



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Gamblin #1-22

22-2s-37w Cheyenne,KS

Start Date: 2018.09.18 @ 20:27:00

End Date: 2018.09.19 @ 03:35:30

Job Ticket #: 64088 DST #: 1

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

Printed: 2018.09.25 @ 11:39:56



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne, KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64088

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2018.09.18 @ 20:27:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:27:15

Time Test Ended: 03:35:30

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

Interval: 4208.00 ft (KB) To 4280.00 ft (KB) (TVD)

Reference Elevations: 3415.00 ft (KB)

Total Depth: 4280.00 ft (KB) (TVD)

3410.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8652 Outside

Press@RunDepth: 21.23 psig @ 4204.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.09.18

End Date: 2018.09.19

Last Calib.: 2018.09.19

Start Time: 20:27:05

End Time: 03:35:29

Time On Btm: 2018.09.18 @ 22:27:00

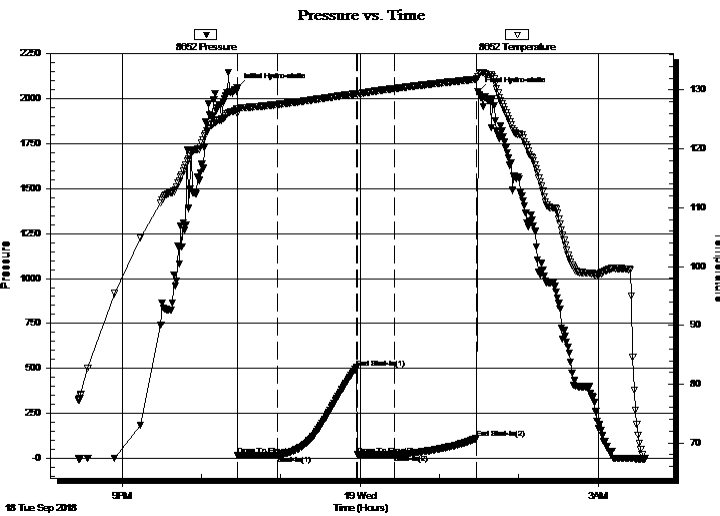
Time Off Btm: 2018.09.19 @ 01:29:15

TEST COMMENT: 30 - IF: 1/8" Blow at open, built to 1/4", died back to surface blow

60 - IS: No blow

30 - FF: No blow

60 - FS: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2058.96	126.89	Initial Hydro-static
1	17.01	125.99	Open To Flow (1)
31	18.29	127.53	Shut-In(1)
91	503.93	129.37	End Shut-In(1)
91	19.56	129.30	Open To Flow (2)
120	21.23	130.26	Shut-In(2)
181	111.87	131.84	End Shut-In(2)
183	2037.66	132.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM 85% m, 13% o, 2% g	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64088

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2018.09.18 @ 20:27:00

Tool Information

Drill Pipe:	Length: 3978.00 ft	Diameter: 3.80 inches	Volume: 55.80 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: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 56.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4203.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	77.00 ft			
Tool Length:	106.00 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			4175.00	
Shut In Tool	5.00			4180.00	
Hydraulic tool	5.00			4185.00	
Jars	5.00			4190.00	
Safety Joint	3.00			4193.00	
Packer	5.00			4198.00	29.00 Bottom Of Top Packer
Packer	5.00			4203.00	
Stubb	1.00			4204.00	
Recorder	0.00	6625	Inside	4204.00	
Recorder	0.00	8652	Outside	4204.00	
Perforations	8.00			4212.00	
Blank Spacing	65.00			4277.00	
Bullnose	3.00			4280.00	77.00 Bottom Packers & Anchor

Total Tool Length: 106.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64088

DST#: 1

ATTN: Saman Sharifaie

Test Start: 2018.09.18 @ 20:27:00

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: 6.77 in³

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
5.00	OCM 85% _m , 13% _o , 2% _g	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

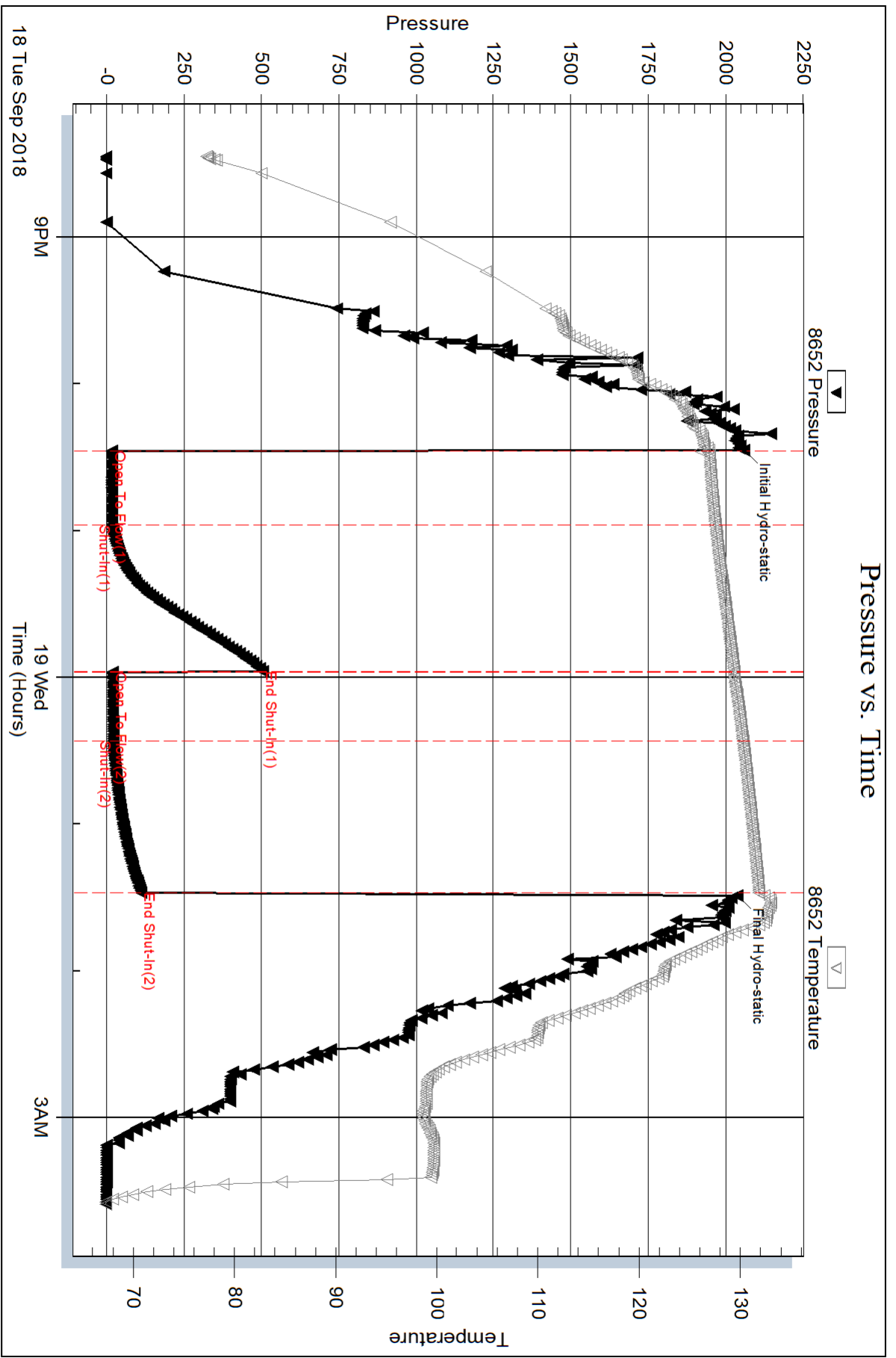
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



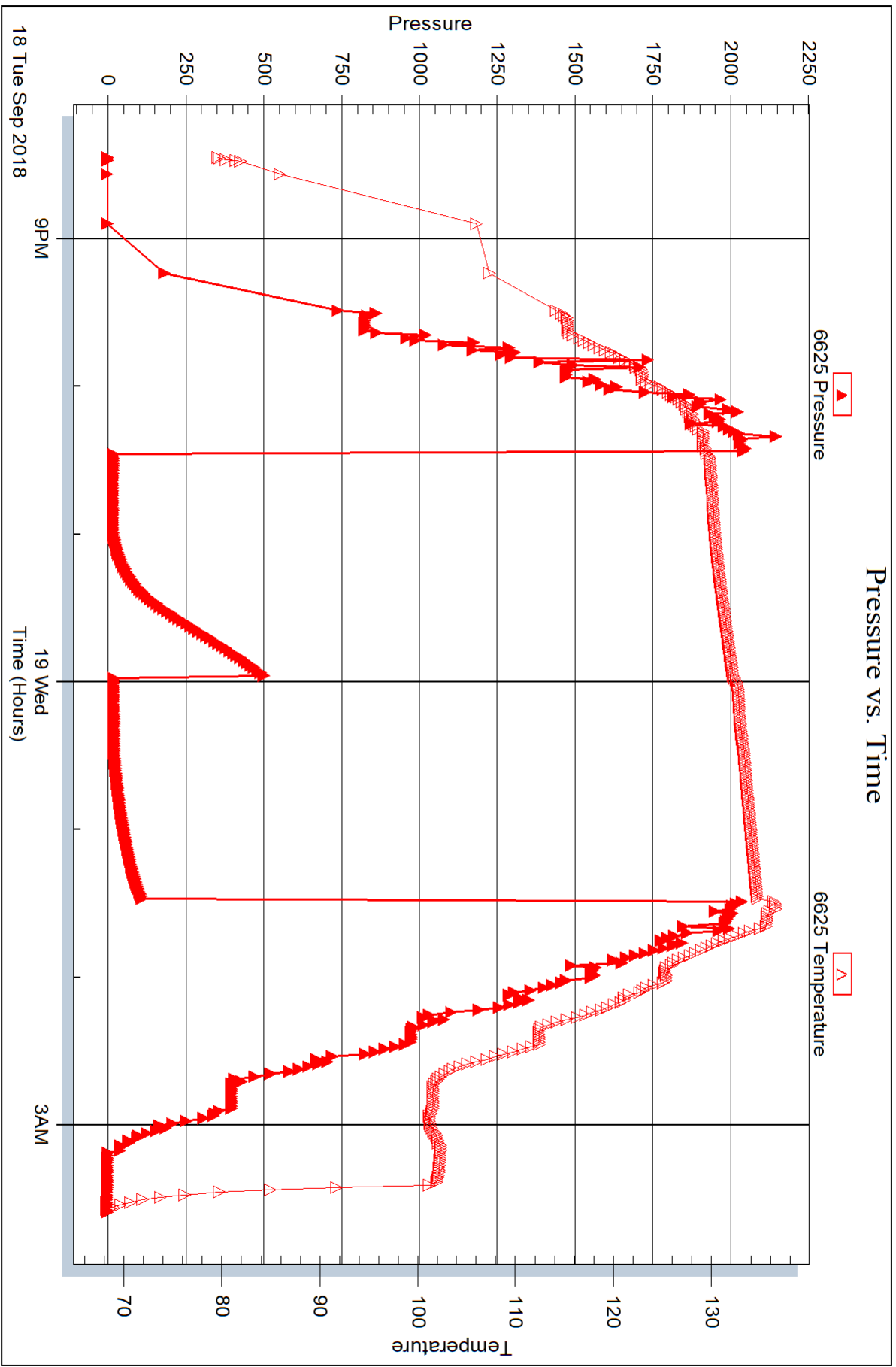
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Gambin #1-22

