



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300
Wichita KS 67202-1216

ATTN: Samam Sharifaie

Gartrell #1-12

12-6s-20w Rooks,KS

Start Date: 2017.08.04 @ 19:25:52

End Date: 2017.08.05 @ 02:53:31

Job Ticket #: 63006 DST #: 1

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

Printed: 2017.08.08 @ 08:51:13



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water STE 300
 Wichita KS 67202-1216
 ATTN: Samam Sharifaie

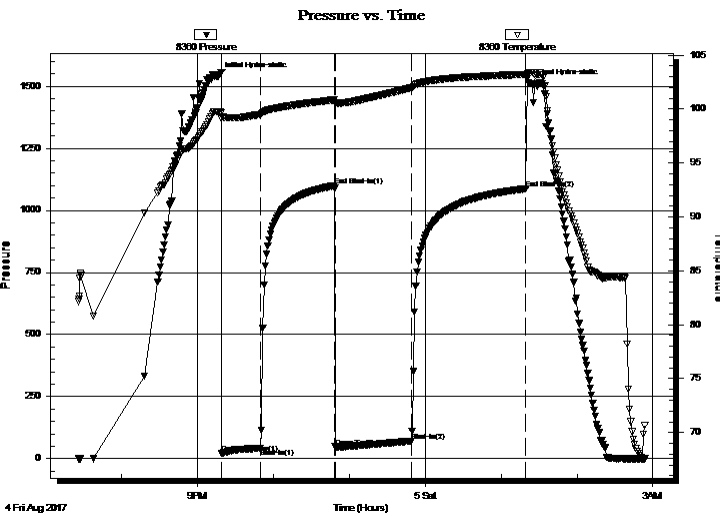
12-6s-20w Rooks,KS
Gartrell #1-12
 Job Ticket: 63006 **DST#: 1**
 Test Start: 2017.08.04 @ 19:25:52

GENERAL INFORMATION:

Formation: **Oread**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:18:47
 Time Test Ended: 02:53:31
 Interval: **3225.00 ft (KB) To 3269.00 ft (KB) (TVD)**
 Total Depth: 3269.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2116.00 ft (KB)
 2111.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8360 Inside
 Press@RunDepth: 70.31 psig @ 3233.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.08.04 End Date: 2017.08.05 Last Calib.: 2017.08.05
 Start Time: 19:25:52 End Time: 02:53:31 Time On Btm: 2017.08.04 @ 21:16:17
 Time Off Btm: 2017.08.05 @ 01:22:46

TEST COMMENT: 30-IFP-w k bl thru-out 1/4" to 2 1/4" bl
 60-ISIP-no bl bk
 60-FFP-w k bl thru-out Surface to 1/4" bl
 90-FSIP-no bl bk



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1540.53	99.73	Initial Hydro-static
3	22.47	99.13	Open To Flow (1)
34	41.69	99.51	Shut-In(1)
92	1099.05	100.85	End Shut-In(1)
93	47.08	100.47	Open To Flow (2)
153	70.31	101.98	Shut-In(2)
244	1087.11	103.22	End Shut-In(2)
247	1510.79	103.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	Water	0.57
40.00	Muddy Water 25%M75%W	0.56

Gas Rates

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



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DRILL STEM TEST REPORT

Murfin Drilling Co Inc
250 N. Water STE 300
Wichita KS 67202-1216
ATTN: Samam Sharifaie

12-6s-20w Rooks,KS
Gartrell #1-12
Job Ticket: 63006 **DST#: 1**
Test Start: 2017.08.04 @ 19:25:52

GENERAL INFORMATION:

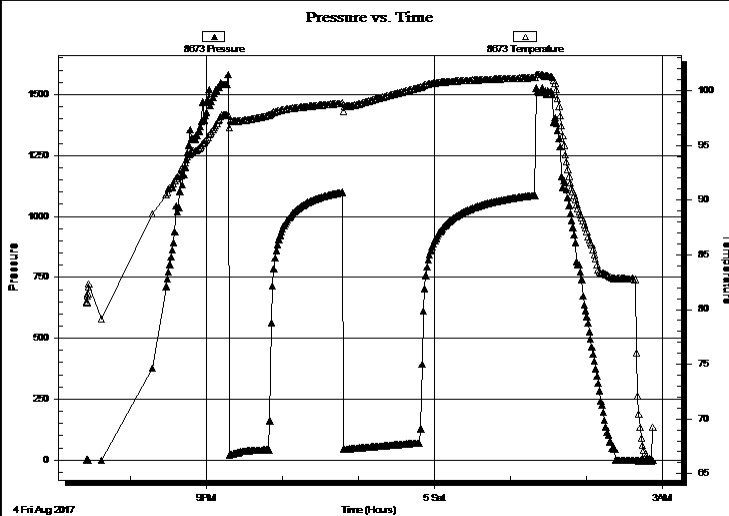
Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:18:47
Time Test Ended: 02:53:31
Interval: **3225.00 ft (KB) To 3269.00 ft (KB) (TVD)**
Total Depth: 3269.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 2116.00 ft (KB)
2111.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8673

Outside

Press@RunDepth: psig @ 3233.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2017.08.04 End Date: 2017.08.05 Last Calib.: 2017.08.05
Start Time: 19:25:30 End Time: 02:52:54 Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP-w k bl thru-out 1/4" to 2 1/4" bl
60-ISIP-no bl bk
60-FFP-w k bl thru-out Surface to 1/4" bl
90-FSIP-no bl bk



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	Water	0.57
40.00	Muddy Water 25%M75%W	0.56

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

12-6s-20w Rooks,KS

250 N. Water STE 300
Wichita KS 67202-1216

Gartrell #1-12

Job Ticket: 63006

DST#: 1

ATTN: Samam Sharifaie

Test Start: 2017.08.04 @ 19:25:52

Tool Information

Drill Pipe:	Length: 3198.00 ft	Diameter: 3.80 inches	Volume: 44.86 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 45.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3225.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	73.00 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			3197.00	
Shut In Tool	5.00			3202.00	
Hydraulic tool	5.00			3207.00	
Jars	5.00			3212.00	
Safety Joint	3.00			3215.00	
Packer	5.00			3220.00	29.00 Bottom Of Top Packer
Packer	5.00			3225.00	
Stubb	1.00			3226.00	
Perforations	7.00			3233.00	
Recorder	0.00	8360	Inside	3233.00	
Recorder	0.00	8673	Outside	3233.00	
Blank Spacing	33.00			3266.00	
Bullnose	3.00			3269.00	44.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

12-6s-20w Rooks,KS

250 N. Water STE 300
Wichita KS 67202-1216

Gartrell #1-12

Job Ticket: 63006

DST#: 1

ATTN: Samam Sharifaie

Test Start: 2017.08.04 @ 19:25:52

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:

54000 ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.73 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	Water	0.568
40.00	Muddy Water 25%M75%W	0.561

