2017.10.29

Start Time: 08:59:05

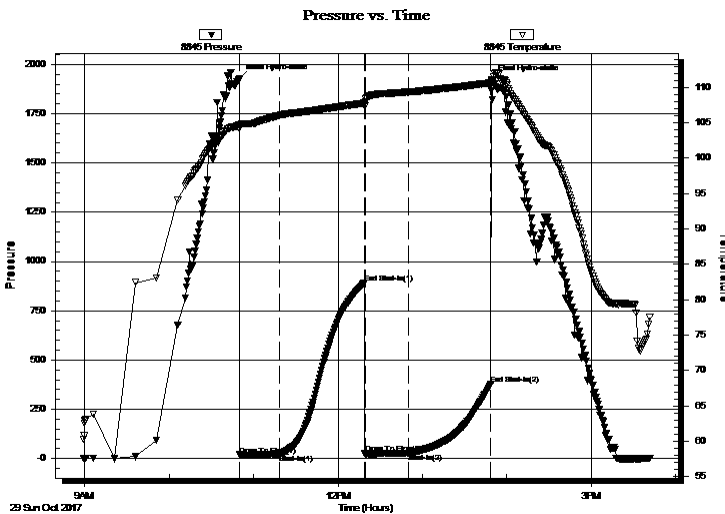
End Time: 15:41:59

Time On Btm: 2017.10.29 @ 10:49:45

Time Off Btm: 2017.10.29 @ 13:49:15

**TEST COMMENT:** IF: 1 1/2" blow .  
IS: No return.  
FF: 1/2" blow .  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1925.48	104.64	Initial Hydro-static
1	18.35	104.13	Open To Flow (1)
29	21.02	106.05	Shut-In(1)
89	890.85	107.79	End Shut-In(1)
90	26.20	107.93	Open To Flow (2)
121	26.84	109.35	Shut-In(2)
179	377.70	110.64	End Shut-In(2)
180	1921.84	110.75	Final Hydro-static

## Recovery

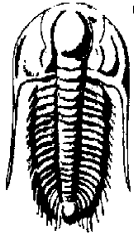
Length (ft)	Description	Volume (bbl)
25.00	ocm 30o 70m	0.12

\* 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.

**24-3s-34w Rawlins,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64699

**DST#: 5**

ATTN: Jeff Christian

Test Start: 2017.10.29 @ 08:59:00

## Tool Information

Drill Pipe:	Length: 3654.00 ft	Diameter: 3.80 inches	Volume: 51.26 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 52.27 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	3878.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	49.00 ft				
Tool Length:	76.00 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			3852.00	
Shut In Tool	5.00			3857.00	
Hydraulic tool	5.00			3862.00	
Jars	5.00			3867.00	
Safety Joint	2.00			3869.00	
Packer	5.00			3874.00	27.00 Bottom Of Top Packer
Packer	4.00			3878.00	
Stubb	1.00			3879.00	
Recorder	0.00	8365	Inside	3879.00	
Recorder	0.00	8845	Outside	3879.00	
Perforations	12.00			3891.00	
Change Over Sub	1.00			3892.00	
Drill Pipe	31.00			3923.00	
Change Over Sub	1.00			3924.00	
Bullnose	3.00			3927.00	49.00 Bottom Packers & Anchor

**Total Tool Length: 76.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**24-3s-34w Rawlins,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 64699

**DST#: 5**

ATTN: Jeff Christian

Test Start: 2017.10.29 @ 08:59:00

## 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: 65.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
25.00	ocm 30o 70m	0.123

Total Length: 25.00 ft      Total Volume: 0.123 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

