



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Jeff Christian

Hatch 'A' #1-1

1-2s-37w Cheyenne,KS

Start Date: 2016.10.22 @ 17:00:00

End Date: 2016.10.23 @ 01:15:30

Job Ticket #: 61187 DST #: 1

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

Printed: 2016.10.27 @ 11:53:37



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61187

DST#: 1

ATTN: Jeff Christian

Test Start: 2016.10.22 @ 17:00:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:52:15

Time Test Ended: 01:15:30

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

Interval: 4179.00 ft (KB) To 4257.00 ft (KB) (TVD)

Reference Elevations: 3379.00 ft (KB)

Total Depth: 4257.00 ft (KB) (TVD)

3374.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: 231.59 psig @ 4180.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.10.22

End Date:

2016.10.23

Last Calib.:

2016.10.23

Start Time:

17:00:05

End Time:

01:15:29

Time On Btm:

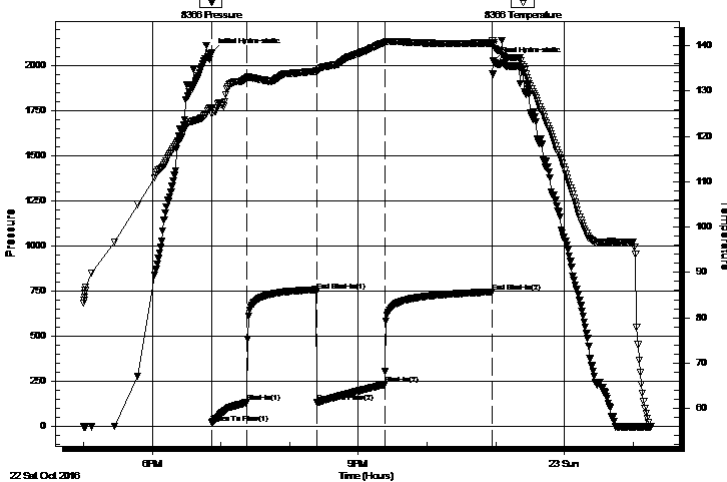
2016.10.22 @ 18:52:00

Time Off Btm:

2016.10.22 @ 22:58:00

TEST COMMENT: 30 - IF: 1/2" Blow at open, built to BOB (11") at 26 1/4 min.
60 - IS: No blow back
60 - FF: Blow started at 2 min., built to BOB at 36 1/4 min.
90 - FS: No blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2068.89	126.22	Initial Hydro-static
1	19.09	125.00	Open To Flow (1)
31	132.57	132.91	Shut-In(1)
92	750.71	134.41	End Shut-In(1)
92	132.71	134.17	Open To Flow (2)
151	231.59	140.74	Shut-In(2)
245	744.53	140.61	End Shut-In(2)
246	2023.86	140.66	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
175.00	MCW w/trace oil 79%w, 21%m	1.06
125.00	MCW w/trace oil 62%w, 38%m	1.75
170.00	WCM w/trace oil 88%m, 12%w	2.38

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61187

DST#: 1

ATTN: Jeff Christian

Test Start: 2016.10.22 @ 17:00:00

Tool Information

Drill Pipe:	Length: 3988.00 ft	Diameter: 3.80 inches	Volume: 55.94 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: 175.00 ft	Diameter: 2.50 inches	Volume: 1.06 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 57.00 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4179.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	78.00 ft			
Tool Length:	107.00 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			4151.00	
Shut In Tool	5.00			4156.00	
Hydraulic tool	5.00			4161.00	
Jars	5.00			4166.00	
Safety Joint	3.00			4169.00	
Packer	5.00			4174.00	29.00 Bottom Of Top Packer
Packer	5.00			4179.00	
Stubb	1.00			4180.00	
Recorder	0.00	6625	Inside	4180.00	
Recorder	0.00	8366	Outside	4180.00	
Perforations	10.00			4190.00	
Blank Spacing	64.00			4254.00	
Bullnose	3.00			4257.00	78.00 Bottom Packers & Anchor

Total Tool Length: 107.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61187

DST#: 1

ATTN: Jeff Christian

Test Start: 2016.10.22 @ 17:00:00

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:

16000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.56 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
175.00	MCW w /trace oil 79%w , 21%m	1.062
125.00	MCW w /trace oil 62%w , 38%m	1.753
170.00	WCM w /trace oil 88%m, 12%w	2.385

Total Length: 470.00 ft Total Volume: 5.200 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

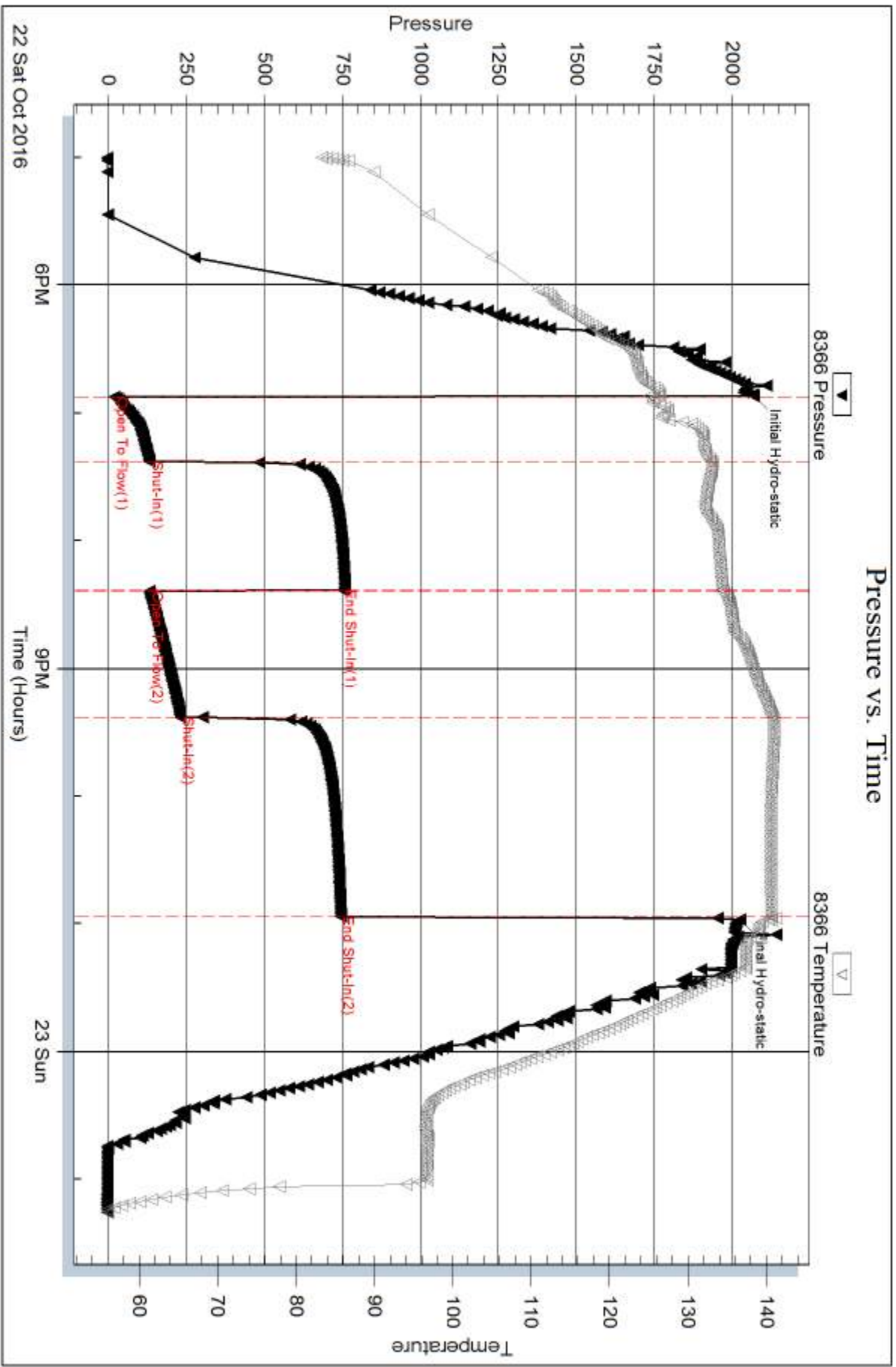
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .570 ohms @ 51.5 deg F