Total Length: 100.00 ft Total Volume: 1.129 bbl

Num Fluid Samples: 0

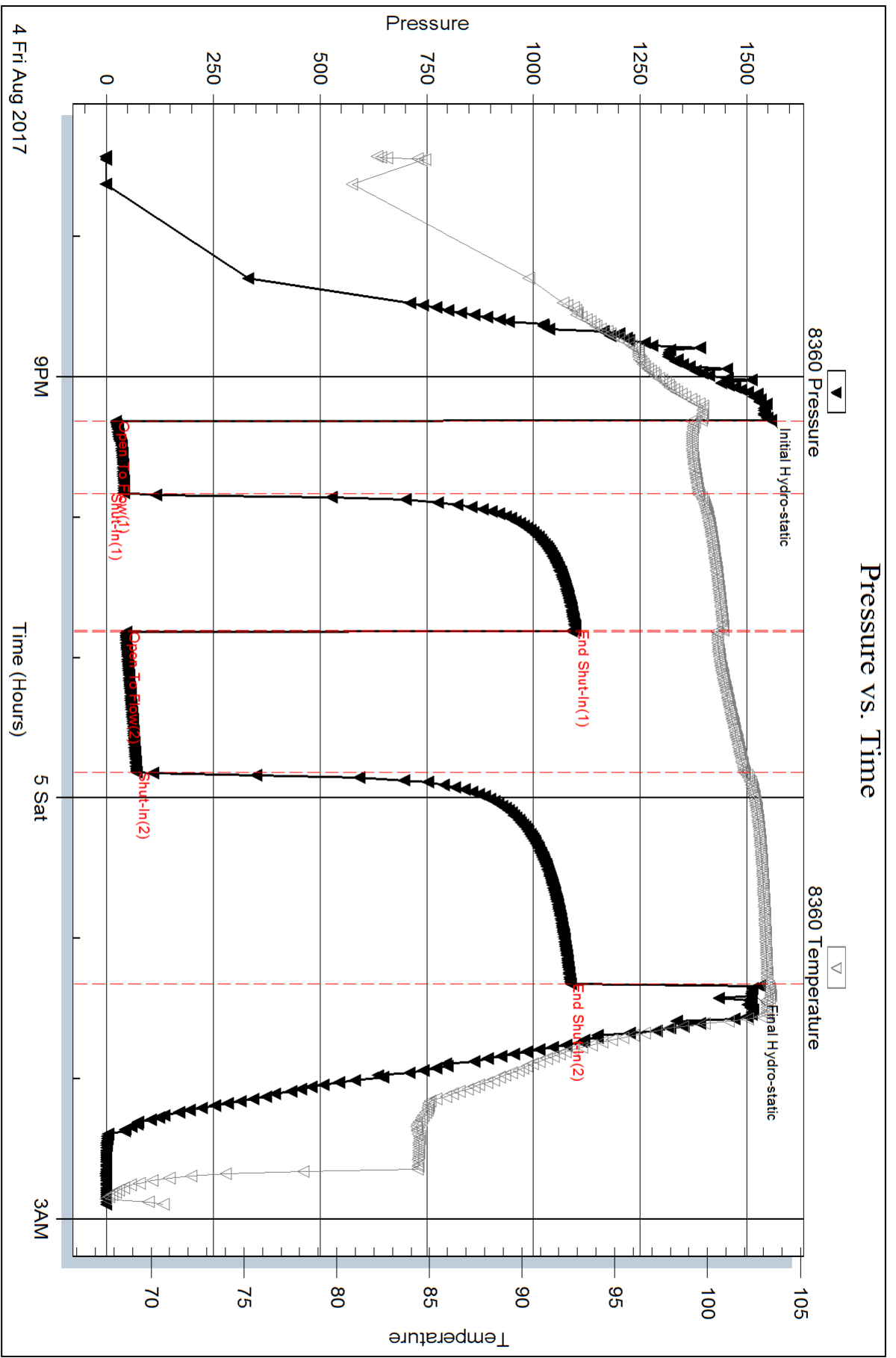
Num Gas Bombs: 0

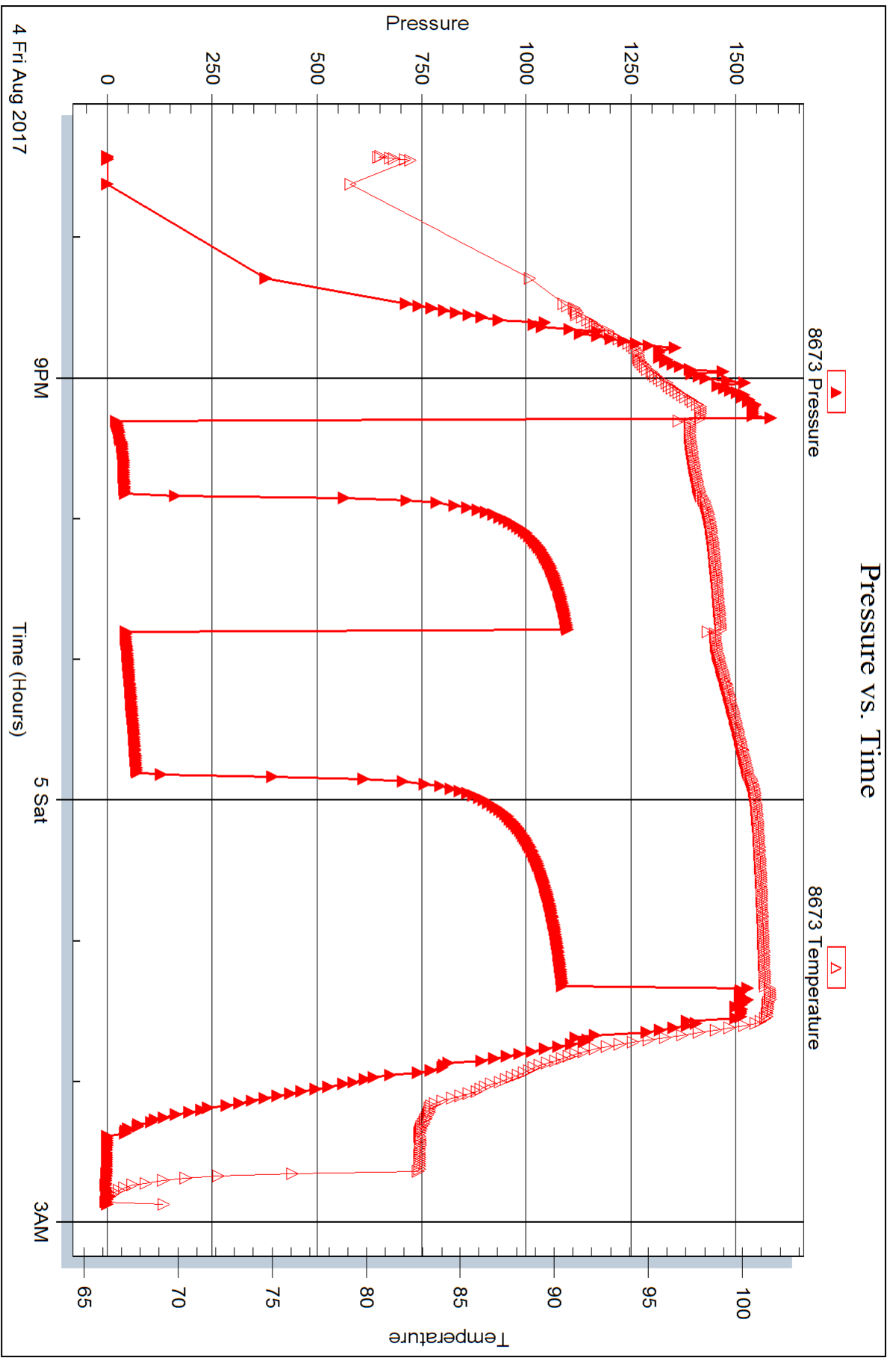
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .15@ 65F







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300
Wichita KS 67202-1216

ATTN: Samam Sharifaie

Gartrell #1-12

12-6s-20w Rooks,KS

Start Date: 2017.08.05 @ 18:55:34

End Date: 2017.08.06 @ 00:58:13

Job Ticket #: 63007 DST #: 2

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

Printed: 2017.08.08 @ 08:50:34



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water STE 300
 Wichita KS 67202-1216
 ATTN: Samam Sharifaie

12-6s-20w Rooks,KS
Gartrell #1-12
 Job Ticket: 63007 **DST#: 2**
 Test Start: 2017.08.05 @ 18:55:34

GENERAL INFORMATION:

Formation: **LKC "A-G"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 20:26:14 Tester: Ray Schwager
 Time Test Ended: 00:58:13 Unit No: 77
 Interval: **3330.00 ft (KB) To 3440.00 ft (KB) (TVD)** Reference Elevations: 2116.00 ft (KB)
 Total Depth: 3440.00 ft (KB) (TVD) 2111.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

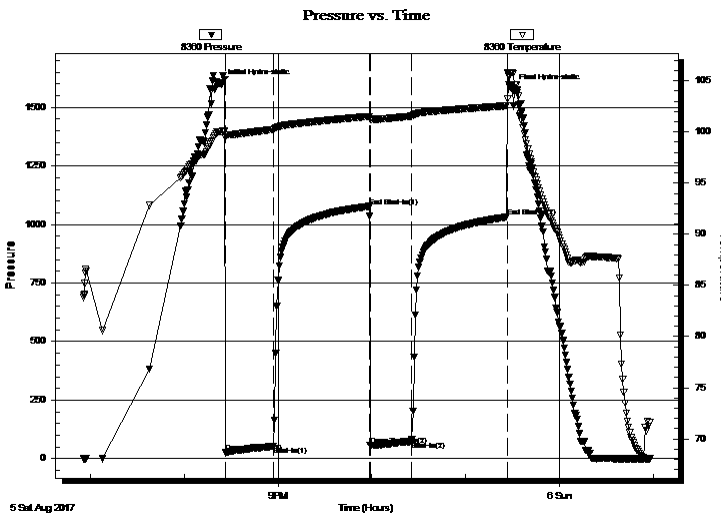
Serial #: 8360

Inside

Press@RunDepth: 73.34 psig @ 3340.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.08.05 End Date: 2017.08.06 Last Calib.: 2017.08.06
 Start Time: 18:55:34 End Time: 00:58:13 Time On Btm: 2017.08.05 @ 20:23:29
 Time Off Btm: 2017.08.05 @ 23:29:43

TEST COMMENT: 30-IFP-w k bl thru-out 1/4" to 1" bl
 60-ISIP-no bl bk
 30-FFP-no bl first 20 min, then very w k surface bl
 60-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1599.96	100.02	Initial Hydro-static
3	25.25	99.42	Open To Flow (1)
34	52.51	100.24	Shut-In(1)
95	1077.63	101.52	End Shut-In(1)
96	56.05	101.20	Open To Flow (2)
122	73.34	101.53	Shut-In(2)
183	1032.16	102.56	End Shut-In(2)
187	1580.68	105.82	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	MW 10%M90%W	0.99
1.00	CO	0.01

* Recovery from multiple tests

Gas Rates

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



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Murfin Drilling Co Inc
 250 N. Water STE 300
 Wichita KS 67202-1216
 ATTN: Samam Sharifaie

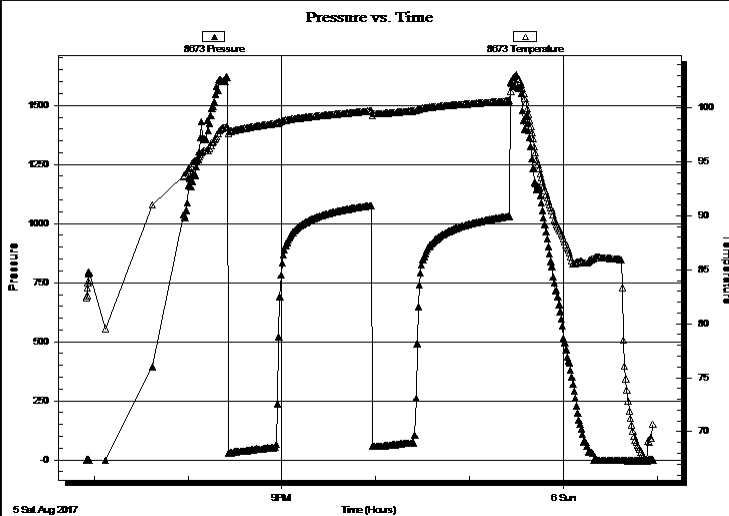
12-6s-20w Rooks,KS
Gartrell #1-12
 Job Ticket: 63007 **DST#: 2**
 Test Start: 2017.08.05 @ 18:55:34

GENERAL INFORMATION:

Formation:	LKC "A-G"		
Deviated:	No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened:	20:26:14		Tester: Ray Schwager
Time Test Ended:	00:58:13		Unit No: 77
Interval:	3330.00 ft (KB) To 3440.00 ft (KB) (TVD)		Reference Elevations: 2116.00 ft (KB)
Total Depth:	3440.00 ft (KB) (TVD)		2111.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition: Fair	KB to GR/CF: 5.00 ft

Serial #: 8673	Outside				
Press@RunDepth:	psig @	3340.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2017.08.05	End Date:	2017.08.06	Last Calib.:	2017.08.06
Start Time:	18:55:06	End Time:	00:57:30	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: 30-IFP-w k bl thru-out 1/4" to 1" bl
 60-ISIP-no bl bk
 30-FFP-no bl first 20 min, then very w k surface bl
 60-FSIP-no bl