DST Test Number: 1





DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Gamblin #1-22

22-2s-37w Cheyenne,KS

Start Date: 2018.09.20 @ 09:56:00

End Date: 2018.09.20 @ 18:55:45

Job Ticket #: 64089 DST #: 2

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

Printed: 2018.09.25 @ 11:39:10



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne, KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64089

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2018.09.20 @ 09:56:00

GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:47:15

Time Test Ended: 18:55:45

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4280.00 ft (KB) To 4360.00 ft (KB) (TVD)

Reference Elevations: 3415.00 ft (KB)

Total Depth: 4360.00 ft (KB) (TVD)

3410.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8652 Outside

Press@RunDepth: 329.77 psig @ 4281.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.09.20 End Date: 2018.09.20

Last Calib.: 2018.09.20

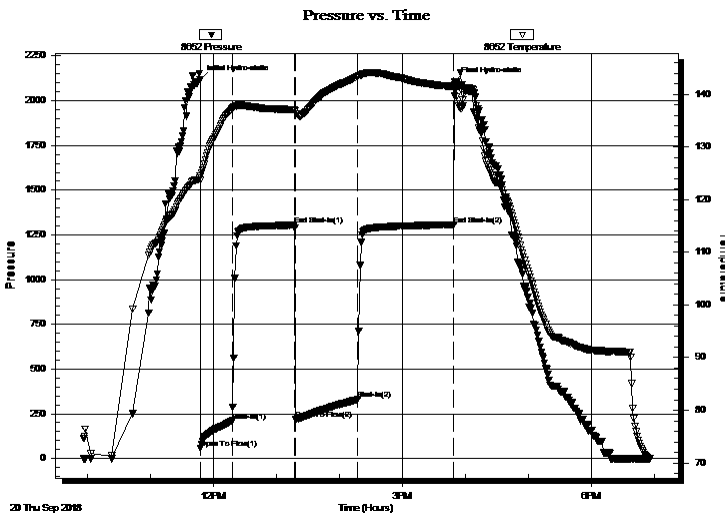
Start Time: 09:56:05 End Time: 18:55:45

Time On Btm: 2018.09.20 @ 11:47:00

Time Off Btm: 2018.09.20 @ 15:49:30

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 5 1/2 min., built to 62 1/2"
60 - IS: Blow increased from 62 1/2" to 72"
60 - FF: Blow built to BOB at 8 min., built to 84 1/2"
90 - FS: Blow increased from 84 1/2" to 105 1/2"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2120.18	124.43	Initial Hydro-static
1	57.02	123.66	Open To Flow (1)
31	211.05	137.31	Shut-In(1)
90	1304.88	137.08	End Shut-In(1)
91	219.15	136.89	Open To Flow (2)
151	329.77	143.42	Shut-In(2)
242	1306.43	141.47	End Shut-In(2)
243	2108.83	141.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	GMCO 52%o, 26%m, 22%g	0.89
445.00	GMCO 43%g, 42%o, 15%m	6.00
185.00	CGO 71%o, 27%g, 2%m	2.60
0.00	GIP = 1125'	0.00

* Recovery from multiple tests

Gas Rates

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



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TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64089

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2018.09.20 @ 09:56:00

Tool Information

Drill Pipe:	Length: 4071.00 ft	Diameter: 3.80 inches	Volume: 57.11 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: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 58.13 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4280.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	109.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: tool chased 2' to bottom at open, lost a few ft of mud

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4252.00	
Shut In Tool	5.00			4257.00	
Hydraulic tool	5.00			4262.00	
Jars	5.00			4267.00	
Safety Joint	3.00			4270.00	
Packer	5.00			4275.00	29.00 Bottom Of Top Packer
Packer	5.00			4280.00	
Stubb	1.00			4281.00	
Recorder	0.00	6625	Inside	4281.00	
Recorder	0.00	8652	Outside	4281.00	
Perforations	11.00			4292.00	
Blank Spacing	65.00			4357.00	
Bullnose	3.00			4360.00	80.00 Bottom Packers & Anchor
Total Tool Length:		109.00			



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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64089

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2018.09.20 @ 09:56:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31.8 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.76 in³

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
180.00	GMCO 52%o, 26%m, 22%g	0.885
445.00	GMCO 43%g, 42%o, 15%m	5.996
185.00	CGO 71%o, 27%g, 2%m	2.595
0.00	GIP = 1125'	0.000

Total Length: 810.00 ft Total Volume: 9.476 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

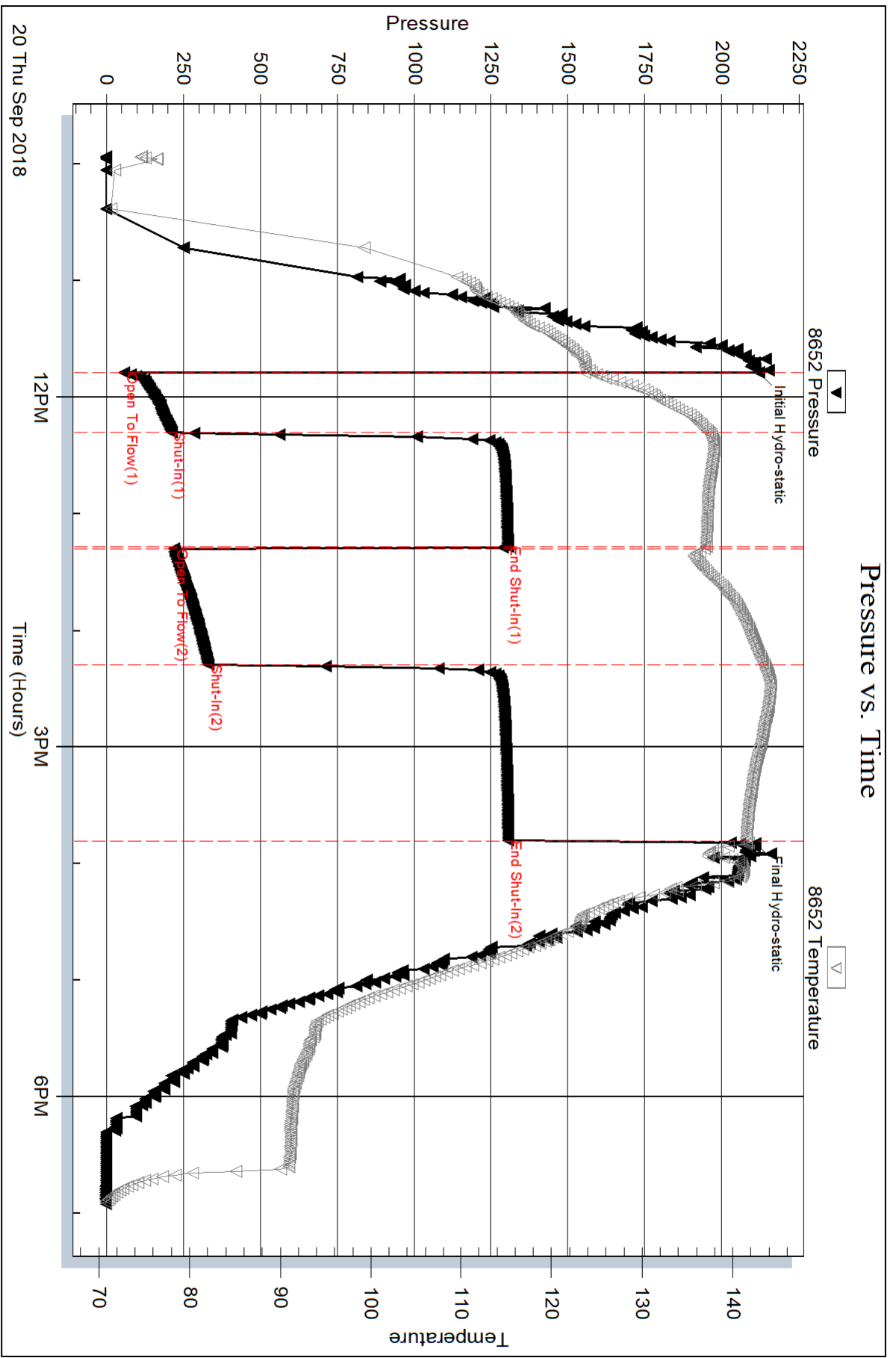
Recovery Comments: Gravity = 33.2 api @ 74 deg F Corrected Gravity = 31.8 api

Serial #: 8652

Outside Murfin Drilling Co., Inc.