Chlorides = 16,000 ppm



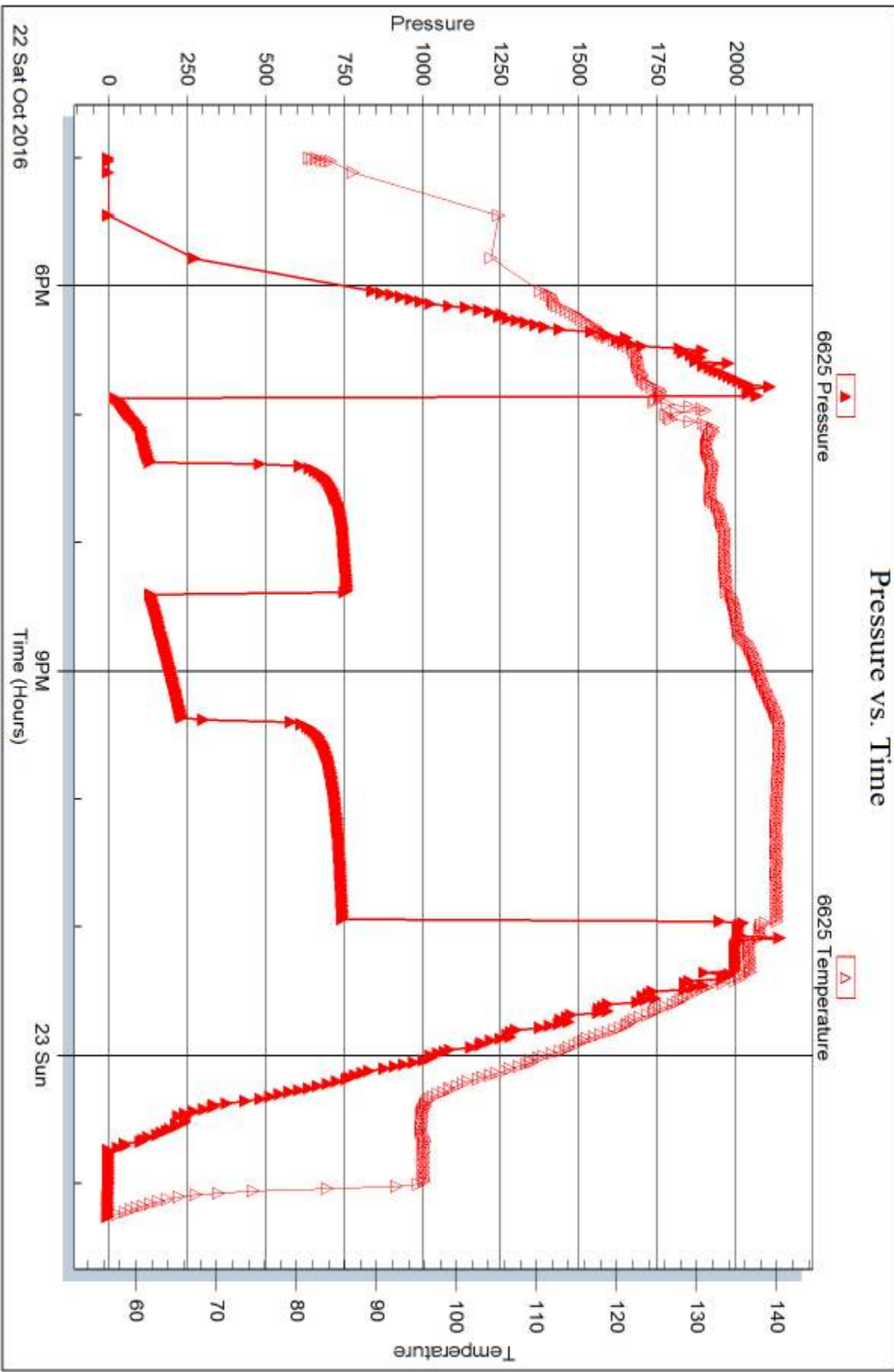
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Hatch 'A' #1-1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 61187

Printed: 2016.10.27 @ 11:53:39



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Jeff Christian

Hatch 'A' #1-1

1-2s-37w Cheyenne,KS

Start Date: 2016.10.23 @ 14:12:00

End Date: 2016.10.23 @ 22:27:15

Job Ticket #: 61188 DST #: 2

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

Printed: 2016.10.27 @ 11:53:09

Murfin Drilling Co., Inc. 1-2s-37w Cheyenne,KS Hatch 'A' #1-1 DST # 2 LKC "A - D" 2016.10.23



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

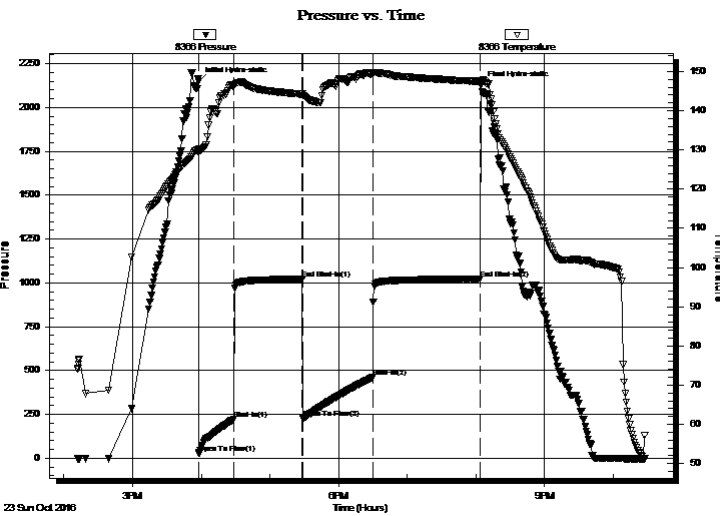
1-2s-37w Cheyenne,KS
Hatch 'A' #1-1
 Job Ticket: 61188 **DST#: 2**
 Test Start: 2016.10.23 @ 14:12:00

GENERAL INFORMATION:

Formation: **LKC "A - D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:58:00
 Time Test Ended: 22:27:15
 Interval: **4259.00 ft (KB) To 4391.00 ft (KB) (TVD)**
 Total Depth: 4257.00 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: 3379.00 ft (KB)
 3374.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8366 Outside
 Press@RunDepth: 460.91 psig @ 4260.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.10.23 End Date: 2016.10.23 Last Calib.: 2016.10.23
 Start Time: 14:12:05 End Time: 22:27:14 Time On Btm: 2016.10.23 @ 15:57:45
 Time Off Btm: 2016.10.23 @ 20:04:15

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 10 1/4 min.
 60 - IS: No blow back
 60 - FF: Blow started at 1 1/2 min., built to BOB at 14 3/4 min.
 90 - FS: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2147.57	130.16	Initial Hydro-static
1	27.47	129.30	Open To Flow (1)
31	222.04	146.19	Shut-In(1)
91	1020.84	144.21	End Shut-In(1)
91	226.53	143.86	Open To Flow (2)
152	460.91	149.55	Shut-In(2)
246	1021.97	147.49	End Shut-In(2)
247	2126.12	147.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
675.00	Watery Mud w /trace oil 60%w, 40%w	8.08
295.00	Mud 100% w /trace oil	4.14

* 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.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61188

DST#: 2

ATTN: Jeff Christian

Test Start: 2016.10.23 @ 14:12:00

Tool Information

Drill Pipe:	Length: 4081.00 ft	Diameter: 3.80 inches	Volume: 57.25 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 175.00 ft	Diameter: 2.50 inches	Volume: 1.06 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 58.31 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4259.00 ft			Final 62000.00 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			4231.00	
Shut In Tool	5.00			4236.00	
Hydraulic tool	5.00			4241.00	
Jars	5.00			4246.00	
Safety Joint	3.00			4249.00	
Packer	5.00			4254.00	29.00 Bottom Of Top Packer
Packer	5.00			4259.00	
Stubb	1.00			4260.00	
Recorder	0.00	6625	Inside	4260.00	
Recorder	0.00	8366	Outside	4260.00	
Perforations	10.00			4270.00	
Blank Spacing	95.00			4365.00	
Perforations	23.00			4388.00	
Bullnose	3.00			4391.00	132.00 Bottom Packers & Anchor

Total Tool Length: 161.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61188

DST#: 2

ATTN: Jeff Christian

Test Start: 2016.10.23 @ 14:12:00

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:

14000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.97 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
675.00	Watery Mud w/trace oil 60%w, 40%w	8.076
295.00	Mud 100% w/trace oil	4.138

Total Length: 970.00 ft Total Volume: 12.214 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

