



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Ken LeBlanc

### **Frisbie "B" #1-15**

#### **15-2S.-35W Rawlins,KS**

Start Date: 2018.10.01 @ 22:15:00

End Date: 2018.10.02 @ 05:08:50

Job Ticket #: 64117                      DST #: 1

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

Printed: 2018.10.08 @ 16:34:06



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita, KS 67202  
 ATTN: Ken LeBlanc

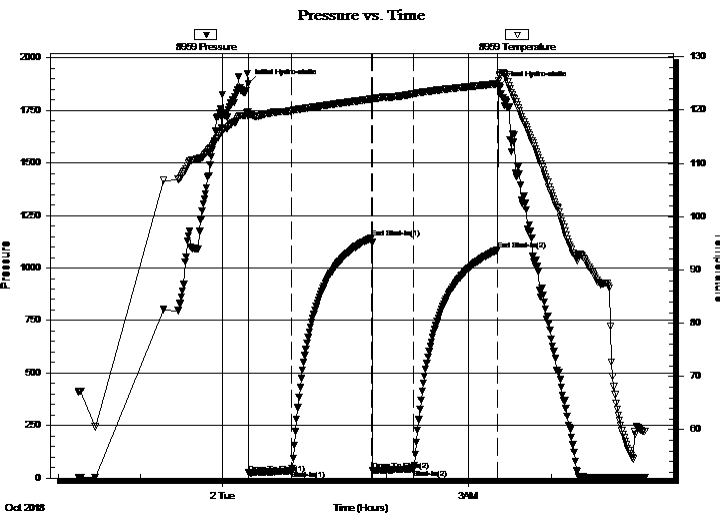
**15-2S.-35W Rawlins, KS**  
**Frisbie "B" #1-15**  
 Job Ticket: 64117 **DST#: 1**  
 Test Start: 2018.10.01 @ 22:15:00

## GENERAL INFORMATION:

Formation: **Topeka - Oread**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:19:10  
 Time Test Ended: 05:08:50  
 Interval: **3852.00 ft (KB) To 3990.00 ft (KB) (TVD)**  
 Total Depth: 3990.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Martine Salinas  
 Unit No: 82  
 Reference Elevations: 3147.00 ft (KB)  
 3142.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8959 Inside**  
 Press@RunDepth: 42.96 psig @ 3853.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.10.01 End Date: 2018.10.02 Last Calib.: 2018.10.02  
 Start Time: 22:15:01 End Time: 05:08:50 Time On Btm: 2018.10.02 @ 00:19:00  
 Time Off Btm: 2018.10.02 @ 03:22:30

**TEST COMMENT:** 30-IF-1/4" blow built to 1 1/2"  
 60-ISI-No blow  
 30-FF-Surface blow @ 10 mins built to 1/8"  
 60-FSI-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1877.00	119.71	Initial Hydro-static
1	24.92	118.74	Open To Flow (1)
32	34.64	119.88	Shut-In(1)
90	1143.16	122.07	End Shut-In(1)
91	36.44	121.90	Open To Flow (2)
121	42.96	123.07	Shut-In(2)
183	1085.66	124.94	End Shut-In(2)
184	1865.99	126.52	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	100% Mud	0.10

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita, KS 67202  
 ATTN: Ken LeBlanc

**15-2S.-35W Rawlins, KS**

**Frisbie "B" #1-15**

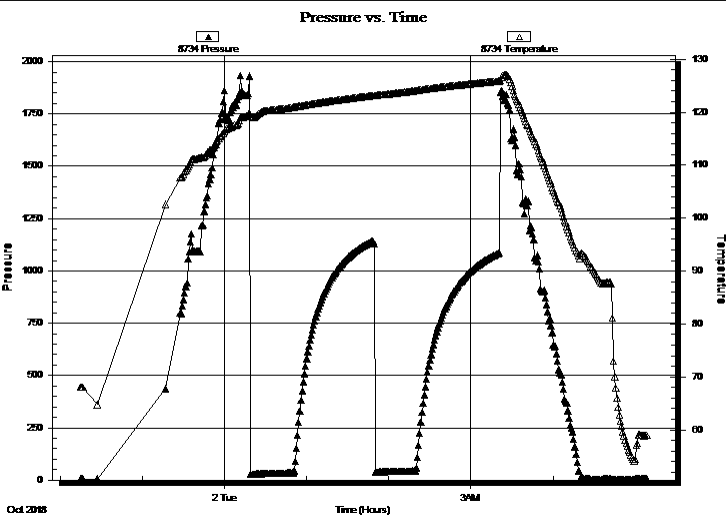
Job Ticket: 64117 **DST#: 1**  
 Test Start: 2018.10.01 @ 22:15:00

## GENERAL INFORMATION:

Formation: **Topeka - Oread**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:19:10  
 Time Test Ended: 05:08:50  
 Interval: **3852.00 ft (KB) To 3990.00 ft (KB) (TVD)**  
 Total Depth: 3990.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Martine Salinas  
 Unit No: 82  
 Reference Elevations: 3147.00 ft (KB)  
 3142.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8734 Outside**  
 Press@RunDepth: psig @ 3853.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.10.01 End Date: 2018.10.02 Last Calib.: 2018.10.02  
 Start Time: 22:15:01 End Time: 05:08:50 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30-IF-1/4" blow built to 1 1/2"  
 60-ISI-No blow  
 30-FF-Surface blow @ 10 mins built to 1/8"  
 60-FSI-No blow



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	100% Mud	0.10

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**15-2S.-35W Rawlins,KS**

250 N. Water STE 300  
Wichita,KS 67202

**Frisbie "B" #1-15**

Job Ticket: 64117

**DST#: 1**

ATTN: Ken LeBlanc

Test Start: 2018.10.01 @ 22:15:00

## Tool Information

Drill Pipe:	Length: 3667.00 ft	Diameter: 3.80 inches	Volume: 51.44 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: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 52.31 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3852.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	138.00 ft			
Tool Length:	166.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3829.00	
Hydraulic tool	5.00	1113		3834.00	
Jars	5.00	01-07		3839.00	
Safety Joint	3.00	-001		3842.00	
Packer	5.00			3847.00	28.00 Bottom Of Top Packer
Packer	5.00			3852.00	
Packer - Shale	0.00			3852.00	
Stubb	1.00			3853.00	
Recorder	0.00	8959	Inside	3853.00	
Recorder	0.00	8734	Outside	3853.00	
Perforations	36.00			3889.00	
Change Over Sub	1.00			3890.00	
Drill Pipe	94.00			3984.00	
Change Over Sub	1.00			3985.00	
Bullnose	5.00			3990.00	138.00 Bottom Packers & Anchor

**Total Tool Length: 166.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**15-2S.-35W Rawlins,KS**

250 N. Water STE 300  
Wichita,KS 67202

**Frisbie "B" #1-15**

Job Ticket: 64117

**DST#: 1**

ATTN: Ken LeBlanc

Test Start: 2018.10.01 @ 22:15:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 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
20.00	100% Mud	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

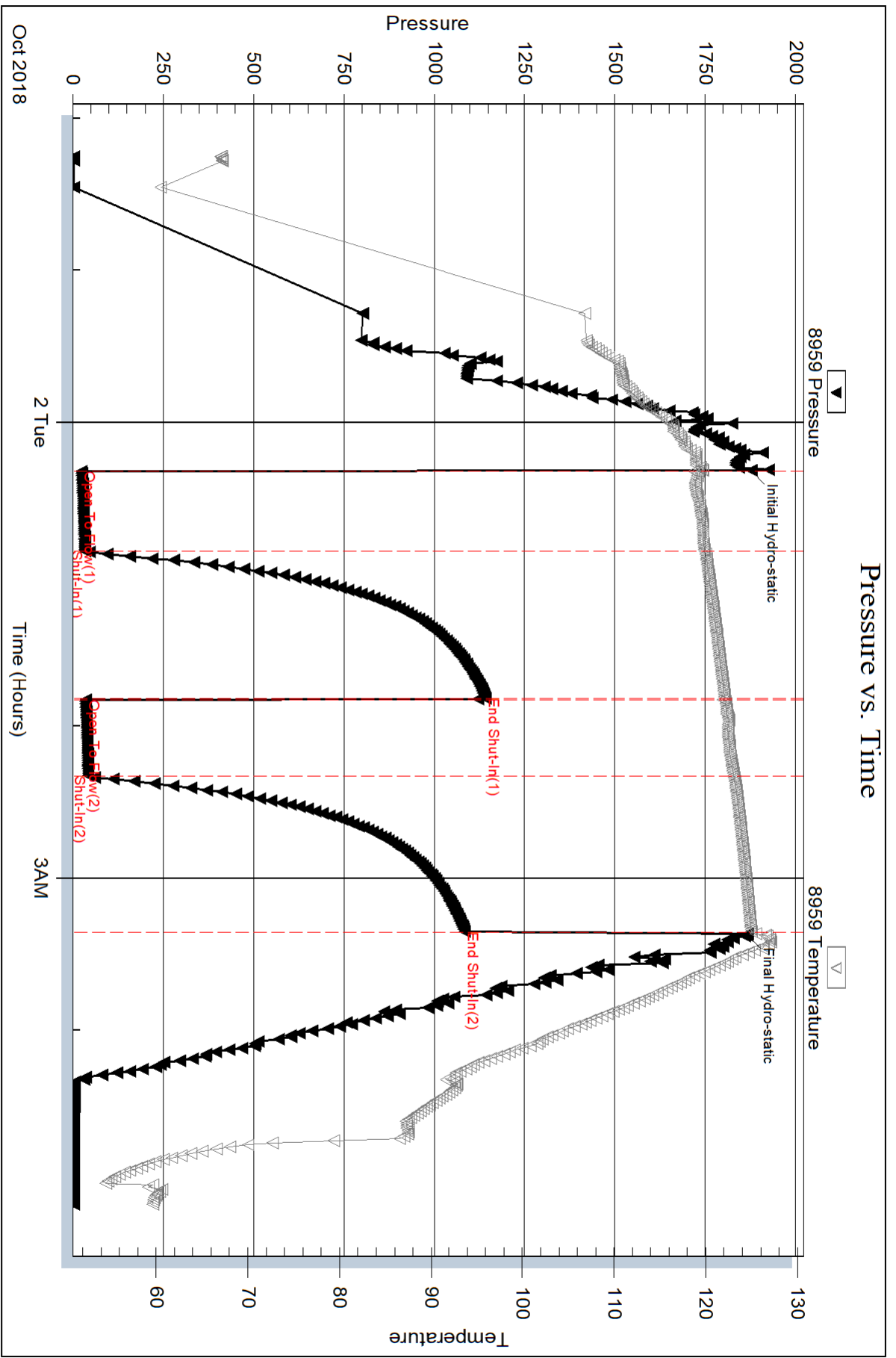
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

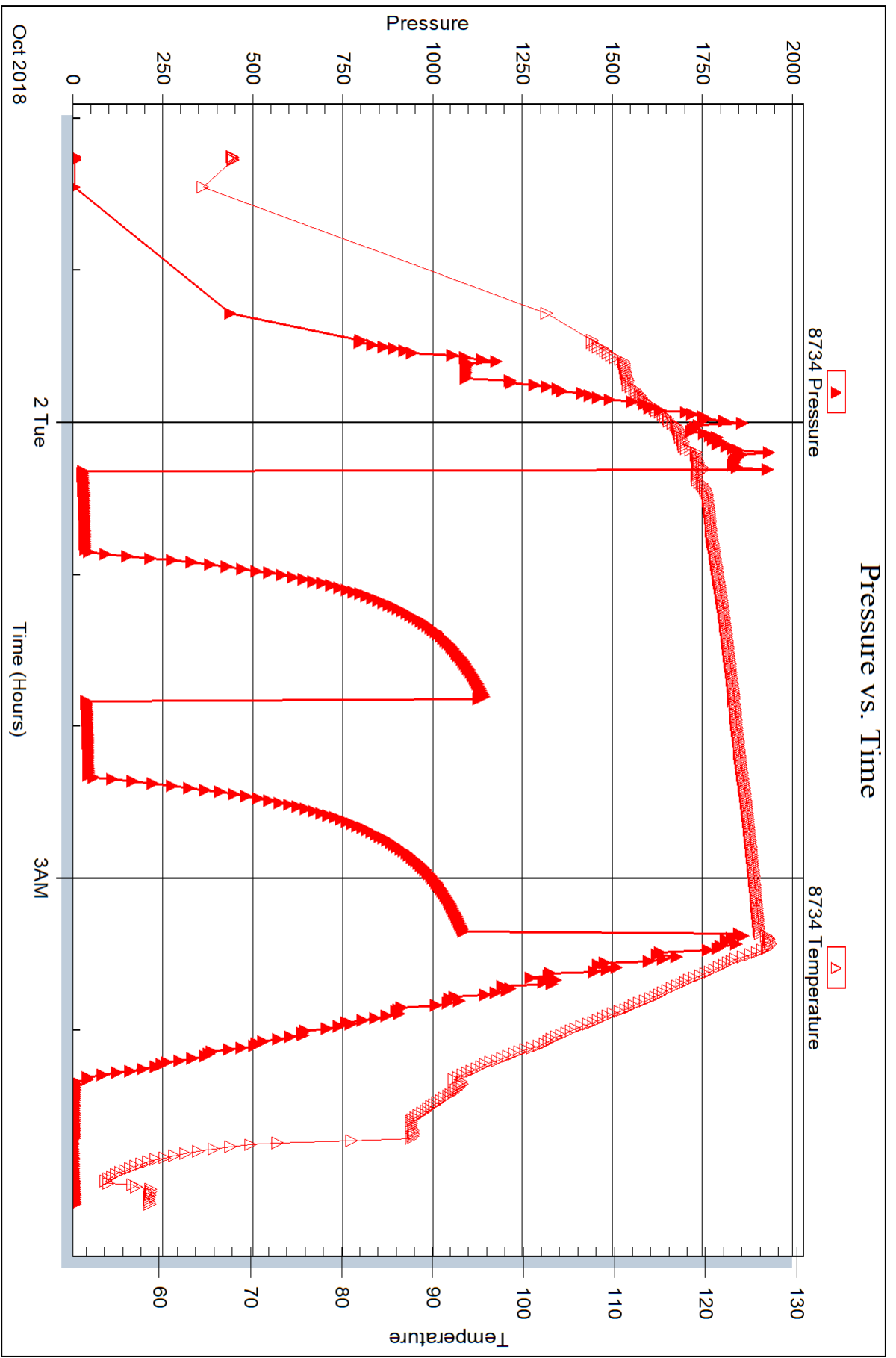


Serial #: 8734

Outside Murfin Drilling Co Inc

Frisbie "B" #1-15

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 64117

Printed: 2018.10.08 @ 16:34:08



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Ken LeBlanc

### **Frisbie "B" #1-15**

#### **15-2S.-35W Rawlins, KS**

Start Date: 2018.10.02 @ 16:33:00

End Date: 2018.10.03 @ 00:33:20

Job Ticket #: 64118                      DST #: 2

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

Printed: 2018.10.08 @ 16:33:41

Murfin Drilling Co Inc  
15-2S.-35W Rawlins, KS  
Frisbie "B" #1-15  
DST # 2  
Douglas Sand - LKC "  
2018.10.02