Gambin #1-22

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 64089

Printed: 2018.09.25 @ 11:39:12

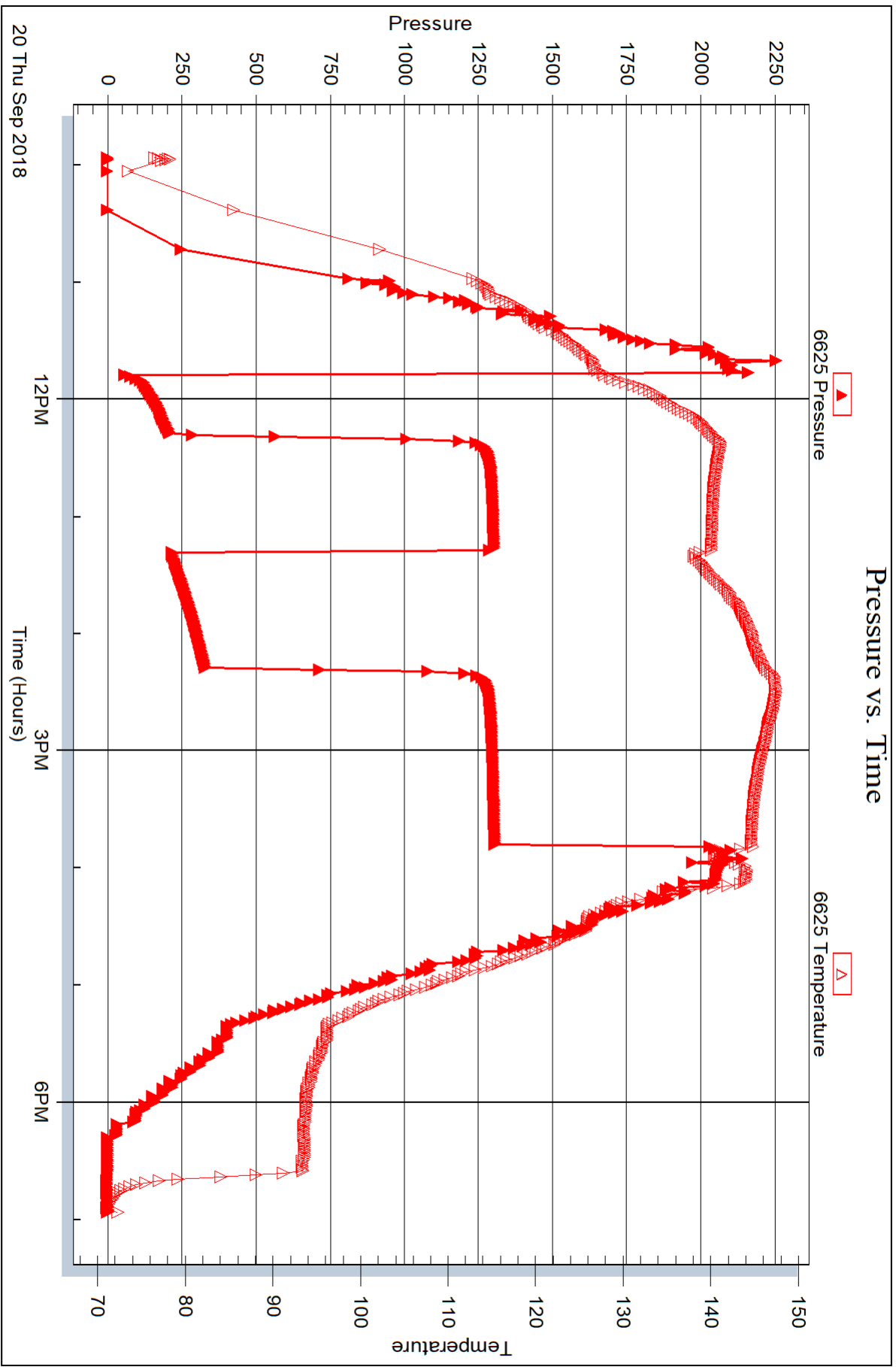
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Gambin #1-22

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 64089

Printed: 2018.09.25 @ 11:39:12



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Gamblin #1-22

22-2s-37w Cheyenne,KS

Start Date: 2018.09.21 @ 05:08:00

End Date: 2018.09.21 @ 14:27:00

Job Ticket #: 64090 DST #: 3

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

Printed: 2018.09.25 @ 11:38:38



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne, KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64090

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2018.09.21 @ 05:08:00

GENERAL INFORMATION:

Formation: **LKC "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:39:30

Time Test Ended: 14:27:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4360.00 ft (KB) To 4420.00 ft (KB) (TVD)

Reference Elevations: 3415.00 ft (KB)

Total Depth: 4420.00 ft (KB) (TVD)

3410.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8652 Outside

Press@RunDepth: 212.93 psig @ 4361.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.09.21 End Date: 2018.09.21

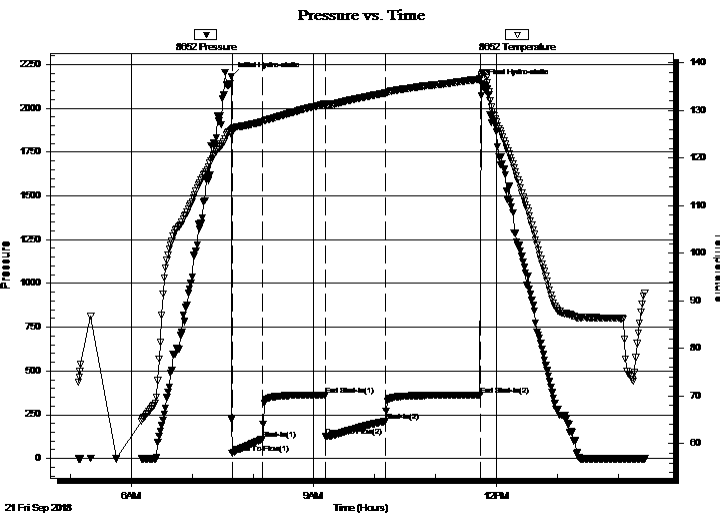
Last Calib.: 2018.09.21

Start Time: 05:08:05 End Time: 14:27:00

Time On Btm: 2018.09.21 @ 07:38:30

Time Off Btm: 2018.09.21 @ 11:45:15

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 5 1/4 min., built to 65 3/4"
60 - IS: Blow increased from 65 3/4" to 90 3/4"
60 - FF: Blow built to BOB 12 1/2 min., built to 60 1/2"
90 - FS: Blow increased from 60 1/2" to 92"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2179.35	125.83	Initial Hydro-static
1	29.36	125.88	Open To Flow (1)
31	111.69	127.67	Shut-In(1)
93	362.05	131.34	End Shut-In(1)
94	126.15	131.33	Open To Flow (2)
153	212.93	133.64	Shut-In(2)
246	361.43	136.54	End Shut-In(2)
247	2142.43	137.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	GMCO 40%o, 33%g, 27%g	0.44
450.00	CGO 69%o, 31%g	5.25
0.00	GIP = 1715'	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.

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64090

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2018.09.21 @ 05:08:00

Tool Information

Drill Pipe:	Length: 4134.00 ft	Diameter: 3.80 inches	Volume: 57.99 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: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 59.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4360.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	89.00 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			4332.00	
Shut In Tool	5.00			4337.00	
Hydraulic tool	5.00			4342.00	
Jars	5.00			4347.00	
Safety Joint	3.00			4350.00	
Packer	5.00			4355.00	29.00 Bottom Of Top Packer
Packer	5.00			4360.00	
Stubb	1.00			4361.00	
Recorder	0.00	6625	Inside	4361.00	
Recorder	0.00	8652	Outside	4361.00	
Perforations	23.00			4384.00	
Blank Spacing	33.00			4417.00	
Bullnose	3.00			4420.00	60.00 Bottom Packers & Anchor

Total Tool Length: 89.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64090

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2018.09.21 @ 05:08:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33.6 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	GMCO 40%o, 33%g, 27%g	0.443
450.00	CGO 69%o, 31%g	5.247
0.00	GIP = 1715'	0.000

Total Length: 540.00 ft Total Volume: 5.690 bbl

Num Fluid Samples: 0

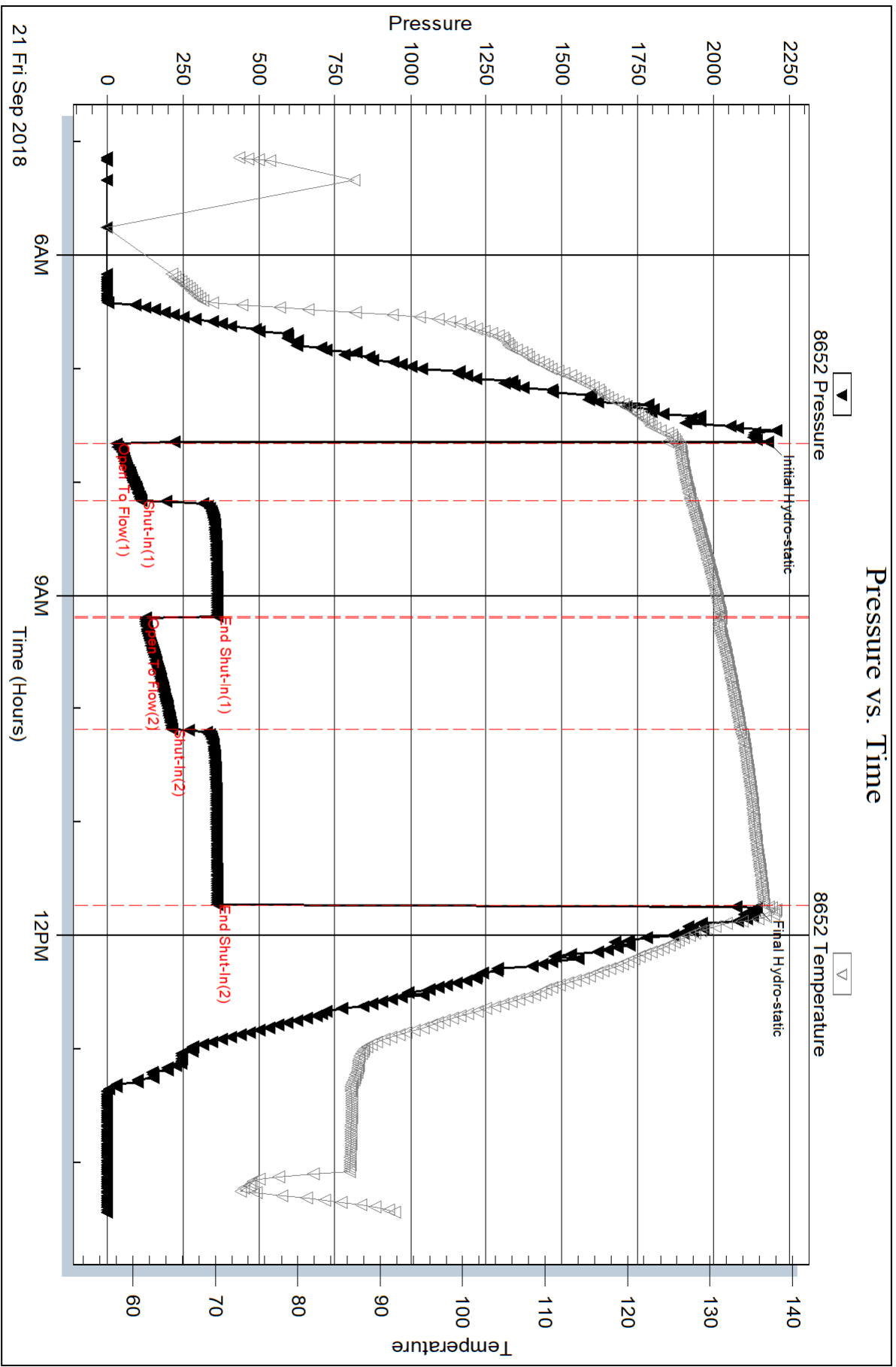
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 35.2 api @ 76 deg F Corrected Gravity = 33.6 api