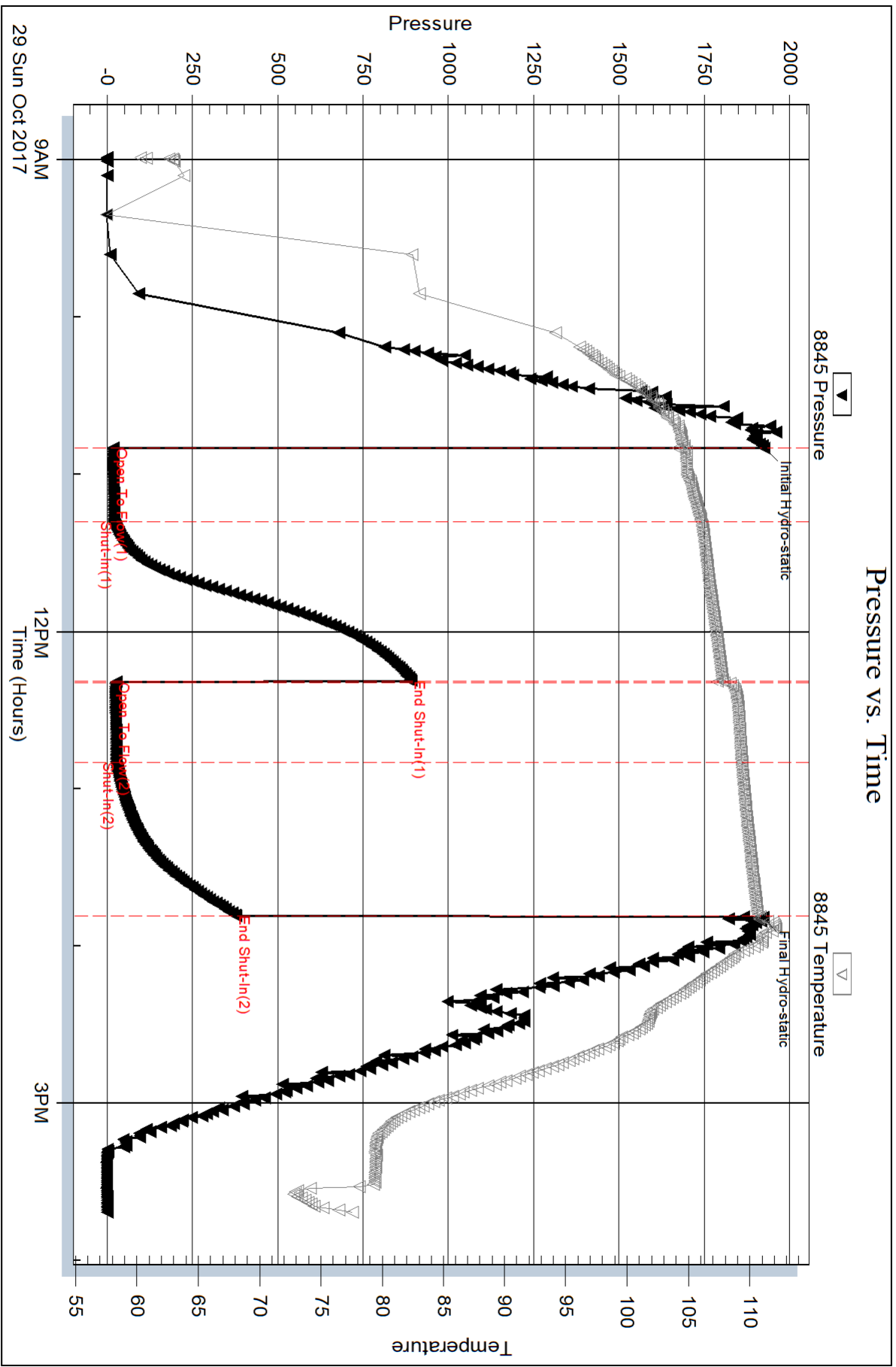
Recovery Comments:

Serial #: 8845

Outside Murfin Drilling Co.