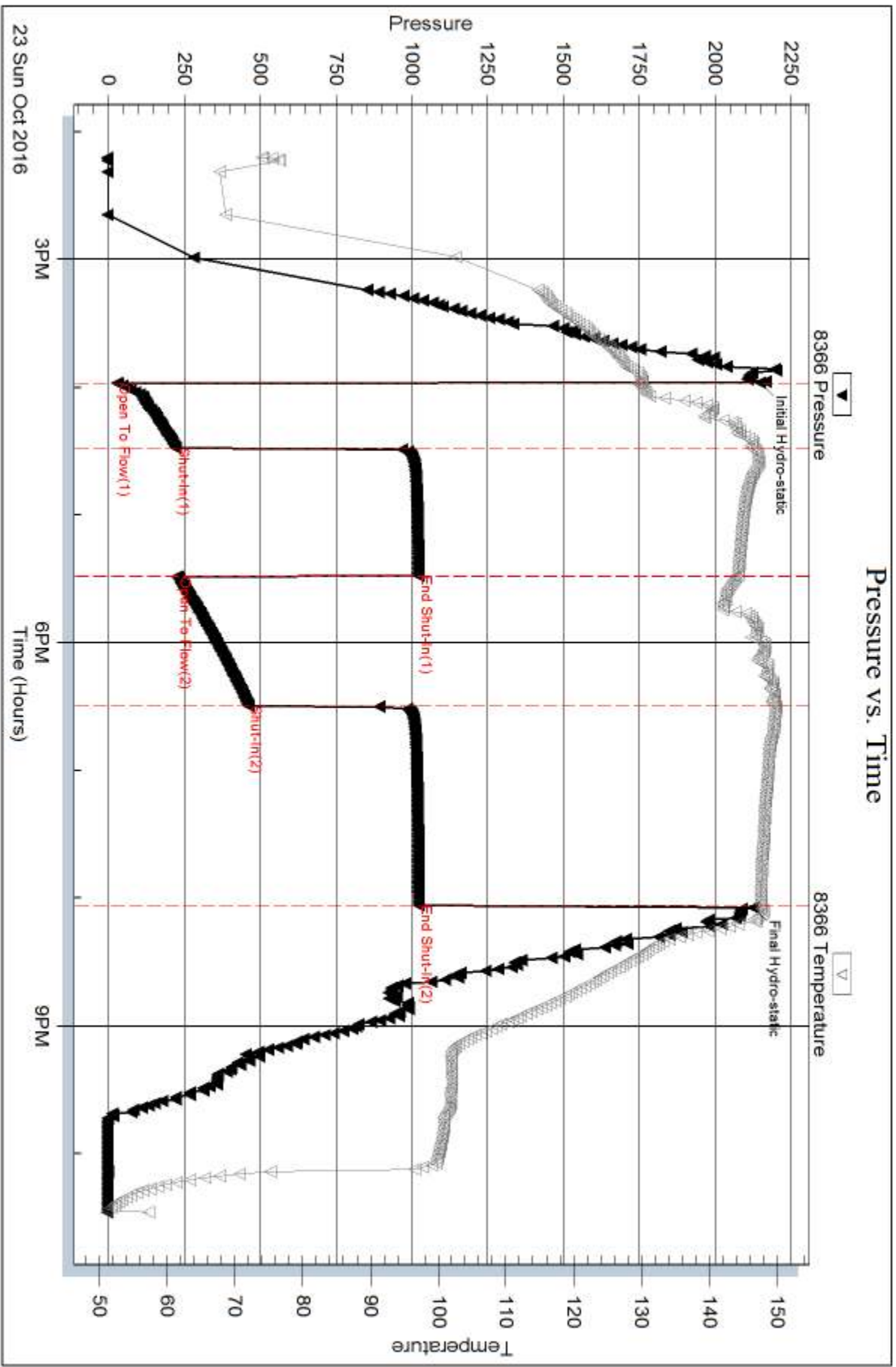
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .663 ohms @ 49.5 deg F

Chlorides = 14,000 ppm



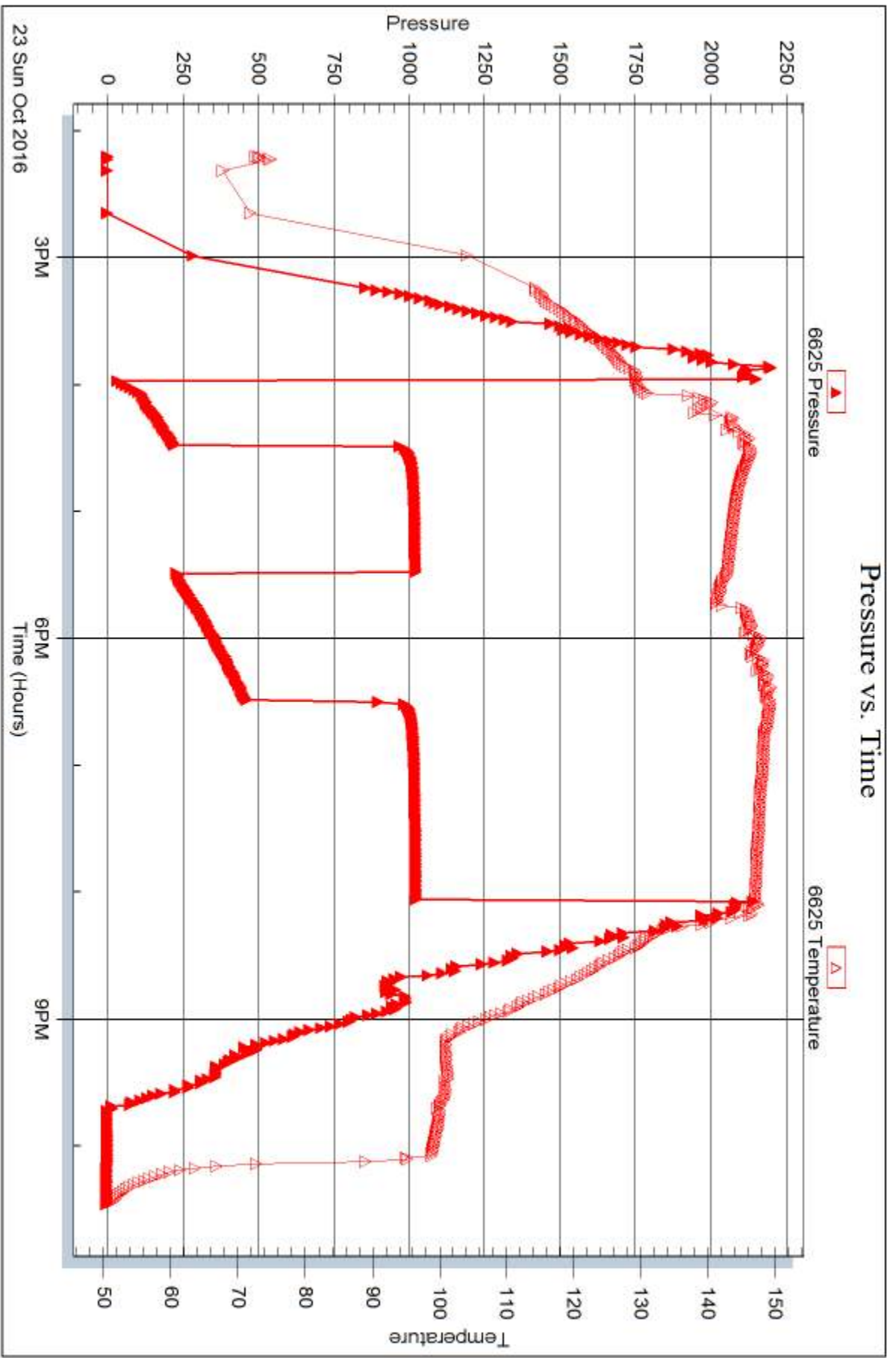
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Hatch 'A' #1-1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 61188

Printed: 2016.10.27 @ 11:53:11



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Jeff Christian

Hatch 'A' #1-1

1-2s-37w Cheyenne,KS

Start Date: 2016.10.24 @ 07:24:05

End Date: 2016.10.24 @ 14:21:14

Job Ticket #: 61189 DST #: 3

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

Printed: 2016.10.27 @ 11:39:38



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

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

1-2s-37w Cheyenne,KS

Hatch 'A' #1-1

Job Ticket: 61189

DST#: 3

Test Start: 2016.10.24 @ 07:24:05

GENERAL INFORMATION:

Formation: **LKC "G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:12:15
 Time Test Ended: 14:21:14
 Interval: **4392.00 ft (KB) To 4448.00 ft (KB) (TVD)**
 Total Depth: 4448.00 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: 3379.00 ft (KB)
 3374.00 ft (CF)
 KB to GR/CF: 5.00 ft

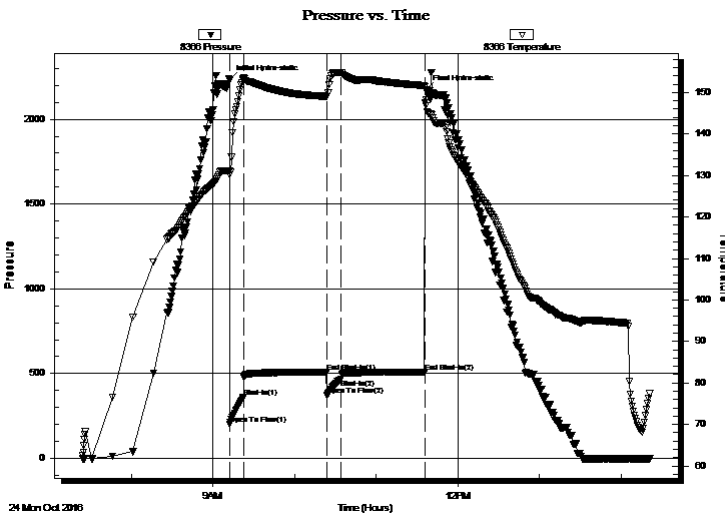
Serial #: 8366

Outside

Press@RunDepth: 465.86 psig @ 4393.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.10.24 End Date: 2016.10.24 Last Calib.: 2016.10.24
 Start Time: 07:24:05 End Time: 14:21:14 Time On Btm: 2016.10.24 @ 09:12:00
 Time Off Btm: 2016.10.24 @ 11:36:30