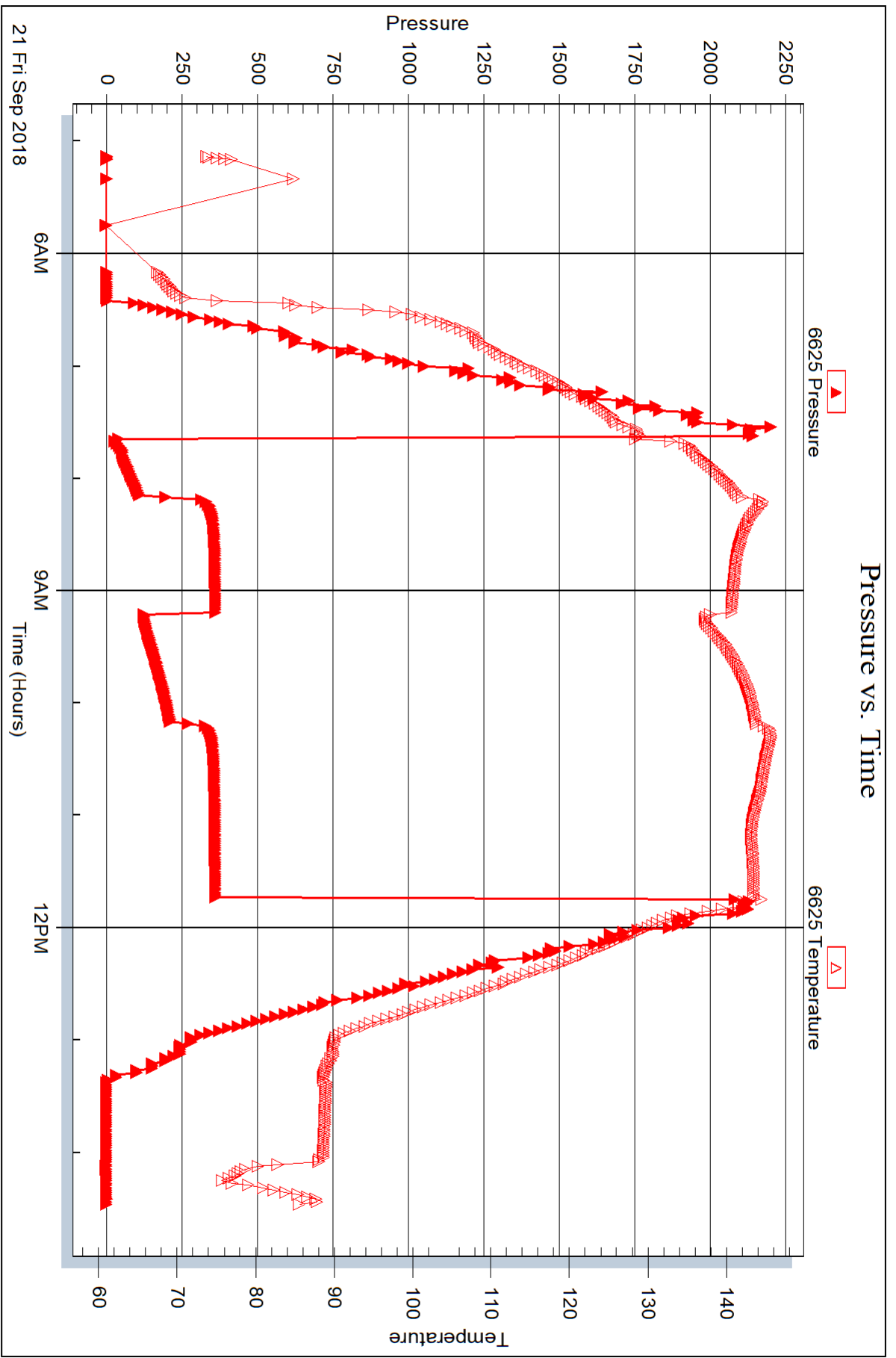
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Gambin #1-22

DST Test Number: 3





DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Gamblin #1-22

22-2s-37w Cheyenne,KS

Start Date: 2018.09.21 @ 23:46:00

End Date: 2018.09.22 @ 08:55:45

Job Ticket #: 64091 DST #: 4

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

Printed: 2018.09.25 @ 11:38:00



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne, KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64091

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2018.09.21 @ 23:46:00

GENERAL INFORMATION:

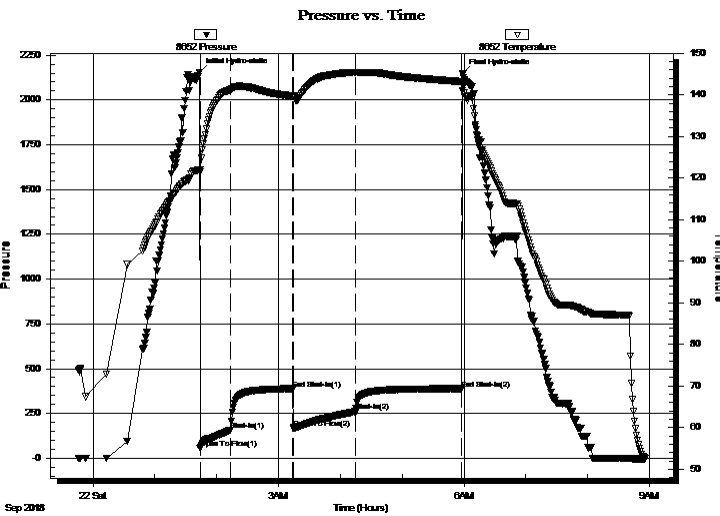
Formation: **LKC "G"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 01:43:45
 Tester: James Winder
 Time Test Ended: 08:55:45
 Unit No: 83
 Interval: **4422.00 ft (KB) To 4470.00 ft (KB) (TVD)**
 Reference Elevations: 3415.00 ft (KB)
 Total Depth: 4470.00 ft (KB) (TVD)
 3410.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 5.00 ft

Serial #: 8652

Outside

Press@RunDepth: 260.30 psig @ 4423.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.09.21 End Date: 2018.09.22 Last Calib.: 2018.09.22
 Start Time: 23:46:05 End Time: 08:55:45 Time On Btm: 2018.09.22 @ 01:43:15
 Time Off Btm: 2018.09.22 @ 05:58:45

TEST COMMENT: 30 - IF: Blow built to BOB at 5 1/2 min., built to 57 1/2"
 60 - IS: Blow increased from 57 1/2" to 69 3/4"
 60 - FF: Blow built to BOB at 8 min., built to 77 3/4"
 90 - FS: Blow increased from 77 3/4" to 96"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2153.46	122.00	Initial Hydro-static
1	55.67	121.50	Open To Flow (1)
31	158.15	141.26	Shut-In(1)
91	387.91	139.72	End Shut-In(1)
92	169.12	139.64	Open To Flow (2)
152	260.30	145.32	Shut-In(2)
255	388.76	143.23	End Shut-In(2)
256	2146.46	143.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GMCO 55%g, 34%o, 11%m	0.30
185.00	GMCO 68%o, 17%m, 15%g	1.26
210.00	GMCO 50%o, 37%g, 13%m	2.95
200.00	CGO 76%o, 24%g	2.81

* 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.

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64091

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2018.09.21 @ 23:46:00

Tool Information

Drill Pipe:	Length: 4196.00 ft	Diameter: 3.80 inches	Volume: 58.86 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: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 59.88 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	4422.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	77.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4394.00	
Shut In Tool	5.00			4399.00	
Hydraulic tool	5.00			4404.00	
Jars	5.00			4409.00	
Safety Joint	3.00			4412.00	
Packer	5.00			4417.00	29.00 Bottom Of Top Packer
Packer	5.00			4422.00	
Stubb	1.00			4423.00	
Recorder	0.00	6625	Inside	4423.00	
Recorder	0.00	8652	Outside	4423.00	
Perforations	10.00			4433.00	
Blank Spacing	33.00			4466.00	
Perforations	1.00			4467.00	
Bullnose	3.00			4470.00	48.00 Bottom Packers & Anchor

Total Tool Length: 77.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64091

DST#: 4

ATTN: Saman Sharifaie

Test Start: 2018.09.21 @ 23:46:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33.4 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	GMCO 55%g, 34%o, 11%m	0.295
185.00	GMCO 68%o, 17%m, 15%g	1.256
210.00	GMCO 50%o, 37%g, 13%m	2.946
200.00	CGO 76%o, 24%g	2.805