Argabright #1-24

DST Test Number: 5



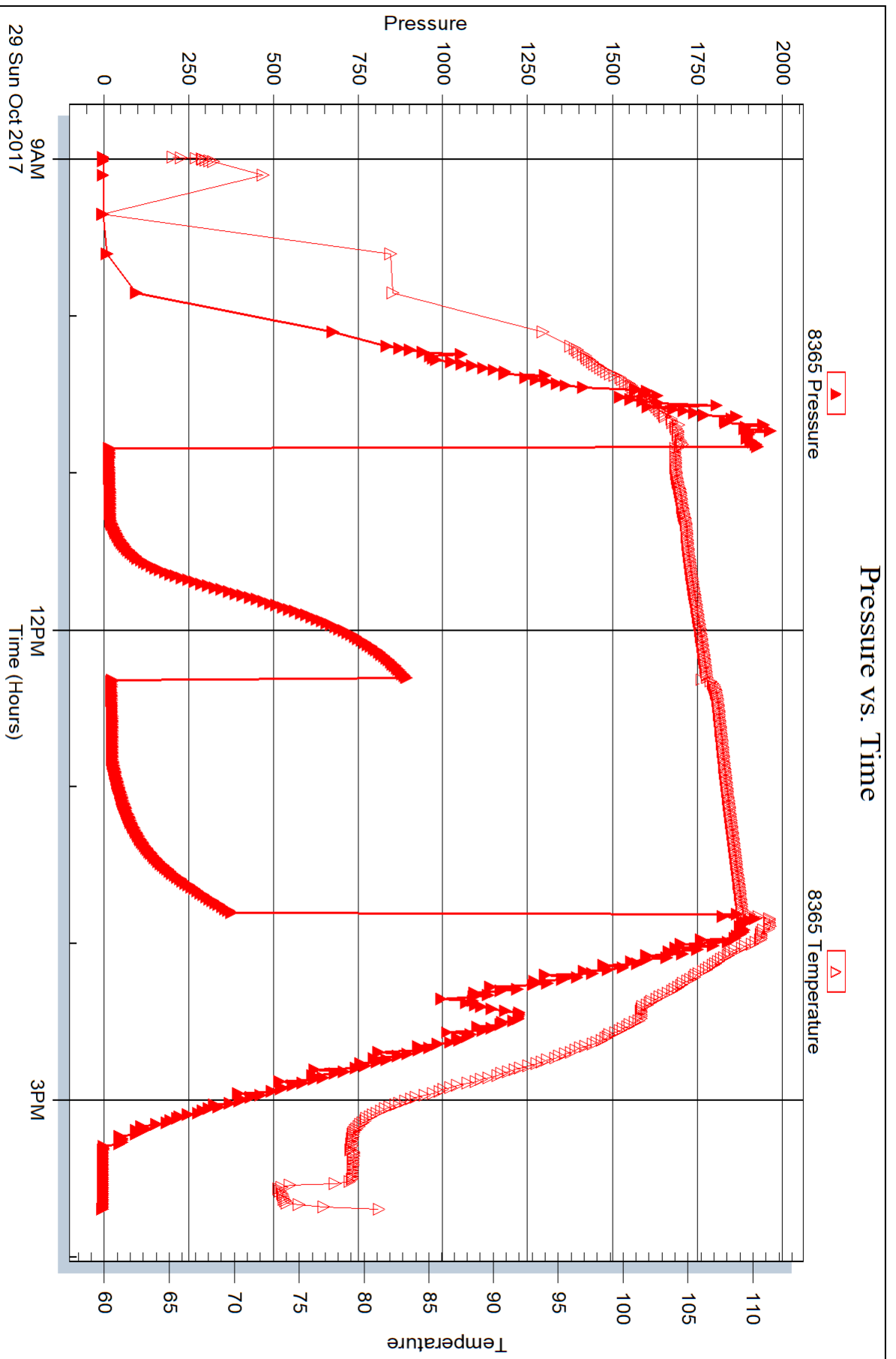
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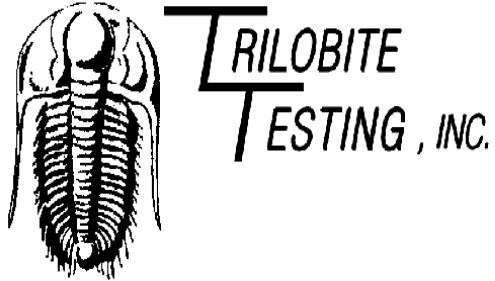
Inside

Murfin Drilling Co.

Argabright #1-24

DST Test Number: 5





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Jeff Christian

### **Argabright #1-24**

#### **24-3s-34w Rawlins,KS**

Start Date: 2017.10.30 @ 04:16:00

End Date: 2017.10.30 @ 12:30:15

Job Ticket #: 63700                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.11.02 @ 10:25:55



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co.

**24-3s-34w Rawlins, KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 63700

**DST#: 6**

ATTN: Jeff Christian

Test Start: 2017.10.30 @ 04:16:00

## GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:27:45

Time Test Ended: 12:30:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

**Interval: 3932.00 ft (KB) To 4010.00 ft (KB) (TVD)**

Reference Elevations: 2897.00 ft (KB)

Total Depth: 4010.00 ft (KB) (TVD)

2892.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8845 Outside**

Press@RunDepth: 165.77 psig @ 3933.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.30