TEST COMMENT: 10 - IF: Blow built to BOB (11") at 1 3/4 min
 60 - IS: No blow back
 10 - FF: Blow built to 8" (loose hose connection)
 60 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2231.65	131.16	Initial Hydro-static
1	201.20	130.21	Open To Flow (1)
11	360.23	153.30	Shut-In(1)
72	508.93	149.06	End Shut-In(1)
72	371.28	148.98	Open To Flow (2)
82	465.86	154.74	Shut-In(2)
144	509.02	151.59	End Shut-In(2)
145	2172.98	148.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	SOMCW 94%w , 3%o, 3%m	2.82
375.00	SO/MCW 69%w , 19%m, 8%o, 4%g	5.26
340.00	SOCM 91%m, 6%o, 3%g	4.77
1.00	Free Oil 99%o, 1%m	0.01

* 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.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61189

DST#: 3

ATTN: Jeff Christian

Test Start: 2016.10.24 @ 07:24:05

Tool Information

Drill Pipe:	Length: 4206.00 ft	Diameter: 3.80 inches	Volume: 59.00 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: 175.00 ft	Diameter: 2.50 inches	Volume: 1.06 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 60.06 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4392.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	85.00 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			4364.00	
Shut In Tool	5.00			4369.00	
Hydraulic tool	5.00			4374.00	
Jars	5.00			4379.00	
Safety Joint	3.00			4382.00	
Packer	5.00			4387.00	29.00 Bottom Of Top Packer
Packer	5.00			4392.00	
Stubb	1.00			4393.00	
Recorder	0.00	6625	Inside	4393.00	
Recorder	0.00	8366	Outside	4393.00	
Perforations	15.00			4408.00	
Blank Spacing	33.00			4441.00	
Perforations	4.00			4445.00	
Bullnose	3.00			4448.00	56.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61189

DST#: 3

ATTN: Jeff Christian

Test Start: 2016.10.24 @ 07:24:05

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

27.8 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

14000 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 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
300.00	SOMCW 94%w , 3%o, 3%m	2.816
375.00	SO/MCW 69%w , 19%m, 8%o, 4%g	5.260
340.00	SOCM 91%m, 6%o, 3%g	4.769
1.00	Free Oil 99%o, 1%m	0.014

Total Length: 1016.00 ft Total Volume: 12.859 bbl

Num Fluid Samples: 0

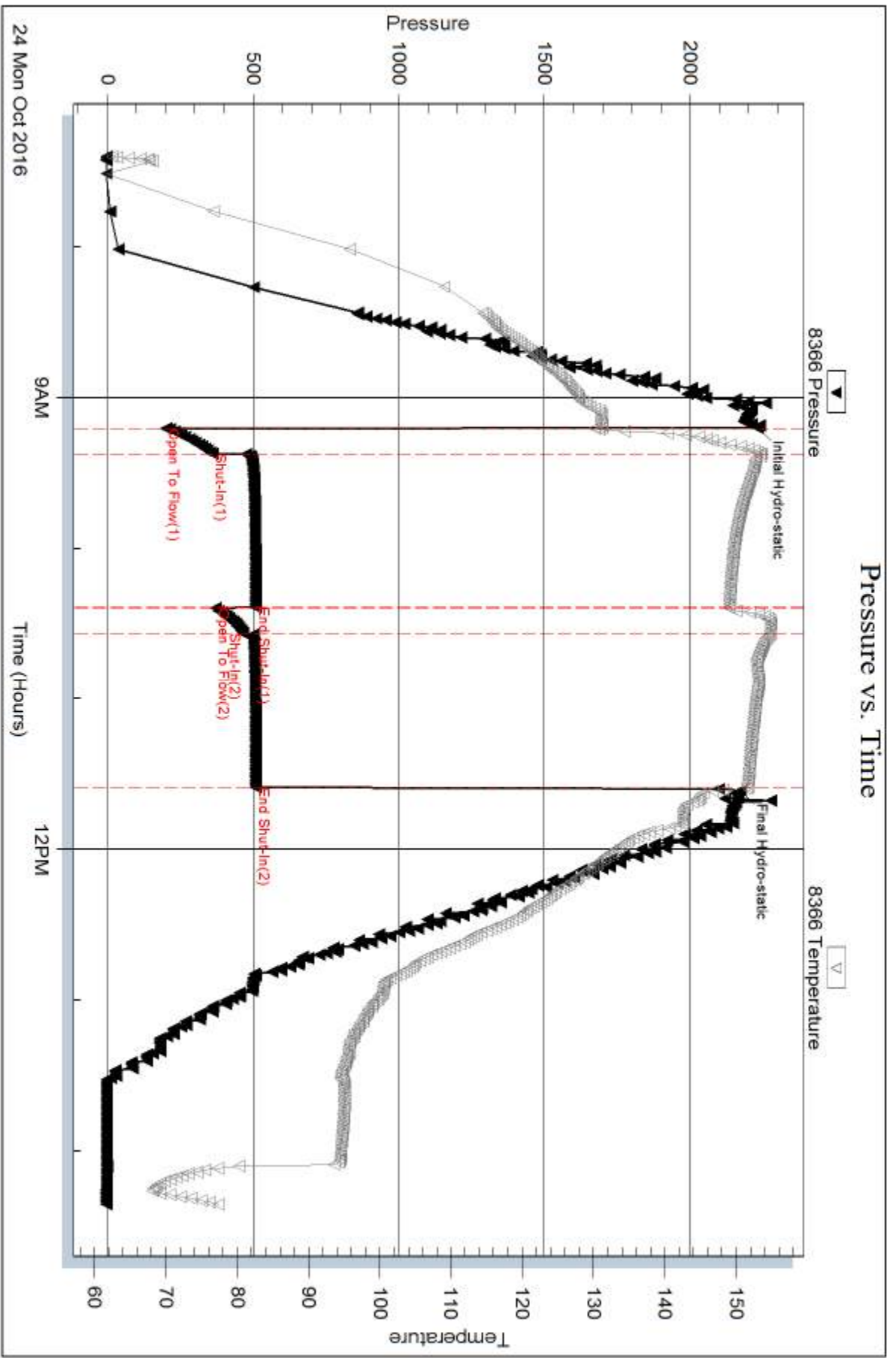
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 29.4 api @ 76 deg F Corrected Gravity = 27.8 api
RW = .452 ohms @ 72.4 deg F Chlorides = 14,000 ppm



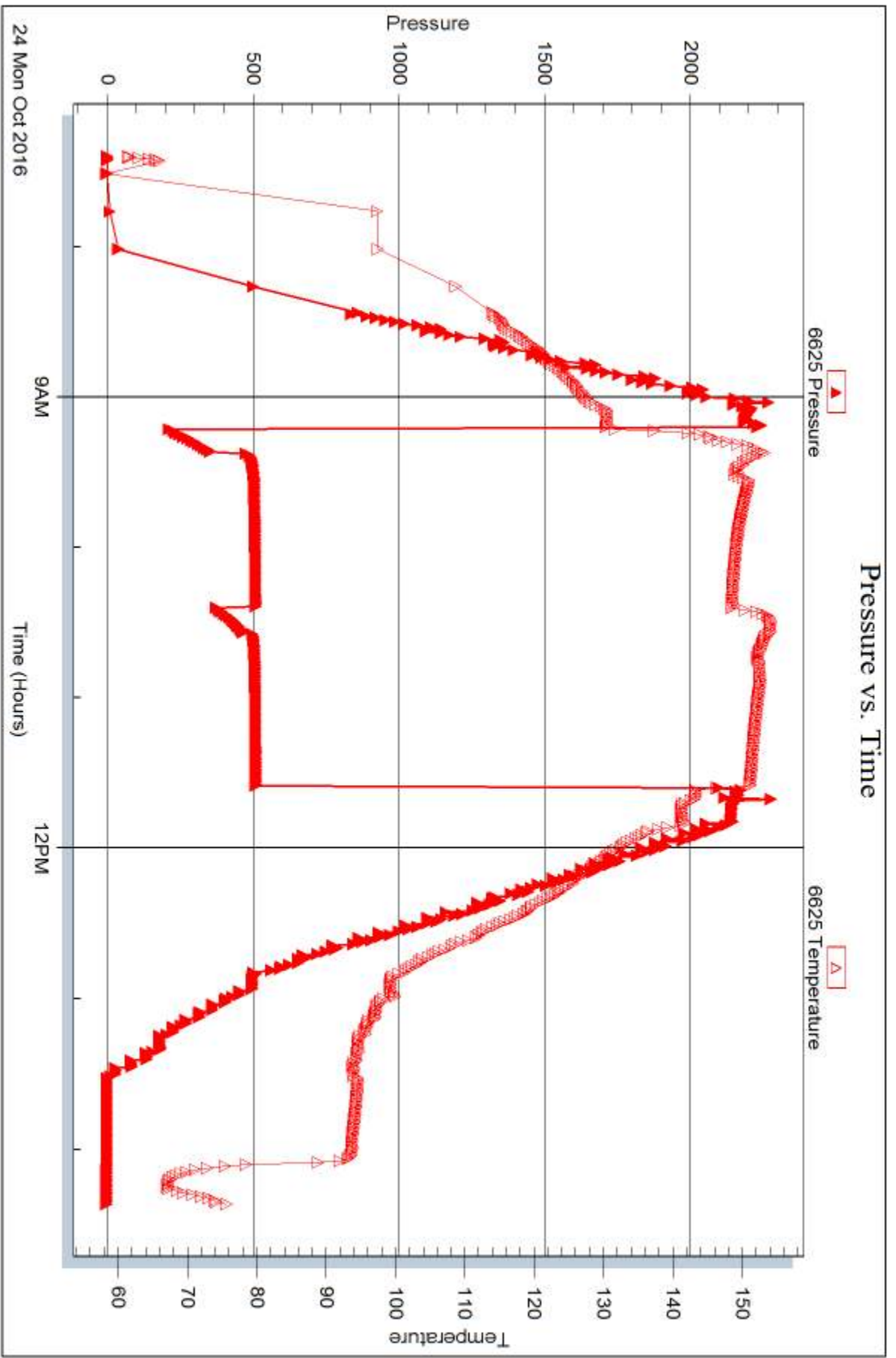
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Hatch 'A' #1-1

