



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Uhlaender #1-29

29-2s-35w Rawlins KS

Start Date: 2017.08.25 @ 09:04:00

End Date: 2017.08.25 @ 16:50:15

Job Ticket #: 63344 DST #: 1

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

Printed: 2017.08.29 @ 11:21:35



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

29-2s-35w Rawlins KS

Uhlaender #1-29

Job Ticket: 63344

DST#: 1

Test Start: 2017.08.25 @ 09:04:00

GENERAL INFORMATION:

Formation: **Gorham Sd., LKC "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:44:00

Time Test Ended: 16:50:15

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

Interval: **4078.00 ft (KB) To 4210.00 ft (KB) (TVD)**

Reference Elevations: 3226.00 ft (KB)

Total Depth: 4210.00 ft (KB) (TVD)

3221.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6625

Inside

Press@RunDepth: 167.94 psig @ 4079.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.08.25 End Date: 2017.08.25

Last Calib.: 2017.08.25

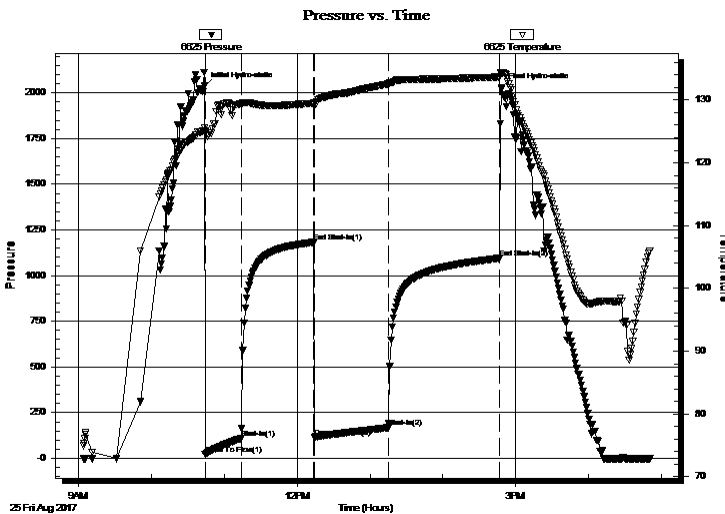
Start Time: 09:04:05 End Time: 16:50:14

Time On Btm: 2017.08.25 @ 10:43:45

Time Off Btm: 2017.08.25 @ 14:48:00

TEST COMMENT: 30 - IF: Blow built to 7 1/4"
 60 - IS: No blow back
 60 - FF: Blow started at 4 1/2 min., built to 9 1/4"
 90 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2036.49	125.49	Initial Hydro-static
1	20.15	125.09	Open To Flow (1)
31	109.39	129.34	Shut-In(1)
90	1182.06	129.50	End Shut-In(1)
91	114.71	129.31	Open To Flow (2)
152	167.94	132.54	Shut-In(2)
243	1094.48	133.67	End Shut-In(2)
245	2030.47	134.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
237.00	MW 56%w, 44%m	1.46
62.00	WCM 86%m, 14%w	0.87
31.00	Mud 100%	0.43

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: Saman Sharifaie

29-2s-35w Rawlins KS

Uhlaender #1-29

Job Ticket: 63344

DST#: 1

Test Start: 2017.08.25 @ 09:04:00

GENERAL INFORMATION:

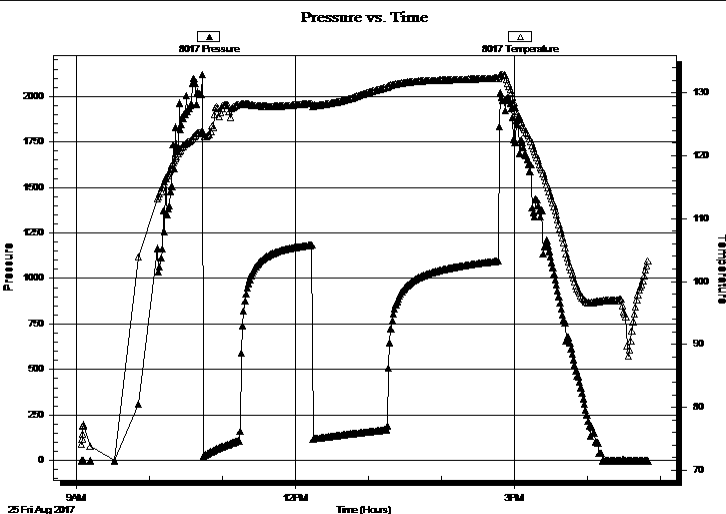
Formation: **Gorham Sd., LKC "D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:44:00
 Time Test Ended: 16:50:15
Interval: 4078.00 ft (KB) To 4210.00 ft (KB) (TVD)
 Total Depth: 4210.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 3226.00 ft (KB)
 3221.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8017

Outside

Press@RunDepth: psig @ 4079.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.08.25 End Date: 2017.08.25 Last Calib.: 2017.08.25
 Start Time: 09:04:05 End Time: 16:49:59 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to 7 1/4"
 60 - IS: No blow back
 60 - FF: Blow started at 4 1/2 min., built to 9 1/4"
 90 - FS: No blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
237.00	MW 56%w, 44%m	1.46
62.00	WCM 86%m, 14%w	0.87
31.00	Mud 100%	0.43

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc

29-2s-35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Uhlaender #1-29

Job Ticket: 63344

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2017.08.25 @ 09:04:00

Tool Information

Drill Pipe:	Length: 3867.00 ft	Diameter: 3.80 inches	Volume: 54.24 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 55.25 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4078.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	132.00 ft			
Tool Length:	161.00 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			4050.00	
Shut In Tool	5.00			4055.00	
Hydraulic tool	5.00			4060.00	
Jars	5.00			4065.00	
Safety Joint	3.00			4068.00	
Packer	5.00			4073.00	29.00 Bottom Of Top Packer
Packer	5.00			4078.00	
Stubb	1.00			4079.00	
Recorder	0.00	6625	Inside	4079.00	
Recorder	0.00	8017	Outside	4079.00	
Perforations	29.00			4108.00	
Blank Spacing	96.00			4204.00	
Perforations	3.00			4207.00	
Bullnose	3.00			4210.00	132.00 Bottom Packers & Anchor

Total Tool Length: 161.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc

29-2s-35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Uhlaender #1-29

Job Ticket: 63344

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2017.08.25 @ 09:04:00

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:

16000 ppm

Viscosity: 76.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

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
237.00	MW 56%w , 44%m	1.457
62.00	WCM 86%m, 14%w	0.870
31.00	Mud 100%	0.435

Total Length: 330.00 ft Total Volume: 2.762 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .312 ohms @ 92.6