End Date: 2017.10.30

Last Calib.: 2017.10.30

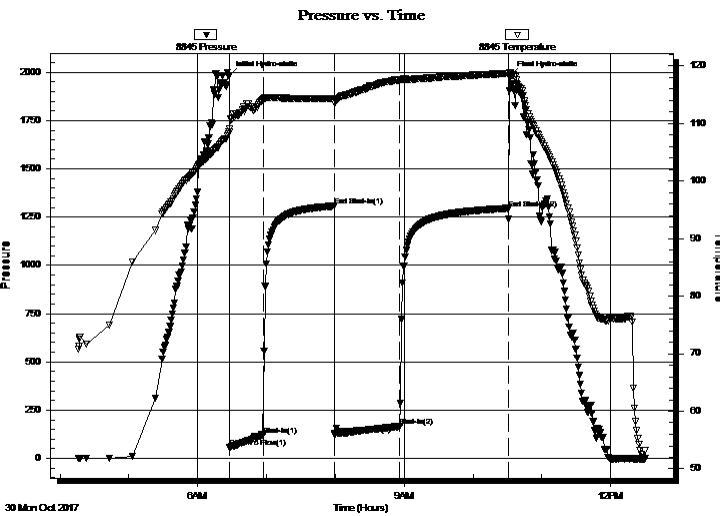
Start Time: 04:16:05

End Time: 12:30:14

Time On Btm: 2017.10.30 @ 06:27:15

Time Off Btm: 2017.10.30 @ 10:32:30

**TEST COMMENT:** IF: 5" blow.  
IS: No return.  
FF: 8" blow.  
FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1984.39	108.48	Initial Hydro-static
1	55.40	108.98	Open To Flow (1)
30	119.50	114.14	Shut-In(1)
92	1307.22	114.27	End Shut-In(1)
93	125.09	113.51	Open To Flow (2)
149	165.77	117.51	Shut-In(2)
244	1295.02	118.61	End Shut-In(2)
246	1983.81	118.83	Final Hydro-static

## Recovery

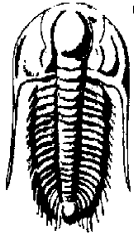
Length (ft)	Description	Volume (bbl)
315.00	w cm 25w 75m (oil spots in tool)	2.55

\* 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.

**24-3s-34w Rawlins,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 63700

**DST#: 6**

ATTN: Jeff Christian

Test Start: 2017.10.30 @ 04:16:00

## Tool Information

Drill Pipe:	Length: 3716.00 ft	Diameter: 3.80 inches	Volume: 52.13 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 53.14 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	3932.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	78.00 ft			
Tool Length:	105.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

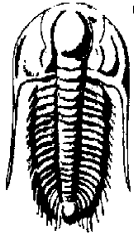
Tool Comments:

## Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3906.00	
Shut In Tool	5.00			3911.00	
Hydraulic tool	5.00			3916.00	
Jars	5.00			3921.00	
Safety Joint	2.00			3923.00	
Packer	5.00			3928.00	27.00 Bottom Of Top Packer
Packer	4.00			3932.00	
Stubb	1.00			3933.00	
Recorder	0.00	8365	Inside	3933.00	
Recorder	0.00	8845	Outside	3933.00	
Perforations	9.00			3942.00	
Change Over Sub	1.00			3943.00	
Drill Pipe	63.00			4006.00	
Change Over Sub	1.00			4007.00	
Bullnose	3.00			4010.00	78.00 Bottom Packers & Anchor

**Total Tool Length: 105.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co.

**24-3s-34w Rawlins,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Argabright #1-24**

Job Ticket: 63700

**DST#: 6**

ATTN: Jeff Christian

Test Start: 2017.10.30 @ 04:16:00

## 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:

29000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
315.00	w cm 25w 75m (oil spots in tool)	2.551

Total Length: 315.00 ft      Total Volume: 2.551 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

