



## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Carolyn 'B' #1-19**

#### **19-1s-36w Rawlins,KS**

Start Date: 2017.07.14 @ 19:13:00

End Date: 2017.07.15 @ 01:38:45

Job Ticket #: 63327                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.07.20 @ 09:44:06



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins, KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63327

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2017.07.14 @ 19:13:00

## GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:03:15

Time Test Ended: 01:38:45

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

Interval: **3783.00 ft (KB) To 3832.00 ft (KB) (TVD)**

Reference Elevations: 3326.00 ft (KB)

Total Depth: 3832.00 ft (KB) (TVD)

3321.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6625 Inside**

Press@RunDepth: 15.40 psig @ 3784.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.07.14

End Date:

2017.07.15

Last Calib.: 2017.07.15

Start Time: 19:13:05

End Time:

01:38:44

Time On Btm: 2017.07.14 @ 21:02:45

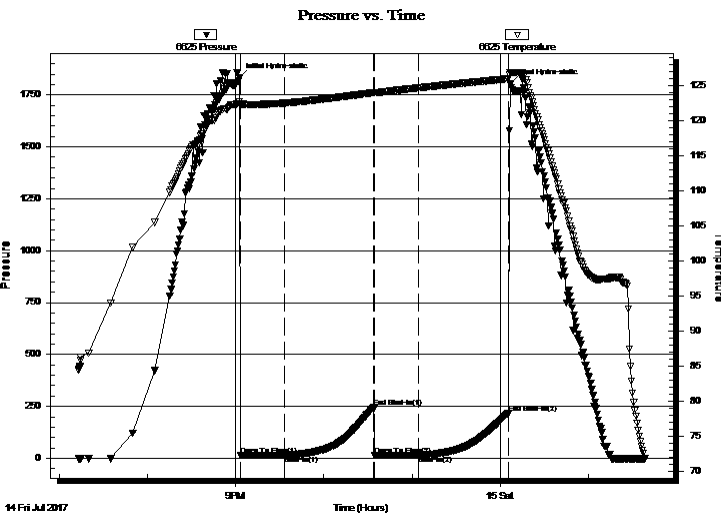
Time Off Btm: 2017.07.15 @ 00:06:45

TEST COMMENT: 30 - IF: Weak surface blow, dead at 9 min.

60 - IS: No blow

30 - FF: No blow

60 - FS: No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1831.34	122.72	Initial Hydro-static
1	13.79	122.43	Open To Flow (1)
31	14.25	122.48	Shut-In(1)
91	245.45	123.97	End Shut-In(1)
92	14.24	123.96	Open To Flow (2)
122	15.40	124.66	Shut-In(2)
183	216.94	125.97	End Shut-In(2)
184	1802.47	126.81	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud 100%	0.01

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63327

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2017.07.14 @ 19:13:00

## Tool Information

Drill Pipe:	Length: 3615.00 ft	Diameter: 3.80 inches	Volume: 50.71 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 146.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 51.43 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3783.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	49.00 ft			
Tool Length:	78.00 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	3.00			3773.00	
Packer	5.00			3778.00	29.00 Bottom Of Top Packer
Packer	5.00			3783.00	
Stubb	1.00			3784.00	
Recorder	0.00	6625	Inside	3784.00	
Recorder	0.00	8017	Outside	3784.00	
Perforations	10.00			3794.00	
Blank Spacing	33.00			3827.00	
Perforations	2.00			3829.00	
Bullnose	3.00			3832.00	49.00 Bottom Packers & Anchor

**Total Tool Length: 78.00**



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63327

**DST#: 1**

ATTN: Robert Hendrix

Test Start: 2017.07.14 @ 19:13:00

### 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: 600.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud 100%	0.010

Total Length: 2.00 ft      Total Volume: 0.010 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6625