Chlorides = 16,000 ppm

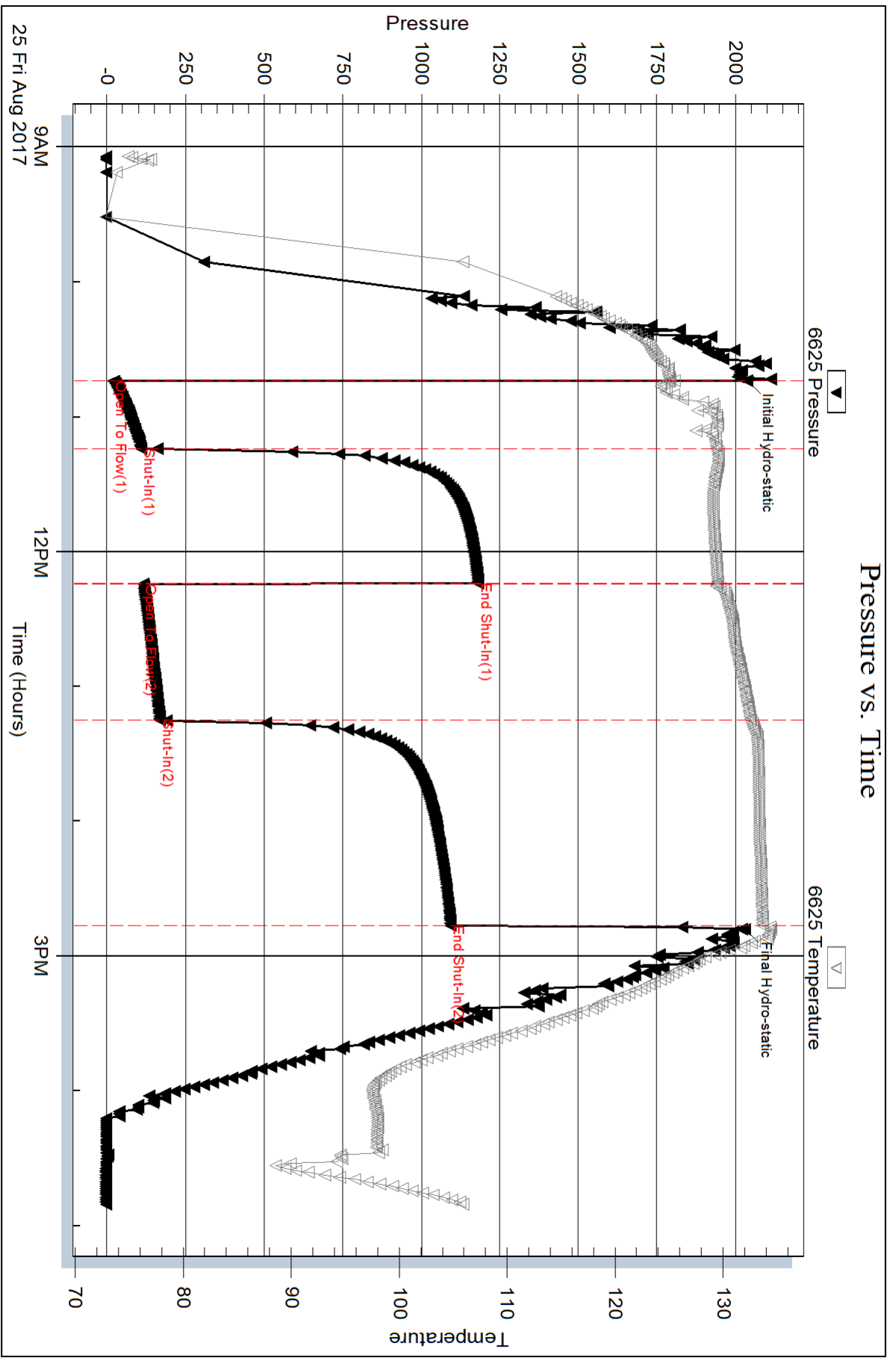
Serial #: 6625

Inside

Murfin Drilling Co., Inc

Uhllander #1-29

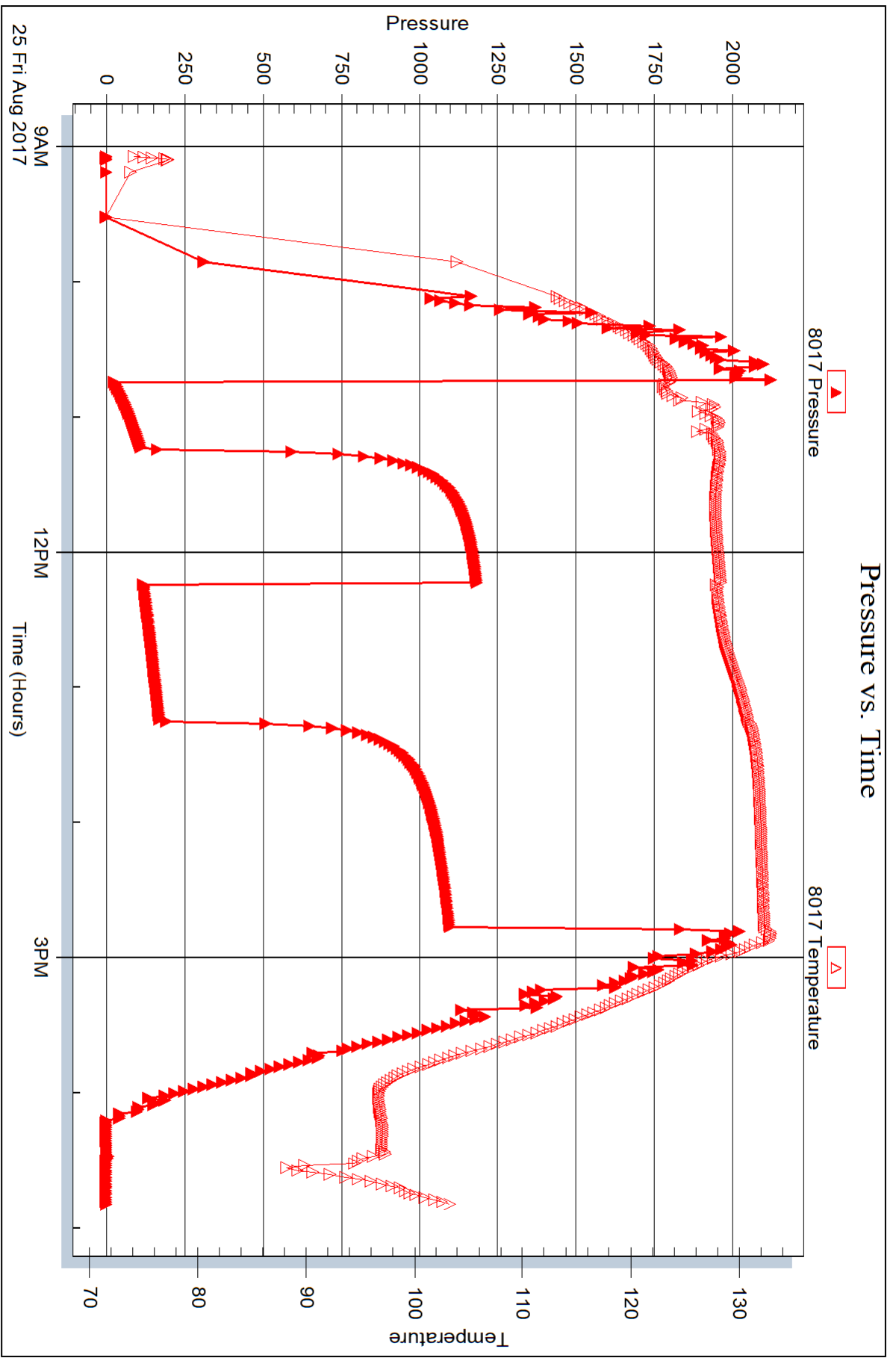
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 63344

Printed: 2017.08.29 @ 11:21:36





DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Uhlaender #1-29

29-2s-35w Rawlins KS

Start Date: 2017.08.26 @ 03:14:00

End Date: 2017.08.26 @ 09:54:00

Job Ticket #: 63345 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.08.29 @ 11:20:40



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc

29-2s-35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Uhlaender #1-29

Job Ticket: 63345

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2017.08.26 @ 03:14:00

GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:14:00

Time Test Ended: 09:54:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4233.00 ft (KB) To 4264.00 ft (KB) (TVD)

Reference Elevations: 3226.00 ft (KB)

Total Depth: 4264.00 ft (KB) (TVD)

3221.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6625

Inside

Press@RunDepth: 15.26 psig @ 4234.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.08.26

End Date:

2017.08.26

Last Calib.:

2017.08.26

Start Time: 03:14:05

End Time:

09:53:59

Time On Btm:

2017.08.26 @ 05:13:45

Time Off Btm:

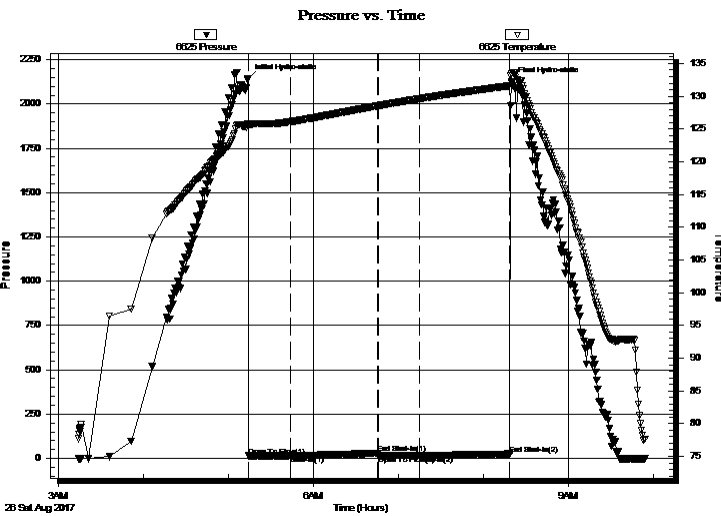
2017.08.26 @ 08:19:45

TEST COMMENT: 30 - IF: Blow built to 1/4", died back, dead at 26 min.