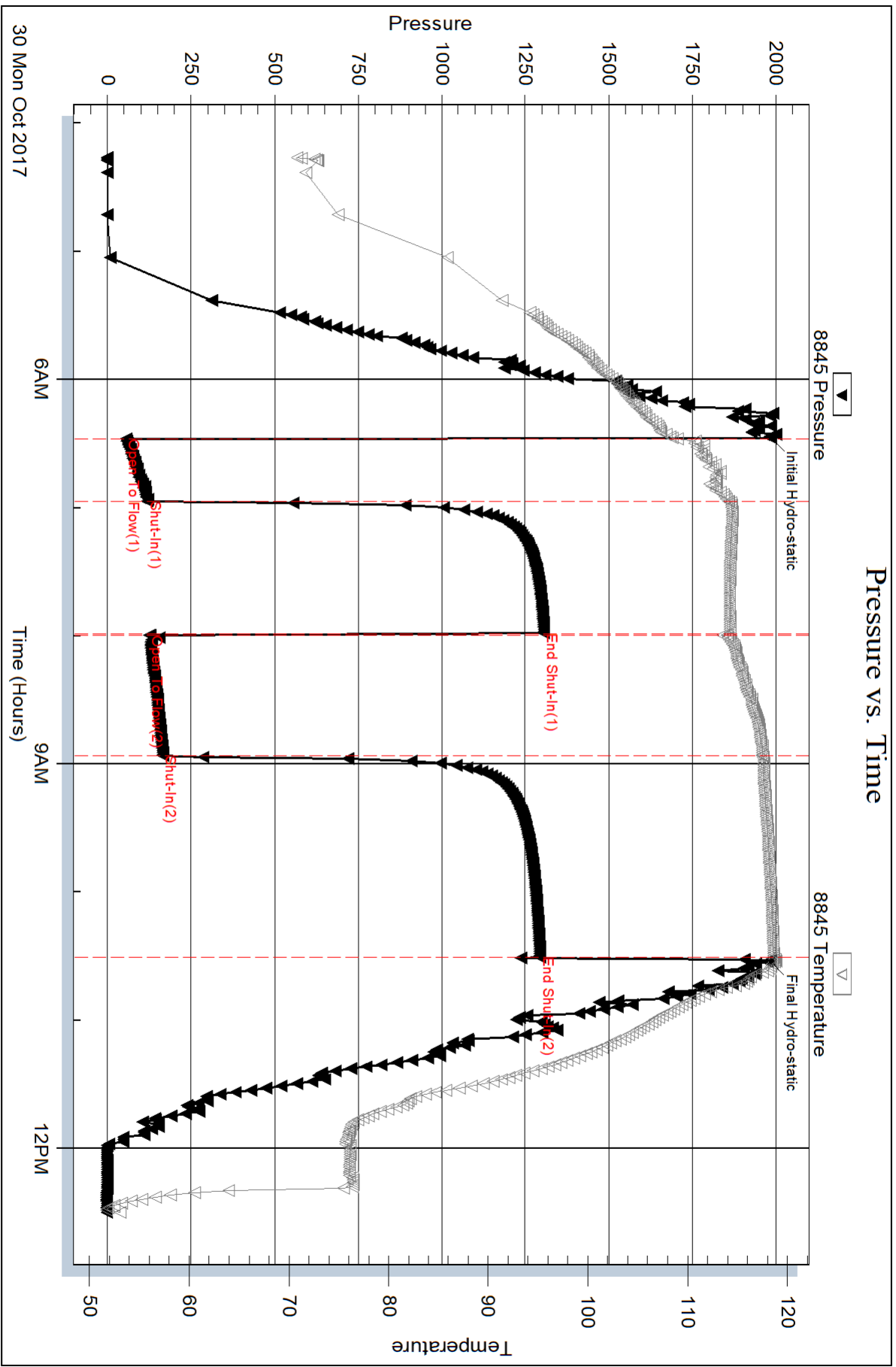
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: took on some mud w hen sliding to bottom  
rw is .291 @ 57f = 29000ppm