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
90.00	MW 10%M90%W	0.99
1.00	CO	0.01

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

12-6s-20w Rooks,KS

250 N. Water STE 300
Wichita KS 67202-1216

Gartrell #1-12

Job Ticket: 63007

DST#: 2

ATTN: Samam Sharifaie

Test Start: 2017.08.05 @ 18:55:34

Tool Information

Drill Pipe:	Length: 3292.00 ft	Diameter: 3.80 inches	Volume: 46.18 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 46.33 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3330.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	110.00 ft			
Tool Length:	139.00 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			3302.00	
Shut In Tool	5.00			3307.00	
Hydraulic tool	5.00			3312.00	
Jars	5.00			3317.00	
Safety Joint	3.00			3320.00	
Packer	5.00			3325.00	29.00 Bottom Of Top Packer
Packer	5.00			3330.00	
Stubb	1.00			3331.00	
Perforations	9.00			3340.00	
Recorder	0.00	8360	Inside	3340.00	
Recorder	0.00	8673	Outside	3340.00	
Blank Spacing	97.00			3437.00	
Bullnose	3.00			3440.00	110.00 Bottom Packers & Anchor

Total Tool Length: 139.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

12-6s-20w Rooks,KS

250 N. Water STE 300
Wichita KS 67202-1216

Gartrell #1-12

Job Ticket: 63007

DST#: 2

ATTN: Samam Sharifaie

Test Start: 2017.08.05 @ 18:55:34

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:

68000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.75 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	MW 10%M90%W	0.989
1.00	CO	0.014

Total Length: 91.00 ft Total Volume: 1.003 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

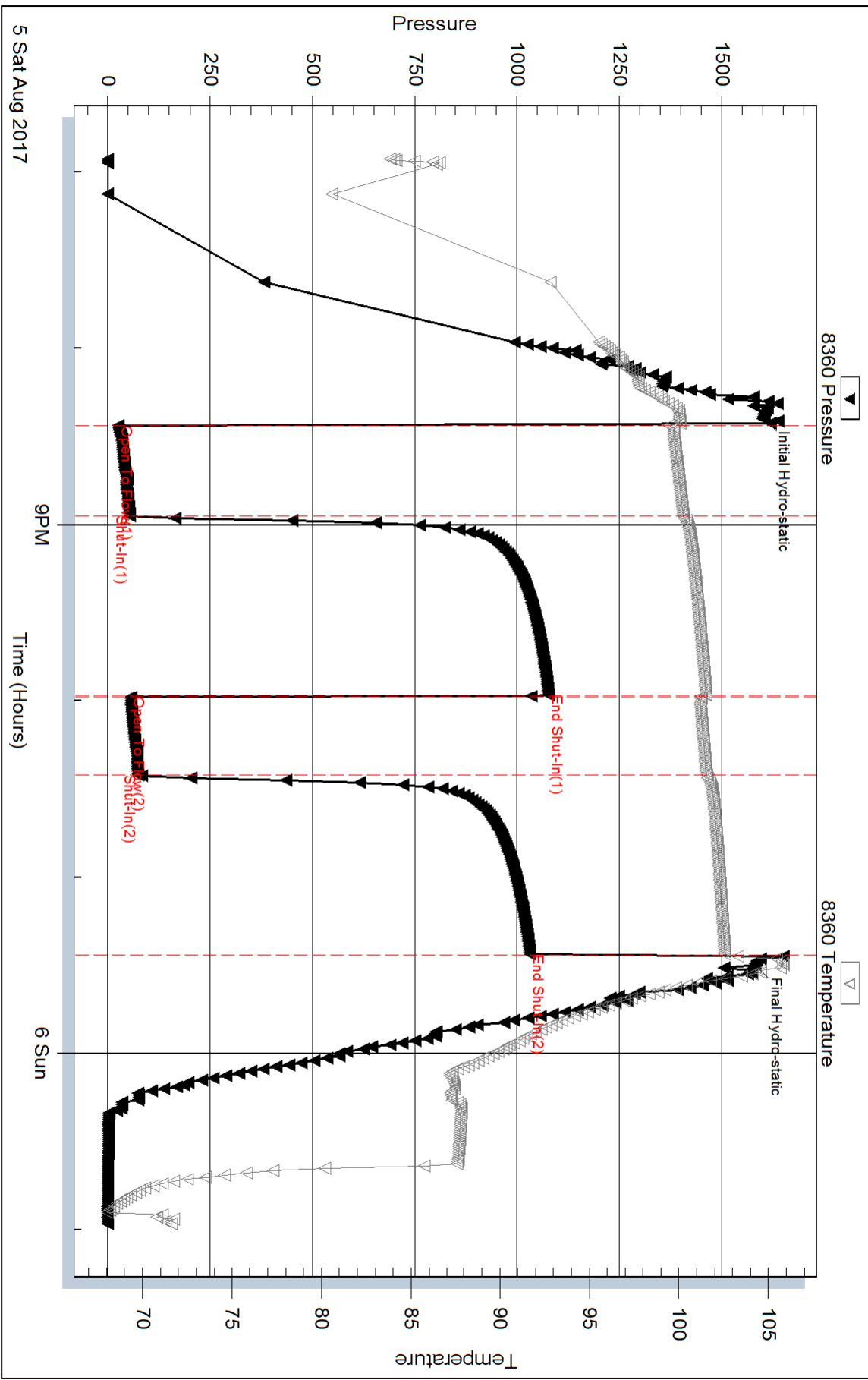
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .12@65F

Pressure vs. Time

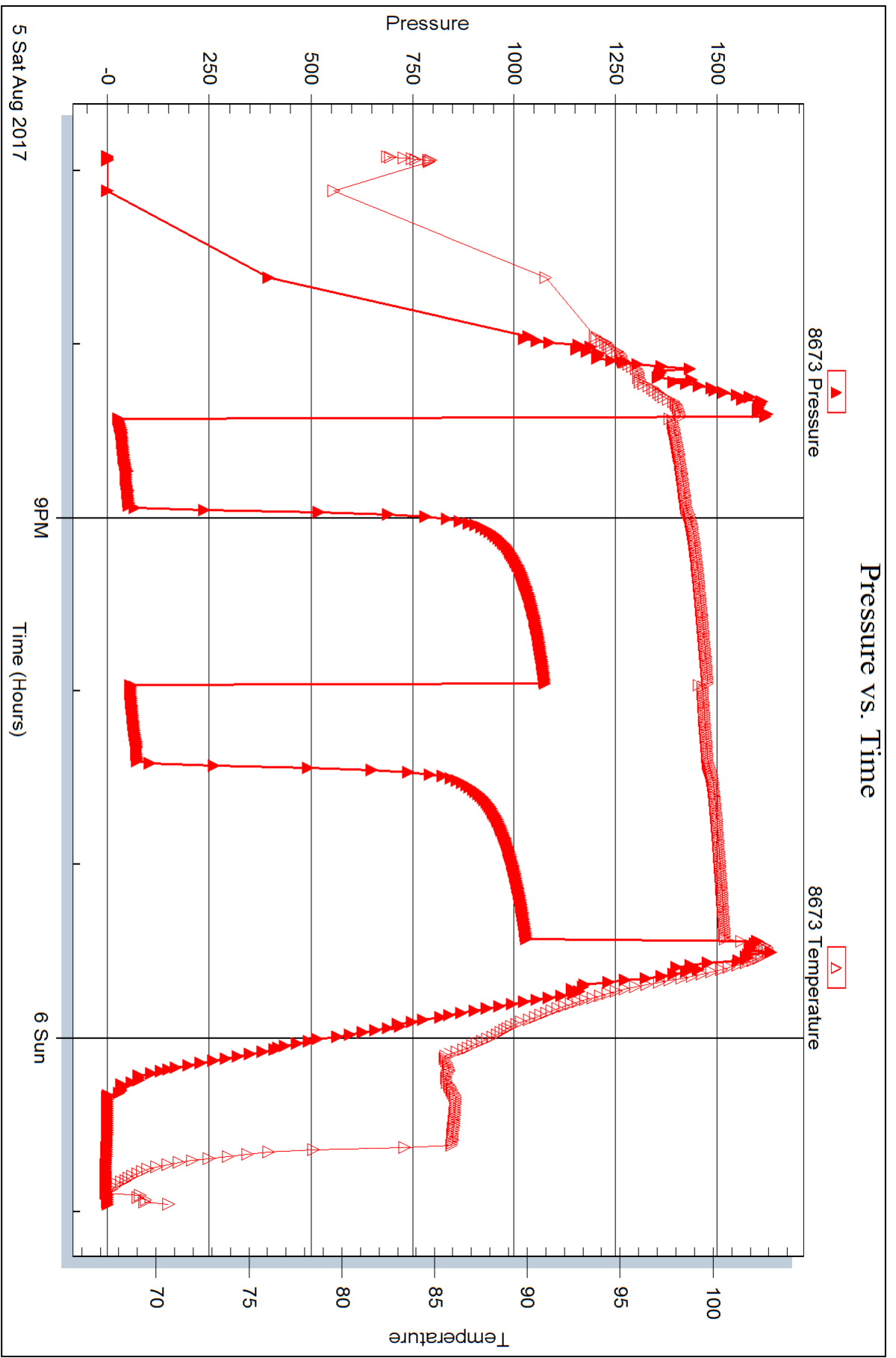


Serial #: 8673

Outside Murfin Drilling Co Inc

Gartrell #1-12

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 63007

Printed: 2017.08.08 @ 08:50:35



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300
Wichita KS 67202-1216

ATTN: Samam Sharifaie

Gartrell #1-12

12-6s-20w Rooks,KS

Start Date: 2017.08.06 @ 10:20:55

End Date: 2017.08.06 @ 16:04:34

Job Ticket #: 63008 DST #: 3

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

Printed: 2017.08.08 @ 08:50:01



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water STE 300
 Wichita KS 67202-1216
 ATTN: Samam Sharifaie

12-6s-20w Rooks,KS
Gartrell #1-12
 Job Ticket: 63008 **DST#: 3**
 Test Start: 2017.08.06 @ 10:20:55

GENERAL INFORMATION:

Formation: **LKC H-J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:47:05
 Time Test Ended: 16:04:34
 Interval: **3445.00 ft (KB) To 3510.00 ft (KB) (TVD)**
 Total Depth: 3510.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2116.00 ft (KB)
 2111.00 ft (CF)
 KB to GR/CF: 5.00 ft

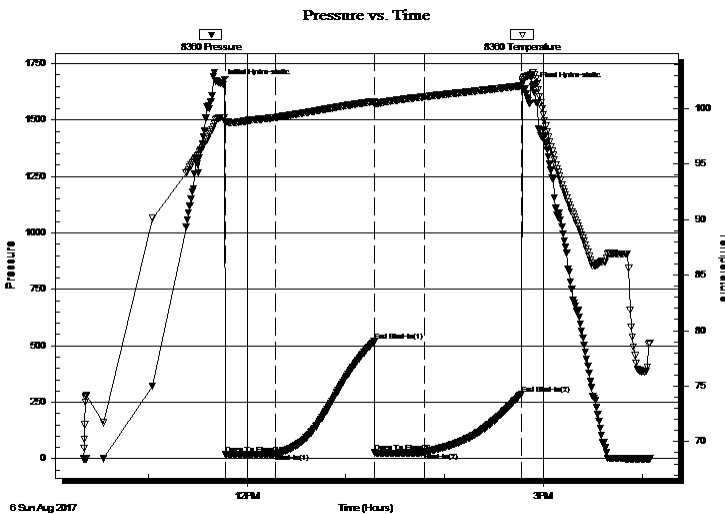
Serial #: 8360

Inside

Press@RunDepth: 29.86 psig @ 3449.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.08.06 End Date: 2017.08.06 Last Calib.: 2017.08.06
 Start Time: 10:20:55 End Time: 16:04:34 Time On Btm: 2017.08.06 @ 11:44:20
 Time Off Btm: 2017.08.06 @ 14:53:34

TEST COMMENT: 30-IFP-w k bl thru-out 1/4" to 1/2" bl
 60-ISIP-no bl
 30-FFP-no bl
 60-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1662.75	99.17	Initial Hydro-static
3	20.24	98.70	Open To Flow (1)
33	21.76	99.19	Shut-In(1)
93	520.03	100.64	End Shut-In(1)
94	26.77	100.40	Open To Flow (2)
124	29.86	101.06	Shut-In(2)
182	286.97	102.03	End Shut-In(2)
190	1648.58	103.24	Final Hydro-static

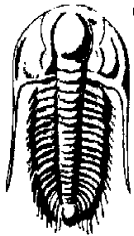
Recovery

Length (ft)	Description	Volume (bbl)
5.00	HOCM 35%O65%M	0.02

* 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 67202-1216
ATTN: Samam Sharifaie

12-6s-20w Rooks,KS
Gartrell #1-12
Job Ticket: 63008 **DST#: 3**
Test Start: 2017.08.06 @ 10:20:55

GENERAL INFORMATION:

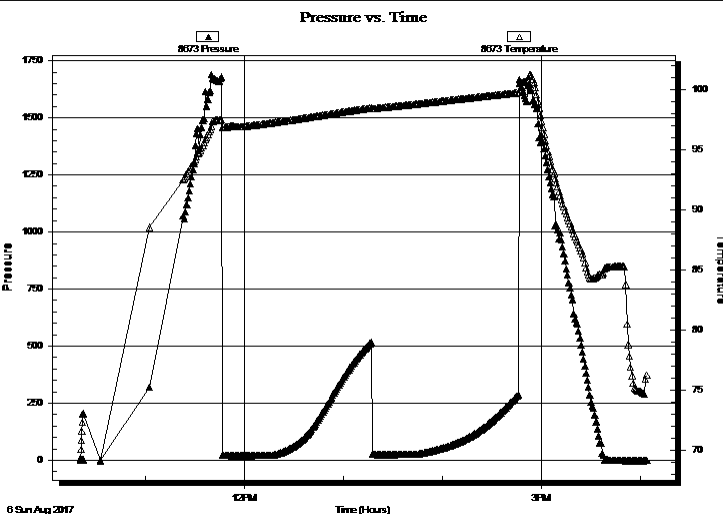
Formation: **LKC H-J**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:47:05
Time Test Ended: 16:04:34
Interval: 3445.00 ft (KB) To 3510.00 ft (KB) (TVD)
Total Depth: 3510.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 2116.00 ft (KB)
2111.00 ft (CF)
KB to GR/CF: 5.00 ft
Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schwager
Unit No: 77

Serial #: 8673

Outside

Press@RunDepth: psig @ 3449.00 ft (KB)
Start Date: 2017.08.06 End Date: 2017.08.06
Start Time: 10:20:22 End Time: 16:03:46
Capacity: 8000.00 psig
Last Calib.: 2017.08.06
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP-w k bl thru-out 1/4" to 1/2" bl
60-ISIP-no bl
30-FFP-no bl
60-FSIP-no bl



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	HOCM 35% O65%M	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

12-6s-20w Rooks,KS

250 N. Water STE 300
Wichita KS 67202-1216

Gartrell #1-12

Job Ticket: 63008

DST#: 3

ATTN: Samam Sharifaie

Test Start: 2017.08.06 @ 10:20:55

Tool Information

Drill Pipe:	Length: 3418.00 ft	Diameter: 3.80 inches	Volume: 47.95 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 48.10 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3445.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	65.00 ft				
Tool Length:	94.00 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			3417.00	
Shut In Tool	5.00			3422.00	
Hydraulic tool	5.00			3427.00	
Jars	5.00			3432.00	
Safety Joint	3.00			3435.00	
Packer	5.00			3440.00	29.00 Bottom Of Top Packer
Packer	5.00			3445.00	
Stubb	1.00			3446.00	
Perforations	3.00			3449.00	
Recorder	0.00	8360	Inside	3449.00	
Recorder	0.00	8673	Outside	3449.00	
Blank Spacing	33.00			3482.00	
Perforations	25.00			3507.00	
Bullnose	3.00			3510.00	65.00 Bottom Packers & Anchor

Total Tool Length: 94.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

12-6s-20w Rooks,KS

250 N. Water STE 300
Wichita KS 67202-1216

Gartrell #1-12

Job Ticket: 63008

DST#: 3

ATTN: Samam Sharifaie

Test Start: 2017.08.06 @ 10:20:55

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.73 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	HOCM 35%O65%M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

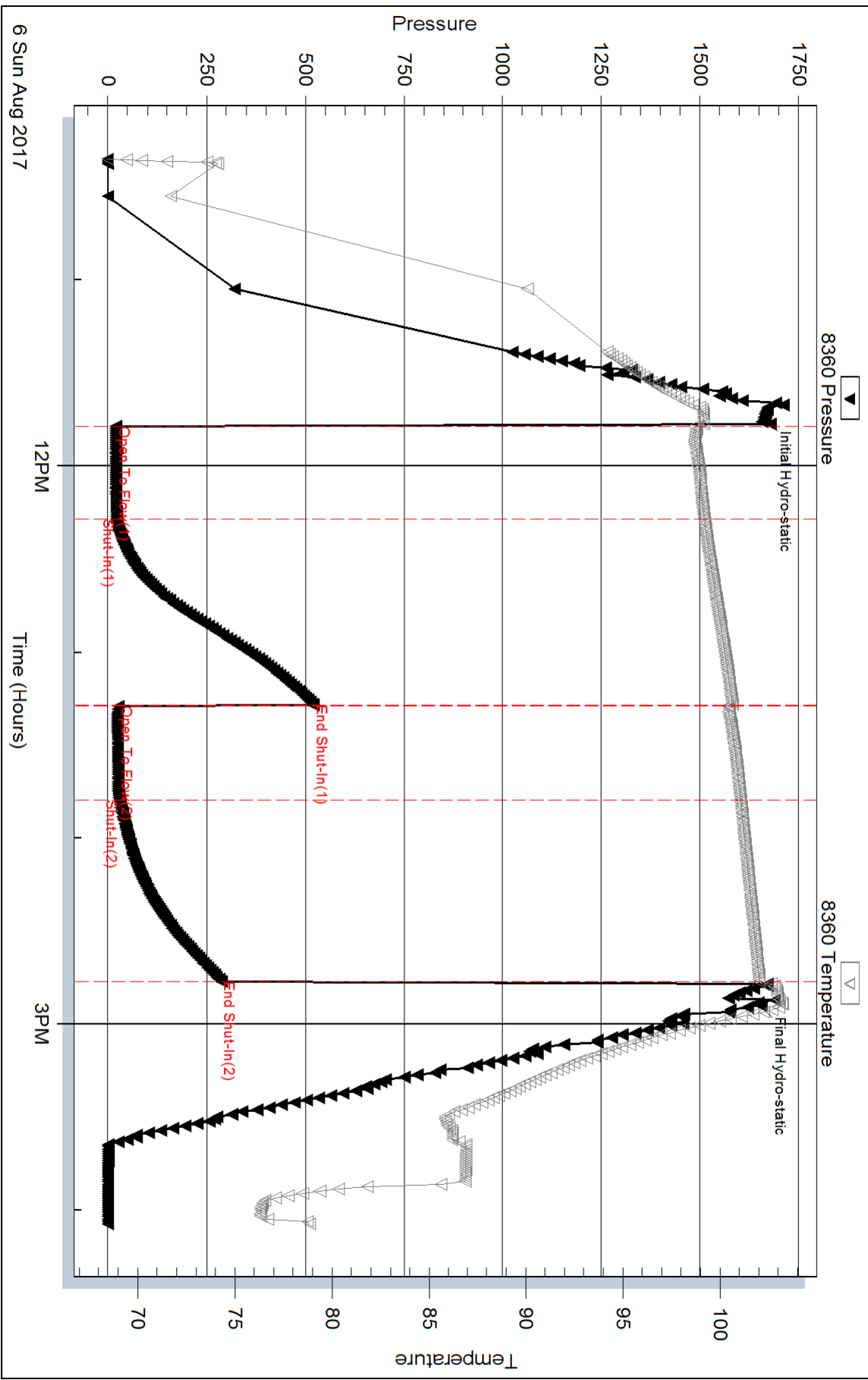
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

