



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Robert Hendrix

Jean 'A' #1-7

7-1s-37w Cheyenne,KS

Start Date: 2019.04.30 @ 00:21:00

End Date: 2019.04.30 @ 07:54:20

Job Ticket #: 65537 DST #: 1

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

Printed: 2019.05.07 @ 15:12:45



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
 250 N. Water STE 300
 Wichita KS 67202
 ATTN: Robert Hendrix

7-1s-37w Cheyenne, KS

Jean 'A' #1-7

Job Ticket: 65537

DST#: 1

Test Start: 2019.04.30 @ 00:21:00

GENERAL INFORMATION:

Formation: **Stotler - Topeka**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:55:40
 Time Test Ended: 07:54:20
 Interval: **3802.00 ft (KB) To 3903.00 ft (KB) (TVD)**
 Total Depth: 3903.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ryan Nichols
 Unit No: 71
 Reference Elevations: 3168.00 ft (KB)
 3163.00 ft (CF)
 KB to GR/CF: 5.00 ft

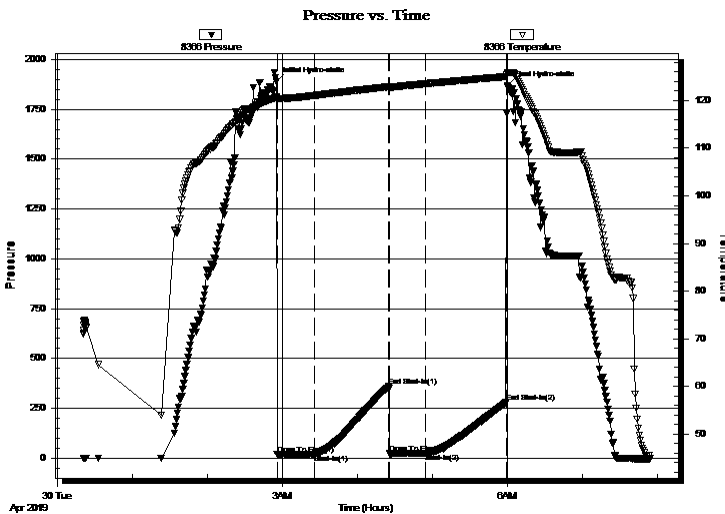
Serial #: 8366

Outside

Press@RunDepth: 23.00 psig @ 3803.00 ft (KB)
 Start Date: 2019.04.30 End Date: 2019.04.30
 Start Time: 00:21:01 End Time: 07:54:20
 Capacity: 8000.00 psig
 Last Calib.: 2019.05.01
 Time On Btm: 2019.04.30 @ 02:55:20
 Time Off Btm: 2019.04.30 @ 05:59:50

TEST COMMENT: 30 IF - Blow built to 1 1/2"
 60 ISI - No return
 30 FF - No blow
 60 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1890.31	120.73	Initial Hydro-static
1	18.27	120.15	Open To Flow (1)
30	20.48	121.07	Shut-In(1)
90	359.07	122.91	End Shut-In(1)
91	21.65	122.75	Open To Flow (2)
120	23.00	123.54	Shut-In(2)
184	277.62	125.03	End Shut-In(2)
185	1866.47	125.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%M	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.

7-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Jean 'A' #1-7

Job Ticket: 65537

DST#: 1

ATTN: Robert Hendrix

Test Start: 2019.04.30 @ 00:21:00

Tool Information

Drill Pipe:	Length: 3605.00 ft	Diameter: 3.80 inches	Volume: 50.57 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 51.44 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3802.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	101.00 ft			
Tool Length:	129.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3779.00	
Hydraulic tool	5.00			3784.00	
Jars	5.00			3789.00	
Safety Joint	3.00			3792.00	
Packer	5.00			3797.00	28.00 Bottom Of Top Packer
Packer	5.00			3802.00	
Stubb	1.00			3803.00	
Recorder	0.00	8353	Inside	3803.00	
Recorder	0.00	8366	Outside	3803.00	
Perforations	32.00			3835.00	
Blank Spacing	65.00			3900.00	
Bullnose	3.00			3903.00	101.00 Bottom Packers & Anchor

Total Tool Length: 129.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

7-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Jean 'A' #1-7

Job Ticket: 65537

DST#: 1

ATTN: Robert Hendrix

Test Start: 2019.04.30 @ 00:21:00

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: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 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
5.00	Mud 100%M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

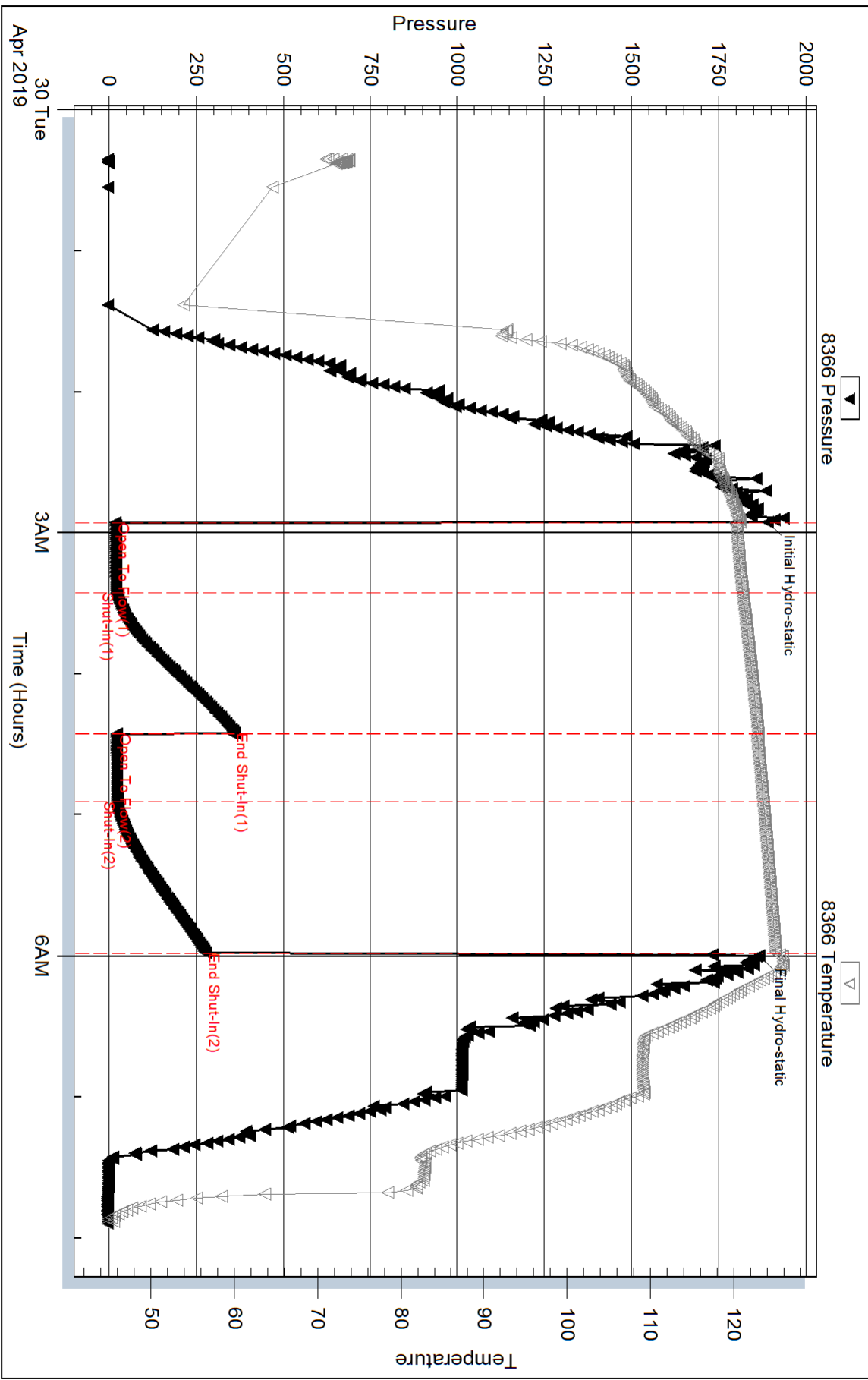
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