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 61189

Printed: 2016.10.27 @ 11:39:43



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Jeff Christian

Hatch 'A' #1-1

1-2s-37w Cheyenne,KS

Start Date: 2016.10.25 @ 02:18:00

End Date: 2016.10.25 @ 09:26:15

Job Ticket #: 61190 DST #: 4

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

Printed: 2016.10.27 @ 11:36:51

Murfin Drilling Co., Inc.
1-2s-37w Cheyenne,KS
Hatch 'A' #1-1
DST # 4
LKC "H - J"
2016.10.25



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

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

1-2s-37w Cheyenne,KS

Hatch 'A' #1-1

Job Ticket: 61190 **DST#: 4**
 Test Start: 2016.10.25 @ 02:18:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:16:45
 Time Test Ended: 09:26:15
 Interval: **4449.00 ft (KB) To 4538.00 ft (KB) (TVD)**
 Total Depth: 4538.00 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: 3379.00 ft (KB)
 3374.00 ft (CF)
 KB to GR/CF: 5.00 ft

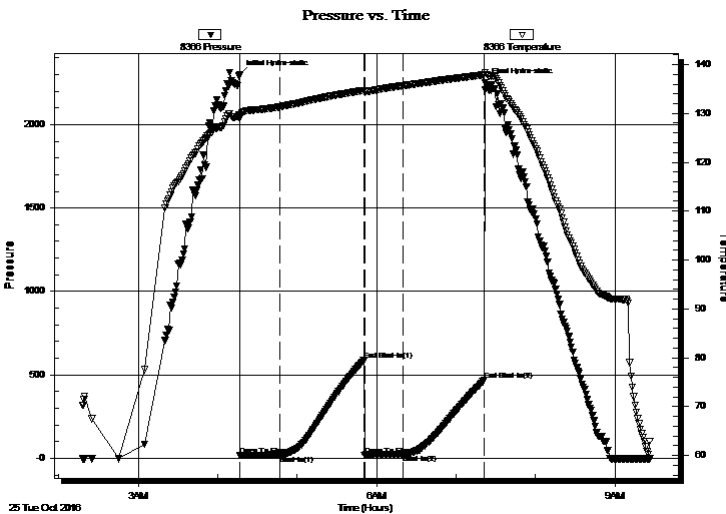
Serial #: 8366

Outside

Press@RunDepth: 22.98 psig @ 4450.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.10.25 End Date: 2016.10.25 Last Calib.: 2016.10.25
 Start Time: 02:18:05 End Time: 09:26:14 Time On Btm: 2016.10.25 @ 04:16:30
 Time Off Btm: 2016.10.25 @ 07:22:00

TEST COMMENT: 30 - IF: Blow built to 1", slow ly dying back at end of open
 60 - IS!: No blow back
 30 - FF: No blow
 60 - FS!: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2298.18	129.73	Initial Hydro-static
1	17.63	128.94	Open To Flow (1)
31	19.92	131.35	Shut-In(1)
94	587.76	134.70	End Shut-In(1)
95	20.05	134.38	Open To Flow (2)
124	22.98	135.66	Shut-In(2)
185	466.35	137.87	End Shut-In(2)
186	2250.26	138.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud w /trace of oil	0.03

* 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.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61190

DST#: 4

ATTN: Jeff Christian

Test Start: 2016.10.25 @ 02:18:00

Tool Information

Drill Pipe:	Length: 4269.00 ft	Diameter: 3.80 inches	Volume: 59.88 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: 175.00 ft	Diameter: 2.50 inches	Volume: 1.06 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 60.94 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4449.00 ft			Final 58000.00 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			4421.00	
Shut In Tool	5.00			4426.00	
Hydraulic tool	5.00			4431.00	
Jars	5.00			4436.00	
Safety Joint	3.00			4439.00	
Packer	5.00			4444.00	29.00 Bottom Of Top Packer
Packer	5.00			4449.00	
Stubb	1.00			4450.00	
Recorder	0.00	6625	Inside	4450.00	
Recorder	0.00	8366	Outside	4450.00	
Perforations	19.00			4469.00	
Blank Spacing	64.00			4533.00	
Perforations	2.00			4535.00	
Bullnose	3.00			4538.00	89.00 Bottom Packers & Anchor

Total Tool Length: 118.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61190

DST#: 4

ATTN: Jeff Christian

Test Start: 2016.10.25 @ 02:18:00

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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 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
5.00	Mud w /trace of oil	0.030

Total Length: 5.00 ft Total Volume: 0.030 bbl

Num Fluid Samples: 0

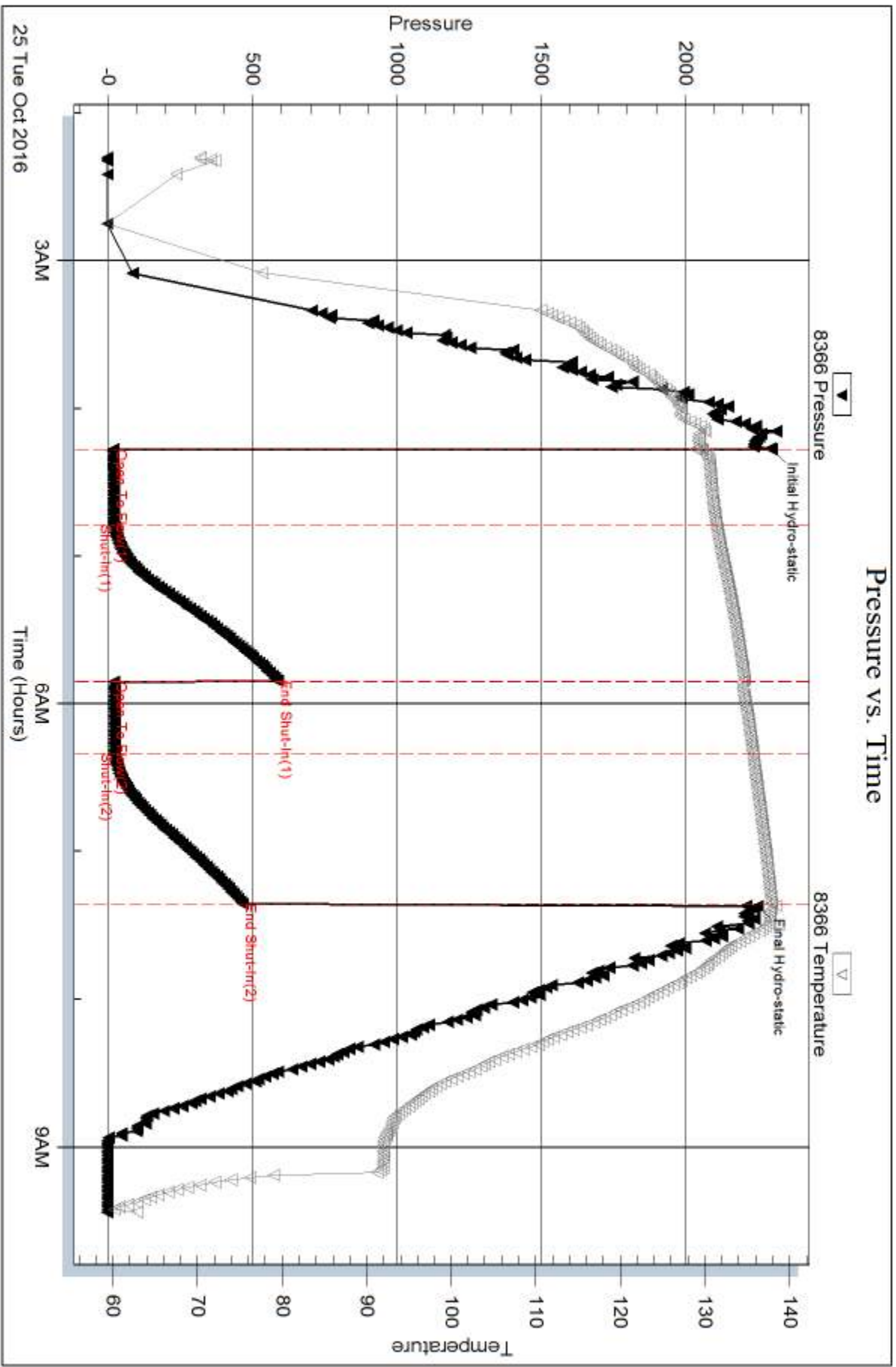
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