60 - IS: No blow

30 - FF: No blow

60 - FS: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2142.49	125.74	Initial Hydro-static
1	13.94	125.50	Open To Flow (1)
30	15.01	126.09	Shut-In(1)
92	29.09	128.52	End Shut-In(1)
92	15.03	128.54	Open To Flow (2)
122	15.26	129.63	Shut-In(2)
185	25.07	131.58	End Shut-In(2)
186	2125.78	133.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud 100%	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: Saman Sharifaie

29-2s-35w Rawlins KS
Uhlaender #1-29
Job Ticket: 63345 **DST#: 2**
Test Start: 2017.08.26 @ 03:14:00

GENERAL INFORMATION:

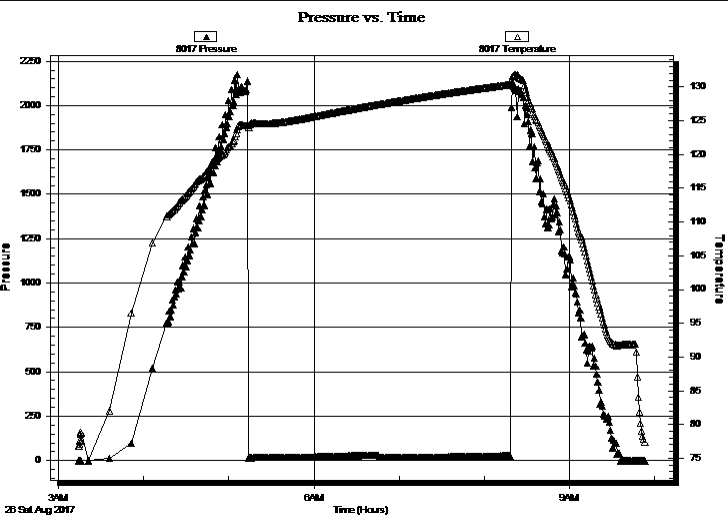
Formation: **LKC "G"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 05:14:00 Tester: James Winder
Time Test Ended: 09:54:00 Unit No: 83
Interval: 4233.00 ft (KB) To 4264.00 ft (KB) (TVD) Reference Elevations: 3226.00 ft (KB)
Total Depth: 4264.00 ft (KB) (TVD) 3221.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8017

Outside

Press@RunDepth: psig @ 4234.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.08.26 End Date: 2017.08.26 Last Calib.: 2017.08.26
Start Time: 03:14:05 End Time: 09:53:29 Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to 1/4", died back, dead at 26 min.
60 - IS: No blow
30 - FF: No blow
60 - FS: No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud 100%	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

29-2s-35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Uhlaender #1-29

Job Ticket: 63345

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2017.08.26 @ 03:14:00

Tool Information

Drill Pipe:	Length: 4024.00 ft	Diameter: 3.80 inches	Volume: 56.45 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 63000.00 lb
			<u>Total Volume: 57.46 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4233.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	60.00 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			4205.00	
Shut In Tool	5.00			4210.00	
Hydraulic tool	5.00			4215.00	
Jars	5.00			4220.00	
Safety Joint	3.00			4223.00	
Packer	5.00			4228.00	29.00 Bottom Of Top Packer
Packer	5.00			4233.00	
Stubb	1.00			4234.00	
Recorder	0.00	6625	Inside	4234.00	
Recorder	0.00	8017	Outside	4234.00	
Perforations	27.00			4261.00	
Bullnose	3.00			4264.00	31.00 Bottom Packers & Anchor

Total Tool Length: 60.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc

29-2s-35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Uhlaender #1-29

Job Ticket: 63345

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2017.08.26 @ 03:14:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 72.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in³

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
1.00	Mud 100%	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6625