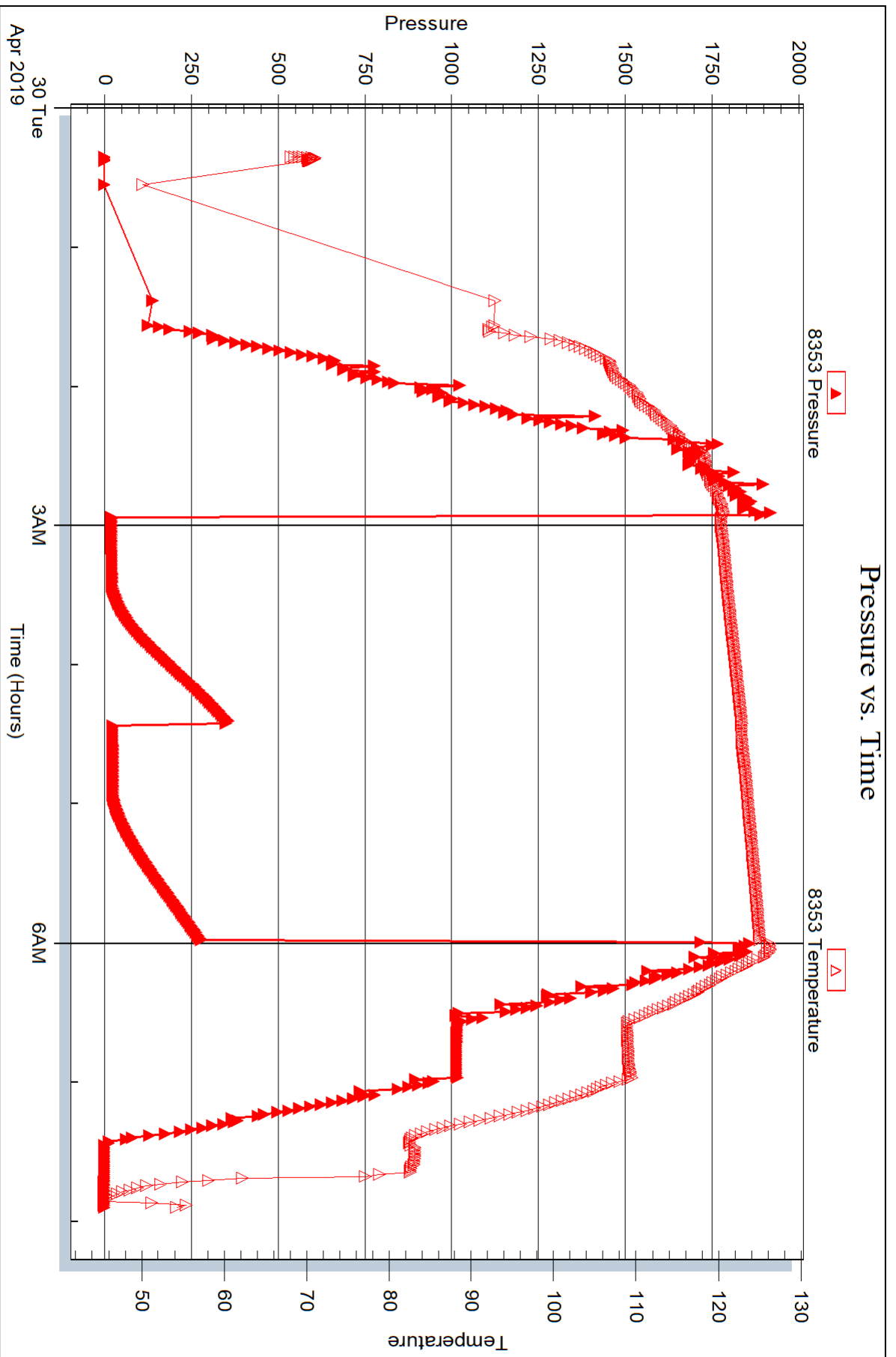
Serial #: 8353

Inside

Murfin Drilling Co. Inc.

Jean 'A' #1-7

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 65537

Printed: 2019.05.07 @ 15:12:46



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Robert Hendrix

Jean 'A' #1-7

7-1s-37w Cheyenne,KS

Start Date: 2019.05.01 @ 21:27:00

End Date: 2019.05.02 @ 04:15:39

Job Ticket #: 65538 DST #: 2

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

Printed: 2019.05.07 @ 15:11:48

Murfin Drilling Co. Inc. 7-1s-37w Cheyenne,KS Jean 'A' #1-7 DST # 2 Oread 2019.05.01



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
250 N. Water STE 300
Wichita KS 67202
ATTN: Robert Hendrix

7-1s-37w Cheyenne,KS

Jean 'A' #1-7

Job Ticket: 65538

DST#: 2

Test Start: 2019.05.01 @ 21:27:00

GENERAL INFORMATION:

Formation: **Oread**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:34:30
 Time Test Ended: 04:15:39
 Interval: **3988.00 ft (KB) To 4041.00 ft (KB) (TVD)**
 Total Depth: 4041.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 71
 Reference Elevations: 3168.00 ft (KB)
 3163.00 ft (CF)
 KB to GR/CF: 5.00 ft

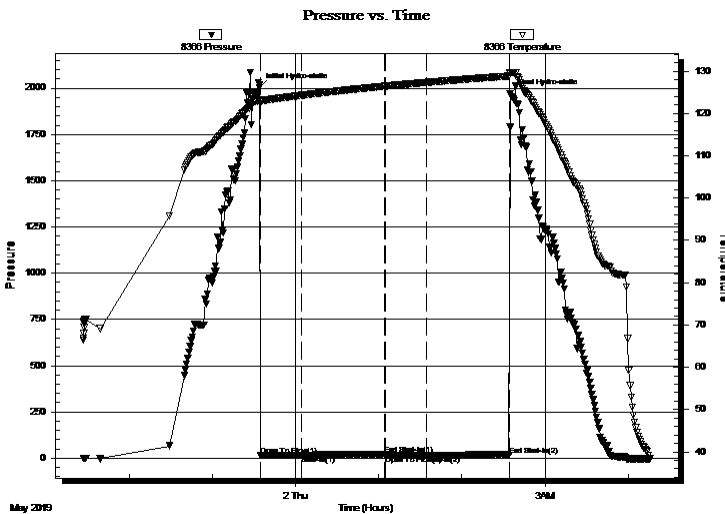
Serial #: 8366

Outside

Press@RunDepth: 16.38 psig @ 3989.00 ft (KB)
 Start Date: 2019.05.01 End Date: 2019.05.02
 Start Time: 21:27:01 End Time: 04:15:40
 Capacity: 8000.00 psig
 Last Calib.: 2019.05.02
 Time On Btm: 2019.05.01 @ 23:34:00
 Time Off Btm: 2019.05.02 @ 02:34:50

TEST COMMENT: 30 IF - Blow built to 1/2" died back to surface
 60 ISI - No return
 30 FF - No blow
 60 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2003.61	123.32	Initial Hydro-static
1	15.35	122.25	Open To Flow (1)
30	16.06	124.28	Shut-In(1)
91	22.67	126.44	End Shut-In(1)
91	15.15	126.45	Open To Flow (2)
121	16.38	127.33	Shut-In(2)
181	16.61	128.85	End Shut-In(2)
181	1970.31	129.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%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.

7-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Jean 'A' #1-7

Job Ticket: 65538

DST#: 2

ATTN: Robert Hendrix

Test Start: 2019.05.01 @ 21:27:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:34:30

Time Test Ended: 04:15:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 3988.00 ft (KB) To 4041.00 ft (KB) (TVD)

Reference Elevations: 3168.00 ft (KB)

Total Depth: 4041.00 ft (KB) (TVD)

3163.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8353 Inside

Press@RunDepth: psig @ 3989.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.05.01

End Date:

2019.05.02

Last Calib.:

2019.05.02

Start Time: 21:27:01

End Time:

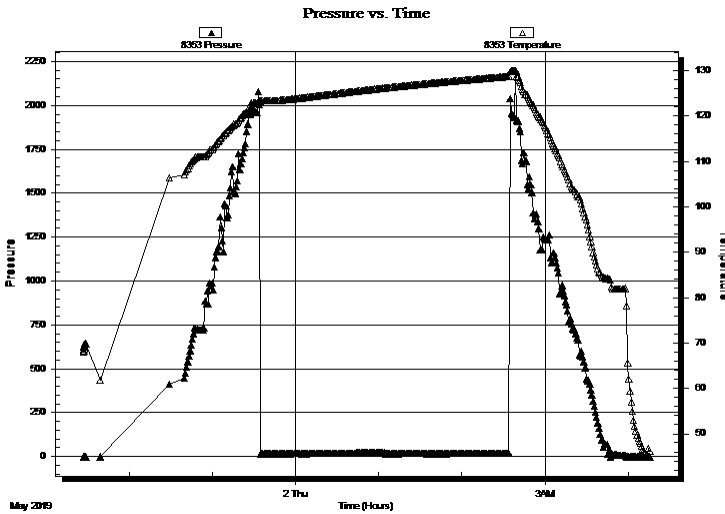
04:15:40

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 IF - Blow built to 1/2" died back to surface
60 ISI - No return
30 FF - No blow
60 FSI - No return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%M	0.02

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.