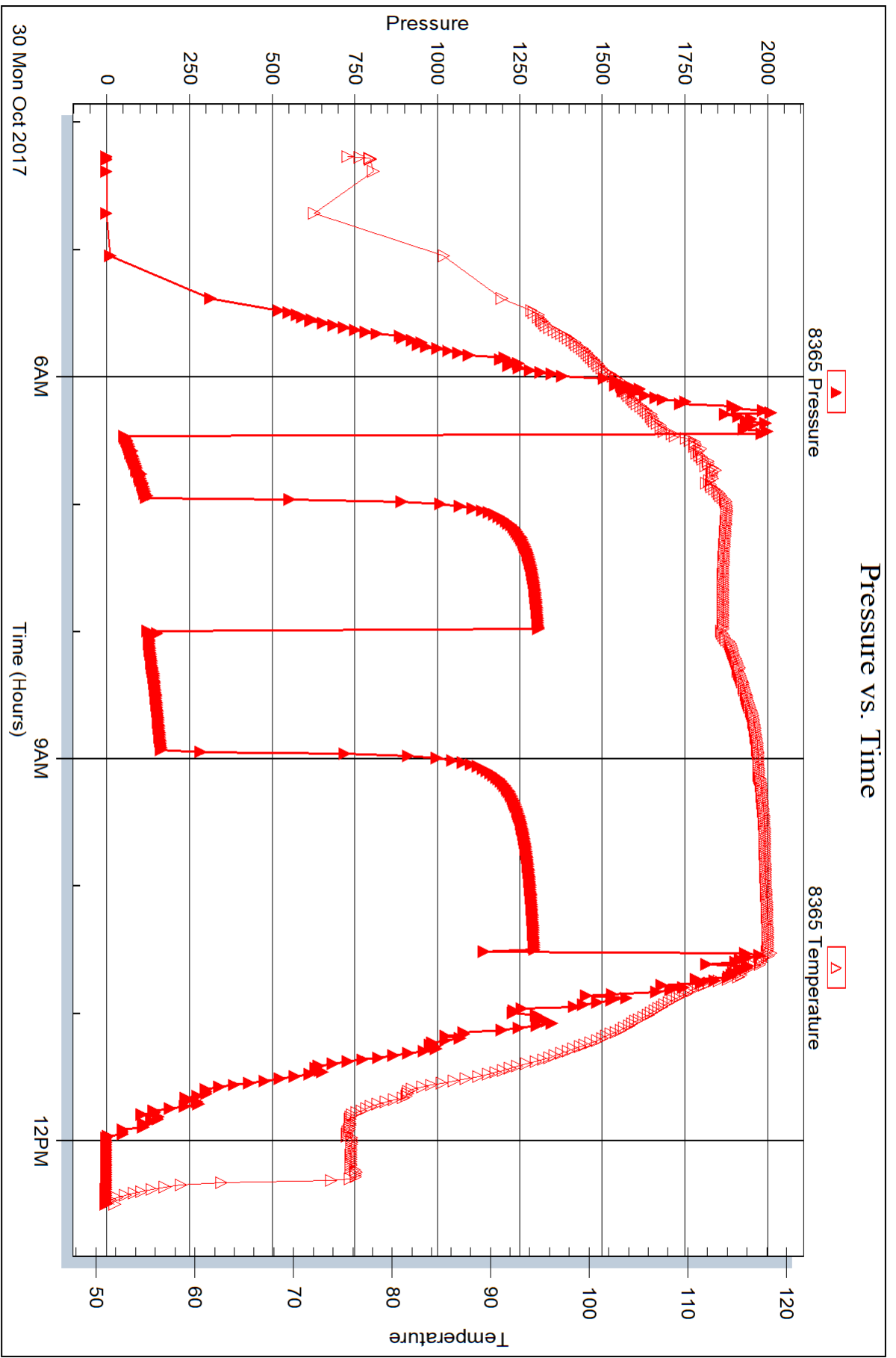
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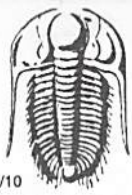
Inside

Murfin Drilling Co.

Argabright #1-24

DST Test Number: 6





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64695**

Well Name & No. Argabright #1-24 Test No. 1 Date 10/27/2017  
 Company Murkin Drilling Co, Inc Elevation 2897 KB 2892 GL  
 Address 250 N Water Ste 300 Wichita, KS 67202  
 Co. Rep / Geo. Jeff Christian Rig Murkin 24  
 Location: Sec. 24 Twp. 3S Rge. 34W Co. Rawlins State Ks

Interval Tested 3671 - 3735 Zone Tested Topoka  
 Anchor Length 64' Drill Pipe Run 3466 Mud Wt. 8.9  
 Top Packer Depth 3666 Drill Collars Run 205 Vis 75  
 Bottom Packer Depth 3671 Wt. Pipe Run Ø WL 6.4  
 Total Depth 3735 Chlorides 2,000 ppm System LCM 4#  
 Blow Description IF 5" blow  
ISI No return.  
FF 6" blow  
FST No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>240</u>	<u>MCW</u>		<u>76</u>	<u>30</u>	
	<u>6th Specks</u>				

Rec Total 240 BHT 115 Gravity — API RW 147 @ 56 °F Chlorides 19000 ppm

(A) Initial Hydrostatic <u>1796</u>	<input checked="" type="checkbox"/> Test 1050	T-On Location <u>1630</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>1826</u>
(C) First Final Flow <u>66</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>2049</u>
(D) Initial Shut-In <u>1187</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>0049</u>
(E) Second Initial Flow <u>73</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0249</u>
(F) Second Final Flow <u>124</u>	<input checked="" type="checkbox"/> Mileage 61 rt 45.75	Comments
(G) Final Shut-In <u>1158</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1792</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Total <u>1420.75</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1420.75</u>	