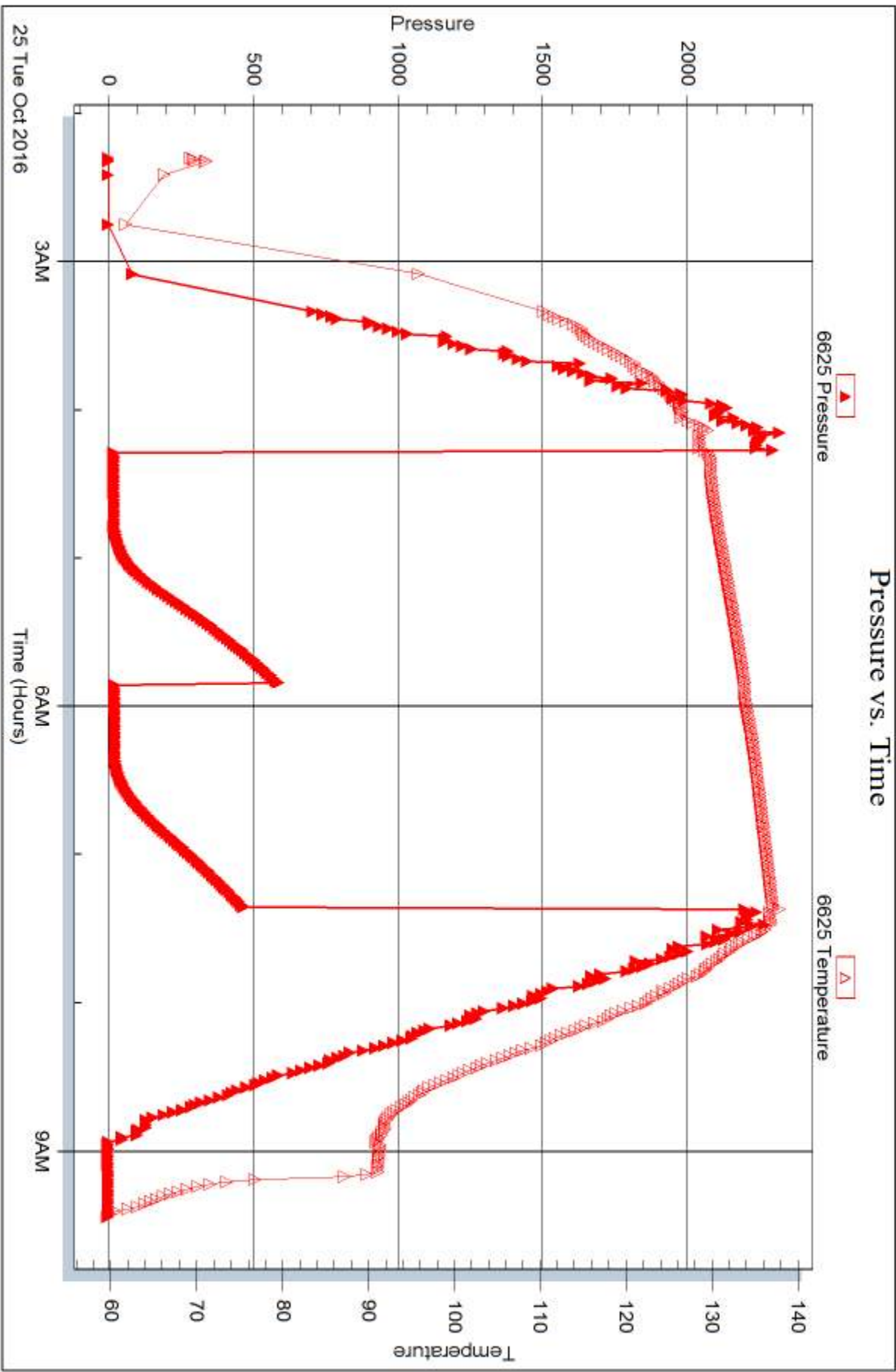
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Hatch 'A' #1-1

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 61190

Printed: 2016.10.27 @ 11:36:52



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Jeff Christian

Hatch 'A' #1-1

1-2s-37w Cheyenne,KS

Start Date: 2016.10.26 @ 09:45:00

End Date: 2016.10.26 @ 16:41:45

Job Ticket #: 61191 DST #: 5

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

Printed: 2016.10.27 @ 11:36:29

Murfin Drilling Co., Inc.

1-2s-37w Cheyenne,KS

Hatch 'A' #1-1

DST # 5

Pawnee - Ft Scott

2016.10.26



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61191

DST#: 5

ATTN: Jeff Christian

Test Start: 2016.10.26 @ 09:45:00

GENERAL INFORMATION:

Formation: **Pawnee - Ft Scott**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 11:44:00
 Tester: James Winder
 Time Test Ended: 16:41:45
 Unit No: 83
 Interval: **4712.00 ft (KB) To 4802.00 ft (KB) (TVD)**
 Reference Elevations: 3379.00 ft (KB)
 Total Depth: 4802.00 ft (KB) (TVD)
 3374.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 5.00 ft

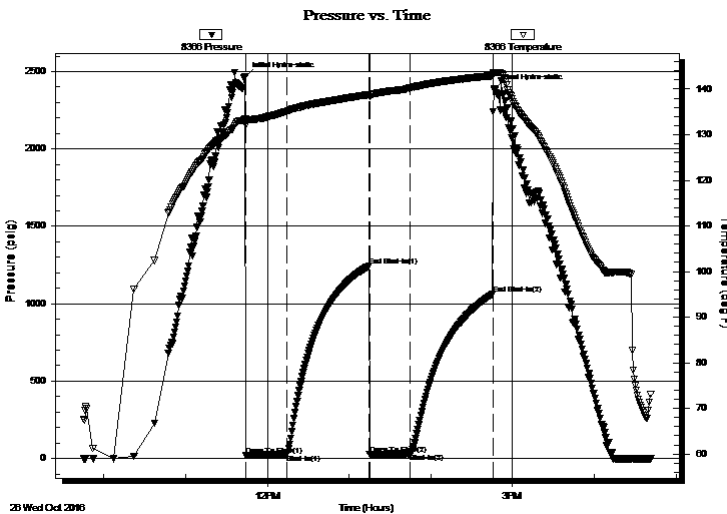
Serial #: 8366

Outside

Press@RunDepth: 30.07 psig @ 4713.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.10.26 End Date: 2016.10.26 Last Calib.: 2016.10.26
 Start Time: 09:45:05 End Time: 16:41:44 Time On Btm: 2016.10.26 @ 11:43:45
 Time Off Btm: 2016.10.26 @ 14:46:45

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

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2466.90	133.51	Initial Hydro-static
1	20.02	132.12	Open To Flow (1)
31	24.94	135.10	Shut-In(1)
91	1242.13	138.77	End Shut-In(1)
92	27.00	138.32	Open To Flow (2)
121	30.07	140.24	Shut-In(2)
182	1062.13	142.93	End Shut-In(2)
183	2387.92	143.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud 100% w/trace of oil	0.18

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61191

DST#: 5

ATTN: Jeff Christian

Test Start: 2016.10.26 @ 09:45:00

GENERAL INFORMATION:

Formation: **Pawnee - Ft Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:44:00

Time Test Ended: 16:41:45

Interval: 4712.00 ft (KB) To 4802.00 ft (KB) (TVD)

Total Depth: 4802.00 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: 3379.00 ft (KB)

3374.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6625

Inside

Press@RunDepth: psig @ 4713.00 ft (KB)

Start Date: 2016.10.26

End Date:

2016.10.26

Start Time: 09:45:05

End Time:

16:41:59

Capacity: 8000.00 psig

Last Calib.:

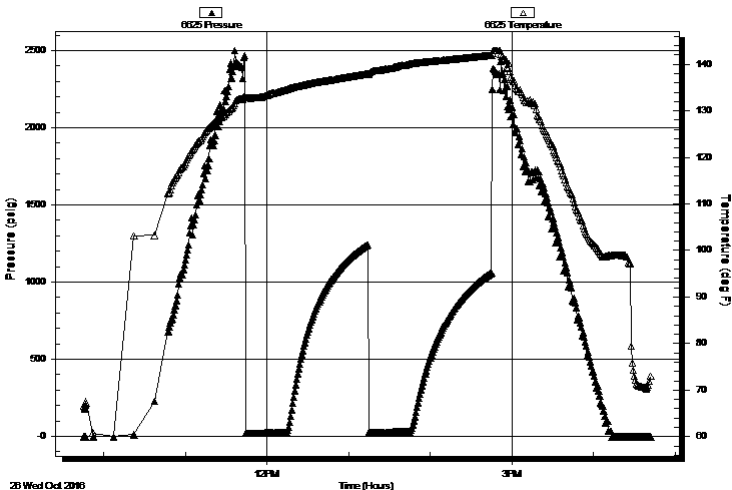
2016.10.26

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 1 1/4"
60 - ISI: No blow back
30 - FF: No blow
60 - FSI: No blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud 100% w/trace of oil	0.18

* 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.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61191