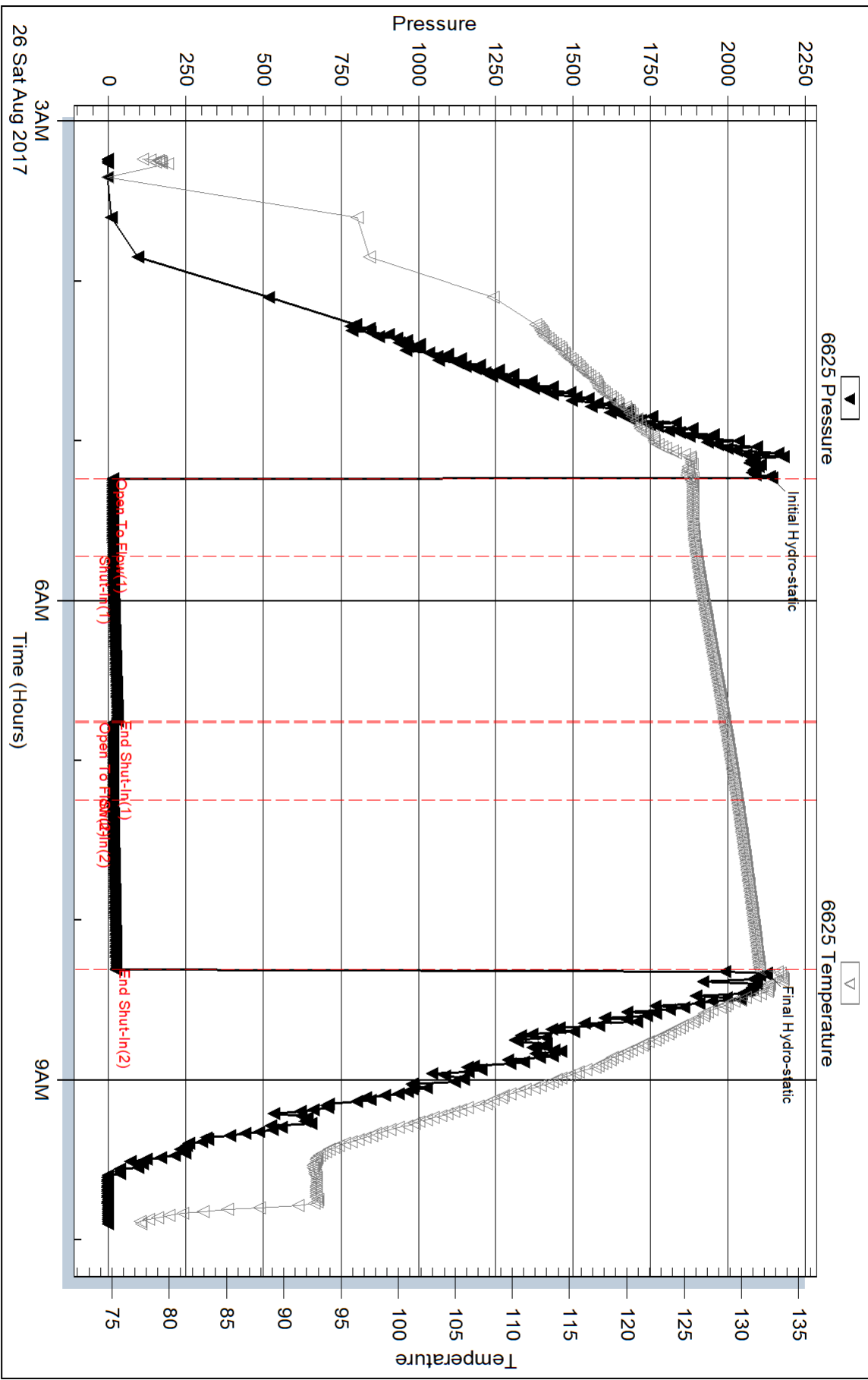
Inside

Murfin Drilling Co., Inc

Uhlender #1-29

DST Test Number: 2

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 63345

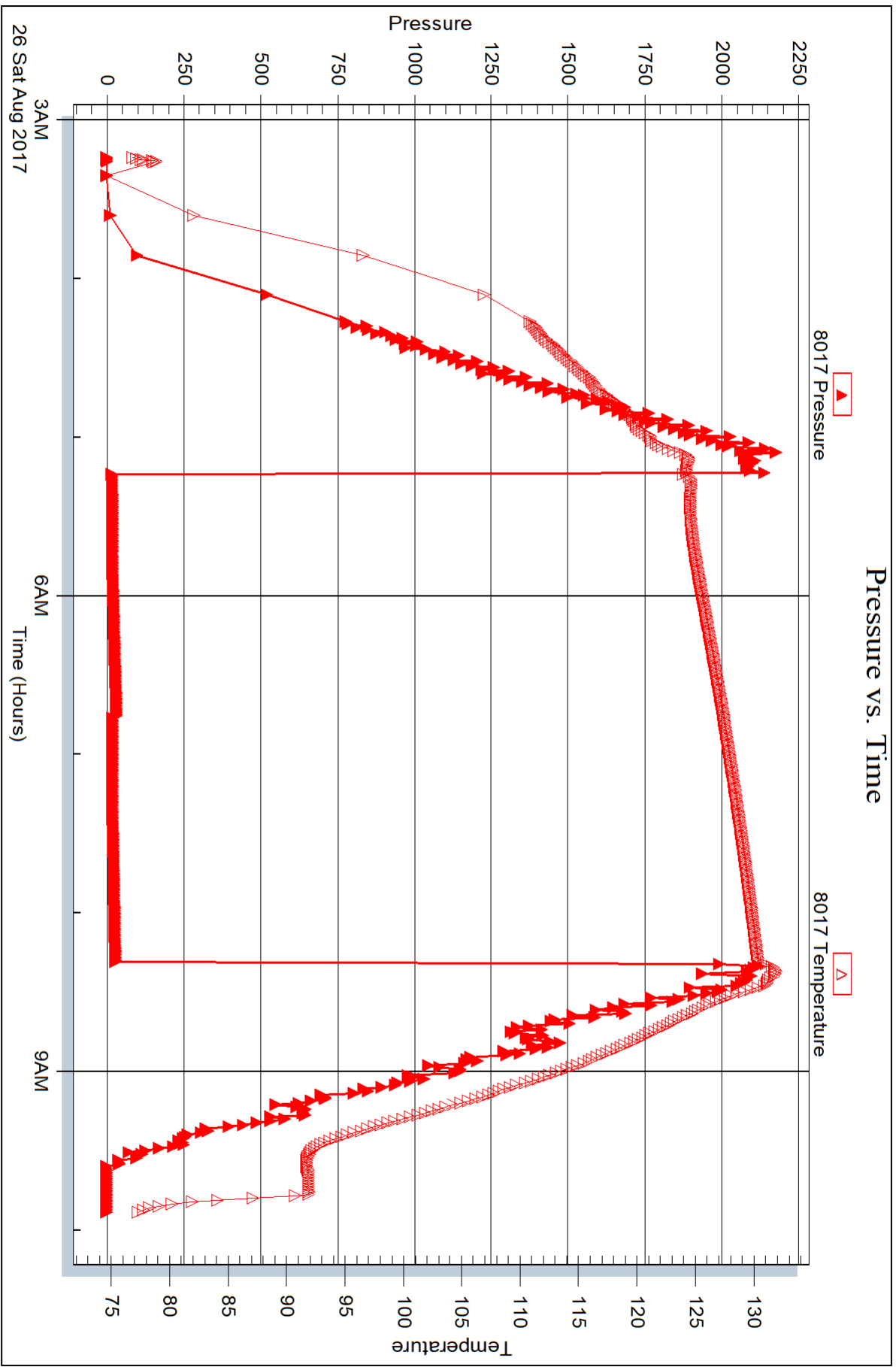
Printed: 2017.08.29 @ 11:20:41

Serial #: 8017

Outside Murfin Drilling Co., Inc

Uhllander #1-29

DST Test Number: 2





DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Uhlaender #1-29

29-2s-35w Rawlins KS

Start Date: 2017.08.26 @ 22:26:00

End Date: 2017.08.27 @ 05:26:00

Job Ticket #: 63346 DST #: 3

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

Printed: 2017.08.29 @ 11:20:15

Murfin Drilling Co., Inc
29-2s-35w Rawlins KS
Uhlaender #1-29
DST # 3
LKC "H - J"
2017.08.26



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

29-2s-35w Rawlins KS

Uhlaender #1-29

Job Ticket: 63346

DST#: 3

Test Start: 2017.08.26 @ 22:26:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:29:30
 Time Test Ended: 05:26:00
 Interval: **4278.00 ft (KB) To 4362.00 ft (KB) (TVD)**
 Total Depth: 4362.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 3226.00 ft (KB)
 3221.00 ft (CF)
 KB to GR/CF: 5.00 ft

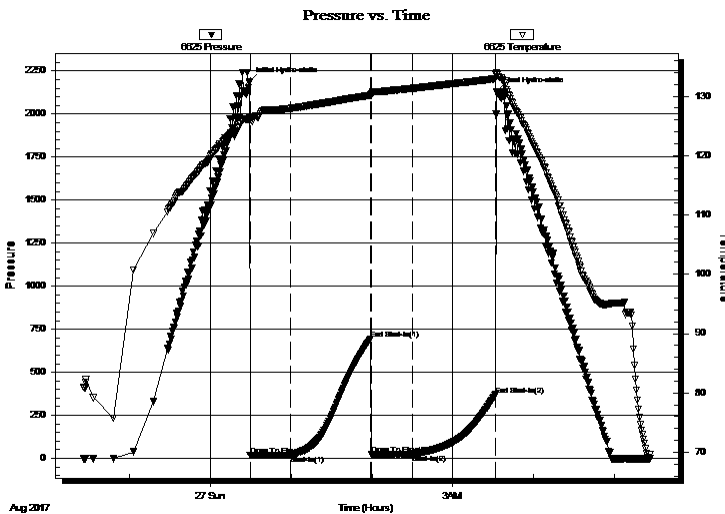
Serial #: 6625

Inside

Press@RunDepth: 24.65 psig @ 4279.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.08.26 End Date: 2017.08.27 Last Calib.: 2017.08.27
 Start Time: 22:26:05 End Time: 05:25:59 Time On Btm: 2017.08.27 @ 00:29:15
 Time Off Btm: 2017.08.27 @ 03:32:30

TEST COMMENT: 30 - IF: Blow built to 1", died back, dead at 30 min.
 60 - IS: No blow
 30 - FF: No blow
 60 - FS: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2186.59	126.41	Initial Hydro-static
1	16.32	126.11	Open To Flow (1)
30	19.77	127.93	Shut-In(1)
90	694.63	130.16	End Shut-In(1)
91	23.06	130.19	Open To Flow (2)
121	24.65	131.30	Shut-In(2)
183	368.94	132.93	End Shut-In(2)
184	2127.63	134.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	SOCM 92%m, 4%o, 4%g	0.10

* 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: Saman Sharifaie

29-2s-35w Rawlins KS

Uhlaender #1-29

Job Ticket: 63346

DST#: 3

Test Start: 2017.08.26 @ 22:26:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 00:29:30 Tester: James Winder
 Time Test Ended: 05:26:00 Unit No: 83
Interval: 4278.00 ft (KB) To 4362.00 ft (KB) (TVD) Reference Elevations: 3226.00 ft (KB)
 Total Depth: 4362.00 ft (KB) (TVD) 3221.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