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.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64696**

Well Name & No. Argabright # 1-24 Test No. 2 Date 10/27/2017  
 Company Murfin Drilling Co, Inc Elevation 2897 KB 2892 GL  
 Address 250 N Water Ste 300 Wichita, Ks 67202  
 Co. Rep / Geo. Jeff Christian Rig Murfin 24  
 Location: Sec. 24 Twp. 3 S Rge. 34 W Co. Rawlins State Ks

Interval Tested 3730 - 3780 Zone Tested Lwr Leocompton  
 Anchor Length 50' Drill Pipe Run 3530 Mud Wt. 8.9  
 Top Packer Depth 3725 Drill Collars Run 205 Vis 75  
 Bottom Packer Depth 3730 Wt. Pipe Run Ø WL 5.6  
 Total Depth 3780 Chlorides 3200 ppm System LCM 5#  
 Blow Description IF 3" blow  
ISF No return.  
FF 2 1/2" blow.  
FSI No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>150</u>	<u>50 wcm</u>		<u>1</u>	<u>24</u>	<u>75</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 150 BHT 112 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1834</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>1000</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1018</u>
(C) First Final Flow <u>45</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1236</u>
(D) Initial Shut-In <u>1189</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1406</u>
(E) Second Initial Flow <u>54</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1732</u>
(F) Second Final Flow <u>74</u>	<input checked="" type="checkbox"/> Mileage <u>45.75</u>	Comments
(G) Final Shut-In <u>1157</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1820</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1420.75</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1420.75</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64697**

Well Name & No. Argabright # 1-24 Test No. 3 Date 10/28/2017  
 Company Murfin Drilling Co, Inc Elevation 2897 KB 2892 GL  
 Address 250 N Water Ste 300 Wichita, Ks 67202  
 Co. Rep / Geo. Jeff Christian Rig Murfin 24  
 Location: Sec. 24 Twp. 3s Rge. 34w Co. Rawlins State Ks

Interval Tested 3781-3838 Zone Tested LKC A  
 Anchor Length 57 Drill Pipe Run 3538 Mud Wt. 8.9  
 Top Packer Depth 3776 Drill Collars Run 205 Vis 85  
 Bottom Packer Depth 3781 Wt. Pipe Run Ø WL 5.6  
 Total Depth 3838 Chlorides 3200 ppm System LCM 4#

Blow Description IF: 1 1/2" blow  
ISI: No return.  
FF: ~~A~~ 1/2" blow  
FSJ: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>MOD (oil specs)</u>			<u>100</u>	
	<u>Gassy odor</u>				

Rec Total 15 BHT 114 Gravity — API RW — @ — °F Chlorides — ppm

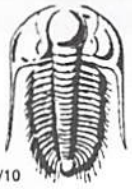
(A) Initial Hydrostatic <u>1870</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>0130</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0218</u>
(C) First Final Flow <u>17</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0435</u>
(D) Initial Shut-In <u>93</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>0735</u>
(E) Second Initial Flow <u>19</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0925</u>
(F) Second Final Flow <u>20</u>	<input checked="" type="checkbox"/> Mileage <u>45.75</u>	Comments
(G) Final Shut-In <u>57</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1853</u>	<input type="checkbox"/> Straddle	
	<input type="checkbox"/> Shale Packer	
	<input type="checkbox"/> Extra Packer	
	<input type="checkbox"/> Extra Recorder	
	<input type="checkbox"/> Day Standby	
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1420.75</u>	

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 30  
 Final Shut-In 60

Sub Total 0  
 Total 1420.75  
 MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64698**

4/10

Well Name & No. Argabright #1-24 Test No. 4 Date 10/28/2017  
 Company Murkin Drilling Co, Inc Elevation 2897 KB 2892 GL  
 Address 250 N Water Ste 300 Wichita, KS 67202  
 Co. Rep / Geo. Jeff Christian Rig Murkin 24  
 Location: Sec. 24 Twp. 3s Rge. 34w Co. Rawlins State KS