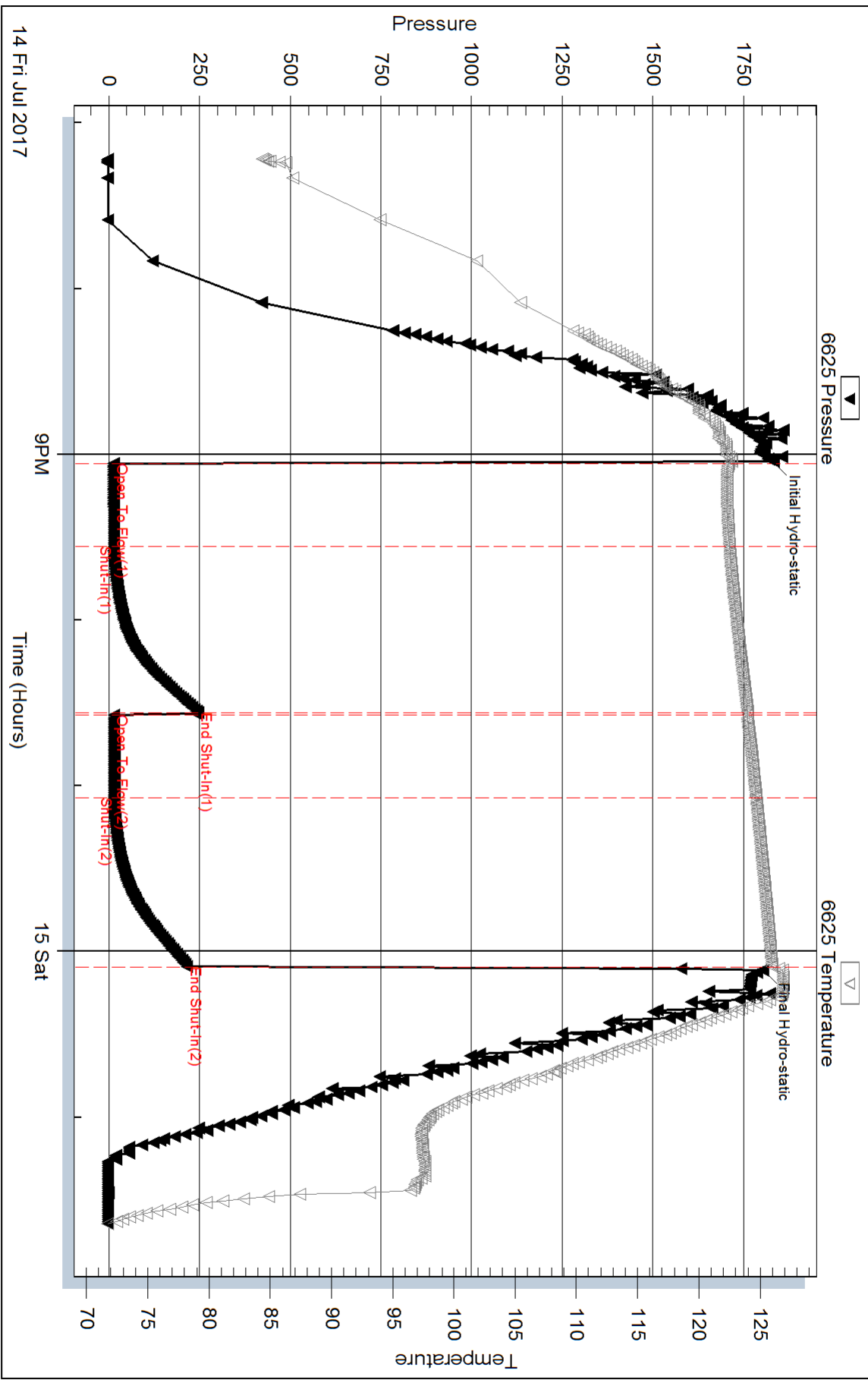
Inside

Murfin Drilling Co., Inc.

Carolyn 'B #1-19

DST Test Number: 1

# Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 63327

Printed: 2017.07.20 @ 09:44:07





## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

**Carolyn 'B' #1-19**

**19-1s-36w Rawlins,KS**

Start Date: 2017.07.16 @ 10:07:00

End Date: 2017.07.16 @ 17:50:00

Job Ticket #: 63328                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.07.20 @ 09:43:36





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins, KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63328

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2017.07.16 @ 10:07:00

## GENERAL INFORMATION:

Formation: **LKC. "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:51:30

Time Test Ended: 17:50:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

**Interval: 4222.00 ft (KB) To 4272.00 ft (KB) (TVD)**

Reference Elevations: 3326.00 ft (KB)

Total Depth: 4272.00 ft (KB) (TVD)

3321.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6625**

**Inside**

Press@RunDepth: 50.80 psig @ 4223.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.07.16

End Date:

2017.07.16

Last Calib.:

2017.07.16

Start Time: 10:07:05

End Time:

17:49:59

Time On Btm:

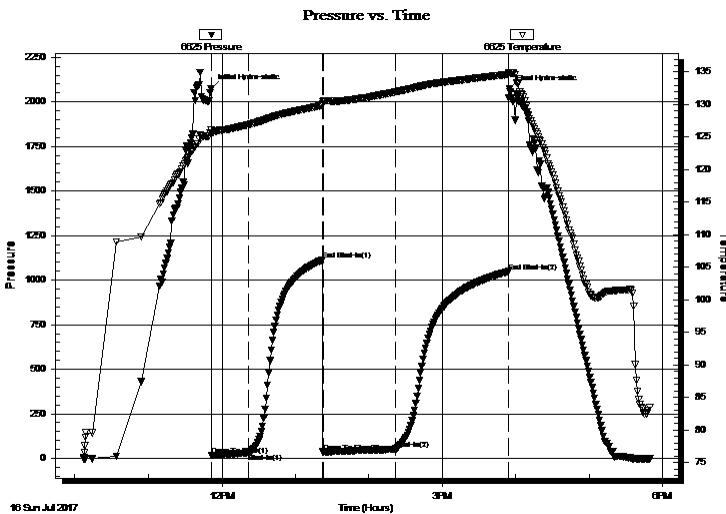
2017.07.16 @ 11:51:15

Time Off Btm:

2017.07.16 @ 15:54:45

**TEST COMMENT:** 30 - IF: 1/4" Blow at open, built to 2 1/2"  
60 - IS: No blow back  
60 - FF: Blow started at 3 min., built to 2 1/4"  
90 - FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2075.14	126.09	Initial Hydro-static
1	15.18	125.72	Open To Flow (1)
31	30.60	126.93	Shut-In(1)
91	1111.98	129.86	End Shut-In(1)
92	34.19	130.42	Open To Flow (2)
151	50.80	131.95	Shut-In(2)
243	1048.23	134.63	End Shut-In(2)
244	2071.35	134.88	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
65.00	OCM 62% <i>m</i> , 35% <i>o</i> , 3% <i>g</i>	0.32
5.00	SMCO 92% <i>o</i> , 6% <i>m</i> , 2% <i>g</i>	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.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63328

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2017.07.16 @ 10:07:00

## Tool Information

Drill Pipe:	Length: 4079.00 ft	Diameter: 3.80 inches	Volume: 57.22 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 146.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 57.94 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4222.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 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
Change Over Sub	1.00			4194.00	
Shut In Tool	5.00			4199.00	
Hydraulic tool	5.00			4204.00	
Jars	5.00			4209.00	
Safety Joint	3.00			4212.00	
Packer	5.00			4217.00	29.00 Bottom Of Top Packer
Packer	5.00			4222.00	
Stubb	1.00			4223.00	
Recorder	0.00	6625	Inside	4223.00	
Recorder	0.00	8017	Outside	4223.00	
Perforations	10.00			4233.00	
Blank Spacing	33.00			4266.00	
Perforations	3.00			4269.00	
Bullnose	3.00			4272.00	50.00 Bottom Packers & Anchor

**Total Tool Length: 79.00**



**TRILOBITE  
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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63328

**DST#: 2**

ATTN: Robert Hendrix

Test Start: 2017.07.16 @ 10:07:00

## 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:

ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
65.00	OCM 62% <i>m</i> , 35% <i>o</i> , 3% <i>g</i>	0.320
5.00	SMCO 92% <i>o</i> , 6% <i>m</i> , 2% <i>g</i>	0.025

Total Length: 70.00 ft      Total Volume: 0.345 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