7-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Jean 'A' #1-7

Job Ticket: 65538

DST#: 2

ATTN: Robert Hendrix

Test Start: 2019.05.01 @ 21:27:00

Tool Information

Drill Pipe:	Length: 3793.00 ft	Diameter: 3.80 inches	Volume: 53.21 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 54.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3988.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	53.00 ft			
Tool Length:	81.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3965.00	
Hydraulic tool	5.00			3970.00	
Jars	5.00			3975.00	
Safety Joint	3.00			3978.00	
Packer	5.00			3983.00	28.00 Bottom Of Top Packer
Packer	5.00			3988.00	
Stubb	1.00			3989.00	
Recorder	0.00	8353	Inside	3989.00	
Recorder	0.00	8366	Outside	3989.00	
Perforations	16.00			4005.00	
Blank Spacing	33.00			4038.00	
Bullnose	3.00			4041.00	53.00 Bottom Packers & Anchor

Total Tool Length: 81.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

7-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Jean 'A' #1-7

Job Ticket: 65538

DST#: 2

ATTN: Robert Hendrix

Test Start: 2019.05.01 @ 21:27:00

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: 66.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 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
5.00	Mud 100%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:

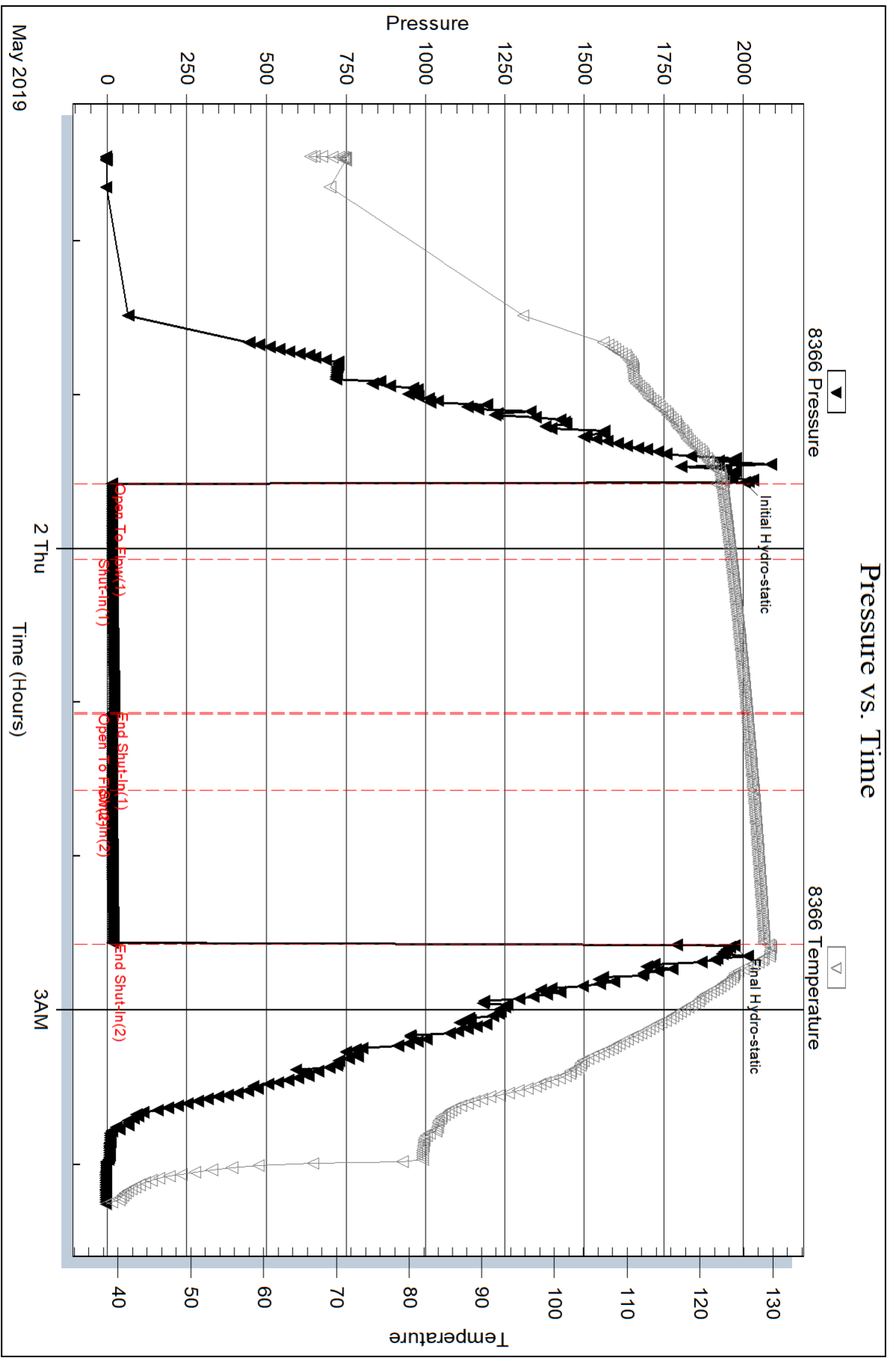
Recovery Comments:

Serial #: 8366

Outside Murfin Drilling Co. Inc.

Jean 'A' #1-7

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 65538

Printed: 2019.05.07 @ 15:11:49

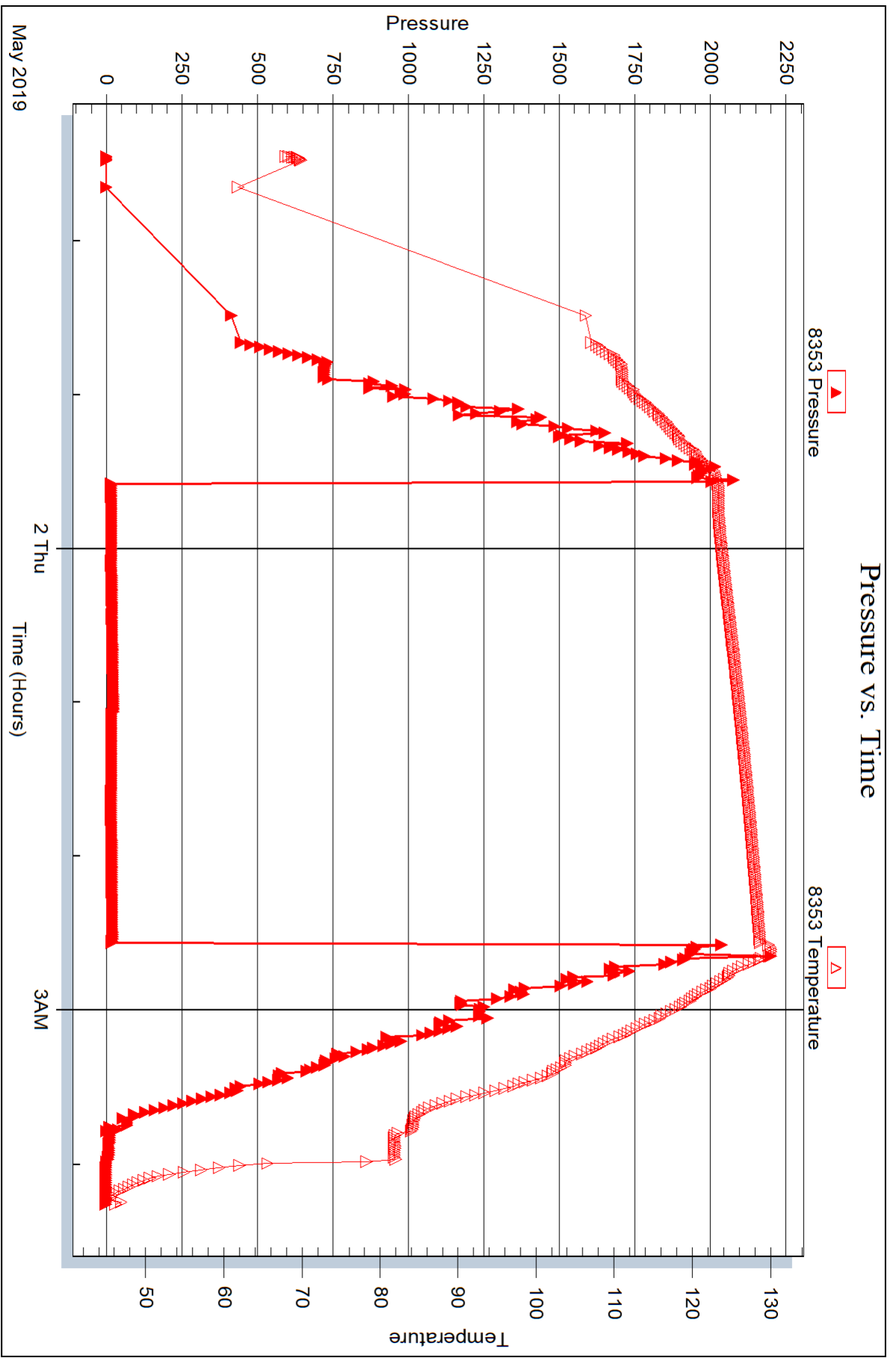
Serial #: 8353

Inside

Murfin Drilling Co. Inc.