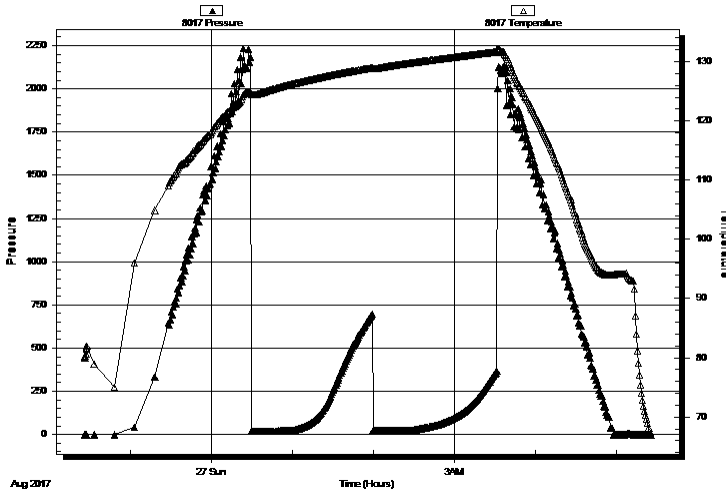
Serial #: 8017

Outside

Press@RunDepth: psig @ 4279.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.08.26 End Date: 2017.08.27 Last Calib.: 2017.08.27
 Start Time: 22:26:05 End Time: 05:25:29 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to 1", died back, dead at 30 min.
 60 - IS: No blow
 30 - FF: No blow
 60 - FS: No blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	SOCM 92%m, 4%o, 4%g	0.10

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

29-2s-35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Uhlaender #1-29

Job Ticket: 63346

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2017.08.26 @ 22:26:00

Tool Information

Drill Pipe:	Length: 4056.00 ft	Diameter: 3.80 inches	Volume: 56.90 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 57.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 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:	84.00 ft			
Tool Length:	113.00 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			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	15.00			4294.00	
Blank Spacing	64.00			4358.00	
Perforations	1.00			4359.00	
Bullnose	3.00			4362.00	84.00 Bottom Packers & Anchor

Total Tool Length: 113.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc

29-2s-35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Uhlaender #1-29

Job Ticket: 63346

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2017.08.26 @ 22:26:00

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: 6.79 in³

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
20.00	SOCM 92%m, 4%o, 4%g	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

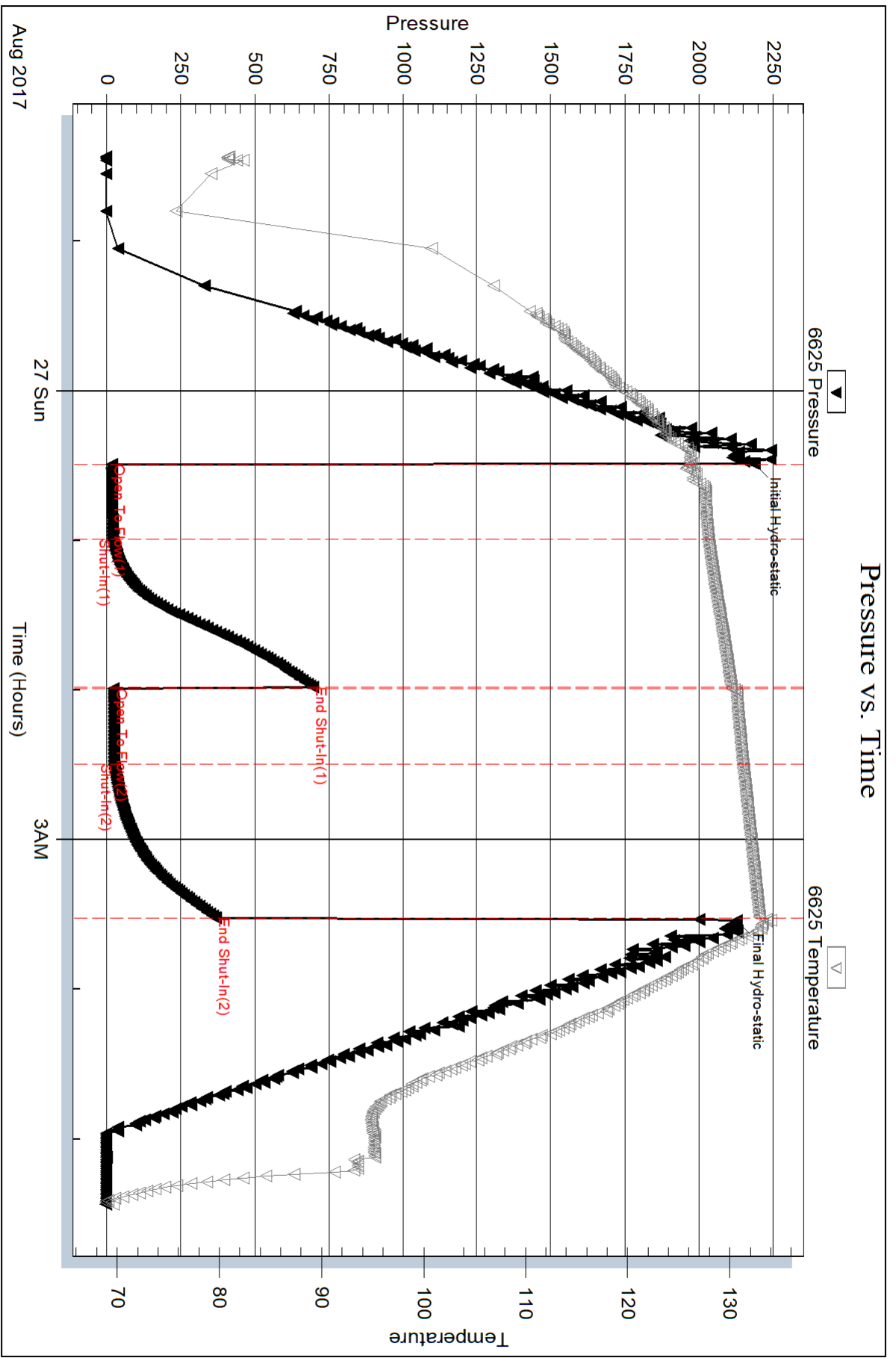
Num Gas Bombs: 0

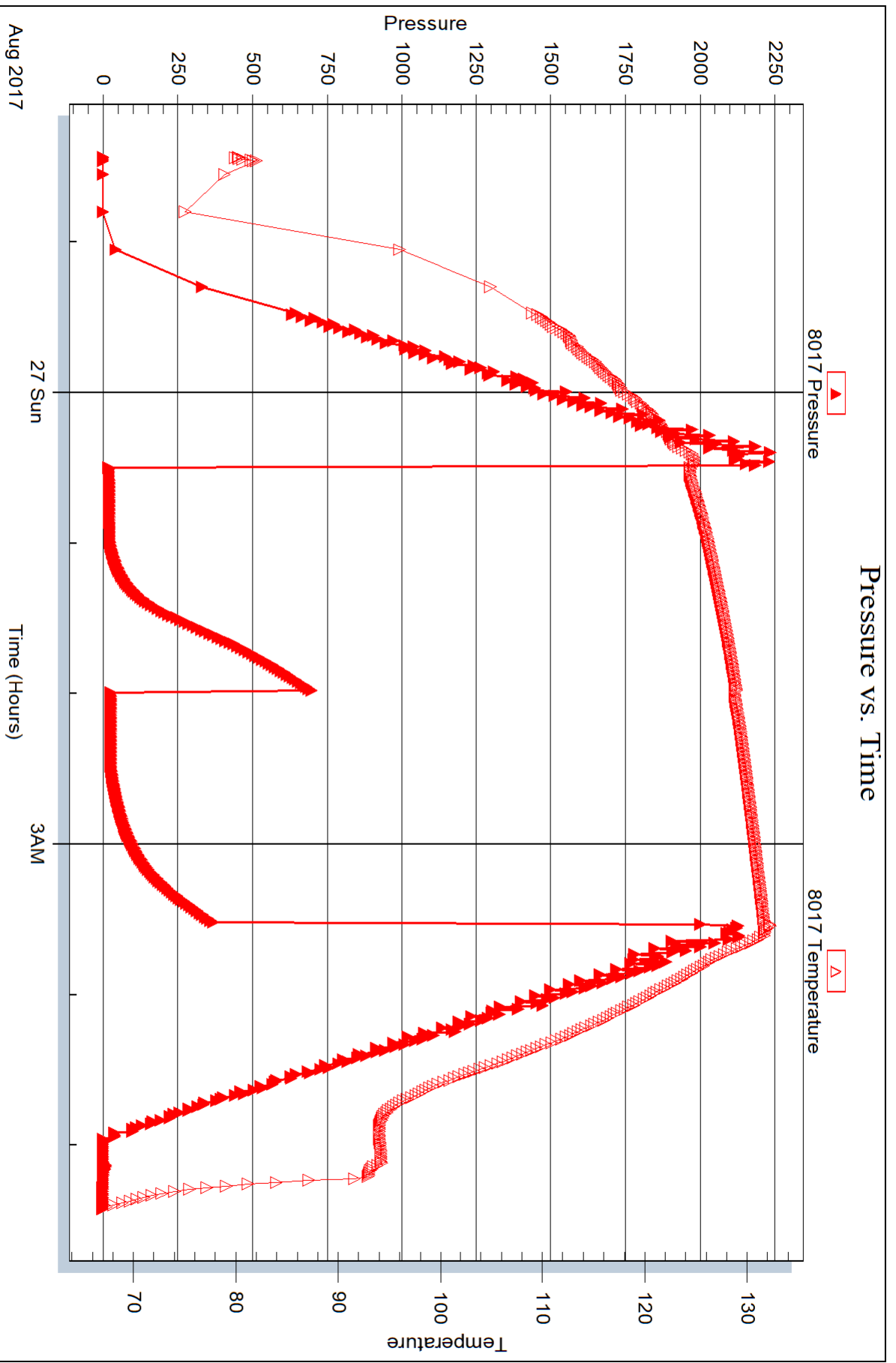
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Uhlaender #1-29