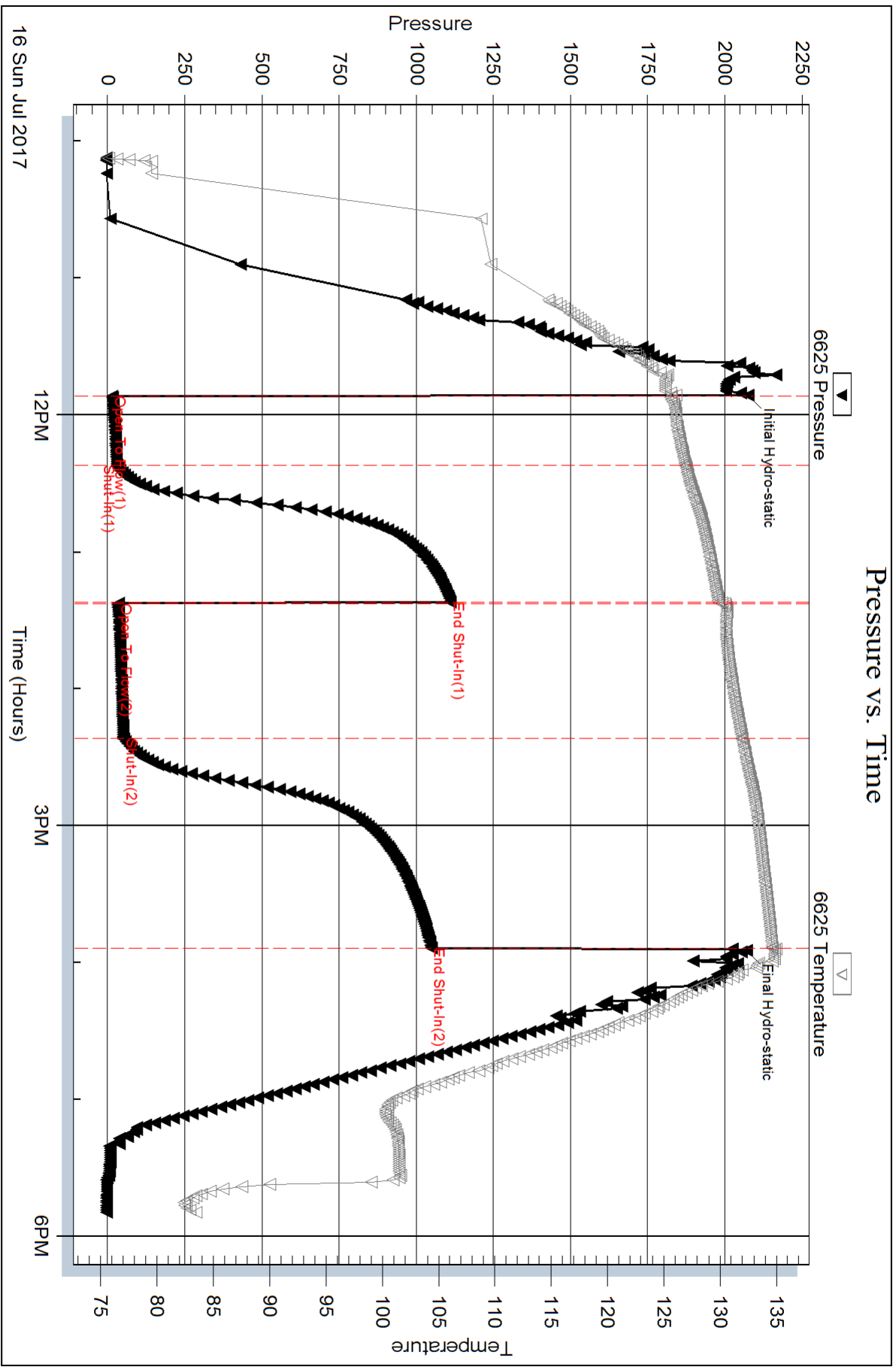
Serial #:

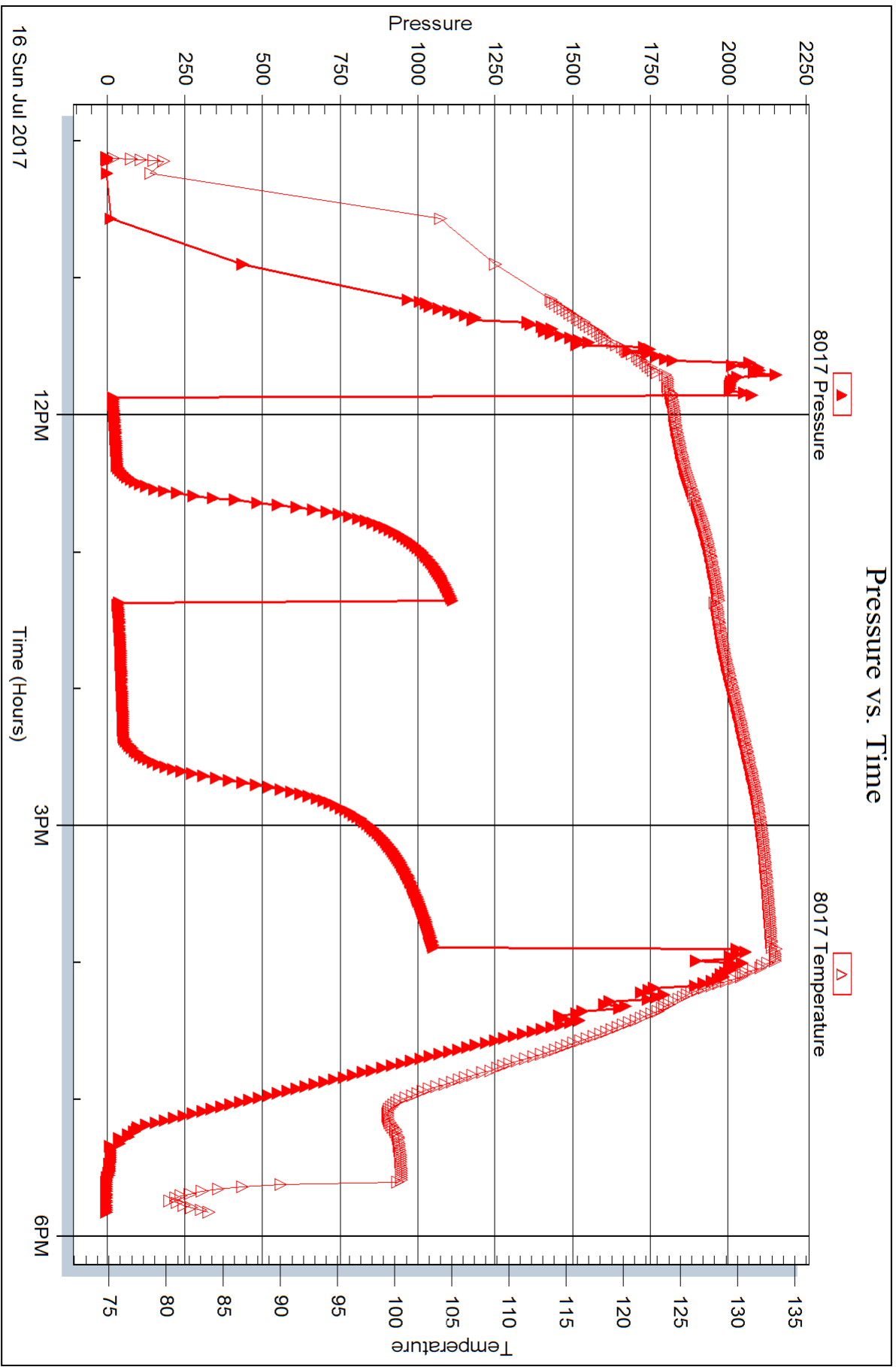
Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 36 api @ 90 deg F