Interval Tested 3830 - 3884 Zone Tested LKC B-D  
 Anchor Length 54' Drill Pipe Run 3620 Mud Wt. 9.0  
 Top Packer Depth 3825 Drill Collars Run 205 Vis 75  
 Bottom Packer Depth 3830 Wt. Pipe Run Ø WL 5.6  
 Total Depth 3884 Chlorides 3600 ppm System LCM 4#  
 Blow Description IF: Tool slid 10', Mod fell 10', Surface blow  
ISI: No return.  
FF: No blow  
FSI: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>80</u>	<u>MOO</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 80 BHT 110 Gravity — API RW — @ —° F Chlorides — ppm  
 (A) Initial Hydrostatic 1892  Test 1050 T-On Location 1700  
 (B) First Initial Flow 64  Jars 250 T-Started 193 1711  
 (C) First Final Flow 65  Safety Joint 75 T-Open 1935  
 (D) Initial Shut-In 160  Circ Sub N/C T-Pulled 2235  
 (E) Second Initial Flow 65  Hourly Standby \_\_\_\_\_ T-Out 0025  
 (F) Second Final Flow 65  Mileage 45.75 Comments \_\_\_\_\_  
 (G) Final Shut-In 108  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1881  Straddle \_\_\_\_\_  
 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 \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1420.75 Sub Total 0  
 Total 1420.75 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64699**

Well Name & No. Argabright #1-24 Test No. 5 Date 10/29/2017  
 Company Martin Drilling Co, Inc Elevation 2897 KB 2892 GL  
 Address 250 N Water Ste 300 Wichita, Ks 67202  
 Co. Rep / Geo. Jeff Christian Rig Martin 2+  
 Location: Sec. 24 Twp. 3s Rge. 34w Co. Rawlins State Ks

Interval Tested 3878-3927 Zone Tested LKC F&G  
 Anchor Length 49 Drill Pipe Run 3654 Mud Wt. 9.6  
 Top Packer Depth 3873 Drill Collars Run 205 Vis 65  
 Bottom Packer Depth 3878 Wt. Pipe Run 0 WL 6.0  
 Total Depth 3927 Chlorides 3800 ppm System LCM 4#

Blow Description IF: 1 1/2" blow  
ISI: No return  
FF: 1/2" blow  
FSI: No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>25</u>	<u>OCM</u>		<u>30</u>	<u>70</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 25 BHT 111 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>1925</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>0830</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0859</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1049</u>
(D) Initial Shut-In <u>891</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1349</u>
(E) Second Initial Flow <u>26</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1542</u>
(F) Second Final Flow <u>27</u>	<input checked="" type="checkbox"/> Mileage <u>45.75</u>	Comments
(G) Final Shut-In <u>378</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1922</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1420.75</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1420.75</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64700**

Well Name & No. Argabright #1-24 Test No. 6 Date 10/30/2017  
 Company Murfin Drilling Co, Inc Elevation 2897 KB 2892 GL  
 Address 250 N Water Ste 300 Wichita, Ks 67202  
 Co. Rep / Geo. Jeff Christian Rig Murfin 24  
 Location: Sec. 24 Twp. 3s Rge. 34w Co. Rawlins State Ks

Interval Tested 3932 - 4010 Zone Tested LKC H & J  
 Anchor Length 78' Drill Pipe Run 3716 Mud Wt. 9.0  
 Top Packer Depth 3927 Drill Collars Run 205 Vis .60  
 Bottom Packer Depth 3932 Wt. Pipe Run 0 WL 6.0  
 Total Depth 4010 Chlorides 3800 ppm System LCM 4#  
 Blow Description TF: 5" blow.  
ISI: No return.  
FF: 8" blow.  
FSI: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>315</u>	<u>ncw</u>		<u>25</u>	<u>75</u>	
	<u>oil spots in tool</u>				

Rec Total 315 BHT 119 Gravity — API RW 291 @ 57°F Chlorides 29000 ppm  
 (A) Initial Hydrostatic 1984  Test 1150 T-On Location 0330  
 (B) First Initial Flow 55  Jars 250 T-Started 0416  
 (C) First Final Flow 120  Safety Joint 75 T-Open 0627  
 (D) Initial Shut-In 1307  Circ Sub N/C T-Pulled 1027  
 (E) Second Initial Flow 125  Hourly Standby \_\_\_\_\_ T-Out 1230  
 (F) Second Final Flow 166  Mileage X2 45.75+45.75 Comments Backed up tool  
 (G) Final Shut-In 1295  Sampler \_\_\_\_\_ @ 1500 10/31  
 (H) Final Hydrostatic 1984  Straddle \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Recorder \_\_\_\_\_  
 Final Flow 60  Day Standby \_\_\_\_\_  
 Final Shut-In 90  Accessibility NO  
 Sub Total 1566.5  
 Sub Total 0  
 Total 1566.50  
 MP/DST Disc't \_\_\_\_\_

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

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