Jean 'A' #1-7

DST Test Number: 2





DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Robert Hendrix

Jean 'A' #1-7

7-1s-37w Cheyenne,KS

Start Date: 2019.05.02 @ 20:56:00

End Date: 2019.05.03 @ 04:10:00

Job Ticket #: 65539 DST #: 3

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

Printed: 2019.05.07 @ 15:11:06



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
 250 N. Water STE 300
 Wichita KS 67202
 ATTN: Robert Hendrix

7-1s-37w Cheyenne,KS

Jean 'A' #1-7

Job Ticket: 65539

DST#: 3

Test Start: 2019.05.02 @ 20:56:00

GENERAL INFORMATION:

Formation: **LKC " A - D "**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 23:17:50
 Tester: Ryan Nichols
 Time Test Ended: 04:10:00
 Unit No: 71
 Interval: **4068.00 ft (KB) To 4181.00 ft (KB) (TVD)**
 Reference Elevations: 3168.00 ft (KB)
 Total Depth: 4181.00 ft (KB) (TVD)
 3163.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Good
 KB to GR/CF: 5.00 ft

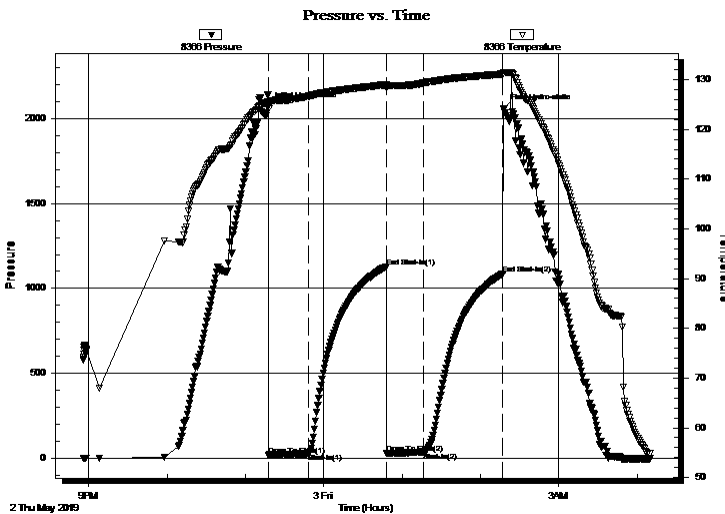
Serial #: 8366

Outside

Press@RunDepth: 34.17 psig @ 4069.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.05.02 End Date: 2019.05.03 Last Calib.: 2019.05.03
 Start Time: 20:56:01 End Time: 04:10:00 Time On Btm: 2019.05.02 @ 23:17:30
 Time Off Btm: 2019.05.03 @ 02:17:50

TEST COMMENT: 30 IF - Blow built to 1 1/2"
 60 ISI - No return
 30 FF - No blow
 60 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2072.97	125.40	Initial Hydro-static
1	17.95	124.13	Open To Flow (1)
31	26.23	126.61	Shut-In(1)
90	1127.64	128.96	End Shut-In(1)
91	29.05	128.28	Open To Flow (2)
119	34.17	129.28	Shut-In(2)
180	1086.33	131.11	End Shut-In(2)
181	2061.00	131.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud w / oil spots in tool 100%M	0.10

* 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.

7-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Jean 'A' #1-7

Job Ticket: 65539

DST#: 3

ATTN: Robert Hendrix

Test Start: 2019.05.02 @ 20:56:00

Tool Information

Drill Pipe:	Length: 3885.00 ft	Diameter: 3.80 inches	Volume: 54.50 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 55.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4068.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	113.00 ft			
Tool Length:	141.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			4045.00	
Hydraulic tool	5.00			4050.00	
Jars	5.00			4055.00	
Safety Joint	3.00			4058.00	
Packer	5.00			4063.00	28.00 Bottom Of Top Packer
Packer	5.00			4068.00	
Stubb	1.00			4069.00	
Recorder	0.00	8353	Inside	4069.00	
Recorder	0.00	8366	Outside	4069.00	
Perforations	13.00			4082.00	
Blank Spacing	96.00			4178.00	
Bullnose	3.00			4181.00	113.00 Bottom Packers & Anchor

Total Tool Length: 141.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.
250 N. Water STE 300
Wichita KS 67202
ATTN: Robert Hendrix

7-1s-37w Cheyenne,KS
Jean 'A' #1-7
Job Ticket: 65539 **DST#: 3**
Test Start: 2019.05.02 @ 20:56:00

Mud and Cushion Information

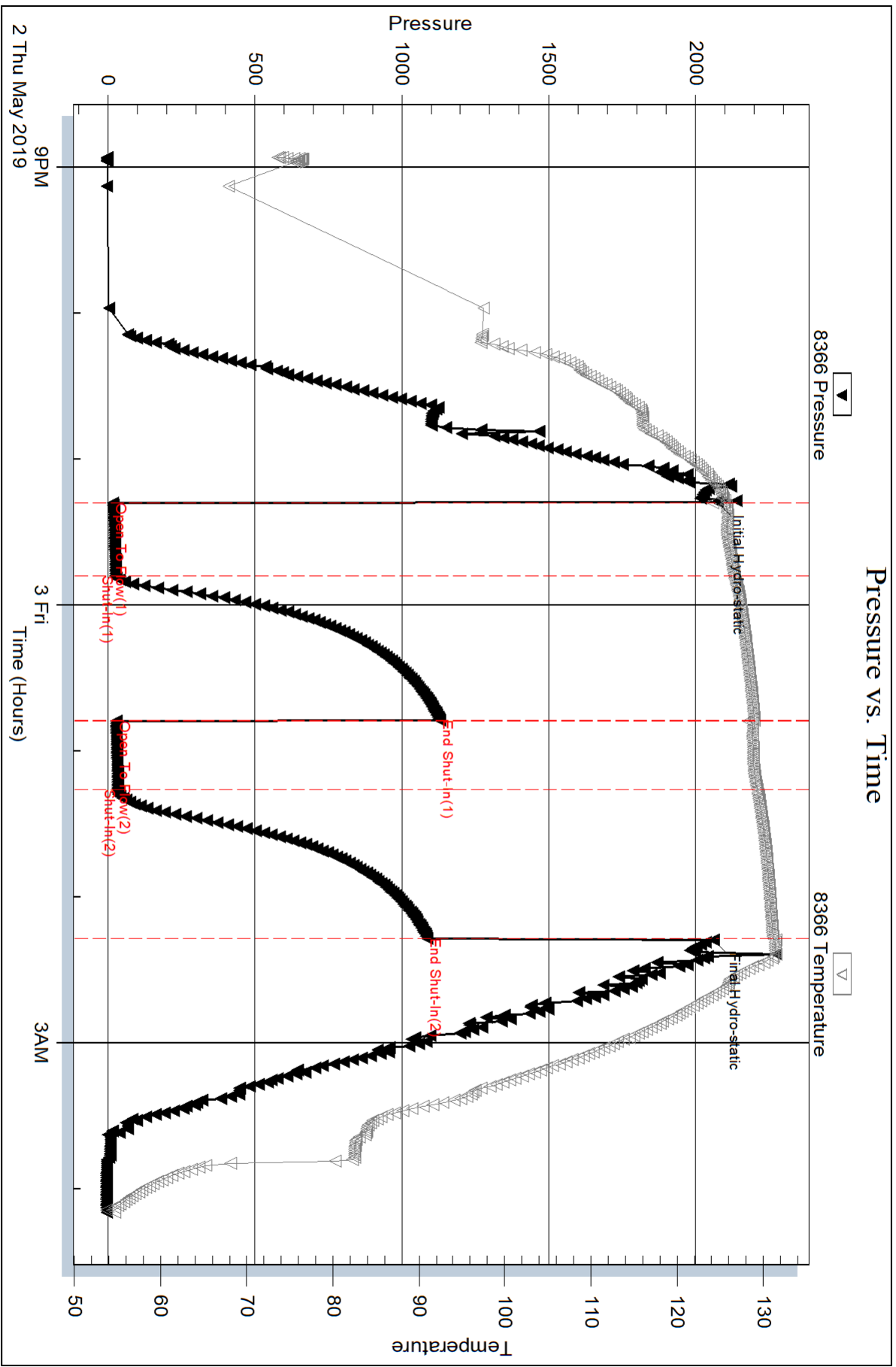
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 65.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 900.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Mud w / oil spots in tool 100%M	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