29-2s-35w Rawlins KS

Start Date: 2017.08.28 @ 09:30:00

End Date: 2017.08.28 @ 17:38:45

Job Ticket #: 63347 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.08.29 @ 11:17:52



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

29-2s-35w Rawlins KS

Uhlaender #1-29

Job Ticket: 63347

DST#: 4

Test Start: 2017.08.28 @ 09:30:00

GENERAL INFORMATION:

Formation: **Ft Scott, Celia**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:24:00
 Time Test Ended: 17:38:45
 Interval: **4506.00 ft (KB) To 4640.00 ft (KB) (TVD)**
 Total Depth: 4640.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 83
 Reference Elevations: 3226.00 ft (KB)
 3221.00 ft (CF)
 KB to GR/CF: 5.00 ft

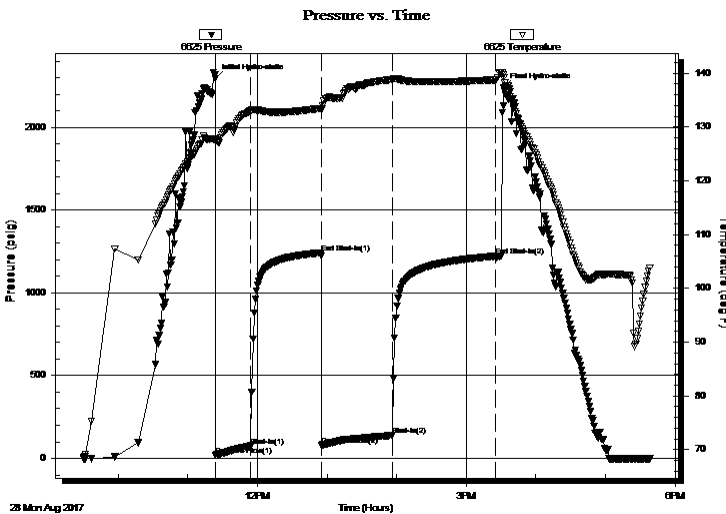
Serial #: 6625

Inside

Press@RunDepth: 138.30 psig @ 4507.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.08.28 End Date: 2017.08.28 Last Calib.: 2017.08.28
 Start Time: 09:30:05 End Time: 17:38:44 Time On Btm: 2017.08.28 @ 11:23:45
 Time Off Btm: 2017.08.28 @ 15:32:30

TEST COMMENT: 30 - IF: 1/2" Blow at open, built to 5"
 60 - IS: No blow back
 60 - FF: Blow started at 7 min., built to 5 3/4"
 90 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2295.86	127.76	Initial Hydro-static
1	19.26	127.50	Open To Flow (1)
31	75.46	132.97	Shut-In(1)
92	1242.33	133.45	End Shut-In(1)
92	80.35	133.31	Open To Flow (2)
153	138.30	138.82	Shut-In(2)
242	1221.44	138.75	End Shut-In(2)
249	2238.63	139.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	WCM w/Oil spots 56% _m , 39% _w , 4% _g	190.59
150.00	SOCM 92% _m , 5% _o , 3% _g	1.33

* 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

29-2s-35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Uhlaender #1-29

Job Ticket: 63347

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2017.08.28 @ 09:30:00

GENERAL INFORMATION:

Formation: **Ft Scott, Celia**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:24:00

Time Test Ended: 17:38:45

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: **4506.00 ft (KB) To 4640.00 ft (KB) (TVD)**

Reference Elevations: 3226.00 ft (KB)

Total Depth: 4640.00 ft (KB) (TVD)

3221.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8017 Outside

Press@RunDepth: psig @ 4507.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.08.28

End Date:

2017.08.28

Last Calib.:

2017.08.28

Start Time: 09:30:05

End Time:

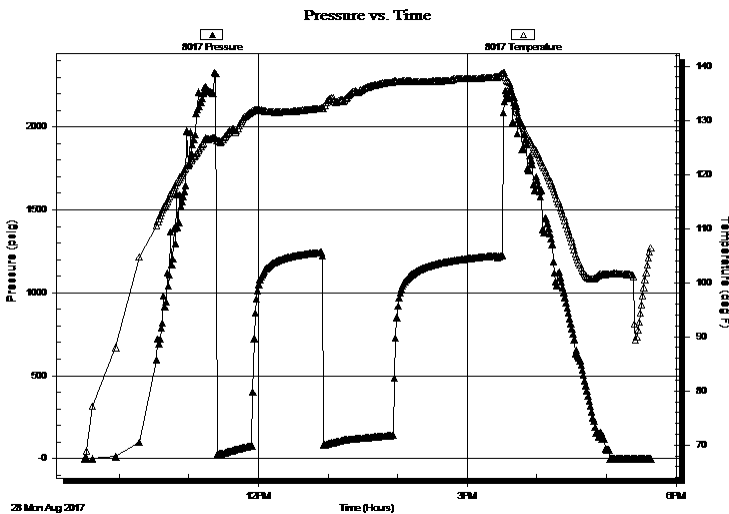
17:38:29

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF: 1/2" Blow at open, built to 5"
60 - IS: No blow back
60 - FF: Blow started at 7 min., built to 5 3/4"
90 - FS: No blow back

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	WCM w/Oil spots 56% m, 39% w, 4% g,	190.59
150.00	SOCM 92% m, 5% o, 3% g	1.33

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

29-2s-35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Uhlaender #1-29

Job Ticket: 63347

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2017.08.28 @ 09:30:00

Tool Information

Drill Pipe:	Length: 4305.00 ft	Diameter: 3.80 inches	Volume: 60.39 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: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 88000.00 lb
			<u>Total Volume: 61.40 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 67000.00 lb
Depth to Top Packer:	4506.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	134.00 ft			
Tool Length:	163.00 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			4478.00	
Shut In Tool	5.00			4483.00	
Hydraulic tool	5.00			4488.00	
Jars	5.00			4493.00	
Safety Joint	3.00			4496.00	
Packer	5.00			4501.00	29.00 Bottom Of Top Packer
Packer	5.00			4506.00	
Stubb	1.00			4507.00	
Recorder	0.00	6625	Inside	4507.00	
Recorder	0.00	8017	Outside	4507.00	
Perforations	32.00			4539.00	
Blank Spacing	96.00			4635.00	
Perforations	2.00			4637.00	
Bullnose	3.00			4640.00	134.00 Bottom Packers & Anchor