DST#: 5

ATTN: Jeff Christian

Test Start: 2016.10.26 @ 09:45:00

Tool Information

Drill Pipe:	Length: 4518.00 ft	Diameter: 3.80 inches	Volume: 63.38 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: 175.00 ft	Diameter: 2.50 inches	Volume: 1.06 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 64.44 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4712.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	90.00 ft			
Tool Length:	119.00 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			4684.00	
Shut In Tool	5.00			4689.00	
Hydraulic tool	5.00			4694.00	
Jars	5.00			4699.00	
Safety Joint	3.00			4702.00	
Packer	5.00			4707.00	29.00 Bottom Of Top Packer
Packer	5.00			4712.00	
Stubb	1.00			4713.00	
Recorder	0.00	6625	Inside	4713.00	
Recorder	0.00	8366	Outside	4713.00	
Perforations	20.00			4733.00	
Blank Spacing	64.00			4797.00	
Perforations	2.00			4799.00	
Bullnose	3.00			4802.00	90.00 Bottom Packers & Anchor

Total Tool Length: 119.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

1-2s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Hatch 'A' #1-1

Job Ticket: 61191

DST#: 5

ATTN: Jeff Christian

Test Start: 2016.10.26 @ 09:45:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Mud 100% w/trace of oil	0.182

Total Length: 30.00 ft Total Volume: 0.182 bbl

Num Fluid Samples: 0

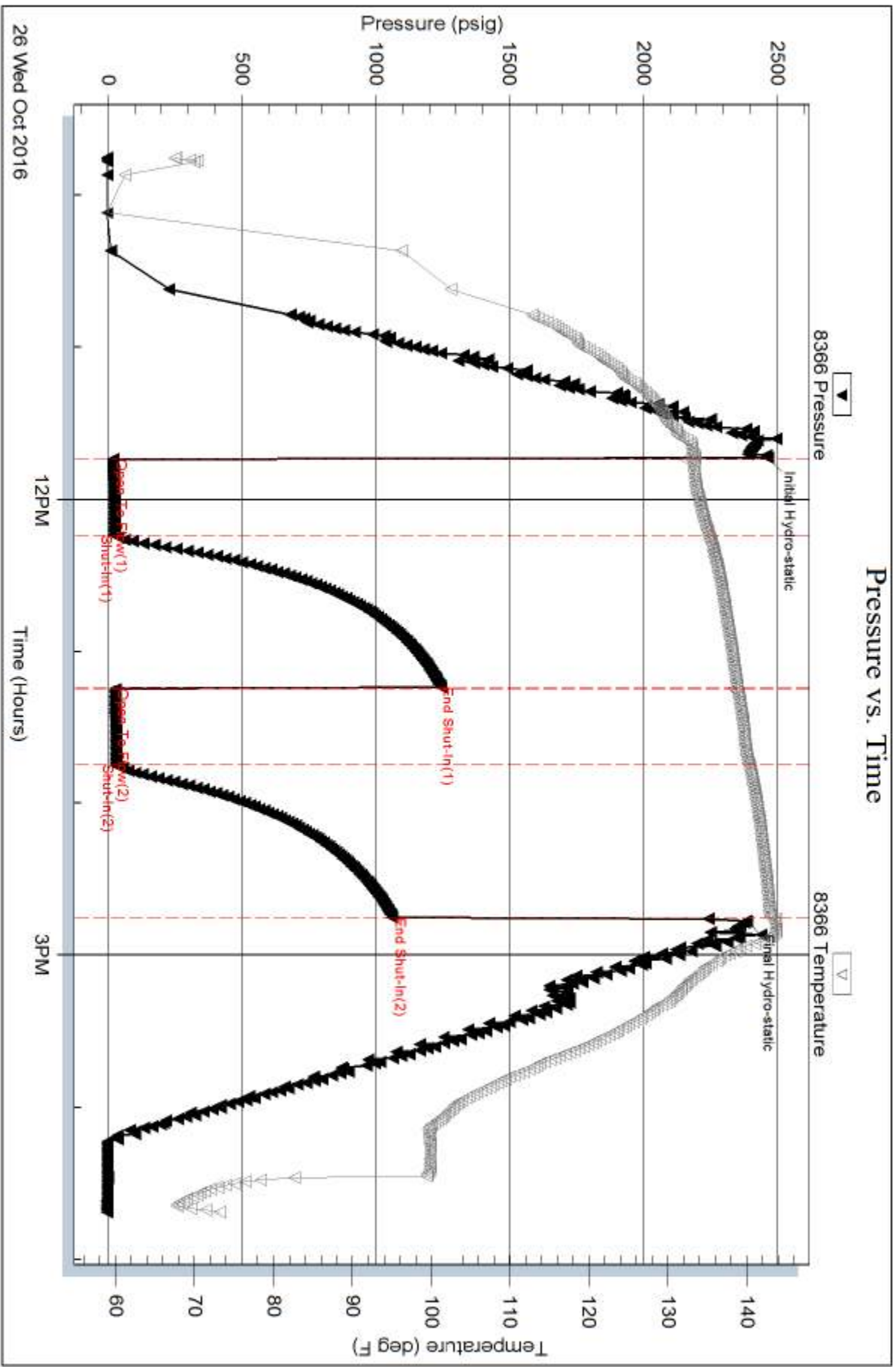
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



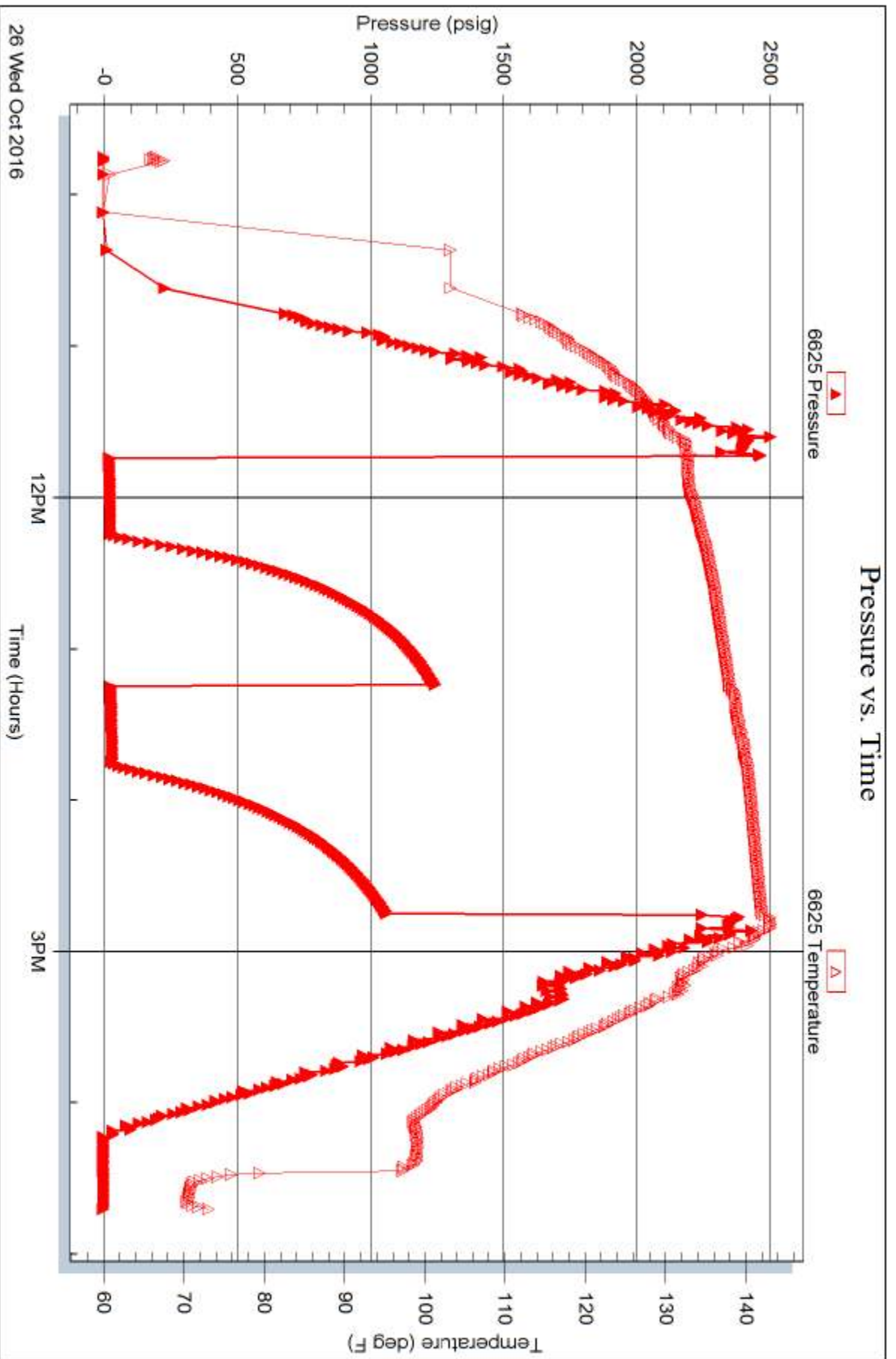
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Hatch 'A' #1-1