Total Length: 655.00 ft

Total Volume: 7.302 bbl

Num Fluid Samples: 0

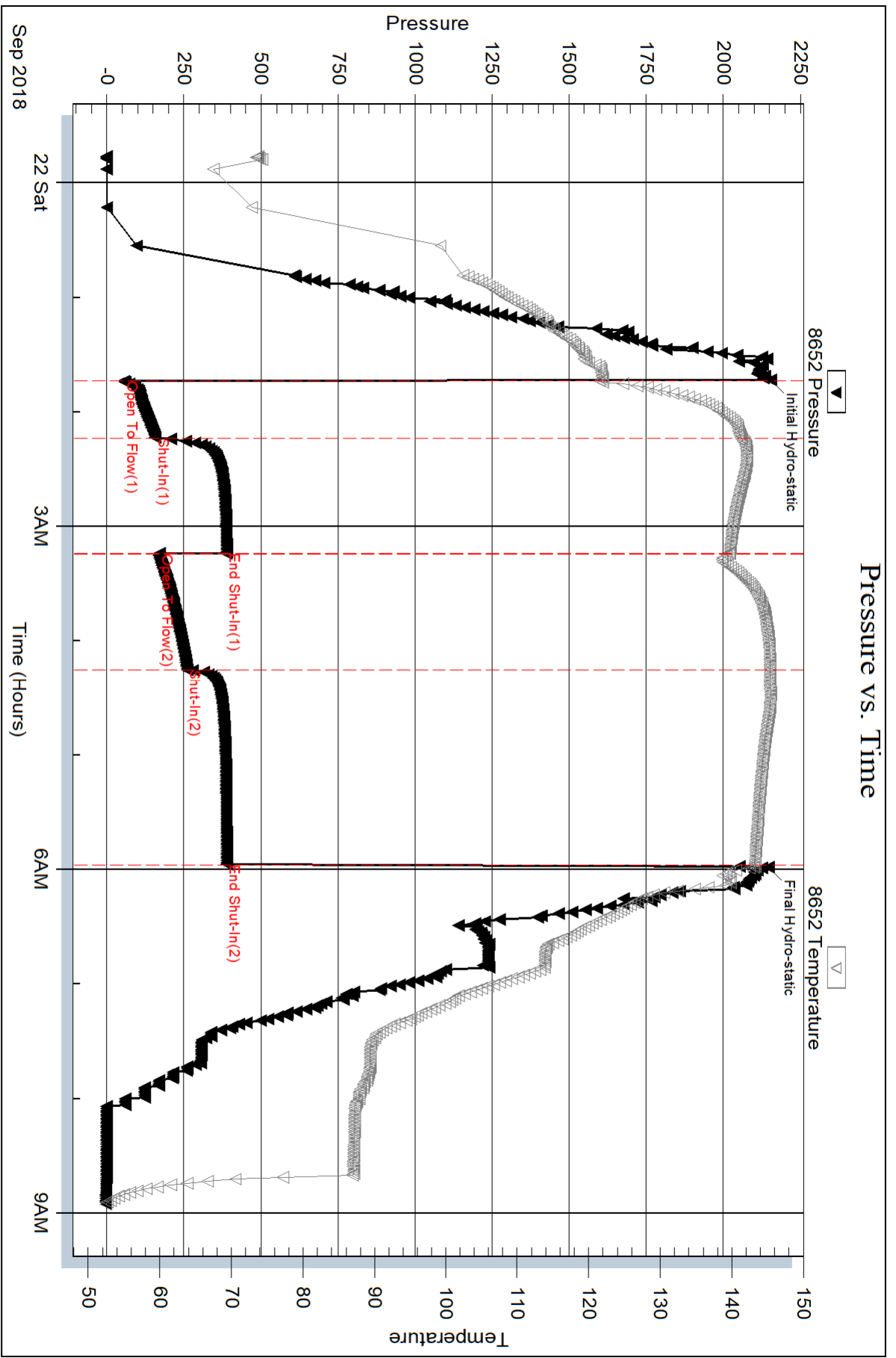
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 32.6 api @ 52 deg F Corrected Gravity = 33.4 api





DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Gamblin #1-22

22-2s-37w Cheyenne,KS

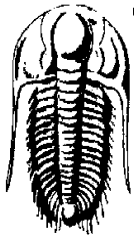
Start Date: 2018.09.22 @ 22:16:00

End Date: 2018.09.23 @ 07:54:15

Job Ticket #: 64092 DST #: 5

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

Printed: 2018.09.25 @ 11:37:31



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne, KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64092

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2018.09.22 @ 22:16:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:06:15

Time Test Ended: 07:54:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4470.00 ft (KB) To 4556.00 ft (KB) (TVD)

Reference Elevations: 3415.00 ft (KB)

Total Depth: 4556.00 ft (KB) (TVD)

3410.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8652 Outside

Press@RunDepth: 802.09 psig @ 4471.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.09.22

End Date:

2018.09.23

Last Calib.:

2018.09.23

Start Time:

22:16:05

End Time:

07:54:15

Time On Btm:

2018.09.23 @ 00:05:30

Time Off Btm:

2018.09.23 @ 03:11:00

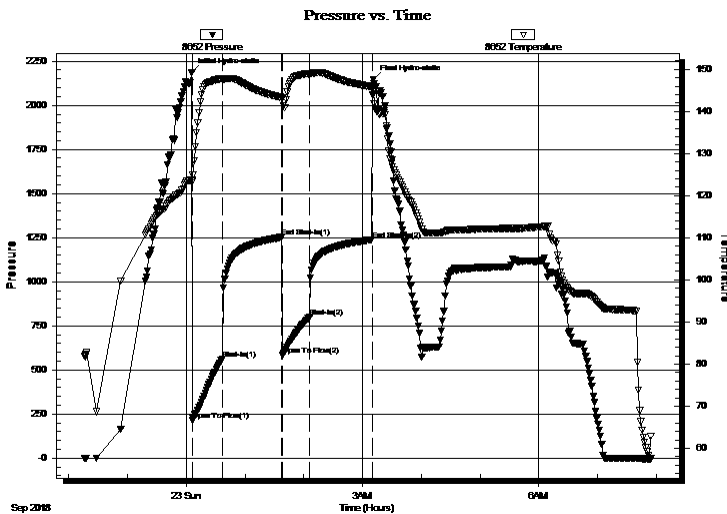
TEST COMMENT: 30 - IF: Blow built to BOB (11") at 1 1/2 min., built to 281"

60 - IS: Blow increased from 281" to 382"

30 - FF: Blow built to BOB at 1 1/4 min., built to 200"

60 - FS: Blow increased from 200" to 284"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2186.32	123.84	Initial Hydro-static
1	212.77	123.44	Open To Flow (1)
32	563.44	147.76	Shut-In(1)
92	1251.89	143.35	End Shut-In(1)
93	584.20	143.00	Open To Flow (2)
121	802.09	148.91	Shut-In(2)
185	1238.50	145.86	End Shut-In(2)
186	2145.04	144.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GMCO 44%o, 29%m, 27%g	0.59
2080.00	Rev Out GMCO 71%o, 17%m, 12%g	28.38
0.00	GIP = 1765'	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.

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64092

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2018.09.22 @ 22:16:00

Tool Information

Drill Pipe:	Length: 4256.00 ft	Diameter: 3.80 inches	Volume: 59.70 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: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 86000.00 lb
			<u>Total Volume: 60.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4470.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	86.00 ft			
Tool Length:	115.00 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			4442.00	
Shut In Tool	5.00			4447.00	
Hydraulic tool	5.00			4452.00	
Jars	5.00			4457.00	
Safety Joint	3.00			4460.00	
Packer	5.00			4465.00	29.00 Bottom Of Top Packer
Packer	5.00			4470.00	
Stubb	1.00			4471.00	
Recorder	0.00	6625	Inside	4471.00	
Recorder	0.00	8652	Outside	4471.00	
Perforations	15.00			4486.00	
Blank Spacing	65.00			4551.00	
Perforations	2.00			4553.00	
Bullnose	3.00			4556.00	86.00 Bottom Packers & Anchor

Total Tool Length: 115.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64092

DST#: 5

ATTN: Saman Sharifaie

Test Start: 2018.09.22 @ 22:16:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38.4 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GMCO 44%o, 29%m, 27%g	0.590
2080.00	Rev Out GMCO 71%o, 17%m, 12%g	28.384
0.00	GIP = 1765'	0.000

Total Length: 2200.00 ft Total Volume: 28.974 bbl

Num Fluid Samples: 0

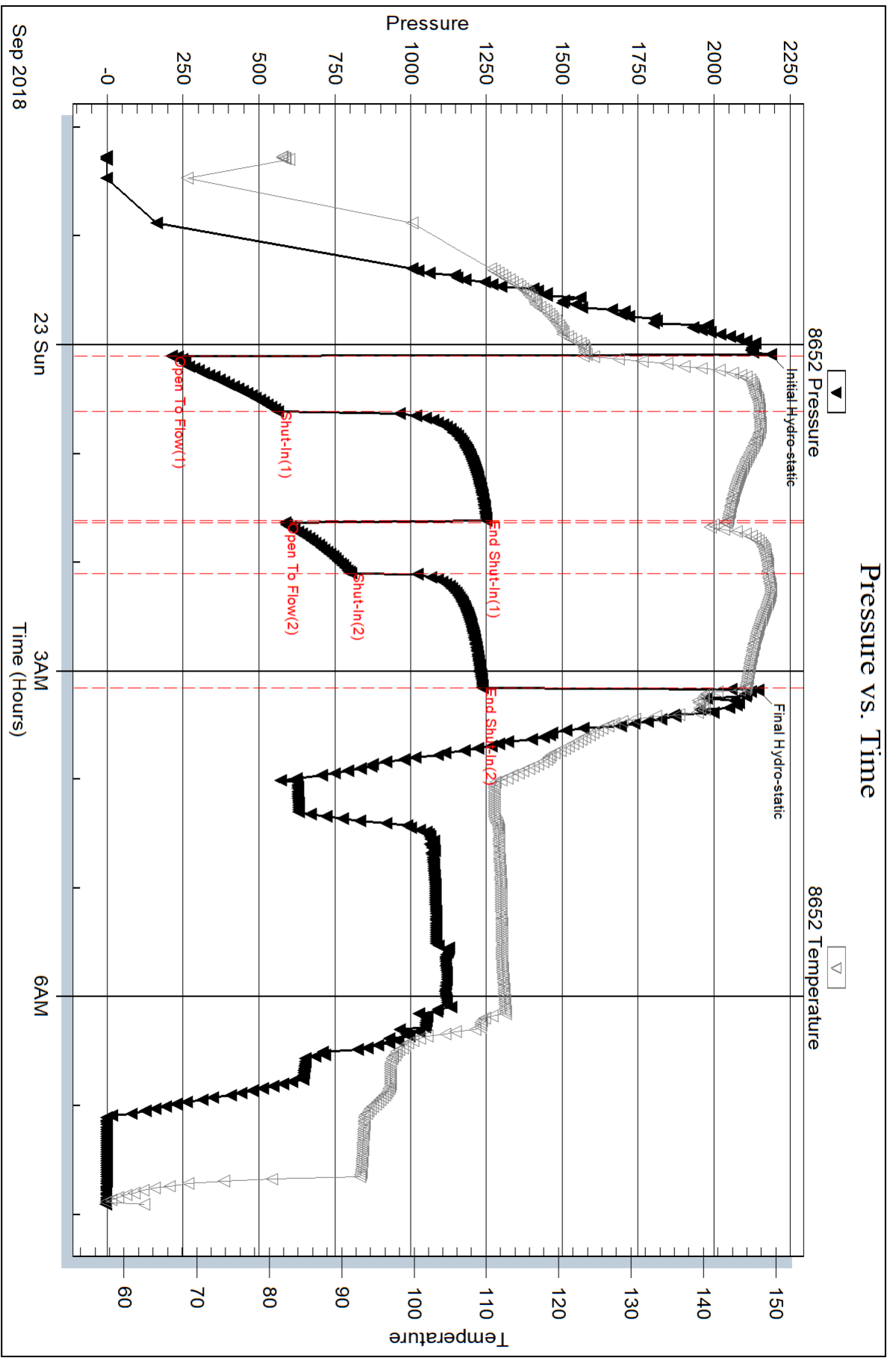
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 38.6 api at 62 deg F Corrected Gravity = 38.4 api