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita, KS 67202  
 ATTN: Ken LeBlanc

**15-2S.-35W Rawlins, KS**  
**Frisbie "B" #1-15**  
 Job Ticket: 64118 **DST#: 2**  
 Test Start: 2018.10.02 @ 16:33:00

## GENERAL INFORMATION:

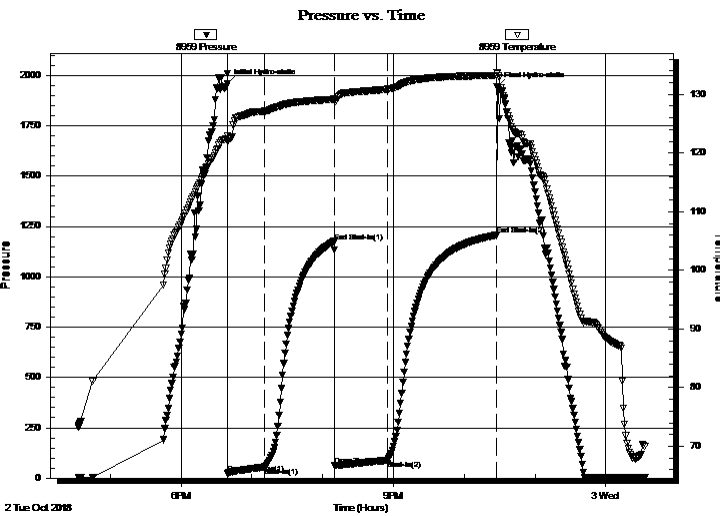
Formation: **Douglas Sand - LKC "**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 18:39:30  
 Time Test Ended: 00:33:20  
 Interval: **4010.00 ft (KB) To 4080.00 ft (KB) (TVD)**  
 Total Depth: 4080.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Martine Salinas  
 Unit No: 82  
 Reference Elevations: 3147.00 ft (KB)  
 3142.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8959

Inside

Press@RunDepth: 87.26 psig @ 4011.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.10.02 End Date: 2018.10.03 Last Calib.: 2018.10.03  
 Start Time: 16:33:01 End Time: 00:33:20 Time On Btm: 2018.10.02 @ 18:39:20  
 Time Off Btm: 2018.10.02 @ 22:27:39

TEST COMMENT: 30-IF-Surface blow built to 4 1/2"  
 60-ISI-No blow  
 45-FF-Surface blow built to 7 1/2"  
 90-FSI-Surface blow back @ 5 mins built to 1/8" & died @ 50 mins



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1957.69	122.99	Initial Hydro-static
1	24.61	122.01	Open To Flow (1)
32	54.11	127.11	Shut-In(1)
91	1175.38	129.16	End Shut-In(1)
91	64.09	128.87	Open To Flow (2)
136	87.26	130.86	Shut-In(2)
228	1206.02	133.24	End Shut-In(2)
229	1942.01	133.73	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
170.00	GHMCO 17%G, 29%M, 54%O	0.84

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Ken LeBlanc

**15-2S.-35W Rawlins, KS**  
**Frisbie "B" #1-15**  
Job Ticket: 64118 **DST#: 2**  
Test Start: 2018.10.02 @ 16:33:00

### GENERAL INFORMATION:

Formation: **Douglas Sand - LKC "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:39:30

Time Test Ended: 00:33:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 4010.00 ft (KB) To 4080.00 ft (KB) (TVD)**

Total Depth: 4080.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3147.00 ft (KB)

3142.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8734 Outside**

Press@RunDepth: psig @ 4011.00 ft (KB)

Start Date: 2018.10.02

End Date: 2018.10.03

Capacity: 8000.00 psig

Last Calib.: 2018.10.03

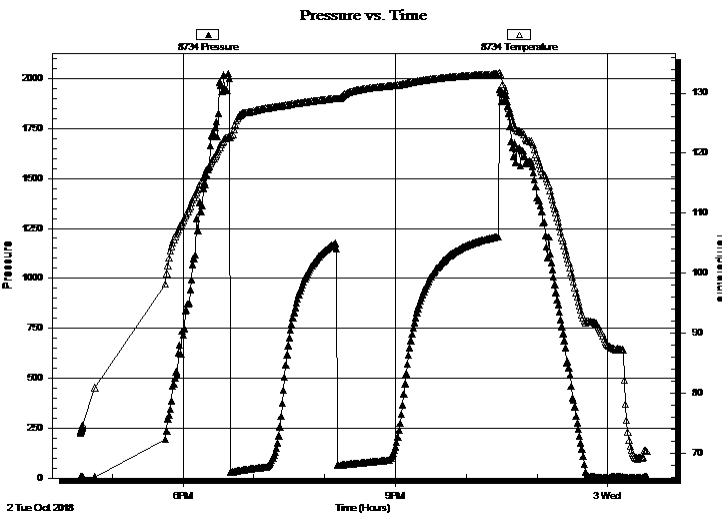
Start Time: 16:33:01

End Time: 00:33:20

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 30-IF-Surface blow built to 4 1/2"  
60-ISI-No blow  
45-FF-Surface blow built to 7 1/2"  
90-FSI-Surface blow back @ 5 mins built to 1/8" & died @ 50 mins



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
170.00	GHMCO 17%G, 29%M, 54%O	0.84

### 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

**15-2S.-35W Rawlins,KS**

250 N. Water STE 300  
Wichita,KS 67202

**Frisbie "B" #1-15**

Job Ticket: 64118

**DST#: 2**

ATTN: Ken LeBlanc

Test Start: 2018.10.02 @ 16:33:00

## Tool Information

Drill Pipe:	Length: 3824.00 ft	Diameter: 3.80 inches	Volume: 53.64 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: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 54.51 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial	63000.00 lb
Depth to Top Packer:	4010.00 ft			Final	63000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	70.00 ft				
Tool Length:	93.00 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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Shut In Tool	5.00			3992.00	
Hydraulic tool	5.00	1113		3997.00	
Safety Joint	3.00	-001		4000.00	
Packer	5.00			4005.00	23.00 Bottom Of Top Packer
Packer	5.00			4010.00	
Stubb	1.00			4011.00	
Recorder	0.00	8959	Inside	4011.00	
Recorder	0.00	8734	Outside	4011.00	
Perforations	31.00			4042.00	
Change Over Sub	1.00			4043.00	
Drill Pipe	31.00			4074.00	
Change Over Sub	1.00			4075.00	
Bullnose	5.00			4080.00	70.00 Bottom Packers & Anchor

**Total Tool Length: 93.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**15-2S.-35W Rawlins,KS**

250 N. Water STE 300  
Wichita,KS 67202

**Frisbie "B" #1-15**

Job Ticket: 64118

**DST#: 2**

ATTN: Ken LeBlanc

Test Start: 2018.10.02 @ 16:33:00

## 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: 5.58 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
170.00	GHMCO 17%G, 29%M, 54%O	0.836

Total Length: 170.00 ft      Total Volume: 0.836 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

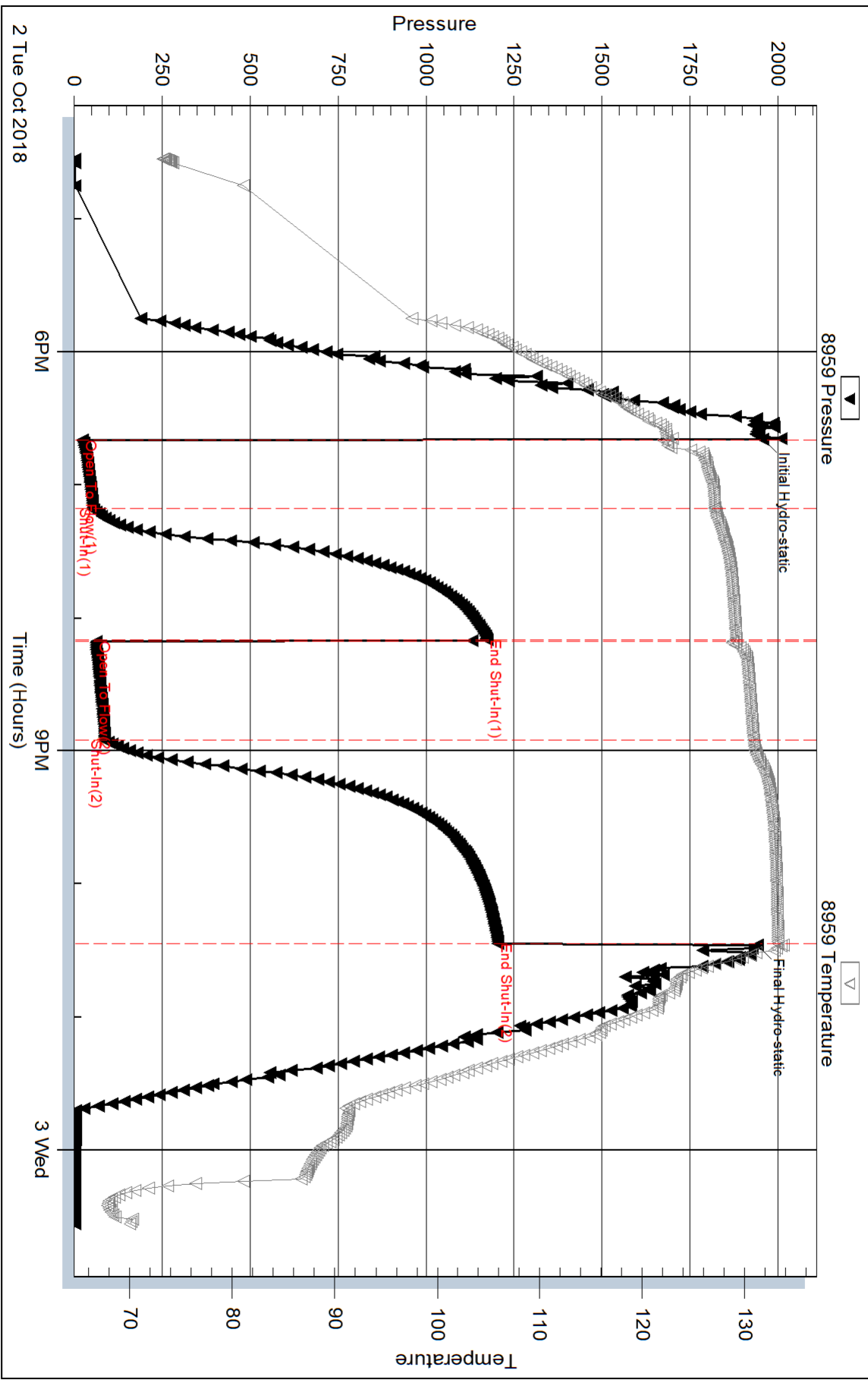
Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity of oil = 23.2 @ 74 degs