Total Tool Length: 163.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc

29-2s-35w Rawlins KS

250 N. Water STE 300
Wichita, KS 67202

Uhlaender #1-29

Job Ticket: 63347

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2017.08.28 @ 09:30:00

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:

10000 ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

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
120.00	WCM w/Oil spots 56% <i>m</i> , 39% <i>w</i> , 4% <i>g</i> , 1% <i>o</i>	0.590
150.00	SOCM 92% <i>m</i> , 5% <i>o</i> , 3% <i>g</i>	1.330

Total Length: 270.00 ft Total Volume: 1.920 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

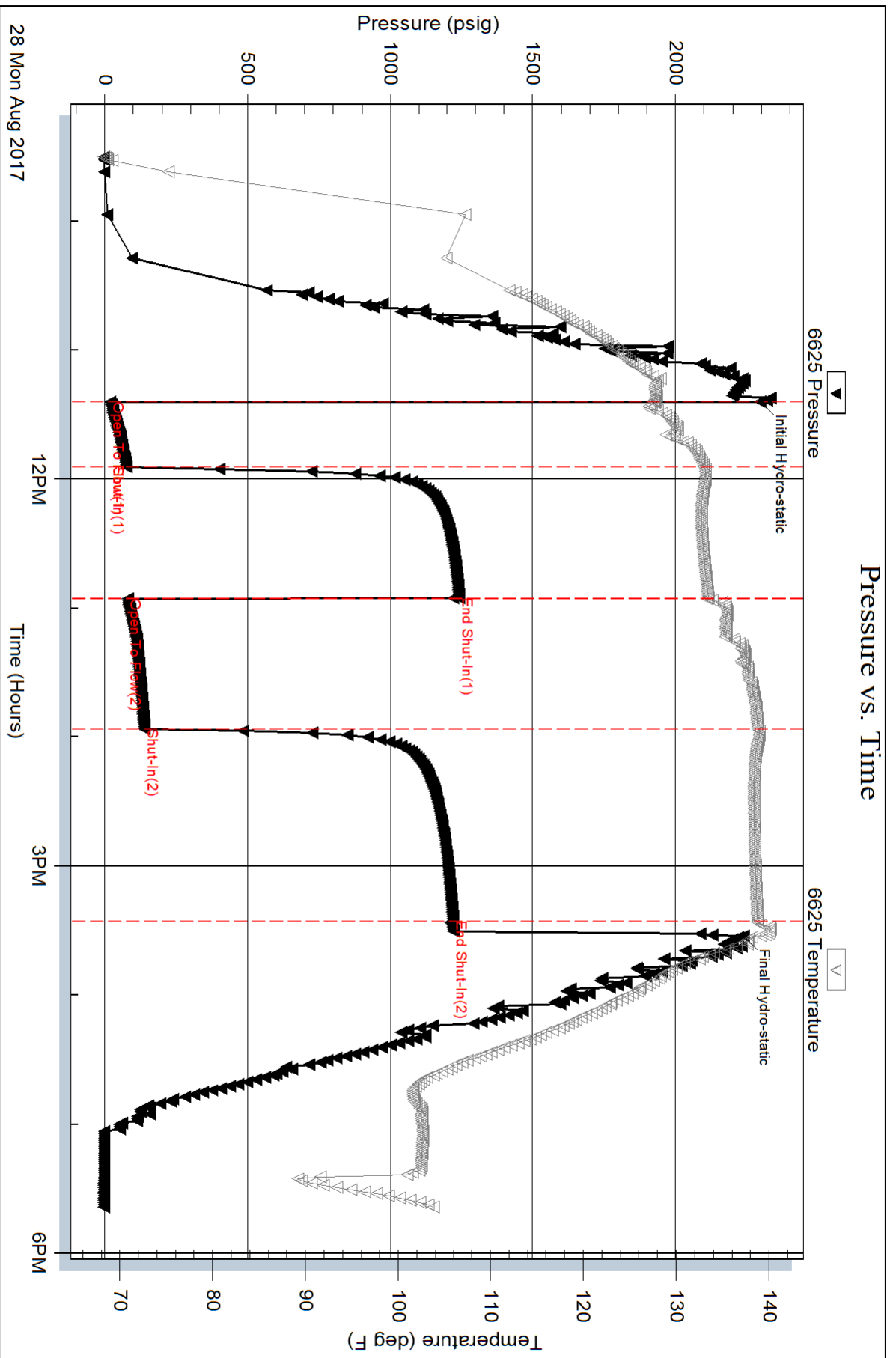
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .430 ohms @ 96.5 deg F

Chlorides = 10,000 ppm

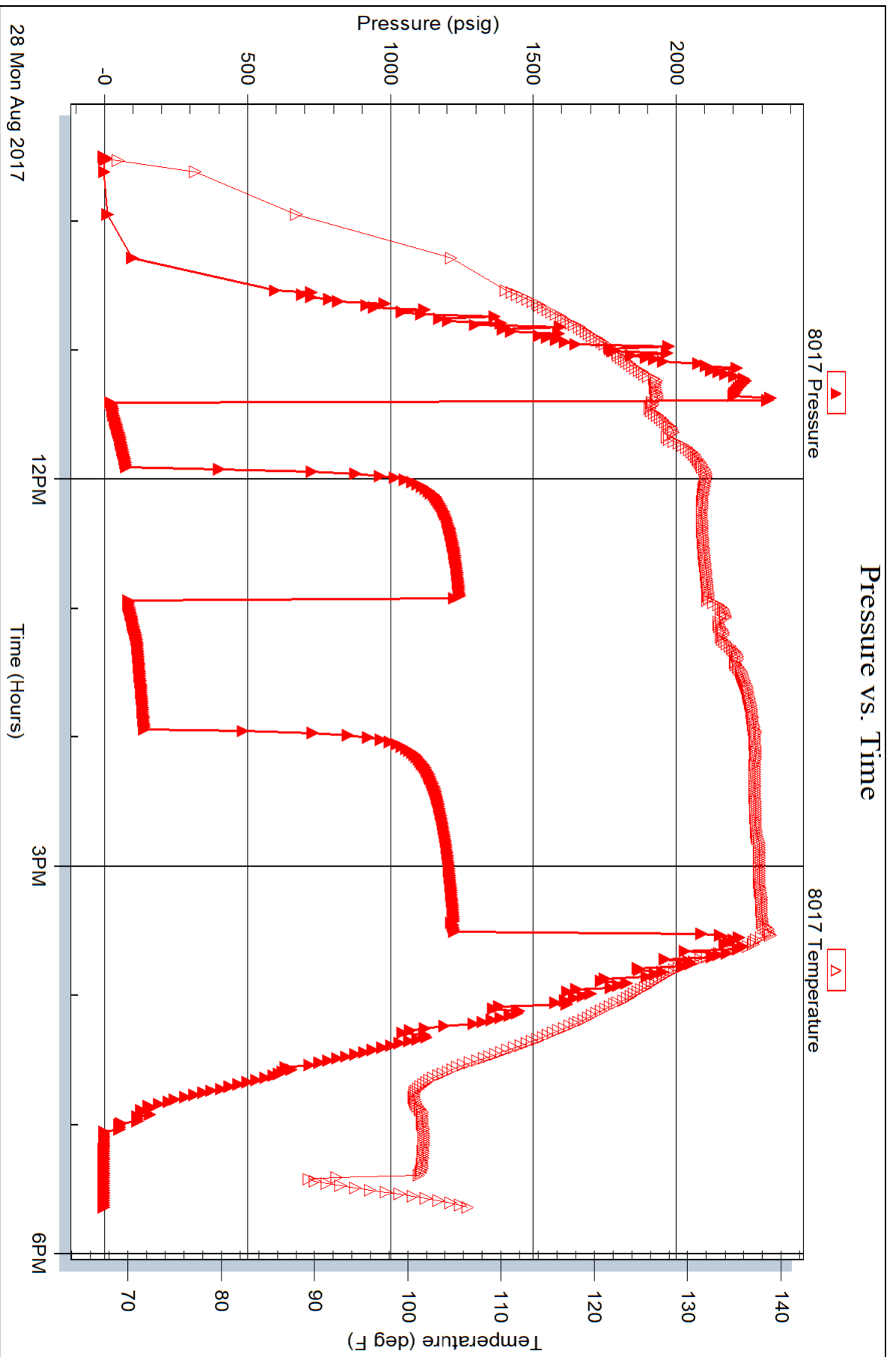


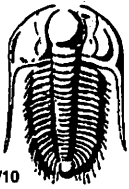
Serial #: 8017

Outside Murfin Drilling Co., Inc

Uhlender #1-29

DST Test Number: 4





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63344

Well Name & No. Uhlender #1-29 Test No. 1 Date 8-25-17
 Company Murfin Drilling Co Inc Elevation 3226 KB 3221 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #24
 Location: Sec. 29 Twp. 2s Rge. 35w Co. Rawlins State KS