Corrected Gravity = 33 api







## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

**Carolyn 'B' #1-19**

**19-1s-36w Rawlins,KS**

Start Date: 2017.07.17 @ 04:34:00

End Date: 2017.07.17 @ 12:28:00

Job Ticket #: 63329                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.07.20 @ 09:40:00



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins, KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63329

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2017.07.17 @ 04:34:00

## GENERAL INFORMATION:

Formation: **LKC "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:15:30

Time Test Ended: 12:28:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

**Interval: 4278.00 ft (KB) To 4330.00 ft (KB) (TVD)**

Reference Elevations: 3326.00 ft (KB)

Total Depth: 4330.00 ft (KB) (TVD)

3321.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6625**

**Inside**

Press@RunDepth: 62.41 psig @ 4279.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.07.17

End Date:

2017.07.17

Last Calib.: 2017.07.17

Start Time: 04:34:05

End Time:

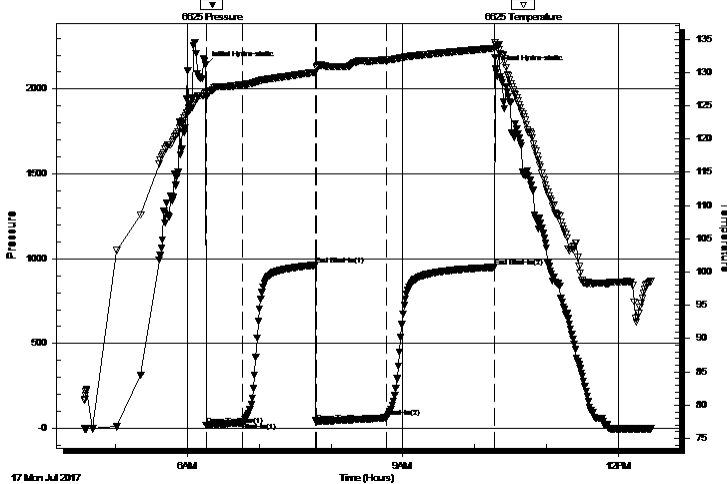
12:27:59

Time On Btm: 2017.07.17 @ 06:15:15

Time Off Btm: 2017.07.17 @ 10:17:30

**TEST COMMENT:** 30 - IF: 1/4" Blow at open, built to 3 1/2"  
60 - IS: No blow back  
60 - FF: Blow started at 2 min., built to 4 1/2"  
90 - FS: Weak surface blow back, didn't build

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2140.46	126.88	Initial Hydro-static
1	15.91	126.26	Open To Flow (1)
31	33.94	128.14	Shut-In(1)
92	961.59	130.00	End Shut-In(1)
93	38.09	130.69	Open To Flow (2)
151	62.41	131.86	Shut-In(2)
241	948.91	133.62	End Shut-In(2)
243	2117.09	134.14	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
58.00	MO 50%o, 48% m, 2%g	0.29
58.00	CGO 88%o, 12%g	0.29
20.00	CGO 50%o, 50%g	0.10
0.00	GIP = 40'+	0.00

## 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.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63329

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2017.07.17 @ 04:34:00

## Tool Information

Drill Pipe:	Length: 4111.00 ft	Diameter: 3.80 inches	Volume: 57.67 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 146.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4278.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	81.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4250.00	
Shut In Tool	5.00			4255.00	
Hydraulic tool	5.00			4260.00	
Jars	5.00			4265.00	
Safety Joint	3.00			4268.00	
Packer	5.00			4273.00	29.00 Bottom Of Top Packer
Packer	5.00			4278.00	
Stubb	1.00			4279.00	
Recorder	0.00	6625	Inside	4279.00	
Recorder	0.00	8017	Outside	4279.00	
Perforations	10.00			4289.00	
Blank Spacing	33.00			4322.00	
Perforations	5.00			4327.00	
Bullnose	3.00			4330.00	52.00 Bottom Packers & Anchor

**Total Tool Length: 81.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63329

**DST#: 3**

ATTN: Robert Hendrix

Test Start: 2017.07.17 @ 04:34:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

21.8 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: 600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
58.00	MO 50%o, 48%m, 2%g	0.285
58.00	CGO 88%o, 12%g	0.285
20.00	CGO 50%o, 50%g	0.098
0.00	GIP = 40'+	0.000