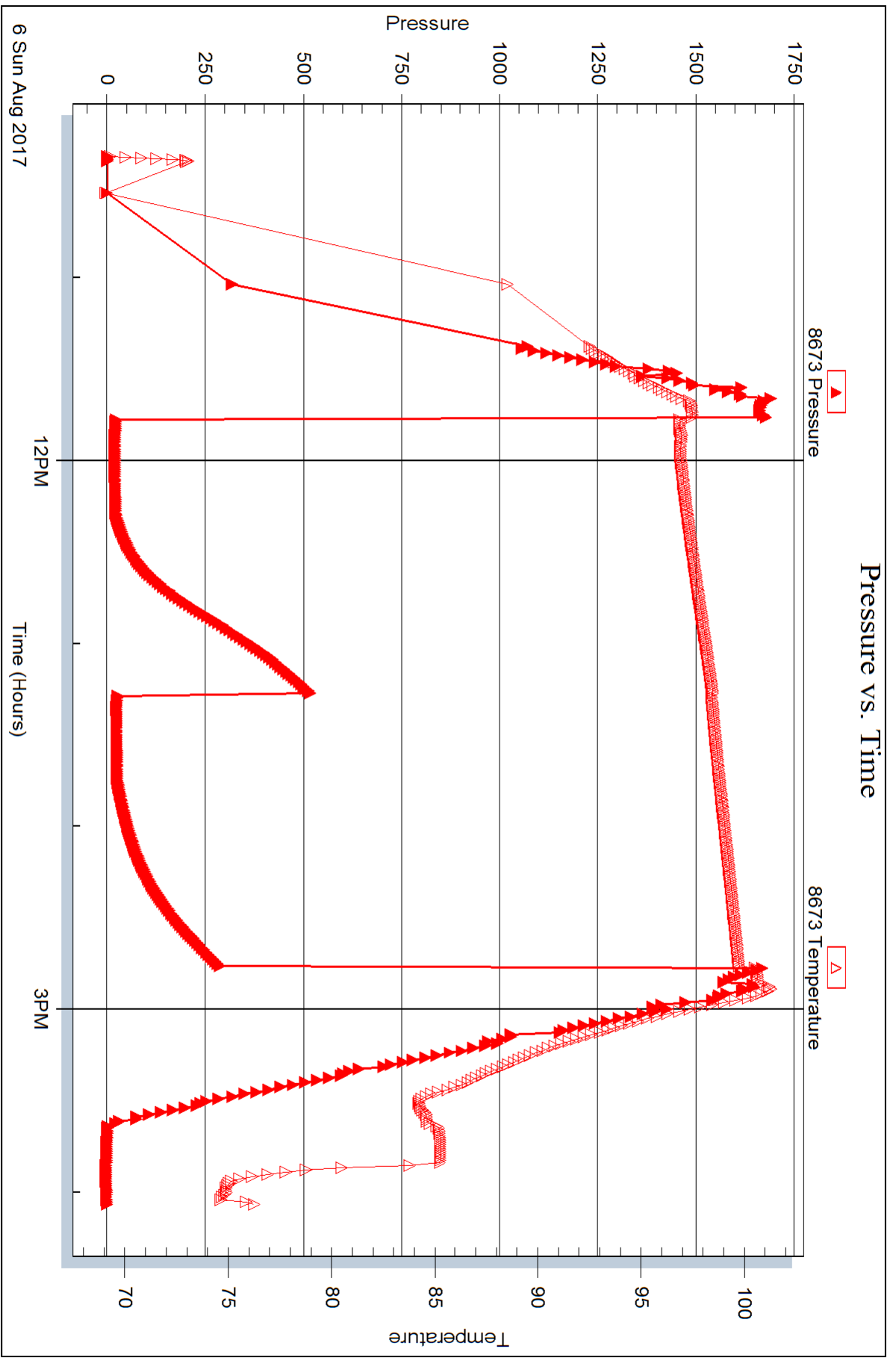


Serial #: 8673

Outside Murfin Drilling Co Inc

Gartrell #1-12

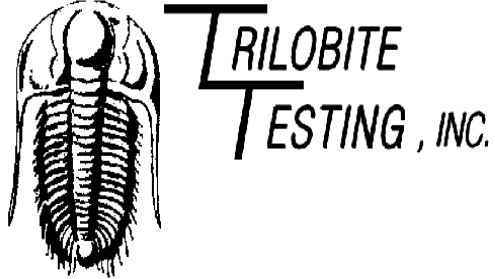
DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 63008

Printed: 2017.08.08 @ 08:50:02



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300
Wichita KS 67202-1216

ATTN: Samam Sharifaie

Gartrell #1-12

12-6s-20w Rooks,KS

Start Date: 2017.08.07 @ 02:10:29

End Date: 2017.08.07 @ 09:06:53

Job Ticket #: 63009 DST #: 4

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

Printed: 2017.08.08 @ 08:49:15



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water STE 300
 Wichita KS 67202-1216
 ATTN: Samam Sharifaie

12-6s-20w Rooks,KS
Gartrell #1-12
 Job Ticket: 63009 **DST#: 4**
 Test Start: 2017.08.07 @ 02:10:29

GENERAL INFORMATION:

Formation: **Gorham Sd.& Reagan S**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 03:37:24
 Time Test Ended: 09:06:53
 Interval: **3528.00 ft (KB) To 3592.00 ft (KB) (TVD)**
 Total Depth: 3592.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2116.00 ft (KB)
 2111.00 ft (CF)
 KB to GR/CF: 5.00 ft

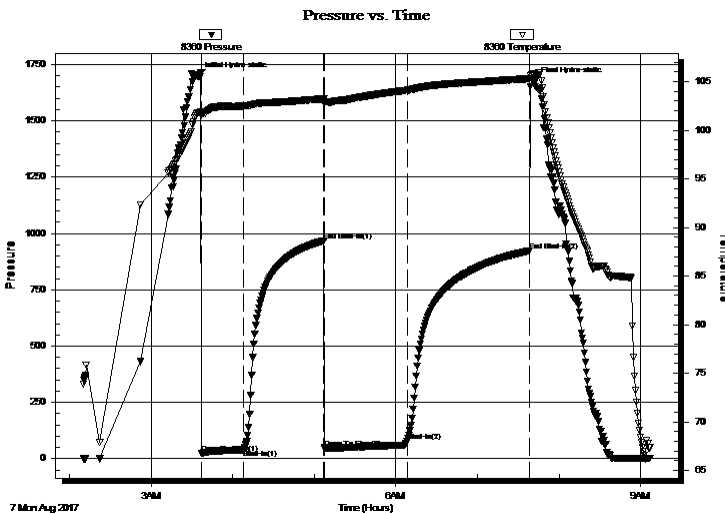
Serial #: 8360

Inside

Press@RunDepth: 76.39 psig @ 3532.00 ft (KB)
 Start Date: 2017.08.07 End Date: 2017.08.07
 Start Time: 02:10:29 End Time: 09:06:53
 Capacity: 8000.00 psig
 Last Calib.: 2017.08.07
 Time On Btm: 2017.08.07 @ 03:35:09
 Time Off Btm: 2017.08.07 @ 07:41:38

TEST COMMENT: 30-IFP-w k bl thru-out 1/2" to 3" bl
 60-ISIP-no bl bk
 60-FFP-w k bl thru-out 1/4" to 1 1/2" bl
 90-FSIP-no bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1697.92	101.79	Initial Hydro-static
3	24.15	101.62	Open To Flow (1)
33	40.08	102.50	Shut-In(1)
92	967.60	103.23	End Shut-In(1)
93	45.82	102.97	Open To Flow (2)
153	76.39	104.09	Shut-In(2)
244	923.28	105.30	End Shut-In(2)
247	1674.59	105.70	Final Hydro-static

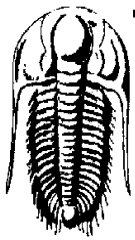
Recovery

Length (ft)	Description	Volume (bbl)
105.00	MO 35%M 65%O	1.20

* 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

12-6s-20w Rooks, KS

250 N. Water STE 300
Wichita KS 67202-1216

Gartrell #1-12

Job Ticket: 63009

DST#: 4

ATTN: Samam Sharifaie

Test Start: 2017.08.07 @ 02:10:29

GENERAL INFORMATION:

Formation: **Gorham Sd. & Reagan S**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:37:24

Time Test Ended: 09:06:53

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

Interval: 3528.00 ft (KB) To 3592.00 ft (KB) (TVD)

Total Depth: 3592.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2116.00 ft (KB)

2111.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8673 Outside

Press@RunDepth: psig @ 3532.00 ft (KB)

Start Date: 2017.08.07 End Date: 2017.08.07

Start Time: 02:10:41 End Time: 09:07:05

Capacity: 8000.00 psig

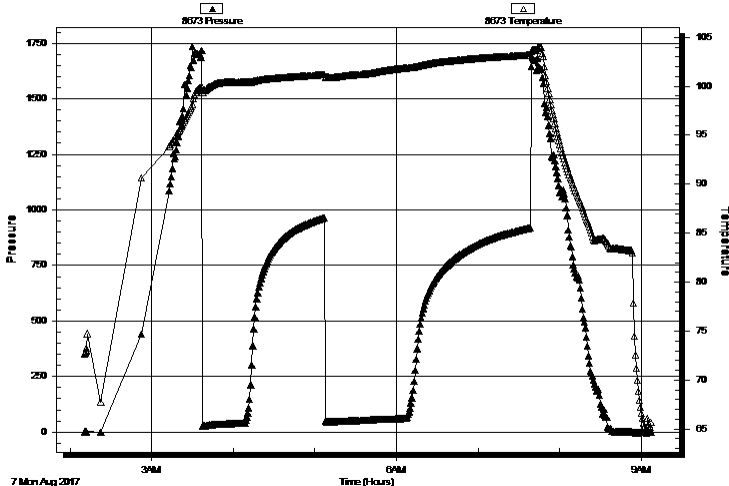
Last Calib.: 2017.08.07

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IFP-w k bl thru-out 1/2" to 3" bl
60-ISIP-no bl bk
60-FFP-w k bl thru-out 1/4" to 1 1/2" bl
90-FSIP-no bl bk