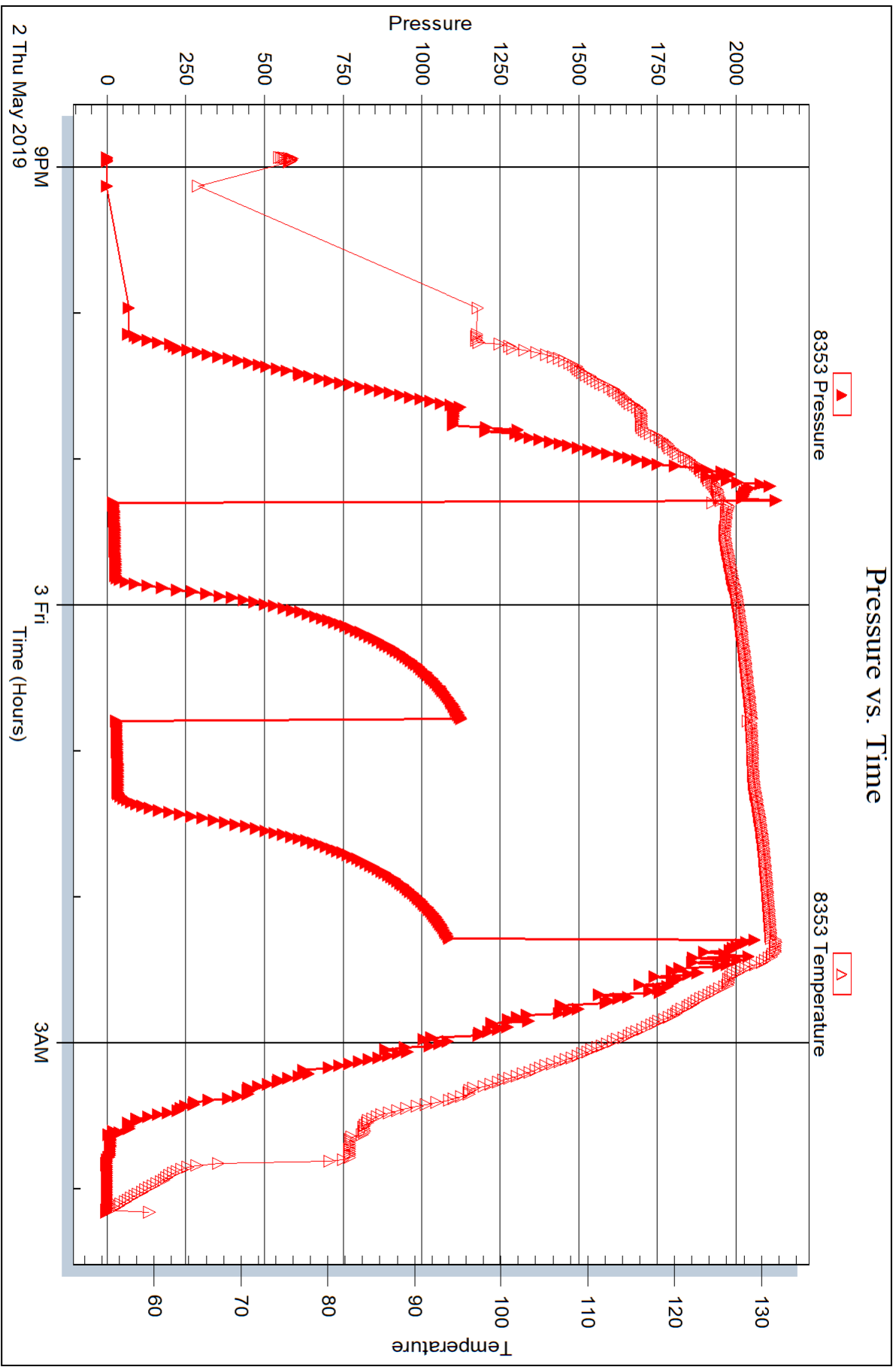
Serial #: 8353

Inside

Murfin Drilling Co. Inc.

Jean 'A' #1-7

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 65539

Printed: 2019.05.07 @ 15:11:07



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Robert Hendrix

Jean 'A' #1-7

7-1s-37w Cheyenne,KS

Start Date: 2019.05.03 @ 13:25:00

End Date: 2019.05.03 @ 21:41:50

Job Ticket #: 65540 DST #: 4

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

Printed: 2019.05.07 @ 15:10:35



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
 250 N. Water STE 300
 Wichita KS 67202
 ATTN: Robert Hendrix

7-1s-37w Cheyenne, KS

Jean 'A' #1-7

Job Ticket: 65540

DST#: 4

Test Start: 2019.05.03 @ 13:25:00

GENERAL INFORMATION:

Formation: **LKC " G "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:03:00
 Time Test Ended: 21:41:50
 Interval: **4178.00 ft (KB) To 4235.00 ft (KB) (TVD)**
 Total Depth: 4235.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 71
 Reference Elevations: 3168.00 ft (KB)
 3163.00 ft (CF)
 KB to GR/CF: 5.00 ft

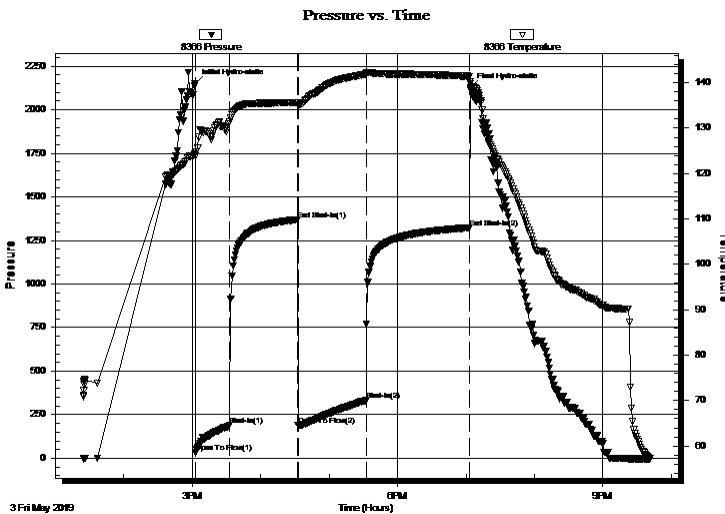
Serial #: 8366

Outside

Press@RunDepth: 331.75 psig @ 4179.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.05.03 End Date: 2019.05.03 Last Calib.: 2019.05.03
 Start Time: 13:25:01 End Time: 21:41:50 Time On Btm: 2019.05.03 @ 15:02:40
 Time Off Btm: 2019.05.03 @ 19:04:09

TEST COMMENT: 30 IF - BoB @ 11 mins
 60 ISI - Surface blow died @ 40 mins
 60 FF - BoB @ 15 mins
 90 FSI - BoB @ 32 mins died back to 11"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2150.20	124.40	Initial Hydro-static
1	31.91	123.80	Open To Flow (1)
31	187.99	131.36	Shut-In(1)
90	1369.56	135.59	End Shut-In(1)
91	189.65	135.08	Open To Flow (2)
150	331.75	141.95	Shut-In(2)
241	1323.04	141.43	End Shut-In(2)
242	2127.31	139.87	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
303.00	OMCW - 10%o - 15%M - 75%W	2.64
63.00	GMWCO - 15%G - 20%M - 20%W - 45%o	0.88
189.00	GMCO - 15%G - 20%M - 65%o	2.65
126.00	GO - 40%G - 60%o	1.77
65.00	GO - 5%G - 95%o	0.91
0.00	504' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

7-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Jean 'A' #1-7

Job Ticket: 65540

DST#: 4

ATTN: Robert Hendrix

Test Start: 2019.05.03 @ 13:25:00

Tool Information

Drill Pipe:	Length: 3980.00 ft	Diameter: 3.80 inches	Volume: 55.83 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: 73000.00 lb
			<u>Total Volume: 56.70 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4178.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	85.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			4155.00	
Hydraulic tool	5.00			4160.00	
Jars	5.00			4165.00	
Safety Joint	3.00			4168.00	
Packer	5.00			4173.00	28.00 Bottom Of Top Packer
Packer	5.00			4178.00	
Stubb	1.00			4179.00	
Recorder	0.00	8353	Inside	4179.00	
Recorder	0.00	8366	Outside	4179.00	
Perforations	20.00			4199.00	
Blank Spacing	33.00			4232.00	
Bullnose	3.00			4235.00	57.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

7-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Jean 'A' #1-7

Job Ticket: 65540

DST#: 4

ATTN: Robert Hendrix

Test Start: 2019.05.03 @ 13:25:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

27 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 63.00 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 bbbl
303.00	OMCW - 10%o - 15%M - 75%W	2.638
63.00	GMWCO - 15%G - 20%M - 20%W - 45%o	0.884
189.00	GMCO - 15%G - 20%M - 65%o	2.651
126.00	GO - 40%G - 60%o	1.767
65.00	GO - 5%G - 95%o	0.912
0.00	504' GIP	0.000

Total Length: 746.00 ft Total Volume: 8.852 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

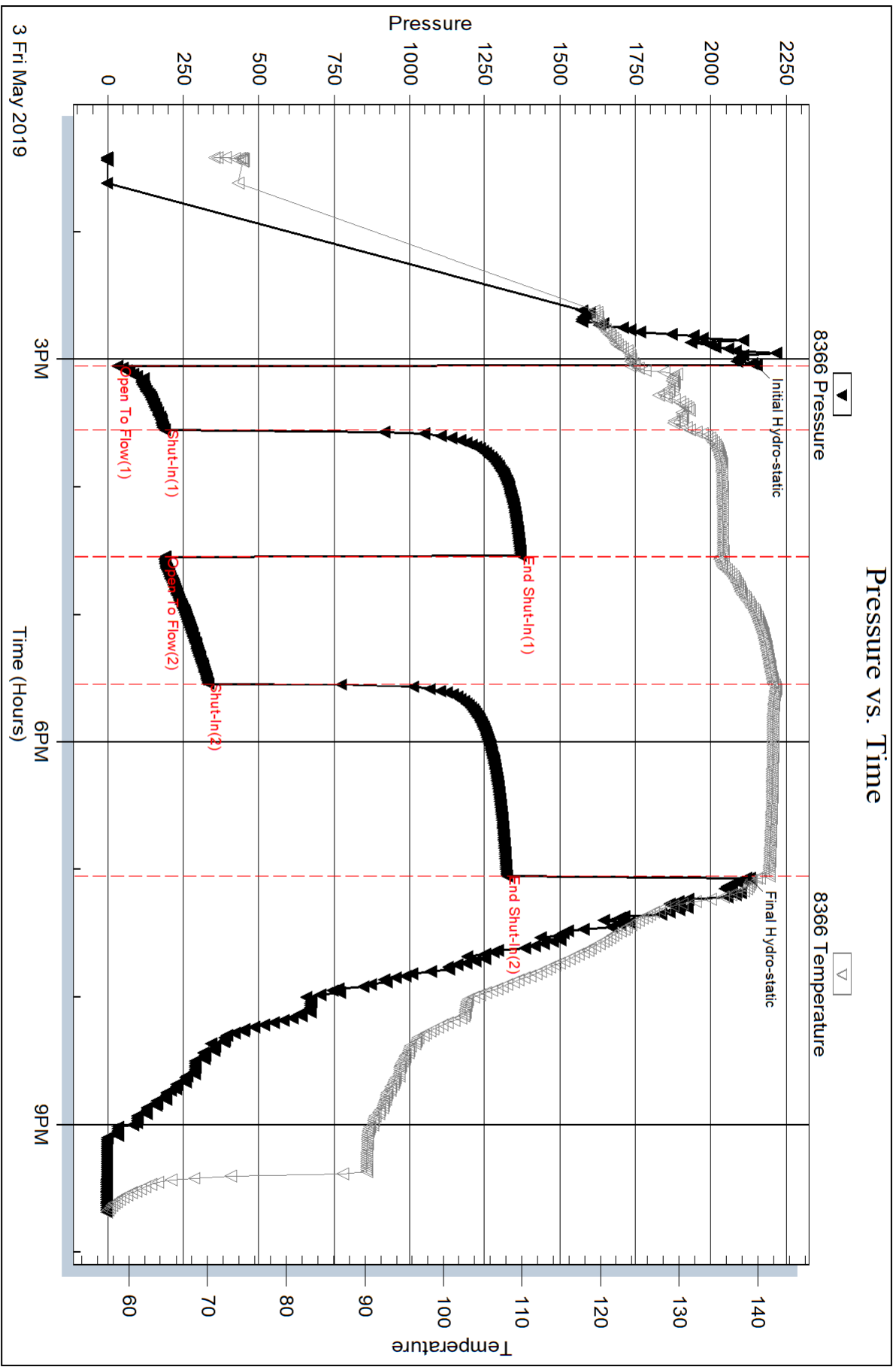
Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 27 @ 60 DEG F