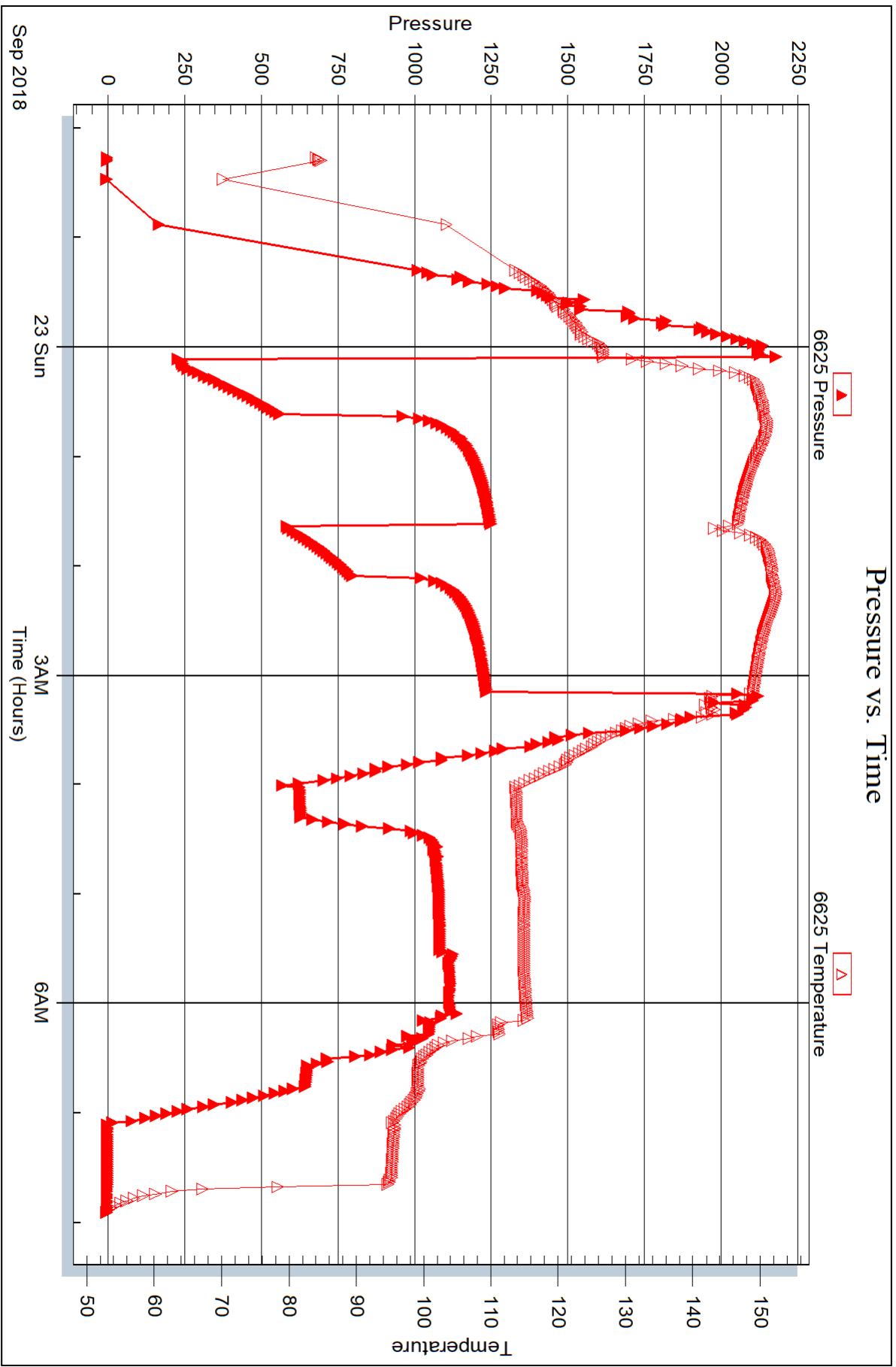
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Gambin #1-22

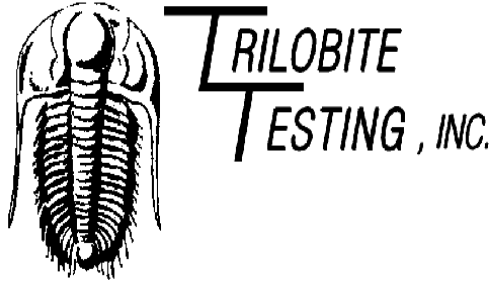
DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 64092

Printed: 2018.09.25 @ 11:37:33



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

Gamblin #1-22

22-2s-37w Cheyenne,KS

Start Date: 2018.09.24 @ 11:00:00

End Date: 2018.09.24 @ 19:26:30

Job Ticket #: 64093 DST #: 6

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

Printed: 2018.09.25 @ 11:37:01



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne, KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64093

DST#: 6

ATTN: Saman Sharifaie

Test Start: 2018.09.24 @ 11:00:00

GENERAL INFORMATION:

Formation: **Ft. Scott - Celia**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:09:45
 Time Test Ended: 19:26:30
 Interval: **4698.00 ft (KB) To 4864.00 ft (KB) (TVD)**
 Total Depth: 4864.00 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: 3415.00 ft (KB)
 3410.00 ft (CF)
 KB to GR/CF: 5.00 ft

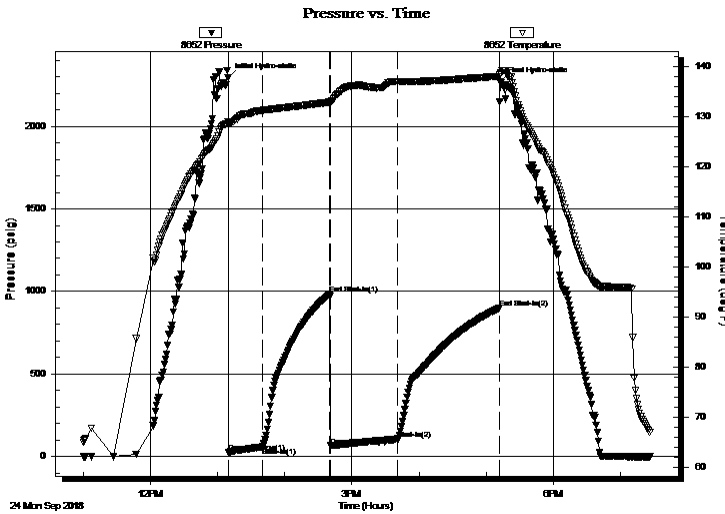
Serial #: 8652

Outside

Press@RunDepth: 103.45 psig @ 4699.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.09.24 End Date: 2018.09.24 Last Calib.: 2018.09.24
 Start Time: 11:00:05 End Time: 19:26:29 Time On Btm: 2018.09.24 @ 13:09:15
 Time Off Btm: 2018.09.24 @ 17:13:00

TEST COMMENT: 30 - IF: 1/2" Blow at open, built to 4 1/2"
 60 - IS: No blow back
 60 - FF: Blow built to 8 1/2"
 90 - FS: Weak surface blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2296.23	128.83	Initial Hydro-static
1	24.80	128.39	Open To Flow (1)
31	57.96	131.21	Shut-In(1)
91	982.94	132.83	End Shut-In(1)
92	64.63	132.59	Open To Flow (2)
152	103.45	136.97	Shut-In(2)
243	898.53	138.00	End Shut-In(2)
244	2269.03	138.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	GOM 49% m, 33% o, 18% g	0.89
30.00	OM 60% m, 40% o	0.17

* 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.