Total Length: 136.00 ft      Total Volume: 0.668 bbl

Num Fluid Samples: 0

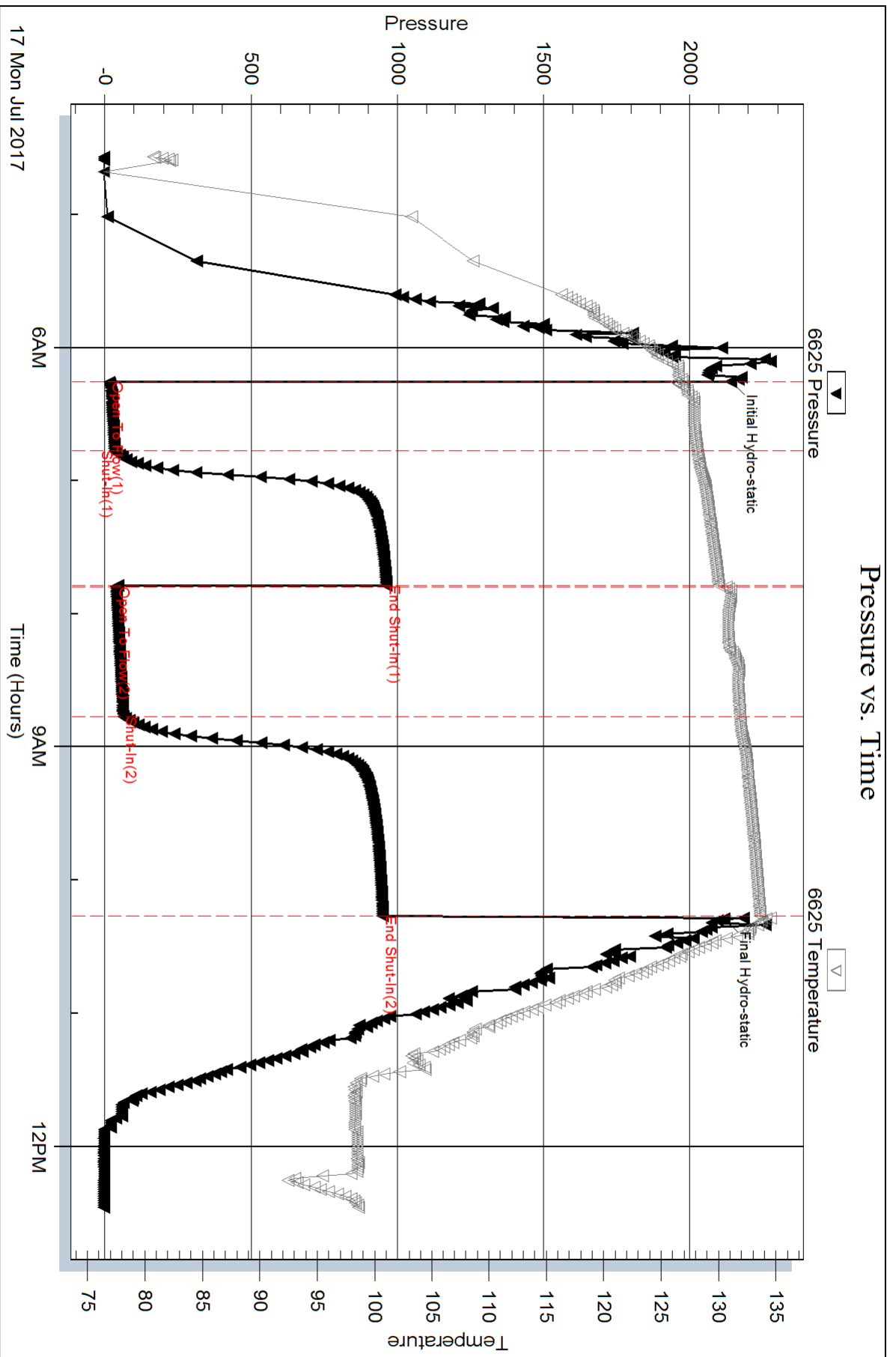
Num Gas Bombs: 0

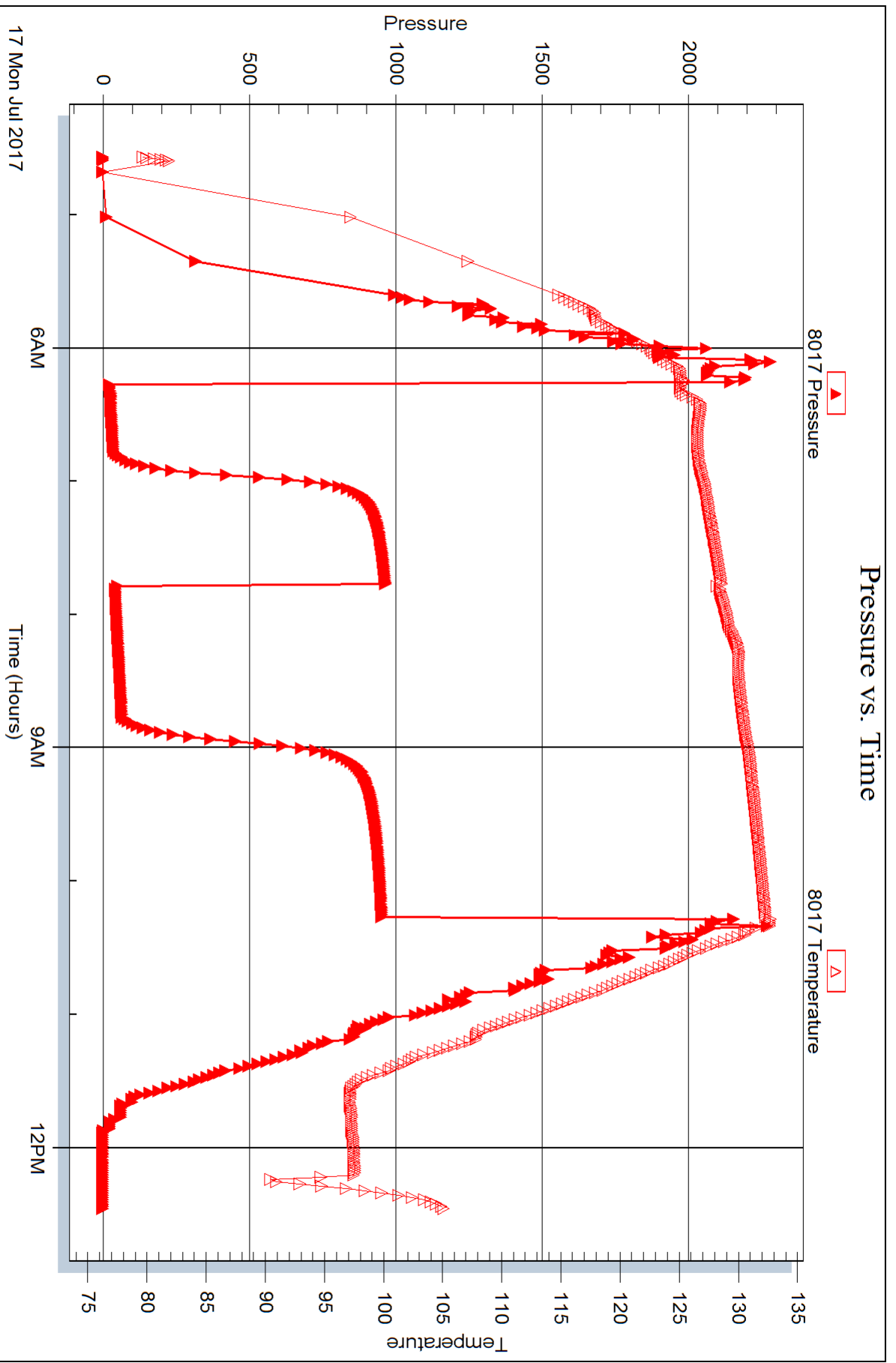
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 25.4 api @ 96 deg F  
Corrected Gravity = 21.8 api







## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Robert Hendrix

### **Carolyn 'B' #1-19**

#### **19-1s-36w Rawlins,KS**

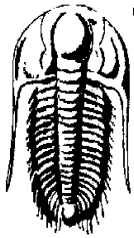
Start Date: 2017.07.18 @ 08:52:00

End Date: 2017.07.18 @ 15:49:15

Job Ticket #: 63330                      DST #: 4

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.07.20 @ 09:38:20



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins, KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63330

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2017.07.18 @ 08:52:00

## GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:38:15

Time Test Ended: 15:49:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

**Interval: 4427.00 ft (KB) To 4472.00 ft (KB) (TVD)**

Reference Elevations: 3326.00 ft (KB)

Total Depth: 4472.00 ft (KB) (TVD)

3321.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6625 Inside**

Press@RunDepth: 53.70 psig @ 4428.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.07.18

End Date:

2017.07.18

Last Calib.: 2017.07.18

Start Time: 08:52:05

End Time:

15:49:14

Time On Btm: 2017.07.18 @ 10:38:00

Time Off Btm: 2017.07.18 @ 13:41:00

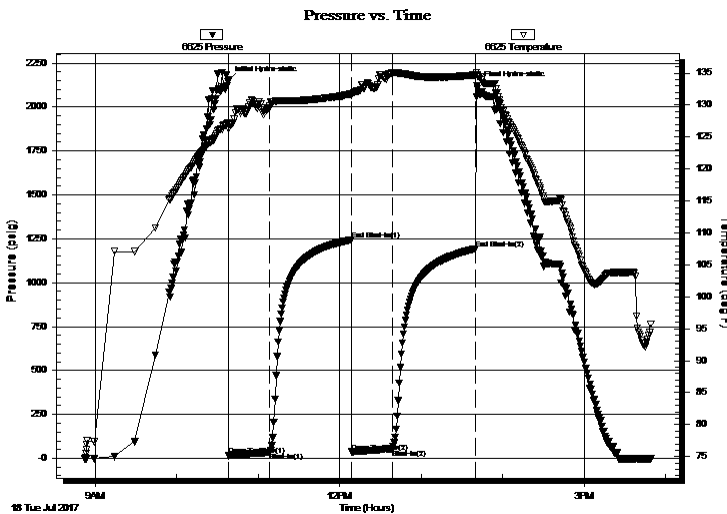
**TEST COMMENT:** 30 - IF: Blow built to 1 1/2"

60 - IS: No blow back

30 - FF: No blow

60 - FS: No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2152.73	127.26	Initial Hydro-static
1	14.72	126.27	Open To Flow (1)
30	34.59	129.53	Shut-In(1)
91	1244.36	131.72	End Shut-In(1)
91	36.72	131.57	Open To Flow (2)
121	53.70	135.01	Shut-In(2)
182	1193.49	134.71	End Shut-In(2)
183	2123.83	134.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	SOCM 96% m, 4% o	0.44

## 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.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63330

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2017.07.18 @ 08:52:00

## Tool Information

Drill Pipe:	Length: 4267.00 ft	Diameter: 3.80 inches	Volume: 59.85 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 146.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 60.57 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4427.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	74.00 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			4399.00	
Shut In Tool	5.00			4404.00	
Hydraulic tool	5.00			4409.00	
Jars	5.00			4414.00	
Safety Joint	3.00			4417.00	
Packer	5.00			4422.00	29.00 Bottom Of Top Packer
Packer	5.00			4427.00	
Stubb	1.00			4428.00	
Recorder	0.00	6625	Inside	4428.00	
Recorder	0.00	8017	Outside	4428.00	
Perforations	8.00			4436.00	
Blank Spacing	33.00			4469.00	
Bullnose	3.00			4472.00	45.00 Bottom Packers & Anchor

**Total Tool Length: 74.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**19-1s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Carolyn 'B' #1-19**

Job Ticket: 63330

**DST#: 4**

ATTN: Robert Hendrix

Test Start: 2017.07.18 @ 08:52:00

## 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: 62.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	SOCM 96% <sub>m</sub> , 4% <sub>o</sub>	0.443

Total Length: 90.00 ft      Total Volume: 0.443 bbl

Num Fluid Samples: 0

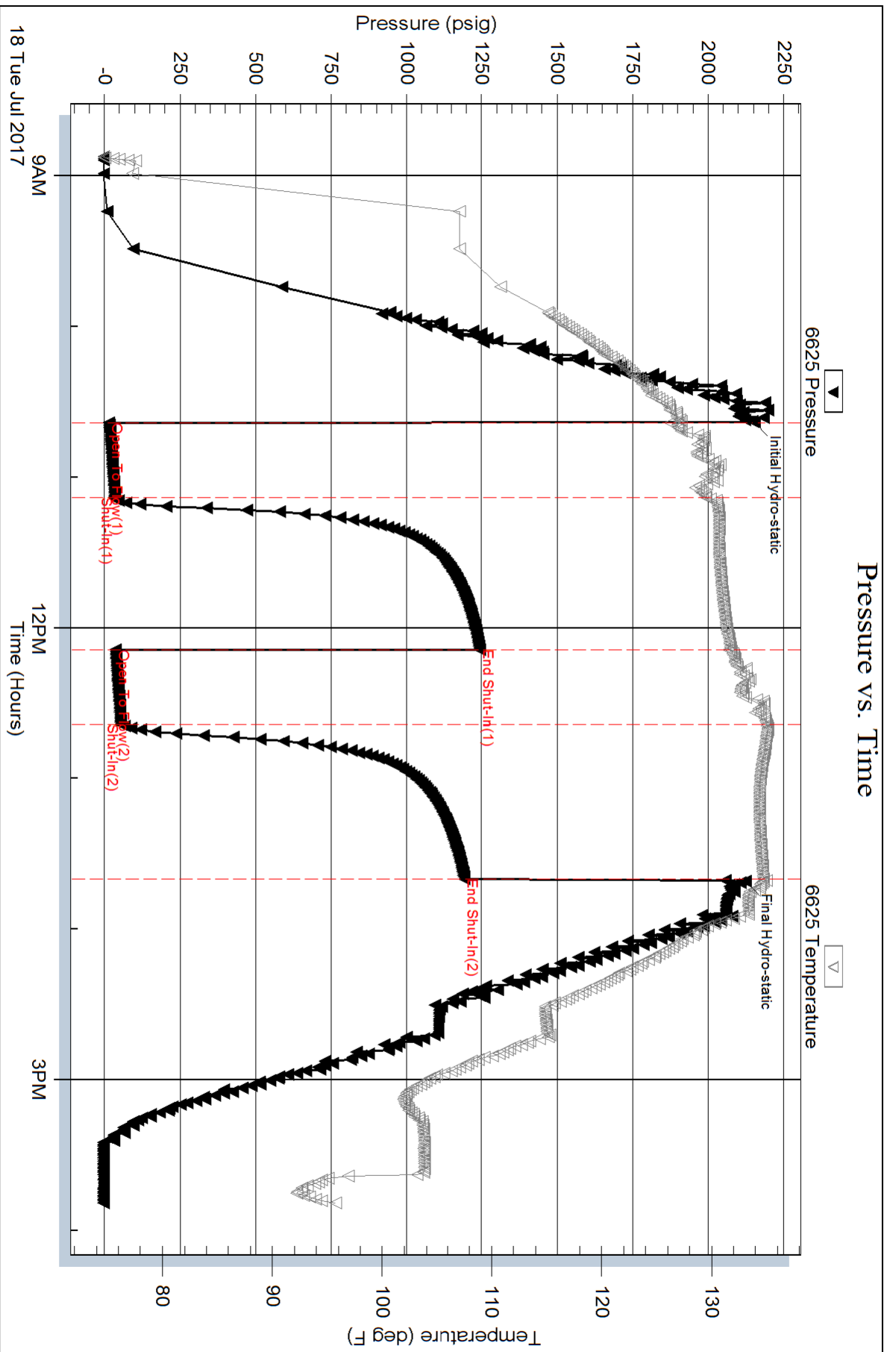
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