Gravity corrected to 21.8 @ 60 degs

### Pressure vs. Time

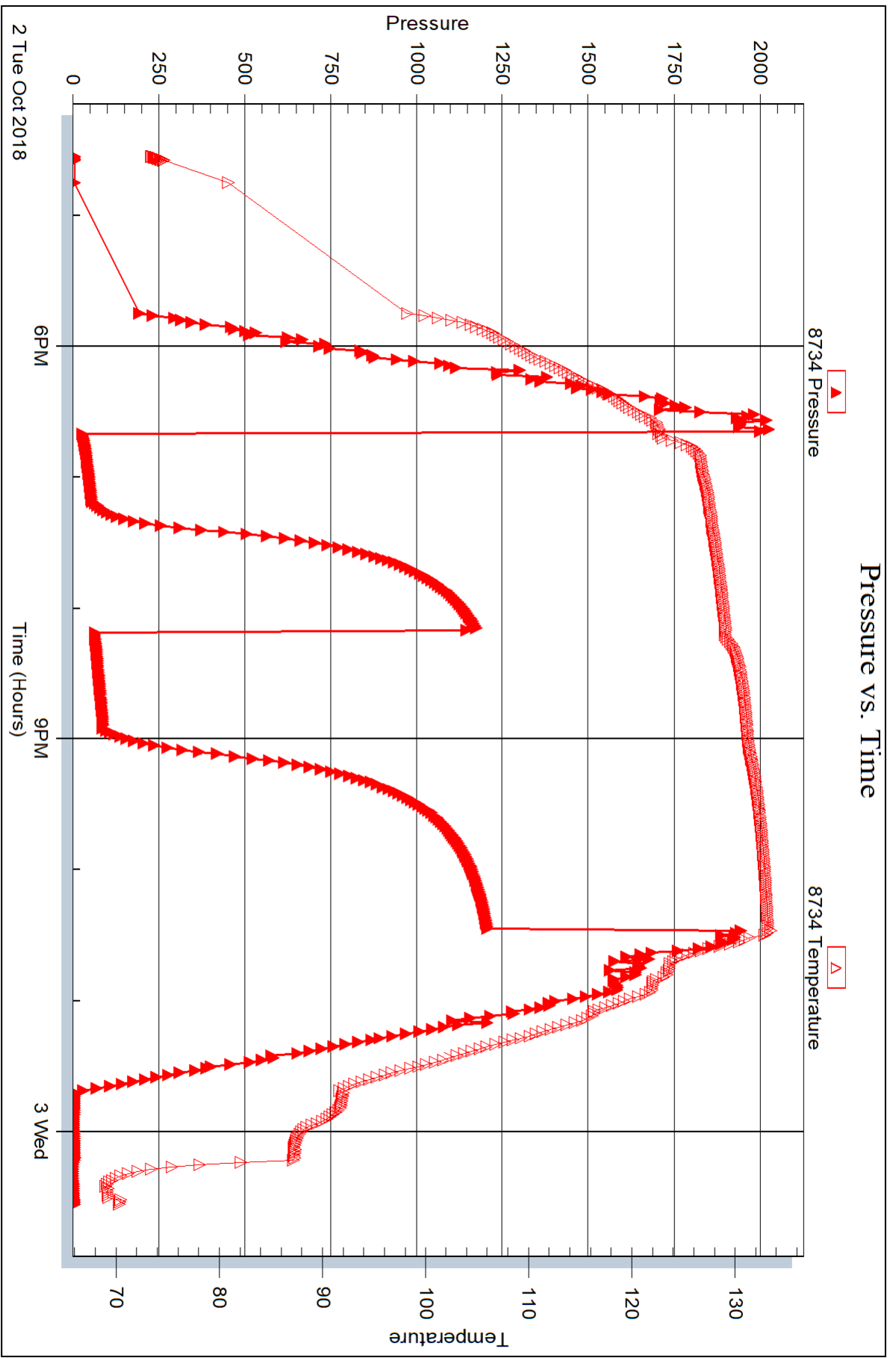


Serial #: 8734

Outside Murfin Drilling Co Inc

Frisbie "B" #1-15

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 64118

Printed: 2018.10.08 @ 16:33:42



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300  
Wichita,KS 67202

ATTN: Ken LeBlanc

### **Frisbie "B" #1-15**

#### **15-2S.-35W Rawlins,KS**

Start Date: 2018.10.03 @ 10:05:00

End Date: 2018.10.03 @ 18:57:30

Job Ticket #: 64119                      DST #: 3

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

Printed: 2018.10.08 @ 16:33:14

Murfin Drilling Co Inc  
15-2S.-35W Rawlins,KS  
Frisbie "B" #1-15  
DST # 3  
LKC " D "  
2018.10.03



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita, KS 67202  
 ATTN: Ken LeBlanc

**15-2S.-35W Rawlins, KS**  
**Frisbie "B" #1-15**  
 Job Ticket: 64119 **DST#: 3**  
 Test Start: 2018.10.03 @ 10:05:00

## GENERAL INFORMATION:

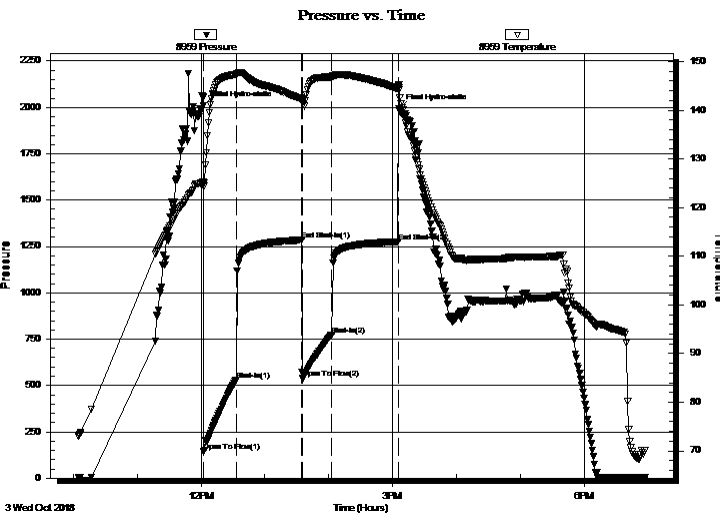
Formation: **LKC " D "**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:02:40  
 Time Test Ended: 18:57:30  
 Interval: **4080.00 ft (KB) To 4140.00 ft (KB) (TVD)**  
 Total Depth: 4140.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Martine Salinas  
 Unit No: 82  
 Reference Elevations: 3147.00 ft (KB)  
 3142.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8959

Inside

Press@RunDepth: 771.87 psig @ 4081.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.10.03 End Date: 2018.10.03 Last Calib.: 2018.10.03  
 Start Time: 10:05:01 End Time: 18:57:30 Time On Btm: 2018.10.03 @ 12:02:30  
 Time Off Btm: 2018.10.03 @ 15:06:09

TEST COMMENT: 30-IF-BOB @ 2 1/2 mins (blow increased to 170")  
 60-ISI-BOB @ 12 1/2 mins (blow increased to 42")  
 30-FF-BOB@ 3 1/2 mins (blow increased to 125")  
 60-FSI-Weak blow back built to 11 1/2"



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2010.51	125.20	Initial Hydro-static
1	144.11	124.34	Open To Flow (1)
31	528.69	147.31	Shut-In(1)
93	1284.12	142.37	End Shut-In(1)
93	536.96	142.13	Open To Flow (2)
121	771.87	146.84	Shut-In(2)
183	1275.24	144.41	End Shut-In(2)
184	1992.30	144.27	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
118.00	GMCO 13%G, 20%M, 67%O	0.58
1763.00	CGO 0-37 mins 17%G, 83%O (REV)	24.19
100.00	CGO 35%G, 65%O	1.40
0.00	929' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita, KS 67202  
 ATTN: Ken LeBlanc

**15-2S-.35W Rawlins, KS**

**Frisbie "B" #1-15**

Job Ticket: 64119 **DST#: 3**  
 Test Start: 2018.10.03 @ 10:05:00

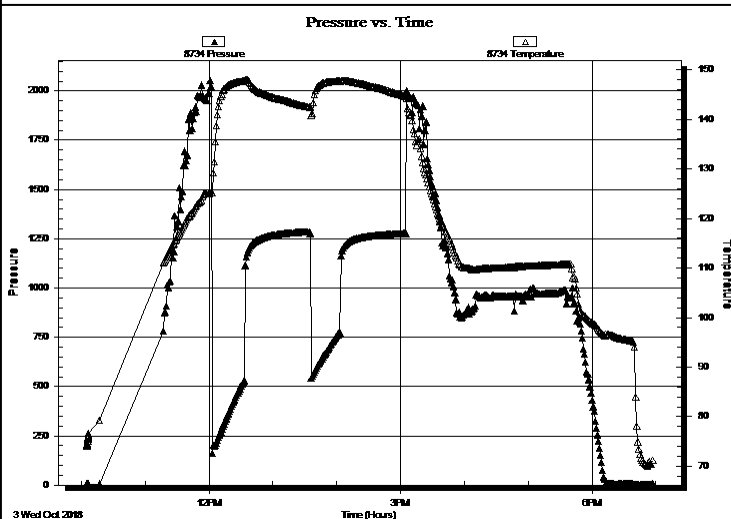
## GENERAL INFORMATION:

Formation: **LKC "D"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:02:40  
 Time Test Ended: 18:57:30  
 Interval: **4080.00 ft (KB) To 4140.00 ft (KB) (TVD)**  
 Total Depth: 4140.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Martine Salinas  
 Unit No: 82  
 Reference Elevations: 3147.00 ft (KB)  
 3142.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8734 Outside**

Press@RunDepth: psig @ 4081.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.10.03 End Date: 2018.10.03 Last Calib.: 2018.10.03  
 Start Time: 10:05:01 End Time: 18:57:30 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30-IF-BOB @ 2 1/2 mins (blow increased to 170")  
 60-ISI-BOB @ 12 1/2 mins (blow increased to 42")  
 30-FF-BOB @ 3 1/2 mins (blow increased to 125")  
 60-FSI-Weak blow back built to 11 1/2"



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
118.00	GMCO 13%G, 20%M, 67%O	0.58
1763.00	CGO 0-37 mins 17%G, 83%O (REV)	24.19
100.00	CGO 35%G, 65%O	1.40
0.00	929' GIP	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

**15-2S.-35W Rawlins,KS**

250 N. Water STE 300  
Wichita,KS 67202

**Frisbie "B" #1-15**

Job Ticket: 64119

**DST#: 3**

ATTN: Ken LeBlanc

Test Start: 2018.10.03 @ 10:05:00

## Tool Information

Drill Pipe:	Length: 3899.00 ft	Diameter: 3.80 inches	Volume: 54.69 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: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose:	76000.00 lb
			<u>Total Volume: 55.56 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4080.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	60.00 ft				
Tool Length:	88.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

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

Shut In Tool	5.00			4057.00	
Hydraulic tool	5.00	1113		4062.00	
Jars	5.00	01-07		4067.00	
Safety Joint	3.00	-001		4070.00	
Packer	5.00			4075.00	28.00 Bottom Of Top Packer
Packer	5.00			4080.00	
Stubb	1.00			4081.00	
Recorder	0.00	8959	Inside	4081.00	
Recorder	0.00	8734	Outside	4081.00	
Perforations	20.00			4101.00	
Change Over Sub	1.00			4102.00	
Drill Pipe	32.00			4134.00	
Change Over Sub	1.00			4135.00	
Bullnose	5.00			4140.00	60.00 Bottom Packers & Anchor

**Total Tool Length: 88.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**15-2S.-35W Rawlins,KS**

250 N. Water STE 300  
Wichita,KS 67202

**Frisbie "B" #1-15**

Job Ticket: 64119

**DST#: 3**

ATTN: Ken LeBlanc

Test Start: 2018.10.03 @ 10:05:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

27.4 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
118.00	GMCO 13%G, 20%M, 67%O	0.580
1763.00	CGO 0-37 mins 17%G, 83%O (REV)	24.193
100.00	CGO 35%G, 65%O	1.403
0.00	929' GIP	0.000

Total Length: 1981.00 ft      Total Volume: 26.176 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity of oil = 30.8 @ 94 degs