RW = .145 @ 60 DEG F

Chlorides = 58,000 ppm



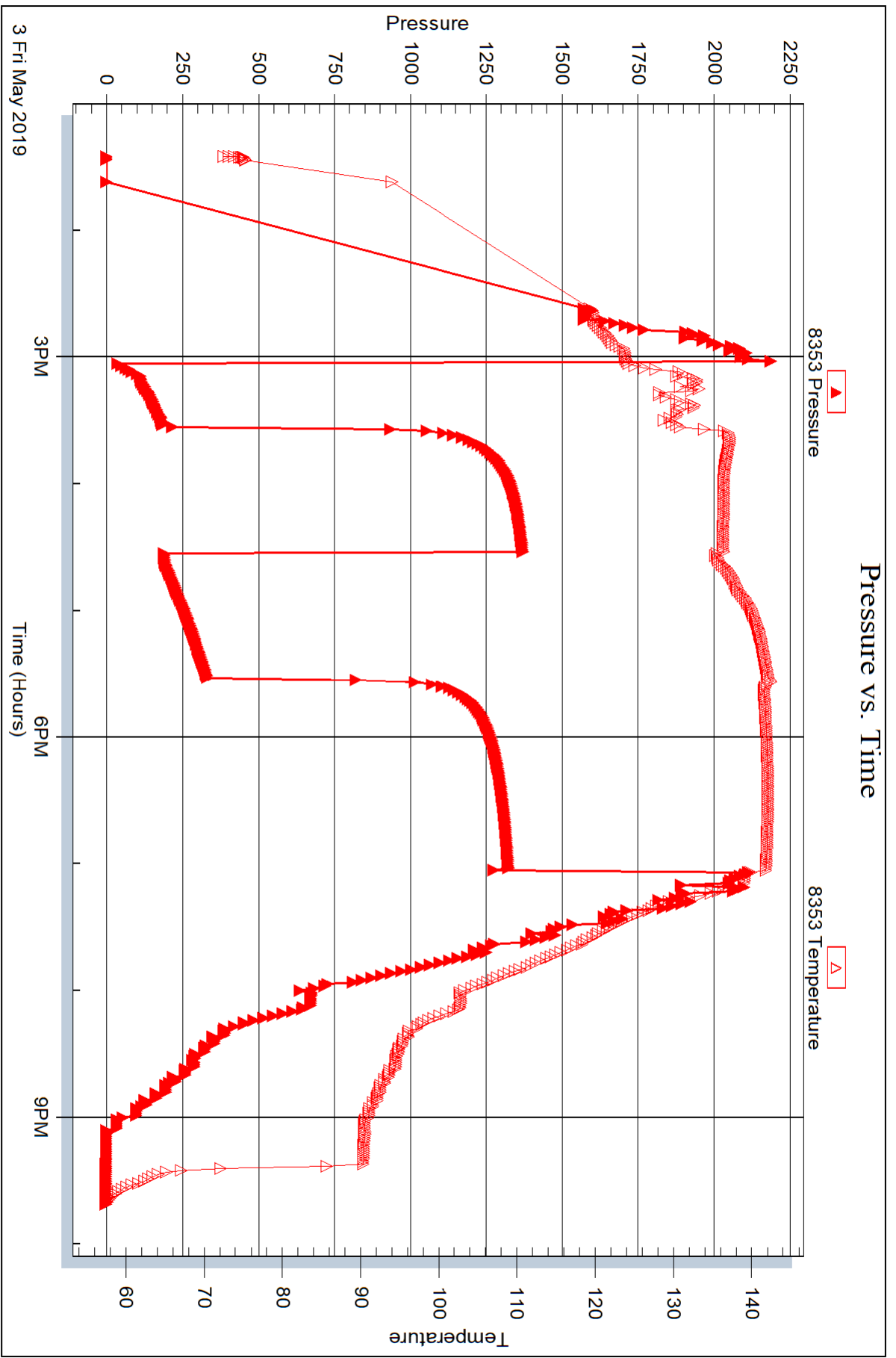
Serial #: 8353

Inside

Murfin Drilling Co. Inc.

Jean 'A' #1-7

DST Test Number: 4



3 Fri May 2019

3PM

6PM

9PM



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Robert Hendrix

Jean 'A' #1-7

7-1s-37w Cheyenne,KS

Start Date: 2019.05.04 @ 11:40:00

End Date: 2019.05.04 @ 18:32:50

Job Ticket #: 65541 DST #: 5

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

Printed: 2019.05.07 @ 15:04:39

Murfin Drilling Co. Inc. 7-1s-37w Cheyenne,KS Jean 'A' #1-7 DST # 5 LKC " H - J " 2019.05.04



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
 250 N. Water STE 300
 Wichita KS 67202
 ATTN: Robert Hendrix

7-1s-37w Cheyenne, KS

Jean 'A' #1-7

Job Ticket: 65541

DST#: 5

Test Start: 2019.05.04 @ 11:40:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:29:40
 Time Test Ended: 18:32:50
 Interval: **4232.00 ft (KB) To 4330.00 ft (KB) (TVD)**
 Total Depth: 4330.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 71
 Reference Elevations: 3168.00 ft (KB)
 3163.00 ft (CF)
 KB to GR/CF: 5.00 ft

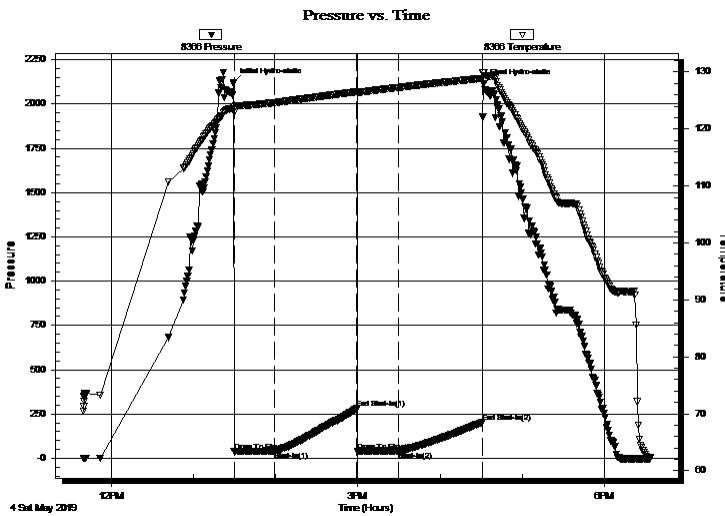
Serial #: 8366

Outside

Press@RunDepth: 41.93 psig @ 4233.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.05.04 End Date: 2019.05.04 Last Calib.: 2019.05.04
 Start Time: 11:40:01 End Time: 18:32:50 Time On Btm: 2019.05.04 @ 13:29:10
 Time Off Btm: 2019.05.04 @ 16:31:50

TEST COMMENT: 30 IF - Slid 5' - blow built to 1 3/4" died back to 1 1/4"
 60 ISI - No return
 30 FF - No blow
 60 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2120.63	123.87	Initial Hydro-static
1	38.88	122.96	Open To Flow (1)
31	40.86	124.64	Shut-In(1)
90	280.11	126.54	End Shut-In(1)
91	40.40	126.42	Open To Flow (2)
121	41.93	127.30	Shut-In(2)
182	202.87	128.90	End Shut-In(2)
183	2113.73	129.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud 100%M	0.15

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
250 N. Water STE 300
Wichita KS 67202
ATTN: Robert Hendrix