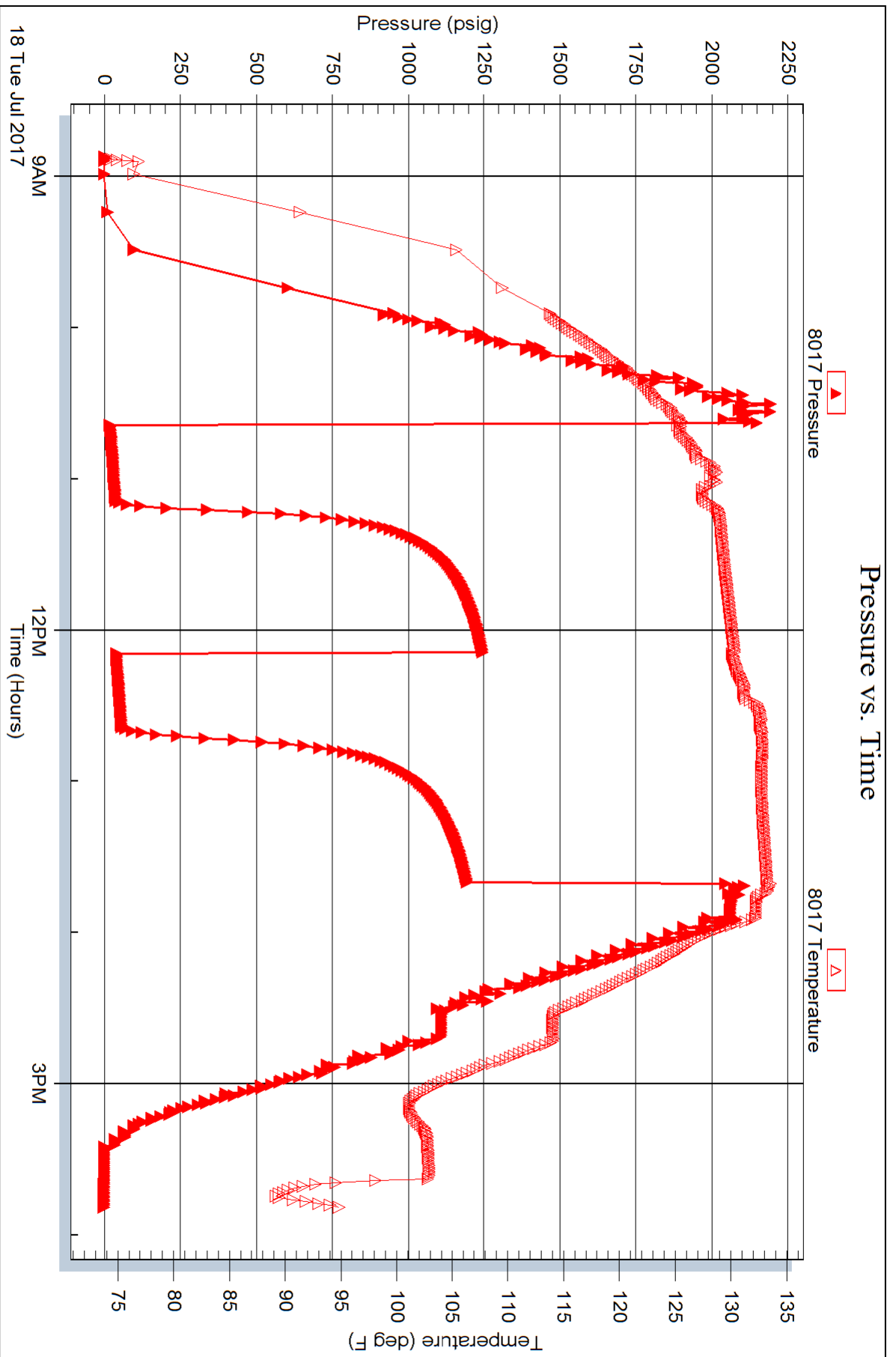


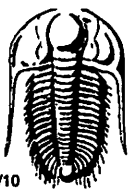
Serial #: 8017

Outside Murfin Drilling Co., Inc.