Gravity corrected to 27.4 @ 60 degs

Serial #: 8959

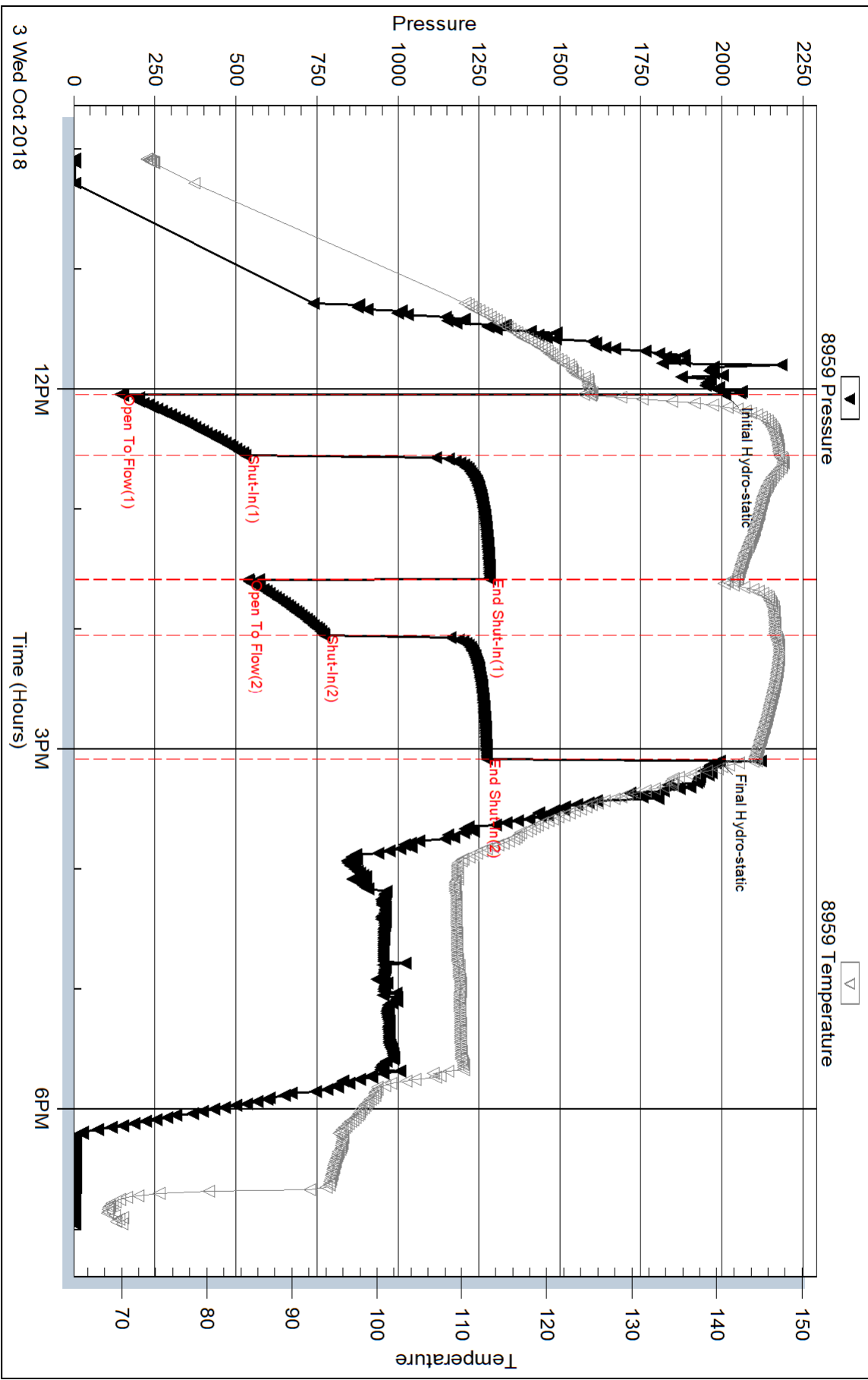
Inside

Murfin Drilling Co Inc

Frisbie "B" #1-15

DST Test Number: 3

# Pressure vs. Time



Triobite Testing, Inc

Ref. No: 64119

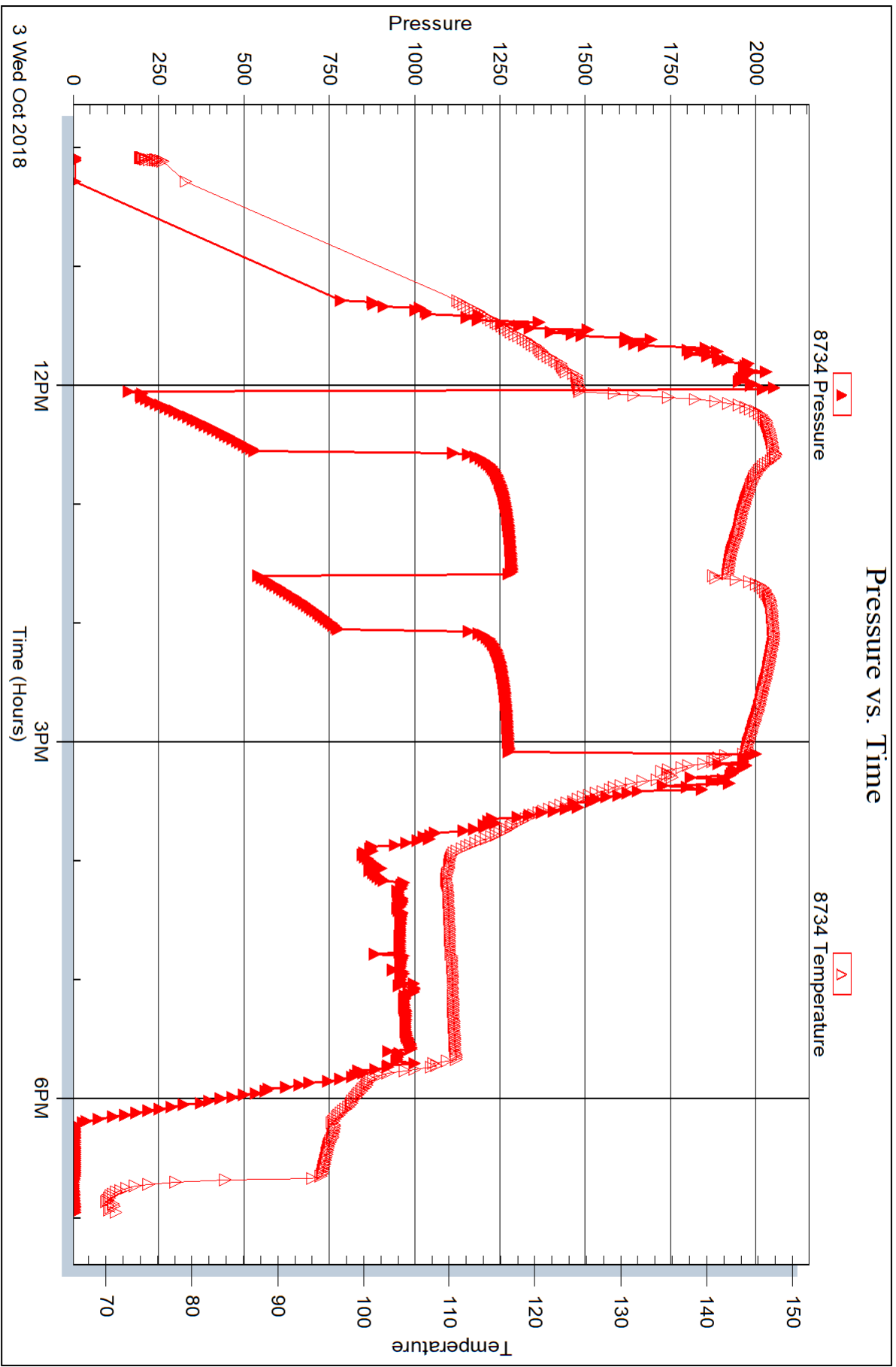
Printed: 2018.10.08 @ 16:33:15

Serial #: 8734

Outside Murfin Drilling Co Inc

Frisbie "B" #1-15

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300  
Wichita,KS 67202

ATTN: Ken LeBlanc

### **Frisbie "B" #1-15**

#### **15-2S.-35W Rawlins,KS**

Start Date: 2018.10.04 @ 03:56:00

End Date: 2018.10.04 @ 12:20:20

Job Ticket #: 64120                      DST #: 4

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

Printed: 2018.10.08 @ 16:32:53

Murfin Drilling Co Inc  
15-2S.-35W Rawlins,KS  
Frisbie "B" #1-15  
DST # 4  
LKC "G"  
2018.10.04



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Ken LeBlanc

**15-2S.-35W Rawlins, KS**  
**Frisbie "B" #1-15**  
Job Ticket: 64120 **DST#: 4**  
Test Start: 2018.10.04 @ 03:56:00

## GENERAL INFORMATION:

Formation: **LKC " G "**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 06:04:30  
Time Test Ended: 12:20:20  
Interval: **4143.00 ft (KB) To 4190.00 ft (KB) (TVD)**  
Total Depth: 4190.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Martine Salinas  
Unit No: 82  
Reference Elevations: 3147.00 ft (KB)  
3142.00 ft (CF)  
KB to GR/CF: 5.00 ft

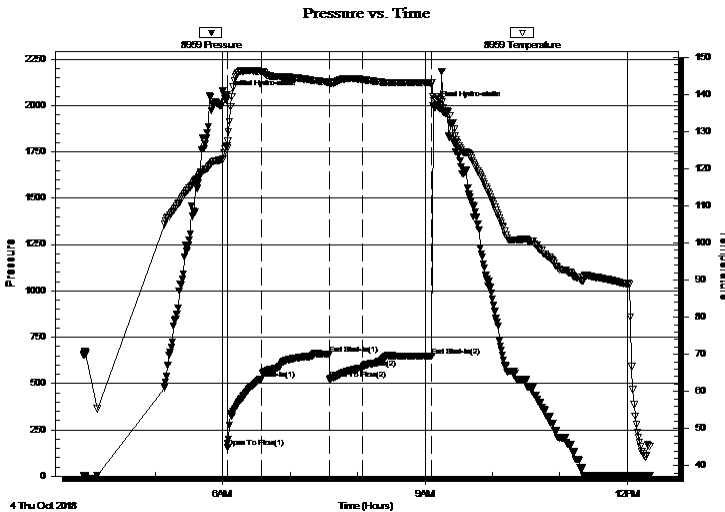
## Serial #: 8959

Inside

Press@RunDepth: 582.83 psig @ 4144.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2018.10.04 End Date: 2018.10.04 Last Calib.: 2018.10.04  
Start Time: 03:56:01 End Time: 12:20:20 Time On Btm: 2018.10.04 @ 06:03:50  
Time Off Btm: 2018.10.04 @ 09:07:00

TEST COMMENT: 30-IF-BOB @ 2 mins (blow increased to 117 1/4")  
60-ISI-Surface .blow @ 5 mins built to 3/4" & decreased to 1/4"  
30-FF-BOB @ 10 1/2 mins (blow increased to 23")  
60-FSI-No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2057.46	126.23	Initial Hydro-static
1	157.27	127.39	Open To Flow (1)
31	524.58	146.15	Shut-In(1)
91	657.69	143.27	End Shut-In(1)
92	524.82	143.24	Open To Flow (2)
121	582.83	143.99	Shut-In(2)
183	646.86	143.09	End Shut-In(2)
184	2000.17	139.40	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
303.00	SOMCW 7%O, 10%M, 83%W	2.64
456.00	MC/GOCW 16%M,17%G,25%O,42%W	6.40
567.00	MC/GWCO 22%M,10%G,28%W,40%O	7.95
0.00	120 GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Ken LeBlanc

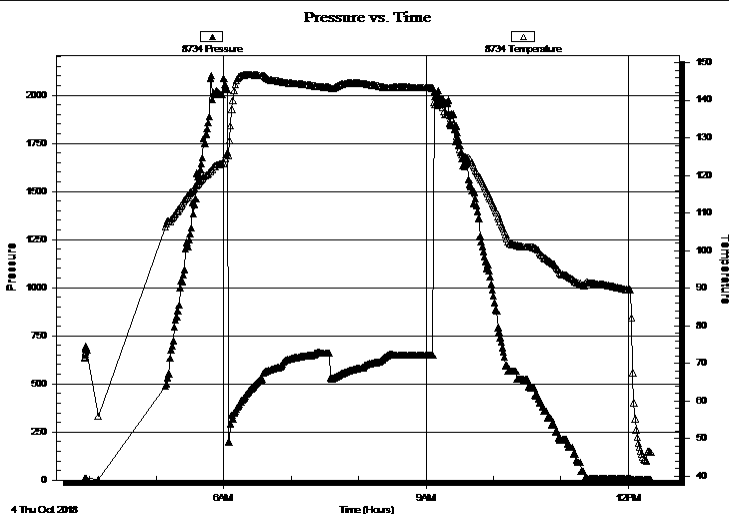
**15-2S.-35W Rawlins, KS**  
**Frisbie "B" #1-15**  
Job Ticket: 64120      **DST#: 4**  
Test Start: 2018.10.04 @ 03:56:00

## GENERAL INFORMATION:

Formation: **LKC " G "**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 06:04:30  
Time Test Ended: 12:20:20  
Interval: **4143.00 ft (KB) To 4190.00 ft (KB) (TVD)**  
Total Depth: 4190.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Martine Salinas  
Unit No: 82  
Reference Elevations: 3147.00 ft (KB)  
3142.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8734      Outside**  
Press@RunDepth:                      psig @ 4144.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2018.10.04      End Date: 2018.10.04      Last Calib.: 2018.10.04  
Start Time: 03:56:01      End Time: 12:20:20      Time On Btm:  
Time Off Btm:

TEST COMMENT: 30-IF-BOB @ 2 mins (blow increased to 117 1/4")  
60-ISI-Surface .blow @ 5 mins built to 3/4" & decreased to 1/4"  
30-FF-BOB @ 10 1/2 mins (blow increased to 23")  
60-FSI-No blow back



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
303.00	SOMCW 7%O, 10%M, 83%W	2.64
456.00	MC/GOCW 16%M,17%G,25%O,42%W	6.40
567.00	MC/GWCO 22%M,10%G,28%W,40%O	7.95
0.00	120 GIP	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

**15-2S.-35W Rawlins,KS**

250 N. Water STE 300  
Wichita,KS 67202

**Frisbie "B" #1-15**

Job Ticket: 64120

**DST#: 4**

ATTN: Ken LeBlanc

Test Start: 2018.10.04 @ 03:56:00

## Tool Information

Drill Pipe:	Length: 3947.00 ft	Diameter: 3.80 inches	Volume: 55.37 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: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 56.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4143.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	75.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Tight spot 6' off bottom  
Tool opened on bottom

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			4120.00	
Hydraulic tool	5.00	1113		4125.00	
Jars	5.00	01-07		4130.00	
Safety Joint	3.00	-001		4133.00	
Packer	5.00			4138.00	28.00 Bottom Of Top Packer
Packer	5.00			4143.00	
Packer - Shale	0.00			4143.00	
Stubb	1.00			4144.00	
Recorder	0.00	8959	Inside	4144.00	
Recorder	0.00	8734	Outside	4144.00	
Perforations	8.00			4152.00	
Change Over Sub	1.00			4153.00	
Drill Pipe	31.00			4184.00	
Change Over Sub	1.00			4185.00	
Bullnose	5.00			4190.00	47.00 Bottom Packers & Anchor

**Total Tool Length: 75.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**15-2S.-35W Rawlins,KS**

250 N. Water STE 300  
Wichita,KS 67202

**Frisbie "B" #1-15**

Job Ticket: 64120

**DST#: 4**

ATTN: Ken LeBlanc

Test Start: 2018.10.04 @ 03:56:00

## 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: 150000 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
303.00	SOMCW 7%O, 10%M, 83%W	2.638
456.00	MC/GOCW 16%M,17%G,25%O,42%W	6.396
567.00	MC/GWCO 22%M,10%G,28%W,40%O	7.954
0.00	120 GIP	0.000

Total Length: 1326.00 ft      Total Volume: 16.988 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