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64093

DST#: 6

ATTN: Saman Sharifaie

Test Start: 2018.09.24 @ 11:00:00

Tool Information

Drill Pipe:	Length: 4473.00 ft	Diameter: 3.80 inches	Volume: 62.74 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: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 86000.00 lb
			<u>Total Volume: 63.76 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 67000.00 lb
Depth to Top Packer:	4698.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	166.00 ft			
Tool Length:	195.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			4670.00	
Shut In Tool	5.00			4675.00	
Hydraulic tool	5.00			4680.00	
Jars	5.00			4685.00	
Safety Joint	3.00			4688.00	
Packer	5.00			4693.00	29.00 Bottom Of Top Packer
Packer	5.00			4698.00	
Stubb	1.00			4699.00	
Recorder	0.00	6625	Inside	4699.00	
Recorder	0.00	8652	Outside	4699.00	
Perforations	31.00			4730.00	
Blank Spacing	129.00			4859.00	
Perforations	2.00			4861.00	
Bullnose	3.00			4864.00	166.00 Bottom Packers & Anchor

Total Tool Length: 195.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

22-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Gamblin #1-22

Job Ticket: 64093

DST#: 6

ATTN: Saman Sharifaie

Test Start: 2018.09.24 @ 11:00:00

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: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	GOM 49% <i>m</i> , 33% <i>o</i> , 18% <i>g</i>	0.885
30.00	OM 60% <i>m</i> , 40% <i>o</i>	0.175

Total Length: 210.00 ft

Total Volume: 1.060 bbl

Num Fluid Samples: 0

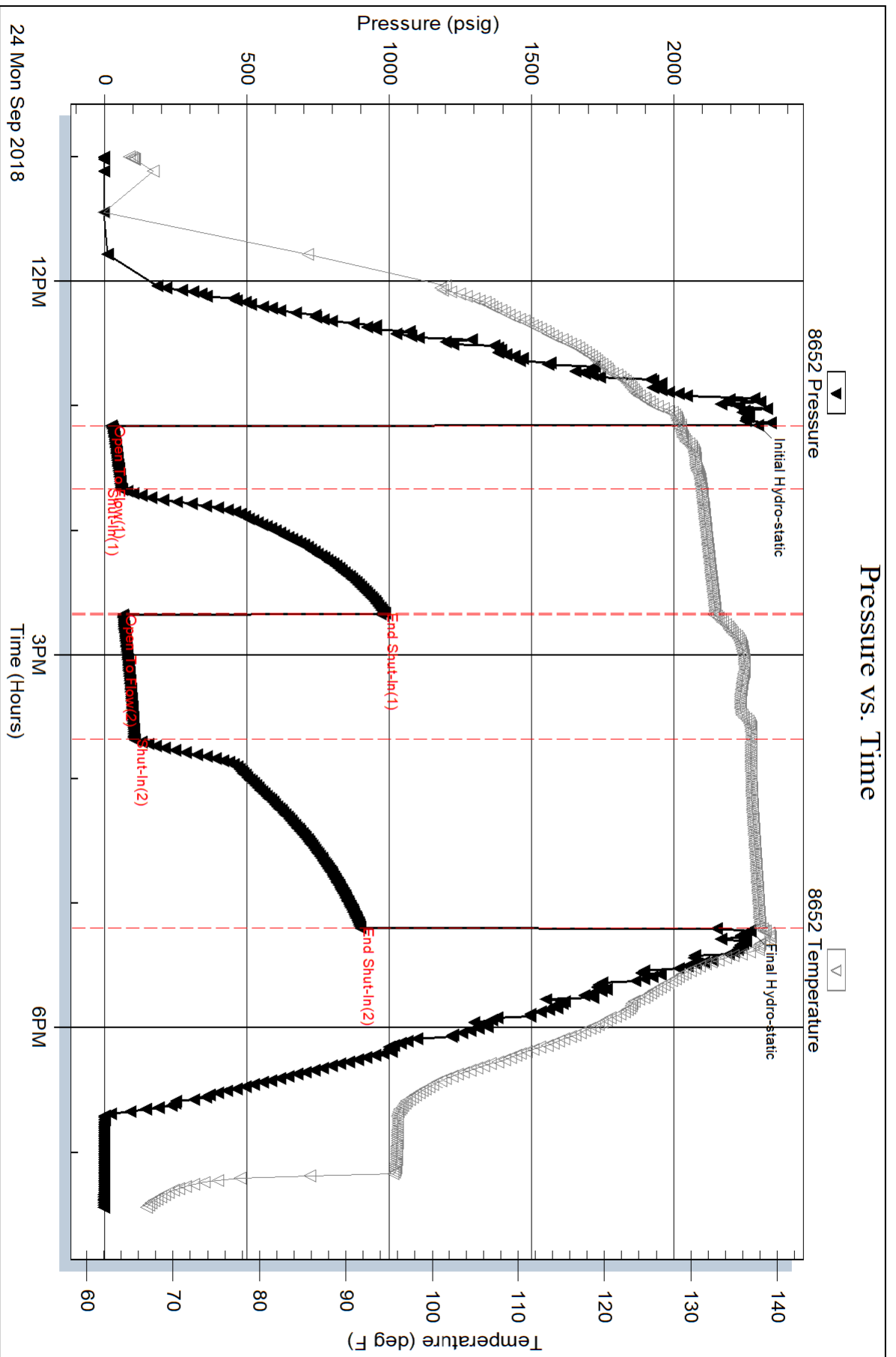
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



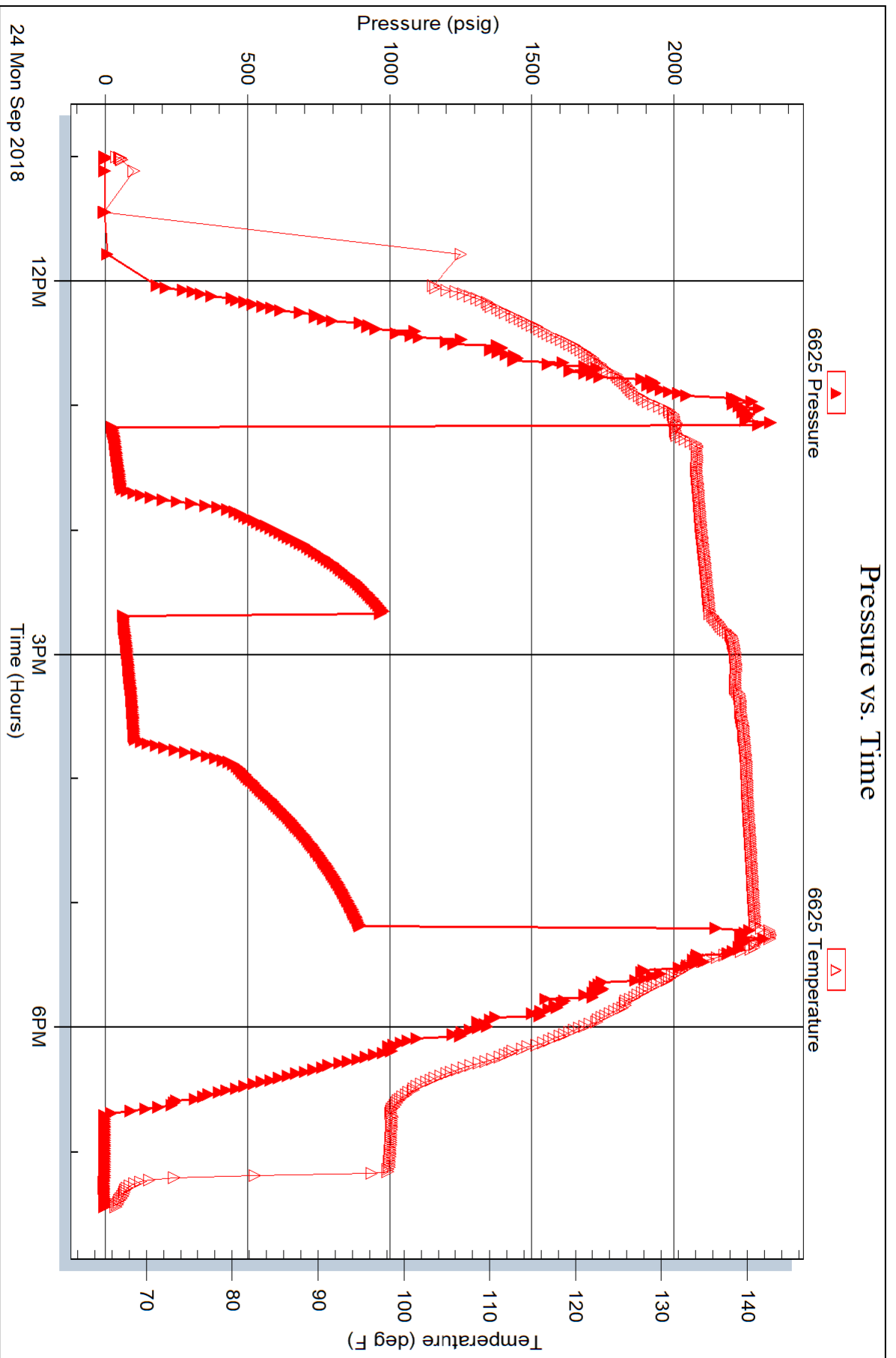
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Inside

Murfin Drilling Co., Inc.

Gambin #1-22

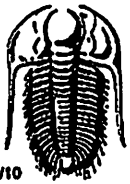
DST Test Number: 6



Triobite Testing, Inc

Ref. No: 64093

Printed: 2018.09.25 @ 11:37:04



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64088

Well Name & No. Gamblin # 1-22 Test No. 1 Date 9-18-18
 Company Murfin Drilling Co. Inc Elevation 3415 KB 3410 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #3
 Location: Sec. 22 Twp 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4203 - 4280 Zone Tested Oread
 Anchor Length 77 Drill Pipe Run 3978' Mud Wt. 8.8
 Top Packer Depth 4198 Drill Collars Run 207 Vls 60
 Bottom Packer Depth 4203 Wt. Pipe Run - WL 6.8
 Total Depth 4280 Chlorides 700 ppm System LCM 3

Blow Description IF: 1/8" Blow at open, built to 1/4", died back to surface blow
ISI: No blow
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>OCM</u>	<u>2</u>	<u>13</u>	<u>85</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

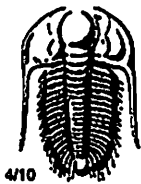
Rec Total 5 BHT 132 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 2059 Test 1150 T-On Location 19:00 9/18
 (B) First Initial Flow 17 Jars 250 T-Started 20:27
 (C) First Final Flow 18 Safety Joint 75 T-Open 22:27
 (D) Initial Shut-In 504 Circ Sub _____ T-Pulled 1:28
 (E) Second Initial Flow 80 Hourly Standby _____ T-Out 3:30 9/19
 (F) Second Final Flow 21 Mileage 114 RT 114 Comments _____
 (G) Final Shut-In 112 Sampler _____
 (H) Final Hydrostatic 2038 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

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

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1589
 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. 64089