Carolyn 'B' #1-19

DST Test Number: 4





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63327

Well Name & No. Carolyn 'B' #1-19 Test No. 1 Date 7-14-17  
 Company Murfin Drilling Co. Inc Elevation 3326 KB 3321 GL  
 Address 250 N. Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 19 Twp. 1s Rge. 36w Co. Rawlins State KS

Interval Tested 3783 - 3832 Zone Tested Foraker  
 Anchor Length 49 Drill Pipe Run 3615 Mud Wt. 8.7  
 Top Packer Depth 3778 Drill Collars Run ~~146~~ 146 Vis 60  
 Bottom Packer Depth 3783 Wt. Pipe Run - WL 6.0  
 Total Depth 3832 Chlorides 600 ppm System LCM ~~600~~ 8

Blow Description IF: Weak surface blow, dead at 9 min.  
TST: No blow  
FF: No blow  
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</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

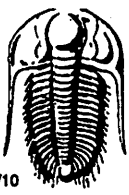
Rec Total 2 BHT 126 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1831  Test 1050 T-On Location 17:10 7/14  
 (B) First Initial Flow 14  Jars 250 T-Started 19:13  
 (C) First Final Flow 14  Safety Joint 75 T-Open 21:03  
 (D) Initial Shut-In 245  Circ Sub \_\_\_\_\_ T-Pulled 00:05  
 (E) Second Initial Flow 14  Hourly Standby \_\_\_\_\_ T-Out 1:30 7/15  
 (F) Second Final Flow 15  Mileage 122 RT 91.50  
 (G) Final Shut-In 217  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1802  Straddle \_\_\_\_\_

Initial Open 30  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Ruined Packer \_\_\_\_\_  
 Final Flow 30  Extra Copies \_\_\_\_\_  
 Final Shut-In 60  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1466.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1466.50

Approved By \_\_\_\_\_ Our Representative James Winder

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. 63328

4/10

Well Name & No. Carolyn 'B' # 1-19 Test No. 2 Date 7-16-17  
 Company Murfin Drilling Co. Inc Elevation 3326 KB 3321 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 19 Twp. 1S Rge. 36W Co. Rawlins State KS

Interval Tested 4222 - 4272 Zone Tested Lans. "A"  
 Anchor Length 50 Drill Pipe Run 4079 Mud Wt. 8.9  
 Top Packer Depth 4217 Drill Collars Run ~~476~~ 204 Vis 67  
 Bottom Packer Depth 4222 Wt. Pipe Run - WL 6.0  
 Total Depth 4272 Chlorides 600 ppm System LCM 6  
 Blow Description IF: 1/4" Blow at open, built to 2 1/2"  
ISI: No blowback  
FF: Blow started at 3 min., built to 2 1/4"  
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>SMCO</u>	<u>2</u>	<u>92</u>	<u>6</u>	<u>6</u>
<u>65</u>	<u>OCM</u>	<u>3</u>	<u>35</u>	<u>62</u>	<u>62</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

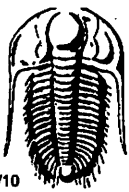
Rec Total 70 BHT 135 Gravity 33 API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic 2075  Test 1150 T-On Location 8:50  
 (B) First Initial Flow 15  Jars 250 T-Started 10:07  
 (C) First Final Flow 31  Safety Joint 75 T-Open 11:51  
 (D) Initial Shut-In 1112  Circ Sub \_\_\_\_\_ T-Pulled 15:53  
 (E) Second Initial Flow 34  Hourly Standby \_\_\_\_\_ T-Out 17:45  
 (F) Second Final Flow 51  Mileage 122 RT 91.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 1048  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2071  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1566.50

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Sub Total 1566.50  
 Total 1566.50  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative James Warden  
 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. 63329

Well Name & No. Carolyn 'B' # 1-19 Test No. 3 Date 7-17-17  
 Company Murfin Drilling Co. Inc Elevation 3326 KB 3321 GL  
 Address 250 N. Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 19 Twp. 1s Rge. 36w Co. Rawlins State KS

Interval Tested 4278 - 4330 Zone Tested Lans "D"  
 Anchor Length 52 Drill Pipe Run 4111 Mud Wt. 9.1  
 Top Packer Depth 4273 Drill Collars Run 204 Vis 60  
 Bottom Packer Depth 4278 Wt. Pipe Run - WL 6.0  
 Total Depth 4330 Chlorides 600 ppm System LCM 8

Blow Description IF: 1/4" Blow at open, built to 3 1/2"  
ISI: No blowback  
FF: Blow started at 2 min. ~~400~~ built to 4 1/2"  
FSI: Weak surface blowback, didn't build

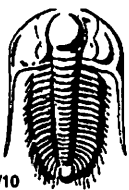
Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>CGO</u>	<u>50</u>	<u>50</u>		
<u>58</u>	<u>CGO</u>	<u>12</u>	<u>88</u>		
<u>58</u>	<u><del>CGO</del> MO</u>	<u>2</u>	<u>50</u>		<u>48</u>
	<u>GIP = 40' +</u>				
Rec Total	<u>136</u>	BHT	<u>134</u>	Gravity	<u>21.8</u>

(A) Initial Hydrostatic 2140  Test 1150 T-On Location 7:00  
 (B) First Initial Flow 16  Jars 250 T-Started 4:34  
 (C) First Final Flow 34  Safety Joint 75 T-Open 6:15  
 (D) Initial Shut-In 962  Circ Sub \_\_\_\_\_ T-Pulled 10:16  
 (E) Second Initial Flow 38  Hourly Standby \_\_\_\_\_ T-Out 12:30  
 (F) Second Final Flow 62  Mileage 122 RT 91.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 949  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2117  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1566.50

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1566.50  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative James Winder  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63330

Well Name & No. Carolyn 'B' #1-19 Test No. 4 Date 7-18-19  
 Company Murfin Drilling Co Inc Elevation 3326 KB 3321 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 19 Twp. 1s Rge. 36w Co. Rawlins State KS

Interval Tested 4427 - 4472 Zone Tested Lans. "J"  
 Anchor Length 45 Drill Pipe Run 4267 Mud Wt. 9.0  
 Top Packer Depth 4422 Drill Collars Run 204 Vis 62  
 Bottom Packer Depth 4427 Wt. Pipe Run - WL 5.6  
 Total Depth 4472 Chlorides 600 ppm System LCM 7

Blow Description IF: Blow built to 1 1/2"  
ISI: No blowback  
FF: No blow  
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>SOcm</u>	<u>4</u>		<u>96</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 90 BHT 135 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2153  
 (B) First Initial Flow 15  
 (C) First Final Flow 35  
 (D) Initial Shut-In 1244  
 (E) Second Initial Flow 37  
 (F) Second Final Flow 54  
 (G) Final Shut-In 1193  
 (H) Final Hydrostatic 2124

Test 1150  
 Jars 250  
 Safety Joint 75  
 Circ Sub \_\_\_\_\_  
 Hourly Standby \_\_\_\_\_  
 Mileage 122 RTX2 183  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby ?  
 Accessibility \_\_\_\_\_  
 Sub Total 1658

T-On Location 8:10  
 T-Started 8:52  
 T-Open 10:38  
 T-Pulled 13:40  
 T-Out 15:45  
 Comments tools loaded 3:45  
7-20-17  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1658  
 MP/DST Disc't \_\_\_\_\_

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

Approved By [Signature] Our Representative James Winder  
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