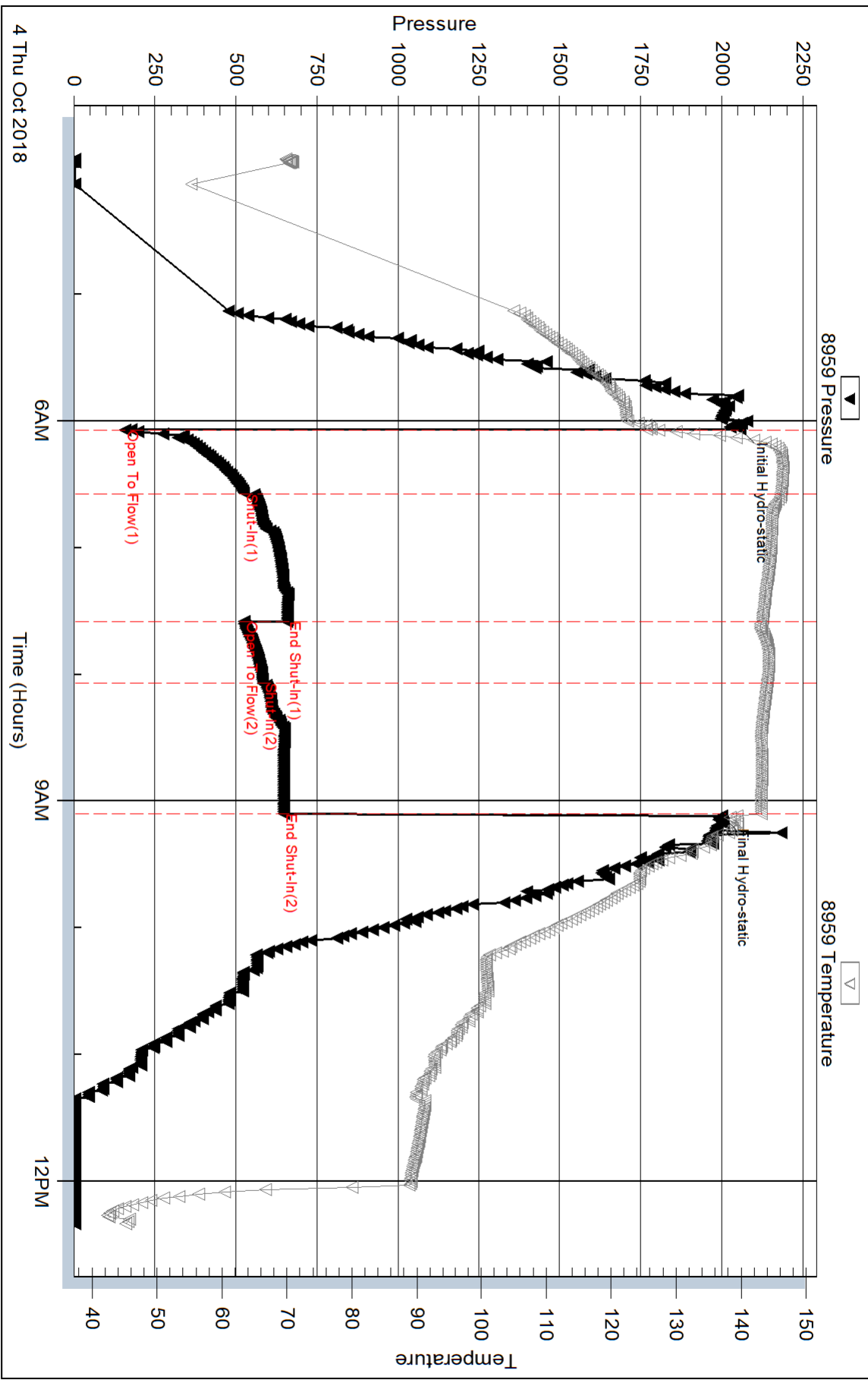
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .114 @38.2 degs = 150,000PPM

### Pressure vs. Time

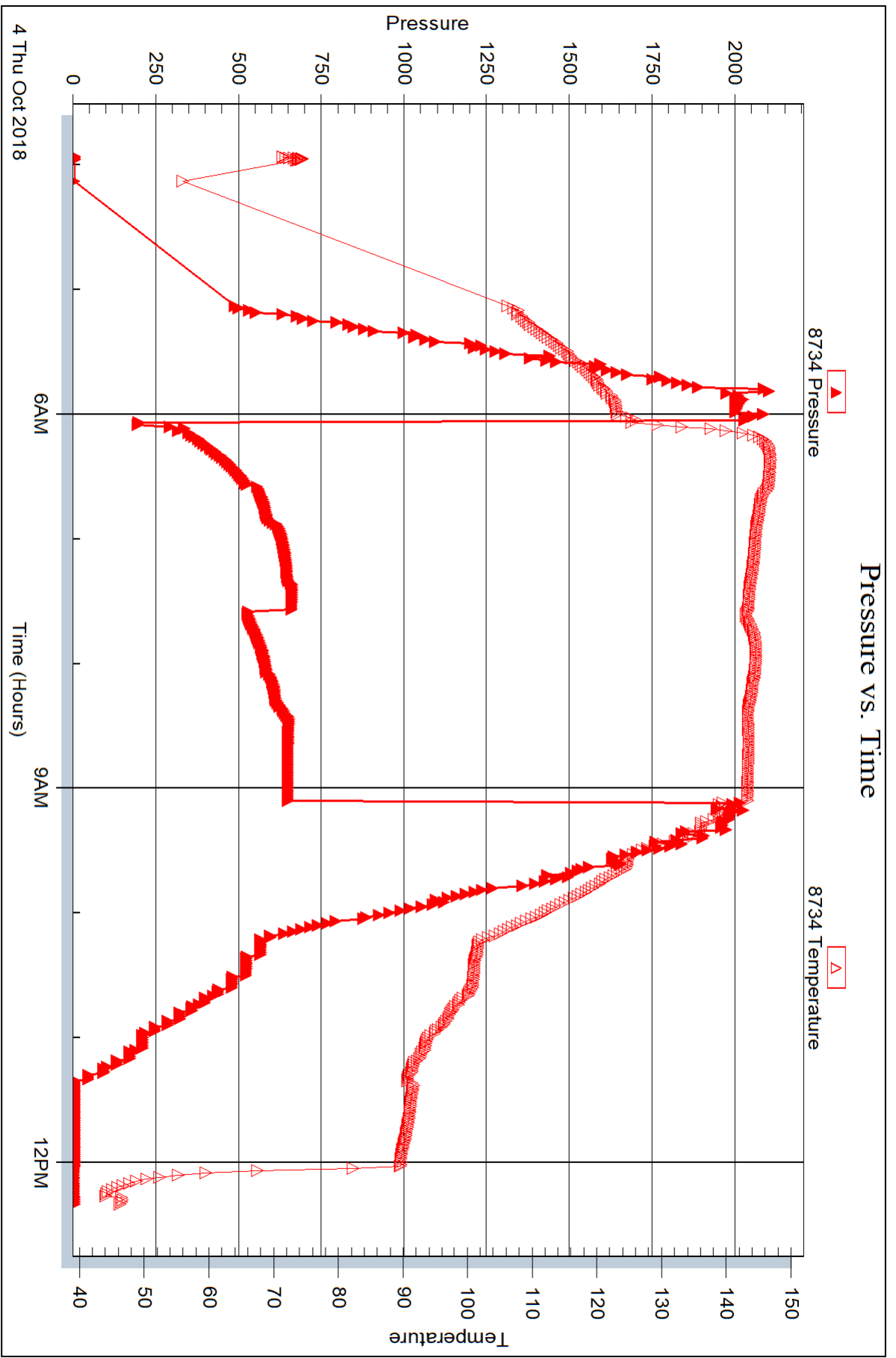


Serial #: 8734

Outside Murfin Drilling Co Inc

Frisbie "B" #1-15

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 64120

Printed: 2018.10.08 @ 16:32:54



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300  
Wichita,KS 67202

ATTN: Ken LeBlanc

### **Frisbie "B" #1-15**

#### **15-2S.-35W Rawlins,KS**

Start Date: 2018.10.04 @ 21:43:00

End Date: 2018.10.05 @ 05:40:50

Job Ticket #: 64121                      DST #: 5

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

Printed: 2018.10.08 @ 16:32:32

Murfin Drilling Co Inc  
15-2S.-35W Rawlins,KS  
Frisbie "B" #1-15  
DST # 5  
LKC "H"  
2018.10.04



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita, KS 67202  
 ATTN: Ken LeBlanc

**15-2S.-35W Rawlins, KS**  
**Frisbie "B" #1-15**  
 Job Ticket: 64121 **DST#: 5**  
 Test Start: 2018.10.04 @ 21:43:00

## GENERAL INFORMATION:

Formation: **LKC "H"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 23:53:50  
 Time Test Ended: 05:40:50  
 Interval: **4189.00 ft (KB) To 4240.00 ft (KB) (TVD)**  
 Total Depth: 4240.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Martine Salinas  
 Unit No: 82  
 Reference Elevations: 3147.00 ft (KB)  
 3142.00 ft (CF)  
 KB to GR/CF: 5.00 ft

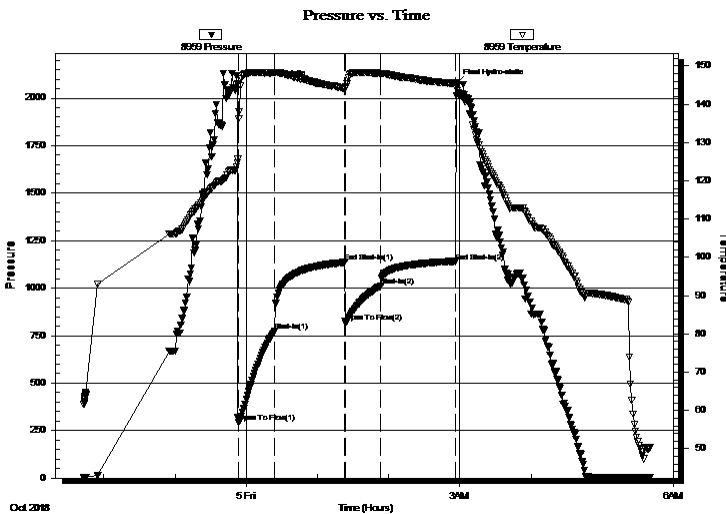
## Serial #: 8959

Inside

Press@RunDepth: 1010.39 psig @ 4190.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.10.04 End Date: 2018.10.05 Last Calib.: 2018.10.05  
 Start Time: 21:43:01 End Time: 05:40:50 Time On Btm: 2018.10.04 @ 23:52:30  
 Time Off Btm: 2018.10.05 @ 02:56:50

TEST COMMENT: 30-IF-BOB @ 1 1/2 mins (blow increased to 195 3/4")  
 60-ISI-No blow back  
 30-FF-BOB @ 2 mins (blow increased to 87")  
 60-FSI-No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2073.35	124.64	Initial Hydro-static
2	292.90	136.32	Open To Flow (1)
32	772.83	148.25	Shut-In(1)
91	1135.61	144.20	End Shut-In(1)
91	824.08	144.10	Open To Flow (2)
121	1010.39	148.07	Shut-In(2)
184	1140.81	145.42	End Shut-In(2)
185	2078.02	145.60	Final Hydro-static

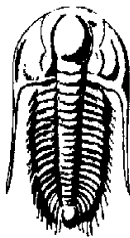
## Recovery

Length (ft)	Description	Volume (bbl)
1830.00	SOMSW 3%O,2%M,95%W	24.06
378.00	SO/HMCW 8%O,40%M,52%W	5.30
5.00	CGO 5%G,95%O	0.07

\* Recovery from multiple tests

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Ken LeBlanc

15-2S.-35W Rawlins, KS

**Frisbie "B" #1-15**

Job Ticket: 64121

**DST#: 5**

Test Start: 2018.10.04 @ 21:43:00

### GENERAL INFORMATION:

Formation: **LKC " H "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:53:50

Time Test Ended: 05:40:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 4189.00 ft (KB) To 4240.00 ft (KB) (TVD)**

Total Depth: 4240.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3147.00 ft (KB)

3142.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8734** Outside

Press@RunDepth: psig @ 4190.00 ft (KB)

Start Date: 2018.10.04

End Date:

2018.10.05

Start Time: 21:43:01

End Time:

05:40:50

Capacity: 8000.00 psig

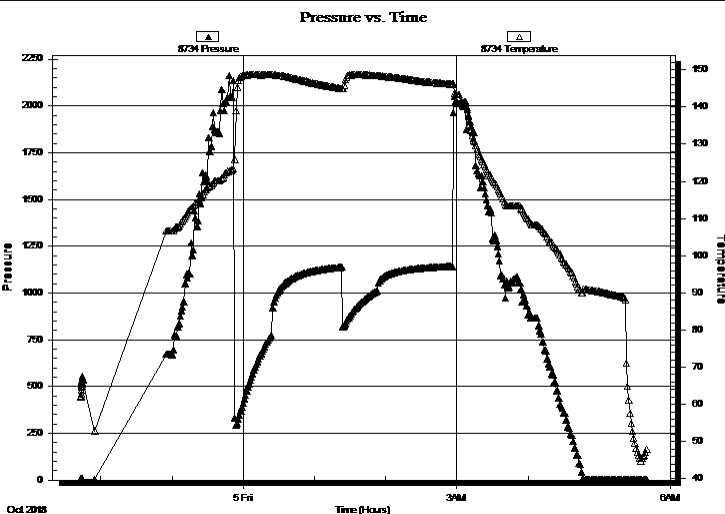
Last Calib.:

2018.10.05

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF-BOB @ 1 1/2 mins (blow increased to 195 3/4")  
60-ISI-No blow back  
30-FF-BOB @ 2 mins (blow increased to 87")  
60-FSI-No blow back



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
1830.00	SOMSW 3%O,2%M,95%W	24.06
378.00	SO/HMCW 8%O,40%M,52%W	5.30
5.00	CGO 5%G,95%O	0.07

### 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

**15-2S.-35W Rawlins,KS**

250 N. Water STE 300  
Wichita,KS 67202

**Frisbie "B" #1-15**

Job Ticket: 64121

**DST#: 5**

ATTN: Ken LeBlanc

Test Start: 2018.10.04 @ 21:43:00

## Tool Information

Drill Pipe:	Length: 4010.00 ft	Diameter: 3.80 inches	Volume: 56.25 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: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose:	82000.00 lb
			<u>Total Volume: 57.12 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4189.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	51.00 ft				
Tool Length:	79.00 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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Shut In Tool	5.00			4166.00	
Hydraulic tool	5.00	1113		4171.00	
Jars	5.00	01-07		4176.00	
Safety Joint	3.00	-001		4179.00	
Packer	5.00			4184.00	28.00 Bottom Of Top Packer
Packer	5.00			4189.00	
Stubb	1.00			4190.00	
Recorder	0.00	8959	Inside	4190.00	
Recorder	0.00	8734	Outside	4190.00	
Perforations	12.00			4202.00	
Change Over Sub	1.00			4203.00	
Drill Pipe	31.00			4234.00	
Change Over Sub	1.00			4235.00	
Bullnose	5.00			4240.00	51.00 Bottom Packers & Anchor

**Total Tool Length: 79.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**15-2S.-35W Rawlins,KS**

250 N. Water STE 300  
Wichita,KS 67202

**Frisbie "B" #1-15**

Job Ticket: 64121

**DST#: 5**

ATTN: Ken LeBlanc

Test Start: 2018.10.04 @ 21:43:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

12000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1830.00	SOMSW 3%O,2%M,95%W	24.058
378.00	SO/HMCW 8%O,40%M,52%W	5.302
5.00	CGO 5%G,95%O	0.070

Total Length: 2213.00 ft      Total Volume: 29.430 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

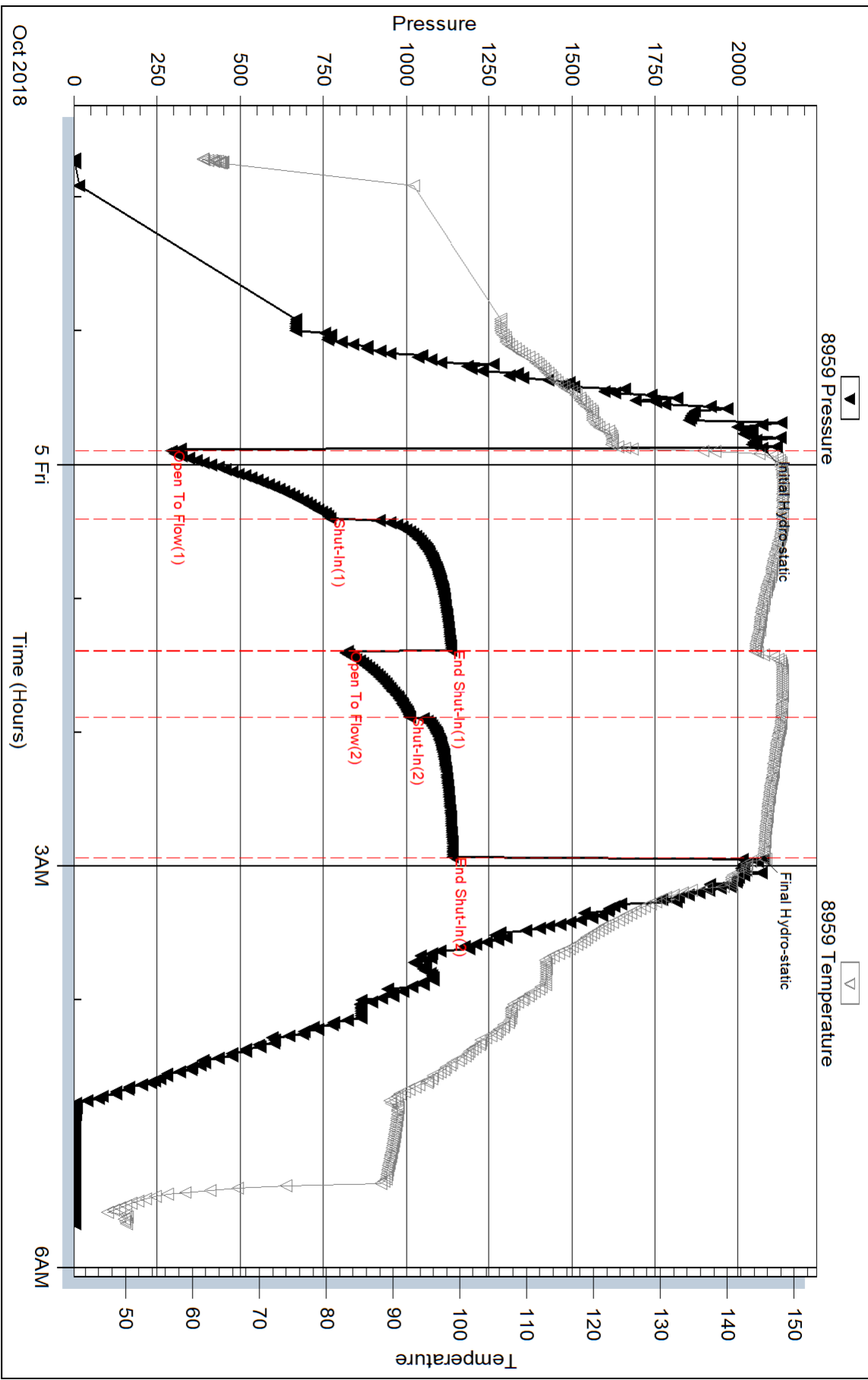
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity of oil = 32.2 @ 42 degs  
Gravity corrected to 34 @ 60 degs  
RW=.561 @ 74 degs= 12,000PPM

### Pressure vs. Time

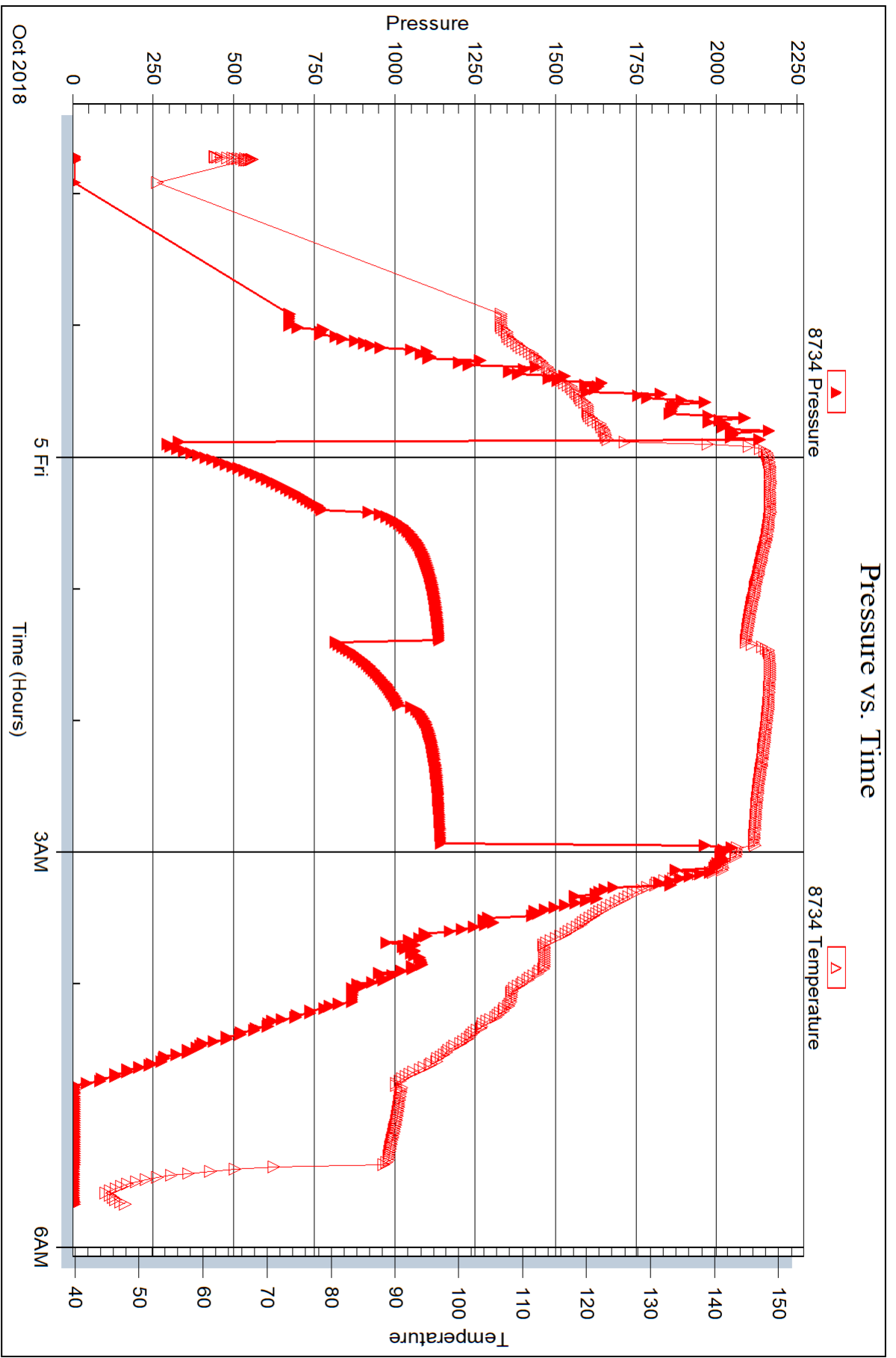


Serial #: 8734

Outside Murfin Drilling Co Inc

Frisbie "B" #1-15

DST Test Number: 5





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300  
Wichita,KS 67202

ATTN: Ken LeBlanc

### **Frisbie "B" #1-15**

#### **15-2S.-35W Rawlins,KS**

Start Date: 2018.10.05 @ 14:50:00

End Date: 2018.10.05 @ 23:28:00

Job Ticket #: 64122                      DST #: 6

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

Printed: 2018.10.08 @ 16:32:12



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N. Water STE 300  
 Wichita, KS 67202  
 ATTN: Ken LeBlanc

**15-2S.-35W Rawlins, KS**  
**Frisbie "B" #1-15**  
 Job Ticket: 64122      **DST#: 6**  
 Test Start: 2018.10.05 @ 14:50:00

## GENERAL INFORMATION:

Formation: **LKC "J"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 17:05:20  
 Time Test Ended: 23:28:00  
 Interval: **4238.00 ft (KB) To 4280.00 ft (KB) (TVD)**  
 Total Depth: 4280.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Martine Salinas  
 Unit No: 82  
 Reference Elevations: 3147.00 ft (KB)  
 3142.00 ft (CF)  
 KB to GR/CF: 5.00 ft

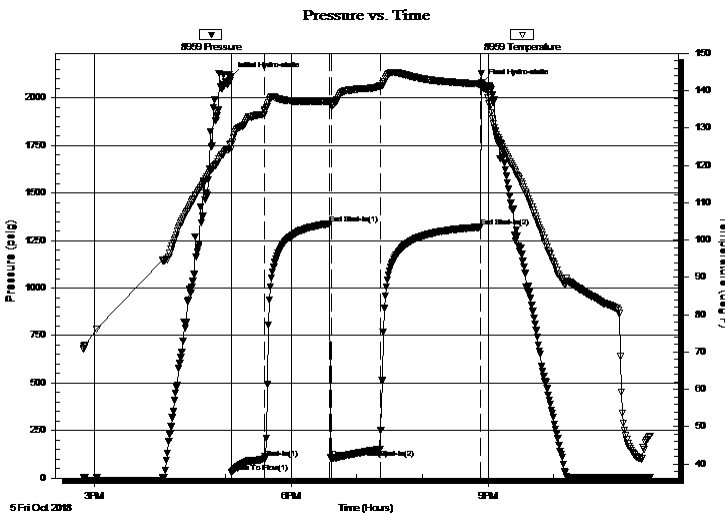
## Serial #: 8959

Inside

Press@RunDepth: 151.39 psig @ 4239.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2018.10.05      End Date: 2018.10.05      Last Calib.: 2018.10.05  
 Start Time: 14:50:01      End Time: 23:28:00      Time On Btm: 2018.10.05 @ 17:05:10  
 Time Off Btm: 2018.10.05 @ 20:54:20

TEST COMMENT: 30-IF-BOB @ 16 mins (blow increased to 23 1/2")  
 60-ISI-Surface blow back built to 1" & decreased to 1/4"  
 45-FF-BOB @ 13 mins (blow increased to 39 1/4")  
 90-FSI-Surface blow back built to 2 1/2" & decreased to 1 1/2"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2110.33	125.67	Initial Hydro-static
1	29.67	124.56	Open To Flow (1)
31	101.78	134.57	Shut-In(1)
91	1338.61	137.16	End Shut-In(1)
92	104.68	136.08	Open To Flow (2)
136	151.39	141.25	Shut-In(2)
229	1320.24	141.76	End Shut-In(2)
230	2076.92	141.34	Final Hydro-static