Interval Tested 4078-4210 Zone Tested Gorham sd - LKC-A-D"
 Anchor Length 132 Drill Pipe Run 3867 Mud Wt. 8.9
 Top Packer Depth 4073 Drill Collars Run 205 Vis 76
 Bottom Packer Depth 4078 Wt. Pipe Run - WL 6.4
 Total Depth 4210 Chlorides 600 ppm System LCM 4
 Blow Description IF: Blow built to 7 1/4"
TSI: No blowback
FF: Blow started at 4 1/2 min., built to 9 1/4"
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>31</u>	<u>mud</u>			<u>100</u>	
<u>62</u>	<u>WCM</u>		<u>14</u>	<u>86</u>	
<u>237</u>	<u>mw</u>		<u>56</u>	<u>44</u>	

Rec Total 330 BHT 134 Gravity API RW .312 @ 92.6° F Chlorides 16,000 ppm

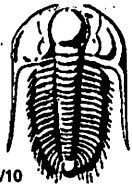
(A) Initial Hydrostatic 2036 Test 1150 T-On Location 8:15
 (B) First Initial Flow 20 Jars 250 T-Started 9:04
 (C) First Final Flow 109 Safety Joint 75 T-Open 10:44
 (D) Initial Shut-In 1182 Circ Sub _____ T-Pulled 14:46
 (E) Second Initial Flow 115 Hourly Standby _____ T-Out 16:50
 (F) Second Final Flow 168 Mileage 98RT 73.50 Comments _____
 (G) Final Shut-In 1094 Sampler _____
 (H) Final Hydrostatic 2030 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1548.50

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 60 Ruined Packer _____
 Final Flow 60 Extra Copies _____
 Final Shut-In 90 Sub Total 0
 Total 1548.50
 MP/DST Disc't _____

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. 63345

4/10

Well Name & No. Uhlaender # 1-29 Test No. 2 Date 8-26-17
 Company Murfin Drilling Co. Inc Elevation 3226 KB 3221 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #24
 Location: Sec. 29 Twp. 2s Rge. 35w Co. Rawlins State KS

Interval Tested 4233- 4264 Zone Tested LKC "6"
 Anchor Length 31 Drill Pipe Run 4024 Mud Wt. 9.0
 Top Packer Depth 4228 Drill Collars Run 205 Vis 72
 Bottom Packer Depth 4233 Wt. Pipe Run - WL 6.4
 Total Depth 4264 Chlorides 600 ppm System LCM 4

Blow Description IF: Blow built to 1/4", died back, dead at 26 min
ISI: No blow
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</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

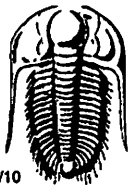
Rec Total 1 BHT 132 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2142 Test 1150 T-On Location 2:20
 (B) First Initial Flow 14 Jars 250 T-Started 3:14
 (C) First Final Flow 15 Safety Joint 75 T-Open 5:14
 (D) Initial Shut-In 29 Circ Sub _____ T-Pulled 8:18
 (E) Second Initial Flow 15 Hourly Standby _____ T-Out 9:55
 (F) Second Final Flow 15 Mileage 98 RT 73.50 Comments _____
 (G) Final Shut-In 25 Sampler _____
 (H) Final Hydrostatic 2126 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60
 Sub Total 0
 Total 1548.50
 MP/DST Disc't _____
 Sub Total 1548.50

Approved By _____ Our Representative James Windle

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. 63346

Well Name & No. Uhlaender #1-29 Test No. 3 Date 8-26-17
 Company Murfin Drilling Co. Inc Elevation 3226 KB 3221 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #24
 Location: Sec. 29 Twp. 2s Rge. 35w Co. Rawlins State KS

Interval Tested 4278 - 4362 Zone Tested LKC "H-J"
 Anchor Length 84 Drill Pipe Run 4056 Mud Wt. 9.1
 Top Packer Depth 4273 Drill Collars Run 205 Vis 60
 Bottom Packer Depth 4278 Wt. Pipe Run - WL 6.8
 Total Depth 4362 Chlorides 800 ppm System LCM 4

Blow Description IF: Blow built to 1" died back, dead at 30 min.
ISI: No blow
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>50cm</u>	<u>4</u>	<u>4</u>	<u>92</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 133 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

- (A) Initial Hydrostatic 2187
- (B) First Initial Flow 16
- (C) First Final Flow 20
- (D) Initial Shut-In 695
- (E) Second Initial Flow 23
- (F) Second Final Flow 25
- (G) Final Shut-In 369
- (H) Final Hydrostatic 2128

- Test 1150
 - Jars 250
 - Safety Joint 75
 - Circ Sub _____
 - Hourly Standby _____
 - Mileage 98RT 73.50
 - Sampler _____
 - Straddle _____
 - Shale Packer _____
 - Extra Packer _____
 - Extra Recorder _____
 - Day Standby _____
 - Accessibility _____
- Sub Total 1548.50

T-On Location 21:40 8/26
 T-Started 22:26
 T-Open 00:29
 T-Pulled 3:31
 T-Out 5:20 8/27

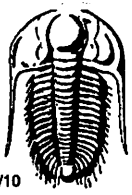
Comments _____

 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1548.50
 MP/DST Disc't _____

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

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. 63347

Well Name & No. Uhlaender #1-29 Test No. 4 Date 8-28-17
 Company Murfin Drilling Co, Inc Elevation 3226 KB 3221 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #24
 Location: Sec. 29 Twp. 2s Rge. 35w Co. Rawlins State KS

Interval Tested 4506 - 4640 Zone Tested Ft. Sco #, Celia
 Anchor Length 134 Drill Pipe Run 4305 Mud Wt. 9.1
 Top Packer Depth 4501 Drill Collars Run 205 Vis 69
 Bottom Packer Depth 4506 Wt. Pipe Run - WL 5.6
 Total Depth 4640 Chlorides 600 ppm System LCM 4
 Blow Description IF: 1/2" Blow at open, built to 5"
ISI: No blowback
FF: Blow started at 7min., built to 5 3/4"
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>150</u>	<u>50cm</u>	<u>3</u>	<u>5</u>	<u>-</u>	<u>92</u>
<u>120</u>	<u>50cm 12cm w/oil spots</u>	<u>4</u>	<u>1</u>	<u>39</u>	<u>56</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 270 BHT 139 Gravity API RW 0.430 @ 96.5 °F Chlorides 10,000 ppm
 (A) Initial Hydrostatic 2296 Test 1150 T-On Location 8:45
 (B) First Initial Flow 19 Jars 250 T-Started 9:30
 (C) First Final Flow 75 Safety Joint 75 T-Open 11:24
 (D) Initial Shut-In 1242 Circ Sub _____ T-Pulled 15:25
 (E) Second Initial Flow 80 Hourly Standby _____ T-Out 17:35
 (F) Second Final Flow 138 Mileage 98RT 73.50
 (G) Final Shut-In 1221 Sampler _____
 (H) Final Hydrostatic 2239 Straddle _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Extra Packer _____
 Final Flow 60 Extra Recorder _____
 Final Shut-In 90 Day Standby _____
 Accessibility _____
 Sub Total 1548.50

Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1548.50
 MP/DST Disc't _____

Approved By _____ Our Representative James Wisler
 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.