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
105.00	MO 35%M 65%O	1.20

* 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

12-6s-20w Rooks,KS

250 N. Water STE 300
Wichita KS 67202-1216

Gartrell #1-12

Job Ticket: 63009

DST#: 4

ATTN: Samam Sharifaie

Test Start: 2017.08.07 @ 02:10:29

Tool Information

Drill Pipe:	Length: 3484.00 ft	Diameter: 3.80 inches	Volume: 48.87 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 49.02 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3528.00 ft			Final 47000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	93.00 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			3500.00	
Shut In Tool	5.00			3505.00	
Hydraulic tool	5.00			3510.00	
Jars	5.00			3515.00	
Safety Joint	3.00			3518.00	
Packer	5.00			3523.00	29.00 Bottom Of Top Packer
Packer	5.00			3528.00	
Stubb	1.00			3529.00	
Perforations	3.00			3532.00	
Recorder	0.00	8360	Inside	3532.00	
Recorder	0.00	8673	Outside	3532.00	
Blank Spacing	33.00			3565.00	
Perforations	24.00			3589.00	
Bullnose	3.00			3592.00	64.00 Bottom Packers & Anchor

Total Tool Length: 93.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

12-6s-20w Rooks,KS

250 N. Water STE 300
Wichita KS 67202-1216

Gartrell #1-12

Job Ticket: 63009

DST#: 4

ATTN: Samam Sharifaie

Test Start: 2017.08.07 @ 02:10:29

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.16 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
105.00	MO 35%M 65%O	1.200

Total Length: 105.00 ft

Total Volume: 1.200 bbl

Num Fluid Samples: 0

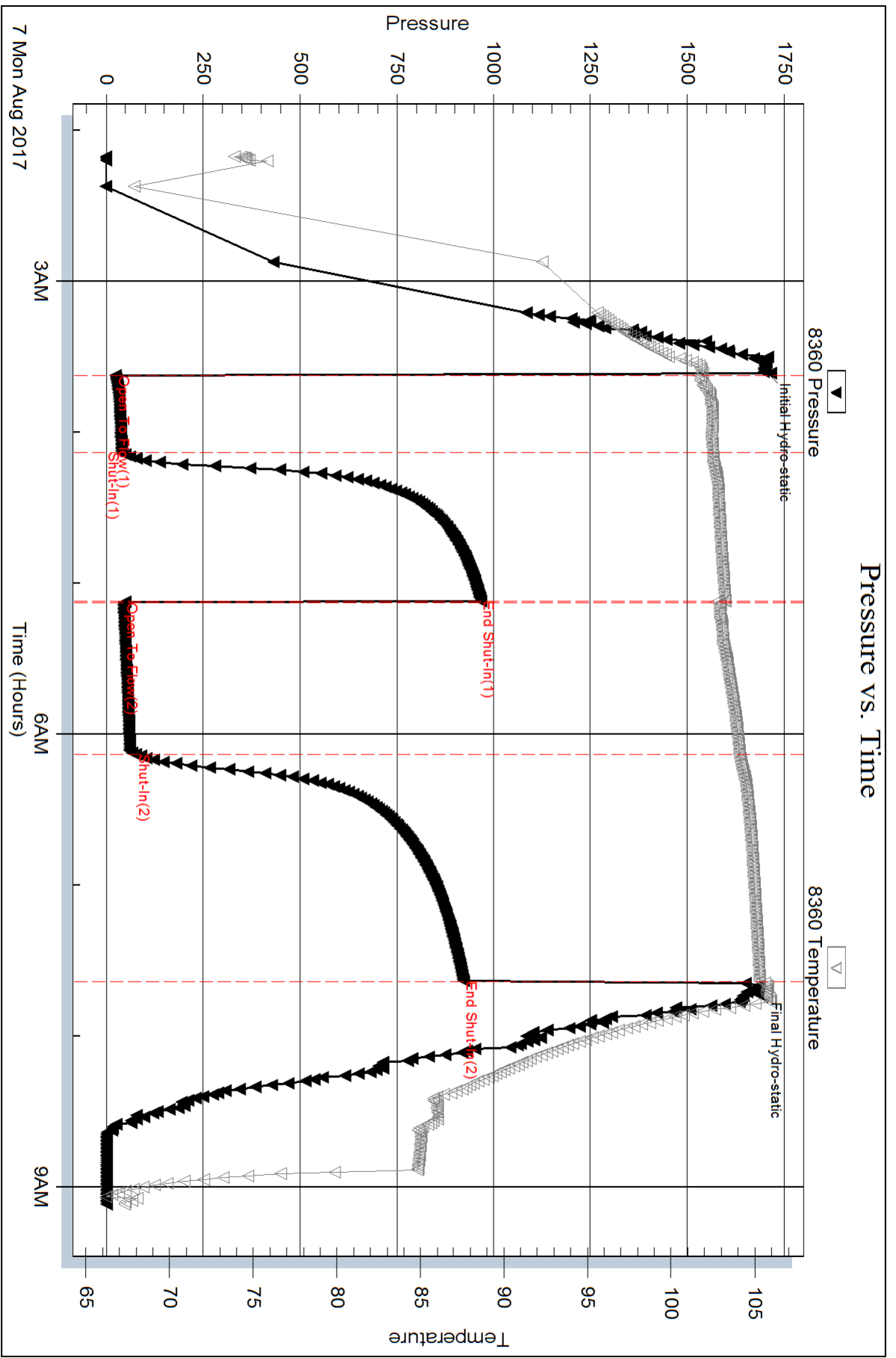
Num Gas Bombs: 0

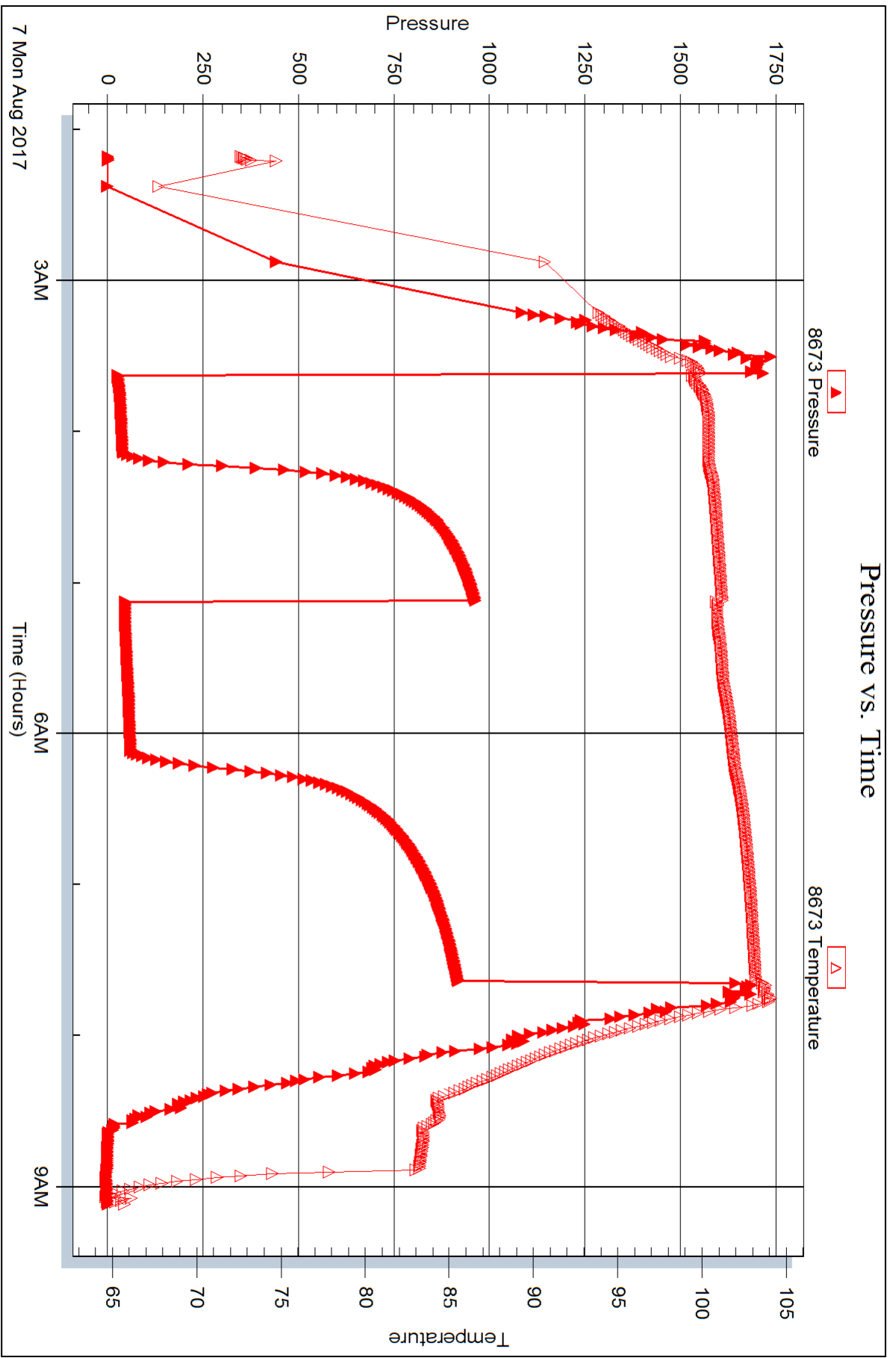
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300
Wichita KS 67202-1216

ATTN: Samam Sharifaie

Gartrell #1-12

12-6s-20w Rooks,KS

Start Date: 2017.08.07 @ 13:40:13

End Date: 2017.08.07 @ 20:02:37

Job Ticket #: 63010 DST #: 5

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

Printed: 2017.08.08 @ 08:45:30



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc
 250 N. Water STE 300
 Wichita KS 67202-1216
 ATTN: Samam Sharifaie

12-6s-20w Rooks,KS
Gartrell #1-12
 Job Ticket: 63010 **DST#: 5**
 Test Start: 2017.08.07 @ 13:40:13

GENERAL INFORMATION:

Formation: **Gorham Sd. & Reagan**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:33:08
 Time Test Ended: 20:02:37
 Interval: **3528.00 ft (KB) To 3617.00 ft (KB) (TVD)**
 Total Depth: 3617.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2116.00 ft (KB)
 2111.00 ft (CF)
 KB to GR/CF: 5.00 ft