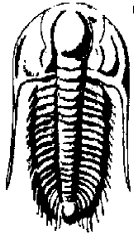
## Recovery

Length (ft)	Description	Volume (bbl)
266.00	GMCO 26%G, 24%M, 50%O	2.12
100.00	CGO 8%G, 92%O	1.40
0.00	525' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**15-2S.-35W Rawlins,KS**

250 N. Water STE 300  
Wichita,KS 67202

**Frisbie "B" #1-15**

Job Ticket: 64122 **DST#: 6**

ATTN: Ken LeBlanc

Test Start: 2018.10.05 @ 14:50:00

### GENERAL INFORMATION:

<b>Formation:</b> LKC "J "			
<b>Deviated:</b> No Whipstock:	ft (KB)	<b>Test Type:</b> Conventional Bottom Hole (Reset)	
<b>Time Tool Opened:</b> 17:05:20		<b>Tester:</b> Martine Salinas	
<b>Time Test Ended:</b> 23:28:00		<b>Unit No:</b> 82	
<b>Interval:</b> 4238.00 ft (KB) To 4280.00 ft (KB) (TVD)		<b>Reference Elevations:</b> 3147.00 ft (KB)	
<b>Total Depth:</b> 4280.00 ft (KB) (TVD)		3142.00 ft (CF)	
<b>Hole Diameter:</b> 7.88 inches	<b>Hole Condition:</b> Good	<b>KB to GR/CF:</b> 5.00 ft	

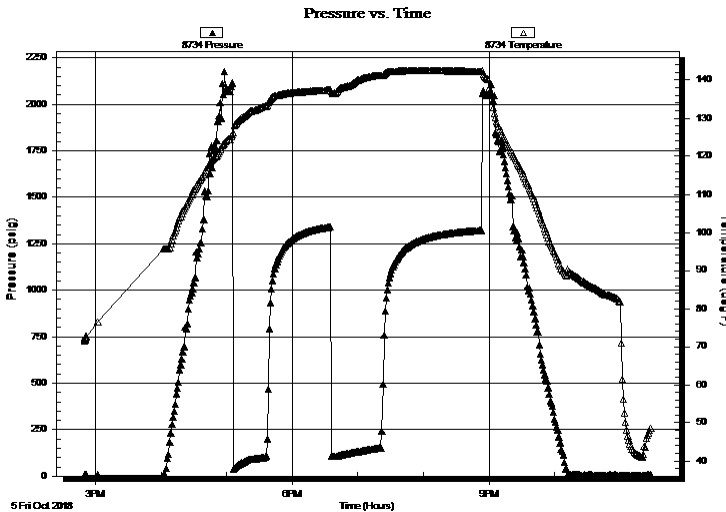
### Serial #: 8734

**Outside**

<b>Press@RunDepth:</b> _____ psig @ 4239.00 ft (KB)	<b>Capacity:</b> 8000.00 psig
<b>Start Date:</b> 2018.10.05 <b>End Date:</b> 2018.10.05	<b>Last Calib.:</b> 2018.10.05
<b>Start Time:</b> 14:50:01 <b>End Time:</b> 23:28:00	<b>Time On Btm:</b> _____
	<b>Time Off Btm:</b> _____

**TEST COMMENT:** 30-IF-BOB @ 16 mins (blow increased to 23 1/2")  
 60-ISI-Surface blow back built to 1" & decreased to 1/4"  
 45-FF-BOB @ 13 mins (blow increased to 39 1/4")  
 90-FSI-Surface blow back built to 2 1/2" & decreased to 1 1/2"

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
266.00	GMCO 26%G, 24%M, 50%O	2.12
100.00	CGO 8%G, 92%O	1.40
0.00	525' GIP	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 Inc  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Ken LeBlanc

**15-2S.-35W Rawlins, KS**  
**Frisbie "B" #1-15**  
Job Ticket: 64122      **DST#: 6**  
Test Start: 2018.10.05 @ 14:50:00

**Tool Information**

Drill Pipe:	Length: 4042.00 ft	Diameter: 3.80 inches	Volume: 56.70 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: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 57.57 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4238.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	70.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			4215.00	
Hydraulic tool	5.00	1113		4220.00	
Jars	5.00	01-07		4225.00	
Safety Joint	3.00	-001		4228.00	
Packer	5.00			4233.00	28.00      Bottom Of Top Packer
Packer	5.00			4238.00	
Stubb	1.00			4239.00	
Recorder	0.00	8959	Inside	4239.00	
Recorder	0.00	8734	Outside	4239.00	
Perforations	36.00			4275.00	
Bullnose	5.00			4280.00	42.00      Bottom Packers & Anchor

**Total Tool Length: 70.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**15-2S.-35W Rawlins,KS**

250 N. Water STE 300  
Wichita,KS 67202

**Frisbie "B" #1-15**

Job Ticket: 64122

**DST#: 6**

ATTN: Ken LeBlanc

Test Start: 2018.10.05 @ 14:50:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38.2 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
266.00	GMCO 26%G, 24%M, 50%O	2.119
100.00	CGO 8%G, 92%O	1.403
0.00	525' GIP	0.000

Total Length: 366.00 ft      Total Volume: 3.522 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity of oil = 36.4 @ 42 degs

Gravity corrected to 38.2 @ 60 degs



Serial #: 8959

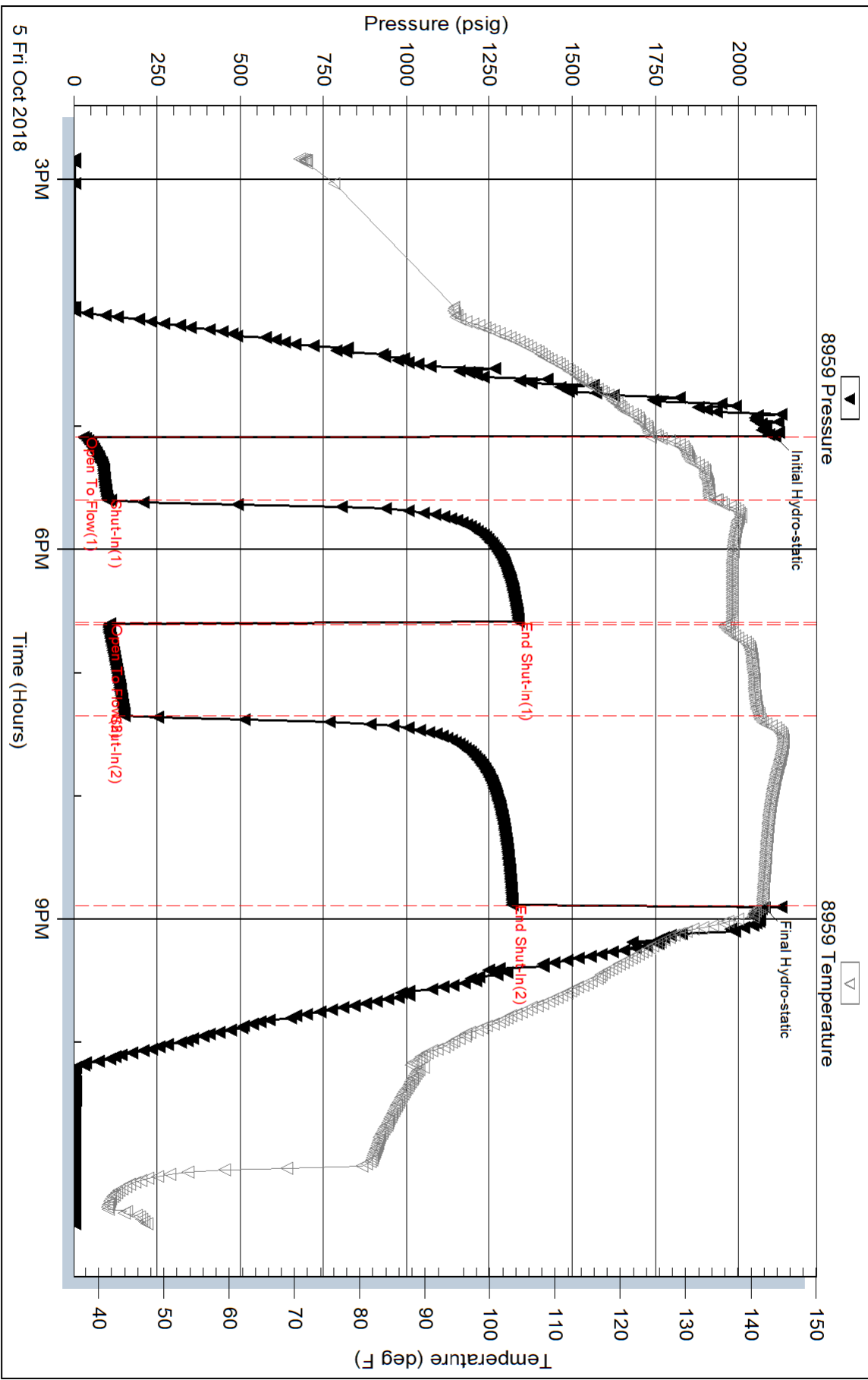
Inside

Murfin Drilling Co Inc

Frisbie "B" #1-15

DST Test Number: 6

# Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 64122

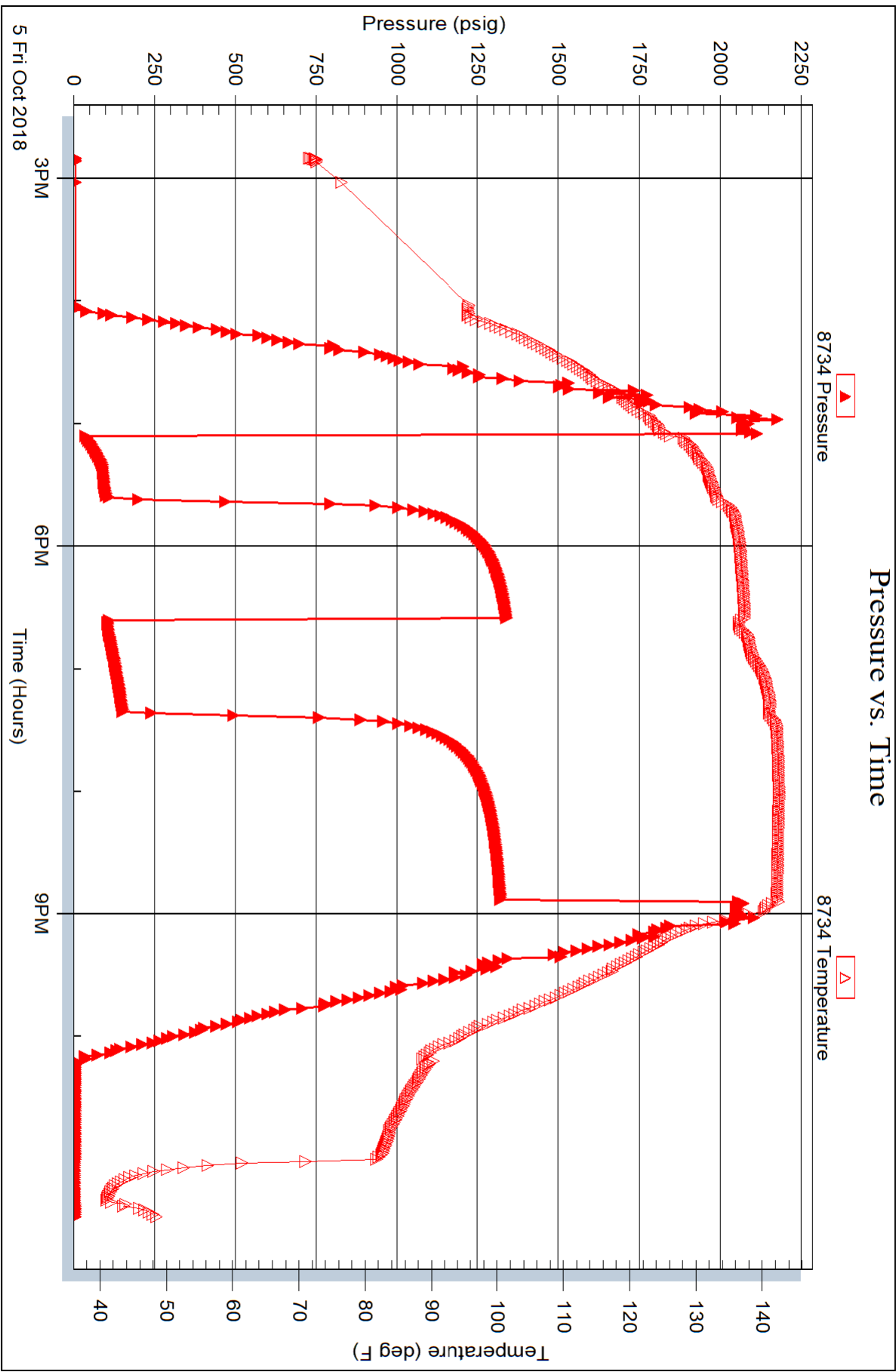
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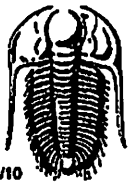
Serial #: 8734

Outside Murfin Drilling Co Inc

Frisbie "B" #1-15

DST Test Number: 6





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64117

Well Name & No. Frisbie "B" #1-15 Test No. 1 Date 10-1-18  
 Company Murfin Drilling Co Inc Elevation 3147 KB 3142 GL  
 Address 250 N. Water, STE 300, Wichita, KS 67202  
 Co. Rep / Geo. Ken Le Blanc Rig Murfin #3  
 Location: Sec. 15 Twp 25. Rge. 35W. Co. Rawlins State KS