7-1s-37w Cheyenne,KS

Jean 'A' #1-7

Job Ticket: 65541

DST#: 5

Test Start: 2019.05.04 @ 11:40:00

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:29:40

Time Test Ended: 18:32:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 4232.00 ft (KB) To 4330.00 ft (KB) (TVD)

Total Depth: 4330.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3168.00 ft (KB)

3163.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8353

Inside

Press@RunDepth: psig @ 4233.00 ft (KB)

Start Date: 2019.05.04

End Date:

2019.05.04

Start Time: 11:40:01

End Time:

18:32:50

Capacity: 8000.00 psig

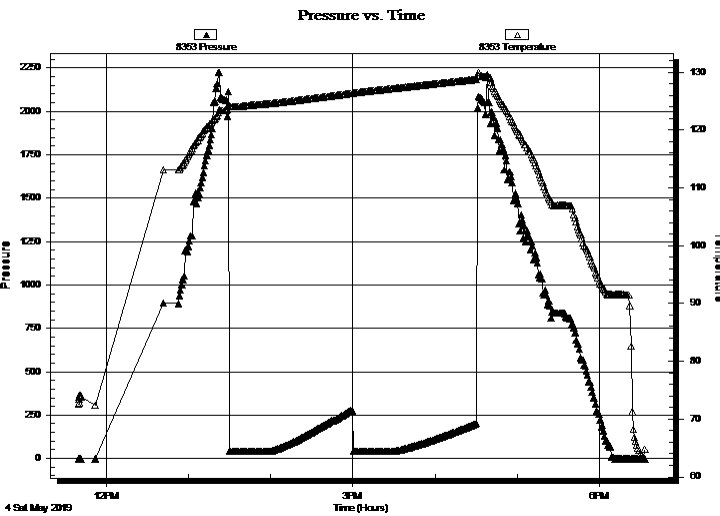
Last Calib.:

2019.05.04

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 IF - Slid 5' - blow built to 1 3/4" died back to 1 1/4"
60 ISI - No return
30 FF - No blow
60 FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud 100%M	0.15

* 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.

7-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Jean 'A' #1-7

Job Ticket: 65541

DST#: 5

ATTN: Robert Hendrix

Test Start: 2019.05.04 @ 11:40:00

Tool Information

Drill Pipe:	Length: 4040.00 ft	Diameter: 3.80 inches	Volume: 56.67 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 57.54 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4232.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	98.00 ft			
Tool Length:	126.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			4209.00	
Hydraulic tool	5.00			4214.00	
Jars	5.00			4219.00	
Safety Joint	3.00			4222.00	
Packer	5.00			4227.00	28.00 Bottom Of Top Packer
Packer	5.00			4232.00	
Stubb	1.00			4233.00	
Recorder	0.00	8353	Inside	4233.00	
Recorder	0.00	8366	Outside	4233.00	
Perforations	29.00			4262.00	
Blank Spacing	65.00			4327.00	
Bullnose	3.00			4330.00	98.00 Bottom Packers & Anchor

Total Tool Length: 126.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

7-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Jean 'A' #1-7

Job Ticket: 65541

DST#: 5

ATTN: Robert Hendrix

Test Start: 2019.05.04 @ 11:40:00

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: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 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
30.00	Mud 100%M	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

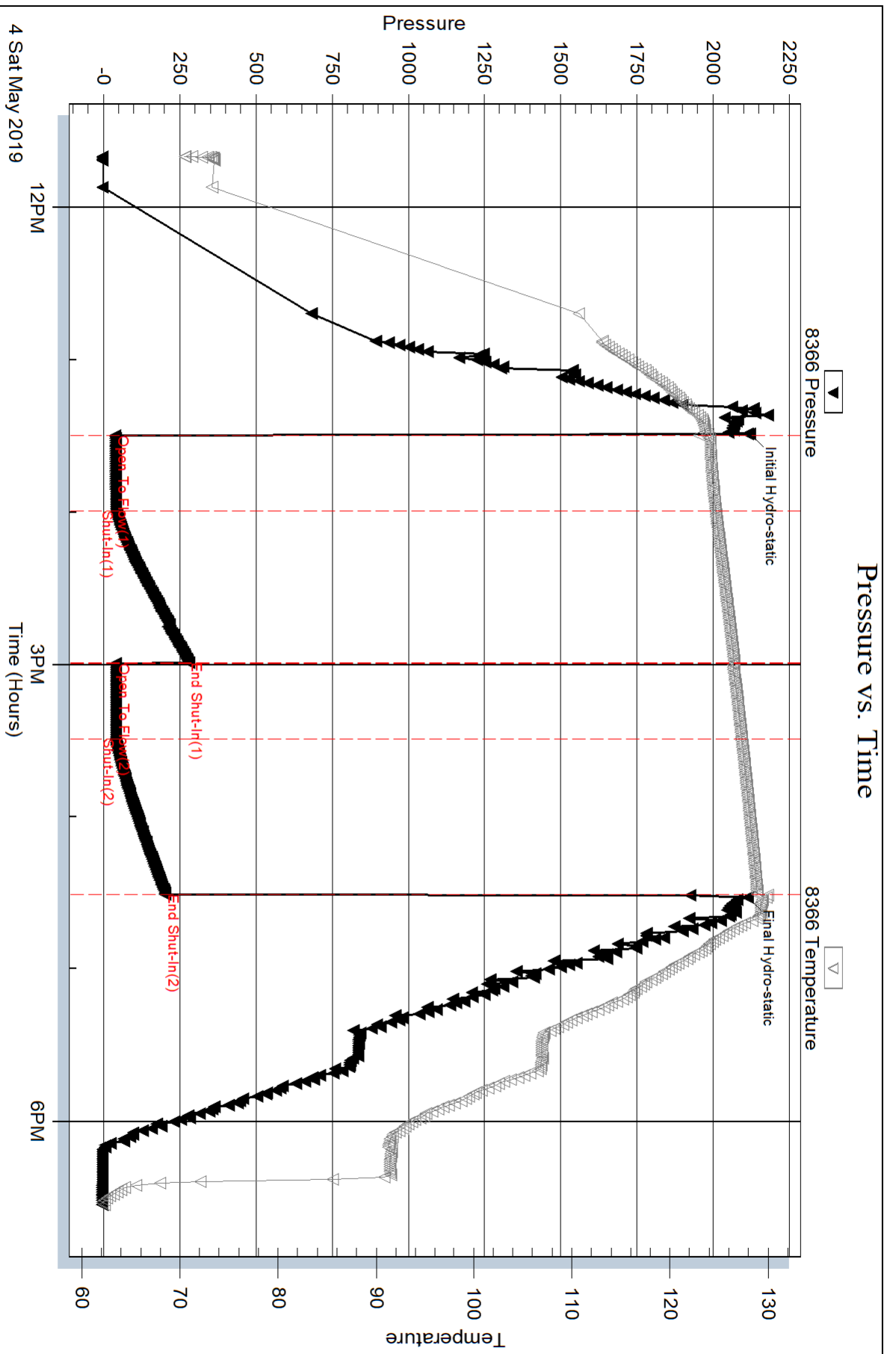
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