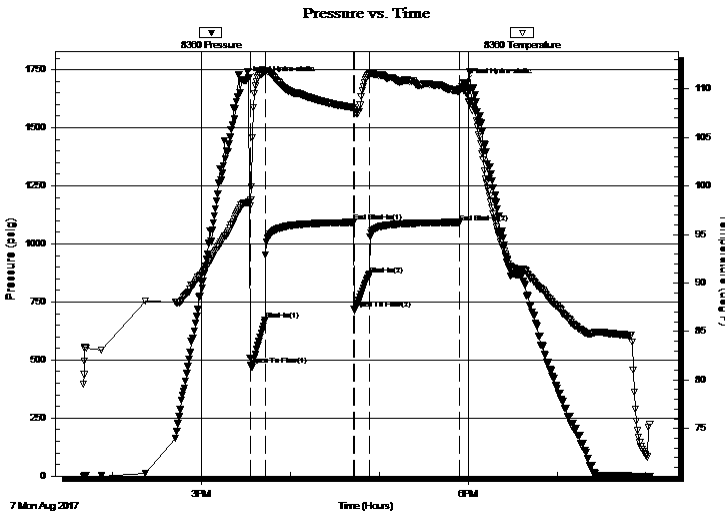
Serial #: 8360

Inside

Press@RunDepth: 867.94 psig @ 3530.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.08.07 End Date: 2017.08.07 Last Calib.: 2017.08.07
 Start Time: 13:40:13 End Time: 20:02:37 Time On Btm: 2017.08.07 @ 15:29:53
 Time Off Btm: 2017.08.07 @ 17:57:07

TEST COMMENT: 30-IFP-BOB thru-out
 60-ISIP-no bl bk
 10-FFP-BOB in 1 min
 60-FSIP-no bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1703.79	98.24	Initial Hydro-static
4	477.71	98.58	Open To Flow (1)
13	671.93	111.79	Shut-In(1)
73	1092.65	108.09	End Shut-In(1)
73	717.95	107.91	Open To Flow (2)
84	867.94	111.47	Shut-In(2)
145	1092.21	109.77	End Shut-In(2)
148	1694.03	109.90	Final Hydro-static

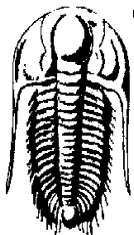
Recovery

Length (ft)	Description	Volume (bbl)
1395.00	Water	19.29
465.00	SOCMW 1%O20%M79%W	6.52

* 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

12-6s-20w Rooks,KS

250 N. Water STE 300
Wichita KS 67202-1216

Gartrell #1-12

ATTN: Samam Sharifaie

Job Ticket: 63010

DST#: 5

Test Start: 2017.08.07 @ 13:40:13

GENERAL INFORMATION:

Formation: **Gorham Sd. & Reagan**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:33:08

Time Test Ended: 20:02:37

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

Interval: **3528.00 ft (KB) To 3617.00 ft (KB) (TVD)**

Total Depth: 3617.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2116.00 ft (KB)

2111.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8673

Outside

Press@RunDepth: psig @ 3530.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.08.07

End Date:

2017.08.07

Last Calib.:

2017.08.07

Start Time: 13:40:37

End Time:

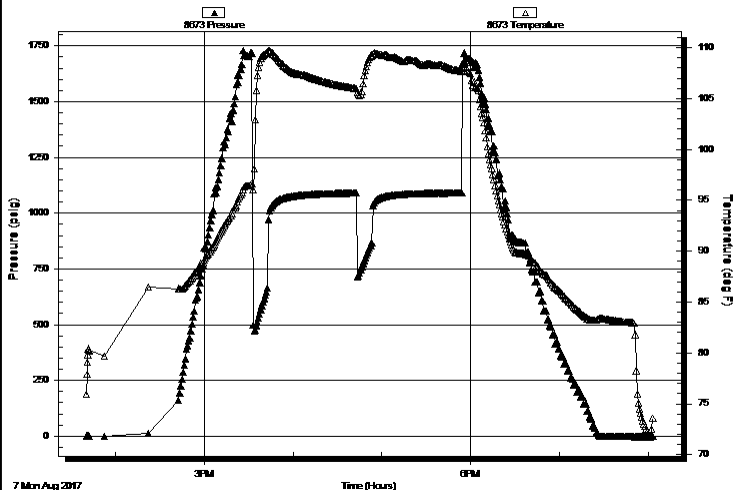
20:03:01

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IFP-BOB thru-out
60-ISIP-no bl bk
10-FFP-BOB in 1 min
60-FSIP-no bl bk

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1395.00	Water	19.29
465.00	SOCMW 1%O20%M79%W	6.52

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

12-6s-20w Rooks,KS

250 N. Water STE 300
Wichita KS 67202-1216

Gartrell #1-12

Job Ticket: 63010

DST#: 5

ATTN: Samam Sharifaie

Test Start: 2017.08.07 @ 13:40:13

Tool Information

Drill Pipe:	Length: 3484.00 ft	Diameter: 3.80 inches	Volume: 48.87 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 49.02 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3528.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	89.00 ft			
Tool Length:	118.00 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			3500.00	
Shut In Tool	5.00			3505.00	
Hydraulic tool	5.00			3510.00	
Jars	5.00			3515.00	
Safety Joint	3.00			3518.00	
Packer	5.00			3523.00	29.00 Bottom Of Top Packer
Packer	5.00			3528.00	
Stubb	1.00			3529.00	
Perforations	1.00			3530.00	
Recorder	0.00	8360	Inside	3530.00	
Recorder	0.00	8673	Outside	3530.00	
Blank Spacing	65.00			3595.00	
Perforations	19.00			3614.00	
Bullnose	3.00			3617.00	89.00 Bottom Packers & Anchor

Total Tool Length: 118.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

12-6s-20w Rooks,KS

250 N. Water STE 300
Wichita KS 67202-1216

Gartrell #1-12

Job Ticket: 63010

DST#: 5

ATTN: Samam Sharifaie

Test Start: 2017.08.07 @ 13:40:13

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:

58000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.74 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1395.00	Water	19.295
465.00	SOCMW 1%O20%M79%W	6.523

Total Length: 1860.00 ft Total Volume: 25.818 bbl

Num Fluid Samples: 0

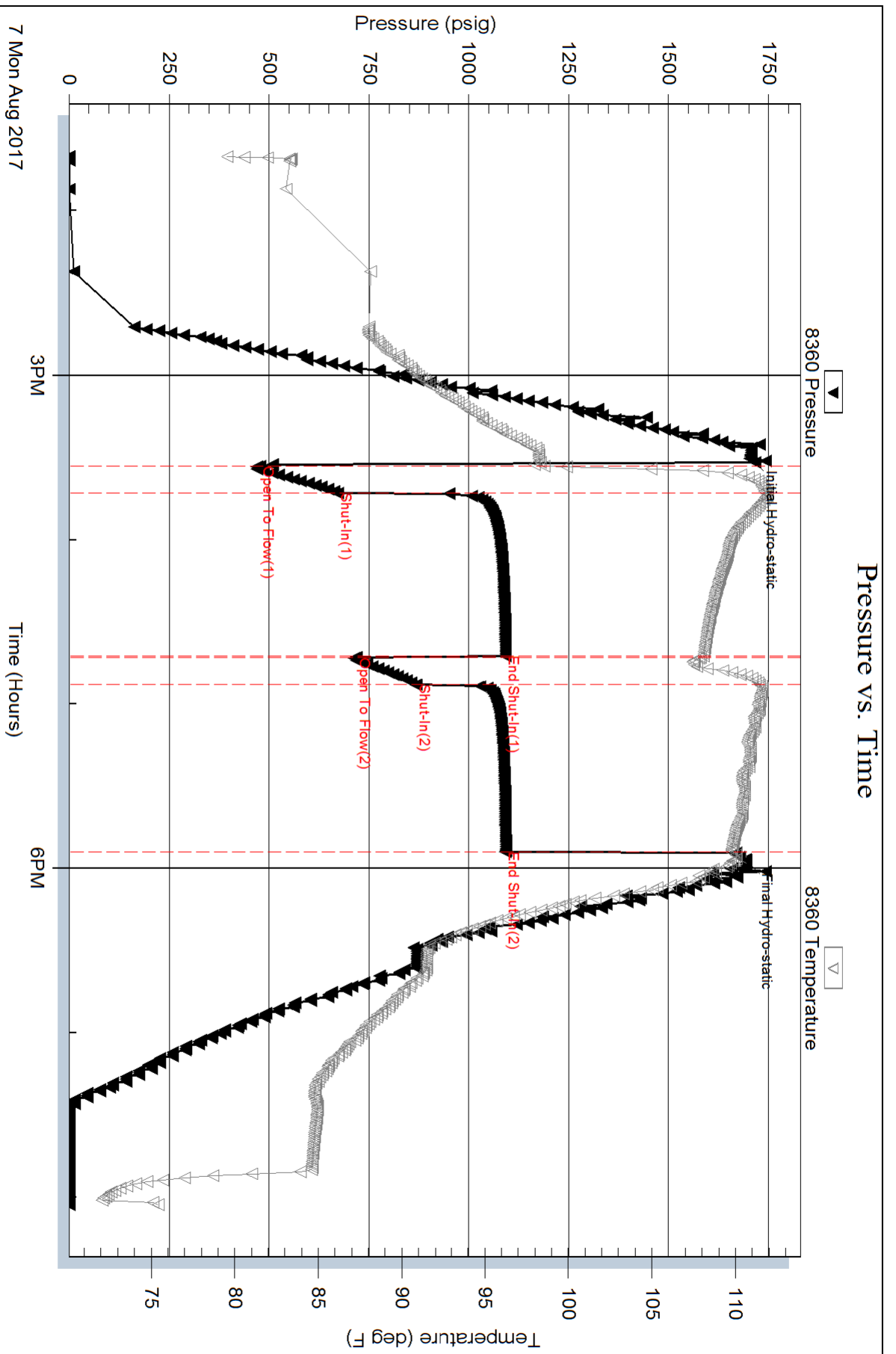
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW.12@75F



Serial #: 8673

Outside Murfin Drilling Co Inc

Gartrell #1-12

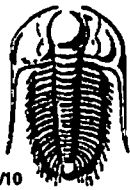
DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 63010