Well Name & No. Gamblin #1-22 Test No. 2 Date 9-20-18
 Company Murfin Drilling Co. Inc Elevation 3415 KB 3410 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Samah Sharifaie Rig Murfin #3
 Location: Sec. 22 Twp 2S Rge. 37W Co. Cheyenne State KS

Interval Tested 4280-4360 Zone Tested LKC "A"
 Anchor Length 80 Drill Pipe Run 4071 Mud Wt. 9.0
 Top Packer Depth 4275 Drill Collars Run 207 Vis 54
 Bottom Packer Depth 4280 Wt. Pipe Run - WL 6.4
 Total Depth 4360 Chlorides 800 ppm System LCM 3

Blow Description IF: Blow built to BOB (11") at 5 1/2 min., built to 62 1/2"
ISI: Blow increased from 62 1/2" to 72"
FF: Blow built to BOB at 8 min., built to 84 1/2"
FBI: Blow increased from 84 1/2" to 105 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>185</u>	<u>CGO</u>	<u>27</u>	<u>71</u>	<u>-</u>	<u>2</u>
<u>445</u>	<u>GMCO</u>	<u>43</u>	<u>42</u>	<u>15</u>	<u>15</u>
<u>180</u>	<u>GMCO</u>	<u>22</u>	<u>52</u>	<u>26</u>	<u>26</u>
<u>Rec</u>	<u>Feet of</u>	<u>%gas</u>	<u>%oil</u>	<u>%water</u>	<u>%mud</u>
<u>Rec</u>	<u>Feet of</u>	<u>%gas</u>	<u>%oil</u>	<u>%water</u>	<u>%mud</u>

Rec Total 810 BHT 142 Gravity 31.8 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2120
 (B) First Initial Flow 57
 (C) First Final Flow 211
 (D) Initial Shut-In 1305
 (E) Second Initial Flow 219
 (F) Second Final Flow 330
 (G) Final Shut-In 1306
 (H) Final Hydrostatic 2109

- Test 1150
 - Jars 250
 - Safety Joint 75
 - Circ Sub
 - Hourly Standby
 - Mileage 114 RT 114
 - Sampler
 - Straddle
 - Shale Packer
 - Extra Packer
 - Extra Recorder
 - Day Standby
 - Accessibility
- Sub Total 1589

T-On Location 9:35
 T-Started 9:56
 T-Open 11:47
 T-Pulled 15:48
 T-Out 18:50

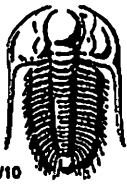
Comments tool chased 2' to bottom last a few ft of mud

Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1589
 MP/DST Disc't

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

Approved By _____ Our Representative James Whorley

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. 64090

Well Name & No. Gamblln #1-22 Test No. 3 Date 9-21-18
 Company Murfin Drilling Co. Inc Elevation 3415 KB 3410 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #3
 Location: Sec. 22 Twp 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4360 - 4420 Zone Tested LKC "D"
 Anchor Length 60 Drill Pipe Run 4134 Mud Wt. 9.1
 Top Packer Depth 4355 Drill Collars Run 207 Vis 50
 Bottom Packer Depth 4360 Wt. Pipe Run - WL 6.4
 Total Depth 4420 Chlorides 900 ppm System LCM 3

Blow Description IF: Blow built to BOB (11") at 5 1/4 min., built to 65 3/4"
ISI: Blow increased from 65 3/4" to 90 3/4"
FF: Blow built to BOB at 12 1/2 min., built to 60 1/2"
FSI: Blow increased from 60 1/2" to 92"

Rec	Feet of	%gas	%oil	%water	%mud
<u>450</u>	<u>CGO</u>	<u>31</u>	<u>69</u>	<u>-</u>	<u>-</u>
<u>90</u>	<u>GmCO</u>	<u>33</u>	<u>40</u>	<u>-</u>	<u>27</u>
	<u>GIP = 1715'</u>				

Rec Total 540 BHT 137 Gravity 33.6 API RW @ °F Chlorides ppm

- (A) Initial Hydrostatic 2179
- (B) First Initial Flow 29
- (C) First Final Flow 112
- (D) Initial Shut-In 362
- (E) Second Initial Flow 126
- (F) Second Final Flow 213
- (G) Final Shut-In 361
- (H) Final Hydrostatic 2142

- Test 1150
- Jars 250
- Safety Joint 75
- Circ Sub
- Hourly Standby
- Mileage 114 RT 114
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1589

T-On Location 4:30
 T-Started 5:08
 T-Open 7:39
 T-Pulled 11:44
 T-Out 14:15

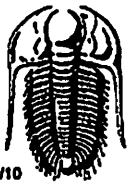
Comments _____

 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1589
 MP/DST Disc't _____

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

Approved By _____ Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64091

Well Name & No. Gamblin #1-22 Test No. 4 Date 9-21-18
 Company Murfin Drilling Co. Inc Elevation 3415 KB 3410 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #3
 Location: Sec. 22 Twp 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4422 - 4470 Zone Tested LKC "6"
 Anchor Length 48 Drill Pipe Run 4196 Mud Wt. 9.0
 Top Packer Depth 4417 Drill Collars Run 207 Vls 59
 Bottom Packer Depth 4422 Wt. Pipe Run - WL 6.4
 Total Depth 4470 Chlorides 900 ppm System LCM 3

Blow Description IF: Blow built to BOB (11") at 5 1/2 min., built to 57 1/2"
ISE: Blow increased from 57 1/2" to 69 3/4"
FF: Blow built to BOB at 8 min., built to 77 3/4"
FSE: Blow increased from 77 3/4" to 96"

Rec	Feet of	%gas	%oil	%water	%mud
<u>200</u>	<u>C50</u>	<u>24</u>	<u>76</u>		
<u>210</u>	<u>6mco</u>	<u>37</u>	<u>50</u>	<u>13</u>	
<u>185</u>	<u>6mco</u>	<u>15</u>	<u>68</u>	<u>17</u>	
<u>60</u>	<u>6mco</u>	<u>55</u>	<u>34</u>	<u>11</u>	

Rec Total 655 BHT 143 Gravity 33.4 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2153
 (B) First Initial Flow 56
 (C) First Final Flow 158
 (D) Initial Shut-In 388
 (E) Second Initial Flow 169
 (F) Second Final Flow 260
 (G) Final Shut-In 389
 (H) Final Hydrostatic 2146

Test 1150
 Jars 250
 Safety Joint 75
 Circ Sub
 Hourly Standby
 Mileage 114 RT ¹¹⁴
 Sampler
 Straddle
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility
 Sub Total 1589

T-On Location 22:35 ^{9/21}
 T-Started 23:46
 T-Open 1:43
 T-Pulled 5:57
 T-Out 8:50 ^{9/22}

Comments _____
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1589
 MP/DST Disc't _____

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

Approved By _____ Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64092

Well Name & No. Gamblin #1-22 Test No. 5 Date 9-22-18
 Company Murfin Drilling Co. Inc Elevation 3415 KB 3410 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #3
 Location: Sec. 22 Twp 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4470 - 4556 Zone Tested LKC "H-J"
 Anchor Length 86 Drill Pipe Run 4256 Mud Wt. 8.9
 Top Packer Depth 4465 Drill Collars Run 207 Vis 55
 Bottom Packer Depth 4470 Wt. Pipe Run - WL 6.0
 Total Depth 4556 Chlorides 900 ppm System LCM 4

Blow Description IF: Blow built to BOB(11") at 1/2 min, built to 281"
ISI: Blow ~~at 281"~~ increased from 281" to 382"
FF: Blow built to BOB at 1/4 min, built to 200"
FST: Blow increased from 200" to 284"

Rec	Feet of	%gas	%oil	%water	%mud
Rev out 2080	5000 5MCO	12	71	17	
120	5MCO	27	44	29	
	5FP = 1765'				

Rec Total 2200 BHT 146 Gravity 38.4 API RW @ °F Chlorides ppm

- (A) Initial Hydrostatic 2186
- (B) First Initial Flow 213
- (C) First Final Flow 563
- (D) Initial Shut-In 1252
- (E) Second Initial Flow 584
- (F) Second Final Flow 802
- (G) Final Shut-In 1239
- (H) Final Hydrostatic 2145

- Test 1150
- Jars 250
- Safety Joint 75
- Circ Sub drop bar 50
- Hourly Standby
- Mileage 114 RT 114
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1639

T-On Location 21:00 9/22
 T-Started 22:16
 T-Open 00:06
 T-Pulled 3:09
 T-Out 7:50 9/23

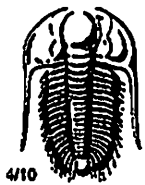
Comments _____

 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1639
 MP/DST Disc't _____

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

Approved By _____ Our Representative James Winter

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64093

Well Name & No. Gamblin #1-22 Test No. 6 Date 9-24-18
 Company Murfin Drilling Co. Inc Elevation 3415 KB 3410 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #3
 Location: Sec. 22 Twp 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4698 - 4864 Zone Tested Ft. Scott - Celia
 Anchor Length 166 Drill Pipe Run 4473 Mud Wt. 9.0
 Top Packer Depth 4693 Drill Collars Run 207 Vis 61
 Bottom Packer Depth 4698 Wt. Pipe Run - WL 6.0
 Total Depth 4864 Chlorides 900 ppm System LCM 3

Blow Description IF: 1/2" Blow at open, built to 4 1/2"
ISI: No blowback
FF: Blow built to 8 1/2"
FST: Weak surface blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>0m</u>	<u>-</u>	<u>40</u>	<u>-</u>	<u>60</u>
<u>180</u>	<u>50m</u>	<u>18</u>	<u>33</u>	<u>49</u>	<u>0</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Rec Total 210 BHT 138 Gravity API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2296 Test 1150 T-On Location 10:00
 (B) First Initial Flow 25 Jars 250 T-Started 11:00
 (C) First Final Flow 58 Safety Joint 75 T-Open 13:09
 (D) Initial Shut-In 983 Circ Sub T-Pulled 17:11
 (E) Second Initial Flow 65 Hourly Standby T-Out 19:25
 (F) Second Final Flow 103 Mileage 114 RT 114
 (G) Final Shut-In 899 Sampler
 (H) Final Hydrostatic 2269 Straddle
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

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

Sub Total 1589

MP/DST Disc't

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