DST Test Number: 5



26 Wed Oct 2016

Trilobite Testing, Inc

Ref. No: 61191

Printed: 2016.10.27 @ 11:36:32



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61187

Well Name & No. Hatch 'A' #1-1 Test No. 1 Date 10-22-16
 Company Murfin Drilling Co. Inc Elevation 3379 KB 3374 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #3
 Location: Sec. 1 Twp. 2S Rge. 37W Co. Cheyenne State KS

Interval Tested 4179-4257 Zone Tested Oread
 Anchor Length 78 Drill Pipe Run 3988 Mud Wt. 8.9
 Top Packer Depth 4174 Drill Collars Run ~~355~~ 175 Vis 65
 Bottom Packer Depth 4179 Wt. Pipe Run - WL 5.6
 Total Depth 4257 Chlorides 600 ppm System LCM 2
 Blow Description IF: 1/2" Blow at open, built to BOB (11") at 26 1/4 min.
ISI: No blowback
FF: Blow started at 2 min., built to BOB at 36 1/4 min.
FSI: No blowback

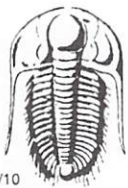
Rec	Feet of	%gas	%oil	%water	%mud
<u>170</u>	<u>WCM w/trace oil</u>	<u>trace</u>	<u>12</u>	<u>88</u>	
<u>125</u>	<u>MCW w/trace oil</u>	<u>trace</u>	<u>62</u>	<u>38</u>	
<u>175</u>	<u>MCW w/trace oil</u>	<u>trace</u>	<u>79</u>	<u>21</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 470 BHT 141 Gravity _____ API RW 570 @ 51.5 °F Chlorides 16,000 ppm
 (A) Initial Hydrostatic 2069 Test 1150 T-On Location 15:30 10/22
 (B) First Initial Flow 19 Jars 250 T-Started 17:00
 (C) First Final Flow 133 Safety Joint 75 T-Open 18:52
 (D) Initial Shut-In 751 Circ Sub _____ T-Pulled 22:56
 (E) Second Initial Flow 133 Hourly Standby _____ T-Out 1:10 10/23
 (F) Second Final Flow 232 Mileage 114 RT 85.50 Comments _____
 (G) Final Shut-In 745 Sampler _____
 (H) Final Hydrostatic 2024 Straddle _____
 Ruined Shale Packer _____
 Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Copies _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1560.50 Sub Total 0
 Total 1560.50 MP/DST Disc't _____

Approved By Jeff Christian

Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61188

4/10

Well Name & No. Hatch 'A' #1-1 Test No. 2 Date 10-23-16
 Company Murfin Drilling Co. Inc Elevation 3379 KB 3374 GL
 Address 250 N. Water STE 300 Wichita KS, 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #3
 Location: Sec. 1 Twp. 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4259-4391 Zone Tested LKC "A-D"
 Anchor Length 132 Drill Pipe Run 4081 Mud Wt. 9.1
 Top Packer Depth 4254 Drill Collars Run 175 Vis 60
 Bottom Packer Depth 4259 Wt. Pipe Run - WL 6.0
 Total Depth 4391 Chlorides 600 ppm System LCM 4
 Blow Description IF: Blow built to BOB (11") at 10 1/4 min.
ISI: NO blowback
FF: Blow started at 1 1/2 min., built to BOB at 14 3/4 min.
FSI:

Rec	Feet of	%gas	%oil	%water	%mud
<u>295</u>	<u>Mud w/trace oil</u>	<u>trace</u>		<u>100</u>	
<u>675</u>	<u>Watery Mud w/trace oil</u>	<u>trace</u>	<u>40</u>	<u>60</u>	

Rec Total 970 BHT 147 Gravity API RW .663 @ 49.5 ° F Chlorides 14,000 ppm

(A) Initial Hydrostatic <u>2148</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>13:30</u>
(B) First Initial Flow <u>27</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>14:12</u>
(C) First Final Flow <u>222</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>15:58</u>
(D) Initial Shut-In <u>1021</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>20:03</u>
(E) Second Initial Flow <u>227</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>22:25</u>
(F) Second Final Flow <u>461</u>	<input checked="" type="checkbox"/> Mileage <u>114 RT</u> <u>85.50</u>	Comments
(G) Final Shut-In <u>1022</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2126</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1560.50</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1560.20</u>	

Approved By Jeff Chalk Our Representative Janna Winkler

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. **61189**

4/10

Well Name & No. Hatch 'A' #1-1 Test No. 3 Date 10-24-16
 Company Murfin Drilling Co. Inc Elevation 3379 KB 3374 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #3
 Location: Sec. 1 Twp. 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4392 - 4448 Zone Tested LKC -6"
 Anchor Length 56 Drill Pipe Run 4206 Mud Wt. 9.1
 Top Packer Depth 4387 Drill Collars Run 175 Vis 62
 Bottom Packer Depth 4392 Wt. Pipe Run - WL 6.0
 Total Depth 4448 Chlorides 800 ppm System LCM 4

Blow Description IF: Blow built to BOB (11") at 1 3/4 min.
ISI: No blowback
FF: Blow built to 8" (had loose hose connection)
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Free Oil</u>	<u>99</u>	<u>-</u>	<u>1</u>	<u>-</u>
<u>340</u>	<u>Socm</u>	<u>3</u>	<u>6</u>	<u>91</u>	<u>-</u>
<u>375</u>	<u>So/mcw</u>	<u>4</u>	<u>8</u>	<u>69</u>	<u>19</u>
<u>300</u>	<u>So/mcw</u>	<u>-</u>	<u>3</u>	<u>94</u>	<u>3</u>
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1016 BHT 152 Gravity 27.8 API RW .452 @ 72.4 °F Chlorides 14000 ppm

(A) Initial Hydrostatic 2232 Test 1150 T-On Location 6:40
 (B) First Initial Flow 201 Jars 250 T-Started 7:24
 (C) First Final Flow ~~201~~ 360 Safety Joint 75 T-Open 9:12
 (D) Initial Shut-In 509 Circ Sub _____ T-Pulled 11:35
 (E) Second Initial Flow 371 Hourly Standby _____ T-Out 14:15
 (F) Second Final Flow 466 Mileage 114 RT 85.50 Comments _____
 (G) Final Shut-In 509 Sampler _____
 (H) Final Hydrostatic 2173 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____

Initial Open 10 Sub Total 0
 Initial Shut-In 60 Total 1560.50
 Final Flow 10 MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1560.50

Approved By [Signature] Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61190

4/10

Well Name & No. Hatch 'A' #1-1 Test No. 4 Date 10-25-16
 Company Murfin Drilling Co, Inc Elevation 3379 KB 3374 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #3
 Location: Sec. 1 Twp. 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4449-4538 Zone Tested LKC "H-J"
 Anchor Length 89 Drill Pipe Run 4269 Mud Wt. 9.3
 Top Packer Depth 4444 Drill Collars Run 175 Vis 55
 Bottom Packer Depth 4449 Wt. Pipe Run - WL 6.0
 Total Depth 4538 Chlorides 800 ppm System LCM 3

Blow Description IF: Blow built to 1", dying back slowly at end of open
ISI: No blowback
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud w/ trace of oil</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 5 BHT 138 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2298 Test 1150 T-On Location 1:15
 (B) First Initial Flow 18 Jars 250 T-Started 2:18
 (C) First Final Flow 20 Safety Joint 75 T-Open 4:16
 (D) Initial Shut-In 588 Circ Sub _____ T-Pulled 7:21
 (E) Second Initial Flow 20 Hourly Standby _____ T-Out 9:20
 (F) Second Final Flow 23 Mileage 114 RT 85.50 Comments _____
 (G) Final Shut-In 466 Sampler _____
 (H) Final Hydrostatic 2250 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60
 Sub Total 1560.50
 Total 1560.50
 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. 61191

4/10

Well Name & No. Hatch 'A' #1-1 Test No. 5 Date 10-26-16
 Company Murfin Drilling Co. Inc Elevation 3379 KB 3374 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Jeff Christian Rig Murfin #3
 Location: Sec. 1 Twp. 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4712 - 4802 Zone Tested Pawnee - Ft Scott - Cherokee Lime
 Anchor Length 90 Drill Pipe Run 4518 Mud Wt. 9.5
 Top Packer Depth 4707 Drill Collars Run 175 Vis 69
 Bottom Packer Depth 4712 Wt. Pipe Run - WL 6.8
 Total Depth 4802 Chlorides 1100 ppm System LCM 3
 Blow Description IF: 1/4" Blow at open, built to 1/4"
ISI: No blowback
FF: No blow
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>Mud w/trace oil</u>	<u>trace</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 30 BHT 143 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2467 Test 1150 T-On Location 7:55
 (B) First Initial Flow 20 Jars 250 T-Started 9:45
 (C) First Final Flow 25 Safety Joint 75 T-Open 11:44
 (D) Initial Shut-In 1242 Circ Sub _____ T-Pulled 14:45
 (E) Second Initial Flow 27 Hourly Standby _____ T-Out 16:40
 (F) Second Final Flow 30 Mileage 114RTx2 171 Comments _____
 (G) Final Shut-In 1062 Sampler _____
 (H) Final Hydrostatic 2388 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer 320
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1966
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1646

Approved By Jeff Christian Our Representative James W. White
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