Printed: 2017.08.08 @ 08:45:34



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63006

Well Name & No. GARTRELL 1-12 Test No. 1 Date 8-4-12
 Company MURFIN DRILLING CO, INC Elevation 2116 KB 2111 GL
 Address 250 N. WATER STE 300 WICHITA, KS 67202-1216
 Co. Rep / Geo. SAMAM SHARIFAIE Rig MURFIN rig 16
 Location: Sec. 12 Twp. 6^s Rge. 20^w Co. ROOKS State Ks

Interval Tested 3225-3269 Zone Tested Oread
 Anchor Length 44 Drill Pipe Run 3198 Mud Wt. 8.6
 Top Packer Depth 3221 Drill Collars Run 30 Vis 61
 Bottom Packer Depth 3225 Wt. Pipe Run - WL 6.8
 Total Depth 3269 Chlorides 900 ppm System LCM -
 Blow Description IFP - WEAK BLOW THRU-OUT 1/4" TO 2 1/4" BLOW
ISTP - NO BLOW
FFP - WEAK BLOW THRU-OUT SURFACE TO 1/4" BLOW
FSTP - NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>MW</u>			<u>75</u>	<u>25</u>
<u>60</u>	<u>WATER</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 100 BHT 103 Gravity - API RW .15 @ 65 °F Chlorides 54000 ppm

(A) Initial Hydrostatic 1540 Test 1050
 (B) First Initial Flow 22 Jars 250
 (C) First Final Flow 41 Safety Joint 75
 (D) Initial Shut-In 1099 Circ Sub _____
 (E) Second Initial Flow 47 Hourly Standby _____
 (F) Second Final Flow 70 Mileage 125 RT 93.75
 (G) Final Shut-In 1087 Sampler _____
 (H) Final Hydrostatic 1510 Straddle _____

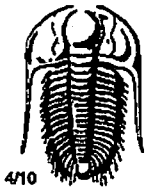
Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Extra Packer _____
 Final Flow 60 Extra Recorder _____
 Final Shut-In 90 Day Standby _____
 Accessibility _____

Sub Total 1468.75

T-On Location 1800
 T-Started 1925
 T-Open 2115
 T-Pulled 0115
 T-Out 0253
 Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1468.75
 MP/DST Disc't _____

Approved By _____

Our Representative RAY SCHWARTZ Thank you



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63007

Well Name & No. GARTRELL 1-12 Test No. 2 Date 8-5-17
 Company Murfin Drilling Co. Inc Elevation 2116 KB 2111 GL
 Address 250 N. WATER ST 300 WICHITA, KS 67202-1216
 Co. Rep / Geo. SAMAN SHARIFAIE Rig MURFIN RIG 16
 Location: Sec. 12 Twp. 6^s Rge. 20^w Co. ROOK State KO

Interval Tested 3330-3440 Zone Tested LKC A-G
 Anchor Length 110 Drill Pipe Run 3292 Mud Wt. 8.9
 Top Packer Depth 3325 Drill Collars Run 30 Vis 50
 Bottom Packer Depth 3330 Wt. Pipe Run - WL 6.8
 Total Depth 3440 Chlorides 1000 ppm System LCM -

Blow Description IFP - Weak Blow thru-out 1/4" To 1" Blow
TSIP - NO Blow
FFP - NO Blow first 20 min, Then Very Weak surface Blow
FSP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>CO</u>				
<u>90</u>	<u>MW</u>			<u>90</u>	<u>10</u>

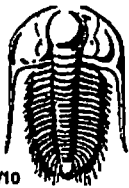
Rec Total 91 BHT 102 Gravity - API RW .12 @ 65 °F Chlorides 68000 ppm

(A) Initial Hydrostatic 1599 Test 1050 T-On Location 1830
 (B) First Initial Flow 25 Jars 250 T-Started 1855
 (C) First Final Flow 52 Safety Joint 75 T-Open 2025
 (D) Initial Shut-In 1077 Circ Sub _____ T-Pulled 2325
 (E) Second Initial Flow 56 Hourly Standby _____ T-Out 0058
 (F) Second Final Flow 73 Mileage 93.75 Comments _____
 (G) Final Shut-In 1032 Sampler _____
 (H) Final Hydrostatic 1580 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1468.75

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

Sub Total 1468.75
 Total 1468.75
 MP/DST Disc't _____

Approved By _____ Our Representative Ray Schwager *Thank you*



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63008

Well Name & No. GARTRELL 1-12 Test No. 3 Date 8-6-17
 Company MURFIN DRILLING CO INC Elevation 2116 KB 2111 GL
 Address 250 N. WATER STE 300 WICHITA, KS 67202-1216
 Co. Rep / Geo. SAMAN SHARIFAIE Rig MURFIN RIG 16
 Location: Sec. 12 Twp. 6^s Rge. 20^w Co. ROOKS State Ks

Interval Tested 3445-3510 Zone Tested LKC
 Anchor Length 65 Drill Pipe Run 3418 Mud Wt. 9
 Top Packer Depth 3440 Drill Collars Run 30 Vis 52
 Bottom Packer Depth 3445 Wt. Pipe Run - WL 6.8
 Total Depth 3510 Chlorides 1000 ppm System LCM -

Blow Description TFP - WEAK BLOW THRU-OUT 1/4" TO 1/2" BLOW
TSIP - NO BLOW
FFP - NO BLOW
FSIP - NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>HOCM</u>		<u>35</u>		<u>65</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 102 Gravity - API RW - @ - °F Chlorides - ppm

- (A) Initial Hydrostatic 1662
- (B) First Initial Flow 20
- (C) First Final Flow 21
- (D) Initial Shut-In 520
- (E) Second Initial Flow 26
- (F) Second Final Flow 29
- (G) Final Shut-In 286
- (H) Final Hydrostatic 1648

- Test 1050
- Jars 250
- Safety Joint 75
- Circ Sub
- Hourly Standby
- Mileage 93.75
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1468.75

T-On Location 1000
 T-Started 1020
 T-Open 1145
 T-Pulled 1445
 T-Out 1604

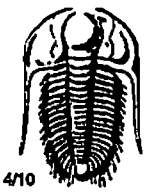
Comments _____
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1468.75
 MP/DST Disc't _____

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

Approved By _____

Our Representative

Rayschwager THANK YOU



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63009

Well Name & No. GARTREK 1-12 Test No. 4 Date 8-7-17
 Company MURFIN DRILLING Co. Inc Elevation 2116 KB 2111 GL
 Address 250 N. WATER STE 300 WICHITA, KS 67202-1216
 Co. Rep / Geo. SAMAN SHARIFA Rig MURFIN RIG 16
 Location: Sec. 12 Twp. 6^S Rge. 20^W Co. ROOKS State KO

Interval Tested 3528-3592 Zone Tested GORHAM SD + REAGAN SD
 Anchor Length 64 Drill Pipe Run 3484 Mud Wt. 9
 Top Packer Depth 3523 Drill Collars Run 30 Vis 53
 Bottom Packer Depth 3528 Wt. Pipe Run - WL 7.2
 Total Depth 3592 Chlorides 1200 ppm System LCM 2#
 Blow Description IFP - WEAK BLOW THRU-OUT 1/2" TO 3" BLOW
ISIP - NO BLOW
FFP - WEAK BLOW THRU-OUT
FSIP -

Rec	Feet of	%gas	%oil	%water	%mud
<u>105</u>	<u>MO</u>	<u>65</u>		<u>35</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

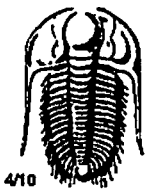
Rec Total 105 BHT 105 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>1697</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>0200</u>
(B) First Initial Flow <u>24</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0210</u>
(C) First Final Flow <u>40</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0335</u>
(D) Initial Shut-In <u>967</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>0735</u>
(E) Second Initial Flow <u>45</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0906</u>
(F) Second Final Flow <u>76</u>	<input checked="" type="checkbox"/> Mileage <u>93.75</u>	Comments
(G) Final Shut-In <u>923</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1674</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
	<input type="checkbox"/> Day Standby	Total <u>1468.75</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1468.75</u>	

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

Approved By _____

Our Representative RAY SCHWAGG Thank you



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63010

Well Name & No. GARTRELL 1-12 Test No. 5 Date 8-7-17
 Company MURFIN DRILLING CO INC Elevation 2116 KB 2111 GL
 Address 250 N. WATER ST E 300 WICHITA, KS 67202-1216
 Co. Rep / Geo. SAMAN SHARIFAIE Rig MURFIN RIG 16
 Location: Sec. 12 Twp. 6^s Rge. 20^w Co. ROOKS State Ks

Interval Tested 3528-3617 Zone Tested GORHAN SD. + REAGAN SD
 Anchor Length 89 Drill Pipe Run 3484 Mud Wt. 9
 Top Packer Depth 3523 Drill Collars Run 30 Vis 49
 Bottom Packer Depth 3528 Wt. Pipe Run - WL 6.8
 Total Depth 3617 Chlorides 1200 ppm System LCM 2#

Blow Description IFP - STRONG BLOW THEN OUT
ISIP - NO BLOW BACK
FFP - BOB IN 1 MIN
FSIP - NO BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>465</u>	<u>50 CMU</u>	<u>1</u>	<u>79</u>	<u>20</u>	
<u>1395</u>	<u>WATER</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1860 BHT 109 Gravity - API RW .12 @ 75 °F Chlorides 58000 ppm
 (A) Initial Hydrostatic 1703 Test 1050 T-On Location 1300
 (B) First Initial Flow 477 Jars 250 T-Started 1340
 (C) First Final Flow 671 Safety Joint 75 T-Open 1535
 (D) Initial Shut-In 1092 Circ Sub _____ T-Pulled 1755
 (E) Second Initial Flow 717 Hourly Standby _____ T-Out 2002
 (F) Second Final Flow 867 Mileage 93.75 Comments _____
 (G) Final Shut-In 1092 Sampler _____
 (H) Final Hydrostatic 1694 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 10
 Initial Shut-In 60
 Final Flow 10
 Final Shut-In 60

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1468.75
 MP/DST Disc't _____

Approved By _____ Our Representative RAY SCHWAGER THANK YOU