Interval Tested 3852-3990 Zone Tested Topeka-Oread  
 Anchor Length 138' Drill Pipe Run 3667 Mud Wt. 8.9  
 Top Packer Depth 3847 Drill Collars Run 177 Vis 6.5  
 Bottom Packer Depth 3852 (Shale) Wt. Pipe Run — WL 5.6  
 Total Depth 3990 Chlorides 600 ppm System LCM 6#  
 Blow Description IF - 1/4" blow built to 1 1/2"  
ISI - No blow  
FF - S. blow @ 10 mins built to 1/8"  
FJI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</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

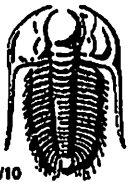
Rec Total 20 BHT 127 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1877  Test 1050 T-On Location 20:15  
 (B) First Initial Flow 25  Jars 250 T-Started 22:15  
 (C) First Final Flow 35  Safety Joint 75 T-Open 00:19  
 (D) Initial Shut-In 1143  Circ Sub \_\_\_\_\_ T-Pulled 03:19  
 (E) Second Initial Flow 36  Hourly Standby \_\_\_\_\_ T-Out 05:16  
 (F) Second Final Flow 43  Mileage 90 RT 90 Comments \_\_\_\_\_  
 (G) Final Shut-In 1086  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1866  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer 250  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1715  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1715

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

Approved By Ken Le Blanc Our Representative Martin Salinas

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64118

Well Name & No. Frishie "B" #1-15 Test No. 2 Date 10-2-18  
 Company Murfin Drilling Co Inc Elevation 3147 KB 3142 GL  
 Address 250 N. Water, STE 300, Wichita, KS 67202  
 Co. Rep / Geo. Ken LeBlanc Rig Murfin #3  
 Location: Sec. 15 Twp 2S. Rge. 35W. Co. Bawling State KS

Interval Tested 4010 - 4080 Zone Tested Douglas + Lansing A  
 Anchor Length 70 Drill Pipe Run \_\_\_\_\_ Mud Wt. 8.9  
 Top Packer Depth 4005 Drill Collars Run 177 Vis 60  
 Bottom Packer Depth 4010 Wt. Pipe Run — WL 5.6  
 Total Depth 4080 Chlorides 600 ppm System LCM SA

Blow Description IF - S. blow built to 4' 1/2"  
ISI - No blow  
FF - S. blow built to 7' 1/2"  
FSE - S. blow back @ 5 mins built to 1/8" it died @ 50 mins.

Rec	Feet of	%gas	%oil	%water	%mud
<u>170</u>	<u>G4MCO</u>	<u>17</u>	<u>54</u>	<u>29</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 170 BHT 134 Gravity 21.8 API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

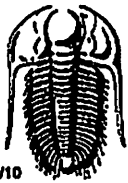
(A) Initial Hydrostatic 1958  Test 1150 T-On Location 16:00  
 (B) First Initial Flow 25  Jars \_\_\_\_\_ T-Started 16:33  
 (C) First Final Flow 54  Safety Joint 75 T-Open 18:40  
 (D) Initial Shut-In 1175  Circ Sub \_\_\_\_\_ T-Pulled 22:25  
 (E) Second Initial Flow 64  Hourly Standby \_\_\_\_\_ T-Out 00:33  
 (F) Second Final Flow 87  Mileage 90 RT 90 Comments \_\_\_\_\_  
 (G) Final Shut-In 1206  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1942  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1315

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 45  
 Final Shut-In 90

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1315  
 MP/DST Disc't \_\_\_\_\_

Approved By Ken LeBlanc Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64119

Well Name & No. Erisbie "R" H 1-15 Test No. 3 Date 10-3-18  
 Company Murfin Drilling Co Inc Elevation 3147 KB 3142 GL  
 Address 250 N. Water, STE 300, Wichita, KS 67202  
 Co. Rep / Geo. Ken LeBlanc Rig Murfin #3  
 Location: Sec. 15 Twp 2S. Rge. 35W. Co. Rawlins State KS

Interval Tested 4080-4140 Zone Tested Lansing "E" "D" ZN  
 Anchor Length 60 Drill Pipe Run 3085 Mud Wt. 9.0  
 Top Packer Depth 4075 Drill Collars Run 177 Vis 65  
 Bottom Packer Depth 4080 Wt. Pipe Run — WL 6.6  
 Total Depth 4140 Chlorides 700 ppm System LCM 4#

Blow Description IF · 1" blow built to B.O.B (12 inches) @ 2 1/2 mins (blow increased to 170")  
ISI · S. blow back built to B.O.B (12 inches) @ 12 1/2 mins (blow increased to 42")  
FF · 1/2" blow built to B.O.B (12 inches) @ 3 1/2 mins (blow increased to 125")  
FST · S. blow back built to 11 1/2"

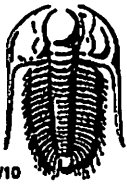
Rec	Feet of	%gas	%oil	%water	%mud
<u>118</u>	<u>G MCO</u>	<u>13</u>	<u>67</u>	<u>20</u>	<u>—</u>
<u>1763 Rev</u>	<u>GGO 0-37mins</u>	<u>17</u>	<u>83</u>	<u>—</u>	<u>—</u>
<u>100</u>	<u>CGO</u>	<u>35</u>	<u>65</u>	<u>—</u>	<u>—</u>
<u>0</u>	<u>929' GIP</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Rec Total 1981 BHT ~~144~~ 144 Gravity 27.4 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2011  Test 1150 T-On Location 09:50  
 (B) First Initial Flow 144  Jars 250 T-Started 10:05  
 (C) First Final Flow 529  Safety Joint 75 T-Open 12:03  
 (D) Initial Shut-In 1284  Circ Sub Drop Bar 50 T-Pulled 15:03  
 (E) Second Initial Flow 537  Hourly Standby — T-Out 18:58  
 (F) Second Final Flow 772  Mileage 90 RT 90  
 (G) Final Shut-In 1275  Sampler —  
 (H) Final Hydrostatic 1992  Straddle —  
 Shale Packer —  Ruined Shale Packer —  
 Extra Packer —  Ruined Packer —  
 Extra Recorder —  Extra Copies —  
 Initial Open 30  Day Standby — Sub Total 0  
 Initial Shut-In 60  Accessibility — Total 1615  
 Final Flow 30 Sub Total 1615 MP/DST Disc't —  
 Final Shut-In 60

Approved By Ken LeBlanc Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64120

Well Name & No. Erisbie "B" #1-15 Test No. 4 Date 10-4-18  
 Company Murfin Drilling Co Inc Elevation 3147 KB 3142 GL  
 Address 250 N. Water, STE 303, Wichita, KS 67202  
 Co. Rep / Geo. Ken LeBlanc Rig Murfin #3  
 Location: Sec. 15 Twp 2S. Rge. 3SW. Co. Rawlins State KS

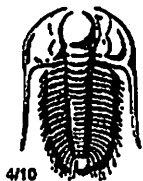
Interval Tested 4143-4190 Zone Tested Lansing "G"  
 Anchor Length 47' Drill Pipe Run 3947 Mud Wt. 9.0  
 Top Packer Depth 4138 Drill Collars Run 177 Vis 63  
 Bottom Packer Depth 4143 (Shak) Wt. Pipe Run — WL 6.0  
 Total Depth 4190 Chlorides 700 ppm System LCM 5#  
 Blow Description IF: 2" blow built to B.O.B (12 inches) @ 2 mins (blow increased to 117 1/4")  
ISI: S. blow @ 5 mins built to 3/4" & decreased to 1/4"  
FF: S. blow built to B.O.B (12 inches) @ 10 1/2 mins (blow increased to 23")  
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
303	SOMCW	7	83	10	
456	MC/GOCW	17	25	42	16
567	MC/GWCO	10	40	28	22
0	120' GIP				
Rec Total	1326	BHT 139	Gravity —	API RW .114 @ 38.2 °F	Chlorides <del>150,000</del> 150,000 ppm

(A) Initial Hydrostatic 2057  Test 1150 T-On Location 03:30  
 (B) First Initial Flow 157  Jars 250 T-Started 03:56  
 (C) First Final Flow 525  Safety Joint 75 T-Open 06:04  
 (D) Initial Shut-In 658  Circ Sub \_\_\_\_\_ T-Pulled 09:04  
 (E) Second Initial Flow 525  Hourly Standby \_\_\_\_\_ T-Out 12:21  
 (F) Second Final Flow 583  Mileage 90 RT 90 Comments Tight Spot 6' off bottom  
 (G) Final Shut-In 647  Sampler \_\_\_\_\_ tool opened on bottom  
 (H) Final Hydrostatic 2000  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer 250  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1815  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1815

Approved By Ken LeBlanc Our Representative Ken LeBlanc

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# TRIOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64121

Well Name & No. Erisbie "B" #1-15 Test No. 5 Date 10-4-18  
 Company Murfin Drilling Co Inc Elevation 3147 KB 3142 GL  
 Address 250 N. Water St E 300, Wichita, KS 67202  
 Co. Rep / Geo. Ken LeBlanc Rig Murfin #3  
 Location: Sec. 15 Twp 25. Rge. 35 W. Co. Rawlins State KS

Interval Tested 4189-4240 Zone Tested Lansing "H"  
 Anchor Length 51 Drill Pipe Run 4010 Mud Wt. 8.9  
 Top Packer Depth 4184 Drill Collars Run 177 Vls 65  
 Bottom Packer Depth 4189 Wt. Pipe Run — WL 6.0  
 Total Depth 4240 Chlorides 700 ppm System LCM 4#

Blow Description IF: 2" blow built to B.O.B (12 inches) @ 1 1/2 mins (blow increased to 195 3/4")  
ISI - No blow  
FF: S. blow built to B.O.B (12 inches) @ 2 mins (blow increased to 87')  
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1830</u>	<u>SOMSW</u>	<u>3</u>	<u>95</u>	<u>2</u>	
<u>378</u>	<u>SO/HMCW</u>	<u>8</u>	<u>52</u>	<u>40</u>	
<u>5</u>	<u>CGO</u>	<u>5</u>	<u>95</u>		

Rec Total 2213 BHT 146 Gravity 34 API RW .561 @ 74 °F Chlorides 12,000 ppm

- (A) Initial Hydrostatic 2073
- (B) First Initial Flow 293
- (C) First Final Flow 773
- (D) Initial Shut-In 1136
- (E) Second Initial Flow 824
- (F) Second Final Flow 1010
- (G) Final Shut-In 1141
- (H) Final Hydrostatic 2078

- Test 1150
- Jars 250
- Safety Joint 75
- Circ Sub
- Hourly Standby
- Mileage 90 RT 90
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1565

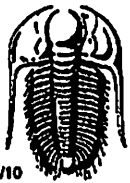
T-On Location 21:00  
 T-Started 21:43  
 T-Open 23:53  
 T-Pulled 02:53  
 T-Out 05:41

Comments \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1565  
 MP/DST Disc't \_\_\_\_\_

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

Approved By Ken LeBlanc Our Representative [Signature]

Triobite 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. 64122

Well Name & No. Frisbie "B" #1-15 Test No. DST #6 Date 10-5-18  
 Company Murfin Drilling Co Inc Elevation 3147 KB 3142 GL  
 Address 250 N. Water, STE 300, Wichita, KS 67202  
 Co. Rep / Geo. Ken LeBlanc Rig Murfin #3  
 Location: Sec. 15 Twp 2S. Rge. 35W. Co. Rawlins State KS

Interval Tested 4238 - 4280 Zone Tested Lansing "J"  
 Anchor Length 42 Drill Pipe Run 4042 Mud Wt. 9.0  
 Top Packer Depth 4233 Drill Collars Run 177 Vis 69  
 Bottom Packer Depth 4238 Wt. Pipe Run — WL 6.0  
 Total Depth 4280 Chlorides 800 ppm System LCM 4#

Blow Description IF - S. blow built to B.O.B (12 inches) @ 16 mins (blow increased to 23 1/2")  
ISI - S. blow back built to 1" + decreased to 1/4"  
EF - S. blow built to B.O.B (12 inches) @ 13 mins (blow increased to 39 1/4")  
FST - S. blow back built to 2 1/2" + decreased to 1 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>266</u>	<u>Feet of 5MCO</u>	<u>26</u>	<u>50</u>	<u>24</u>	<u>—</u>
<u>100</u>	<u>Feet of CGO</u>	<u>8</u>	<u>92</u>	<u>—</u>	<u>—</u>
<u>0</u>	<u>Feet of 525' GIP</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>Feet of</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>Feet of</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Rec Total 366 BHT 141 Gravity 38.2 API RW — @ — °F Chlorides — ppm

- (A) Initial Hydrostatic 2110
- (B) First Initial Flow 30
- (C) First Final Flow 102
- (D) Initial Shut-In 1339
- (E) Second Initial Flow 105
- (F) Second Final Flow 151
- (G) Final Shut-In 1320
- (H) Final Hydrostatic 2077

- Test 1150
- Jars 250
- Safety Joint 75
- Circ Sub —
- Hourly Standby —
- Mileage 90 RT X 2 180
- Sampler —
- Straddle —
- Shale Packer —
- Extra Packer —
- Extra Recorder —
- Day Standby —
- Accessibility —
- Sub Total 1655

T-On Location 14:15  
 T-Started 14:50  
 T-Open 17:05  
 T-Pulled 20:50  
 T-Out 23:28  
 Comments Tools loaded @ 22:30  
11-6-18

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 45  
 Final Shut-In 90

- Ruined Shale Packer —
- Ruined Packer Bottom Packer 320
- Extra Copies —
- Sub Total 320
- Total 1975
- MP/DST Disc't —

Approved By Ken LeBlanc Our Representative [Signature]

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