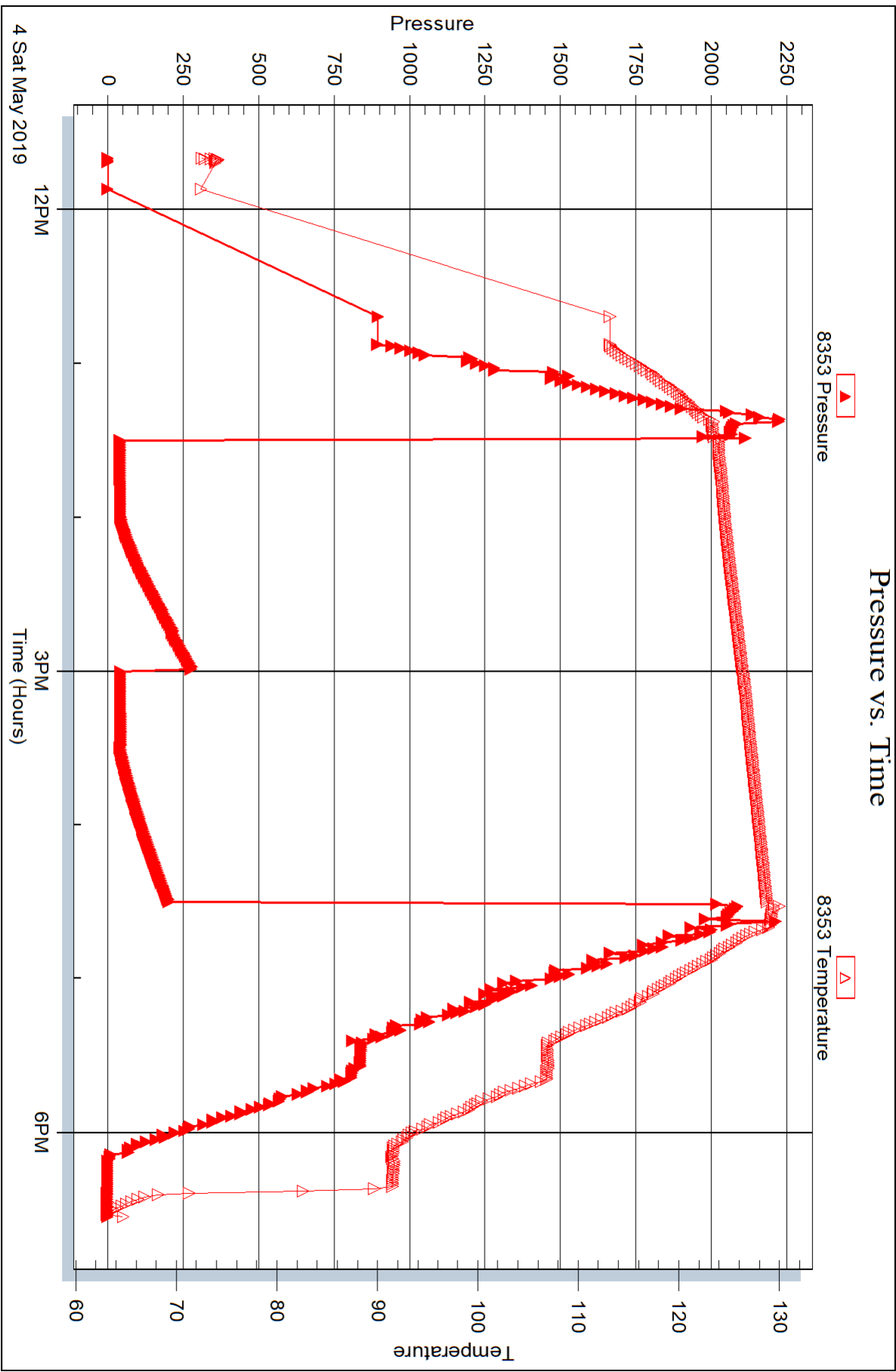
Serial #: 8353

Inside

Murfin Drilling Co. Inc.

Jean 'A' #1-7

DST Test Number: 5





DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita KS 67202

ATTN: Robert Hendrix

Jean 'A' #1-7

7-1s-37w Cheyenne,KS

Start Date: 2019.05.05 @ 16:14:00

End Date: 2019.05.06 @ 00:56:40

Job Ticket #: 65542 DST #: 6

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

Printed: 2019.05.07 @ 14:53:56



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
 250 N. Water STE 300
 Wichita KS 67202
 ATTN: Robert Hendrix

7-1s-37w Cheyenne, KS

Jean 'A' #1-7

Job Ticket: 65542

DST#: 6

Test Start: 2019.05.05 @ 16:14:00

GENERAL INFORMATION:

Formation: **Ft. Scott**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:29:00
 Time Test Ended: 00:56:40
 Interval: **4485.00 ft (KB) To 4535.00 ft (KB) (TVD)**
 Total Depth: 4535.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 71
 Reference Elevations: 3168.00 ft (KB)
 3163.00 ft (CF)
 KB to GR/CF: 5.00 ft

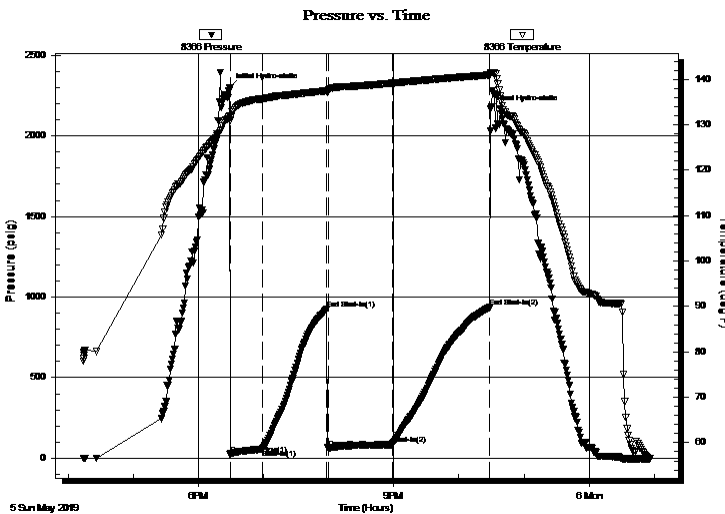
Serial #: 8366

Outside

Press@RunDepth: 84.32 psig @ 4486.00 ft (KB)
 Start Date: 2019.05.05 End Date: 2019.05.06
 Start Time: 16:14:01 End Time: 00:56:40
 Capacity: 8000.00 psig
 Last Calib.: 2019.05.06
 Time On Btm: 2019.05.05 @ 18:28:50
 Time Off Btm: 2019.05.05 @ 22:29:10

TEST COMMENT: 30 IF - Blow built to 6"
 60 ISI - No return
 60 FF - Blow built to 5 3/4"
 90 FSI - Surface blow died @ 20 mins

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2299.96	132.01	Initial Hydro-static
1	21.92	130.96	Open To Flow (1)
30	55.54	135.66	Shut-In(1)
90	924.43	137.49	End Shut-In(1)
91	63.02	137.38	Open To Flow (2)
150	84.32	139.13	Shut-In(2)
240	935.75	140.93	End Shut-In(2)
241	2166.16	141.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GMCO - 20%G - 30%M 50%o	0.30
60.00	GMCO - 30%G - 30%M - 40%o	0.30
60.00	GO - 40%G - 60%o	0.32
30.00	GO - 20%G 80%o	0.42
0.00	120' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
250 N. Water STE 300
Wichita KS 67202
ATTN: Robert Hendrix

7-1s-37w Cheyenne, KS

Jean 'A' #1-7

Job Ticket: 65542

DST#: 6

Test Start: 2019.05.05 @ 16:14:00

GENERAL INFORMATION:

Formation: **Ft. Scott**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:29:00
 Time Test Ended: 00:56:40
 Interval: **4485.00 ft (KB) To 4535.00 ft (KB) (TVD)**
 Total Depth: 4535.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 71
 Reference Elevations: 3168.00 ft (KB)
 3163.00 ft (CF)
 KB to GR/CF: 5.00 ft

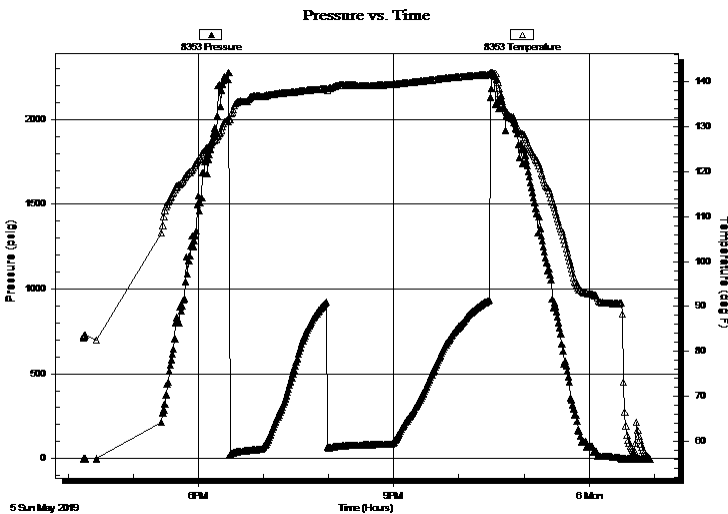
Serial #: 8353

Inside

Press@RunDepth: psig @ 4486.00 ft (KB)
 Start Date: 2019.05.05 End Date: 2019.05.06
 Start Time: 16:14:01 End Time: 00:56:30
 Capacity: 8000.00 psig
 Last Calib.: 2019.05.06
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 IF - Blow built to 6"
 60 ISI - No return
 60 FF - Blow built to 5 3/4"
 90 FSI - Surface blow died @ 20 mins

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GMCO - 20%G - 30%M 50%o	0.30
60.00	GMCO - 30%G - 30%M - 40%o	0.30
60.00	GO - 40%G - 60%o	0.32
30.00	GO - 20%G 80%o	0.42
0.00	120' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

7-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Jean 'A' #1-7

Job Ticket: 65542

DST#: 6

ATTN: Robert Hendrix

Test Start: 2019.05.05 @ 16:14:00

Tool Information

Drill Pipe:	Length: 4291.00 ft	Diameter: 3.80 inches	Volume: 60.19 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 177.00 ft	Diameter: 2.25 inches	Volume: 0.87 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 61.06 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4485.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			4462.00	
Hydraulic tool	5.00			4467.00	
Jars	5.00			4472.00	
Safety Joint	3.00			4475.00	
Packer	5.00			4480.00	28.00 Bottom Of Top Packer
Packer	5.00			4485.00	
Stubb	1.00			4486.00	
Recorder	0.00	8353	Inside	4486.00	
Recorder	0.00	8366	Outside	4486.00	
Perforations	13.00			4499.00	
Blank Spacing	33.00			4532.00	
Bullnose	3.00			4535.00	50.00 Bottom Packers & Anchor

Total Tool Length: 78.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

7-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Jean 'A' #1-7

Job Ticket: 65542

DST#: 6

ATTN: Robert Hendrix

Test Start: 2019.05.05 @ 16:14:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.00 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 bbbl
60.00	GMCO - 20%G - 30%M 50%o	0.295
60.00	GMCO - 30%G - 30%M - 40%o	0.295
60.00	GO - 40%G - 60%o	0.322
30.00	GO - 20%G 80%o	0.421
0.00	120' GIP	0.000

Total Length: 210.00 ft Total Volume: 1.333 bbl

Num Fluid Samples: 0

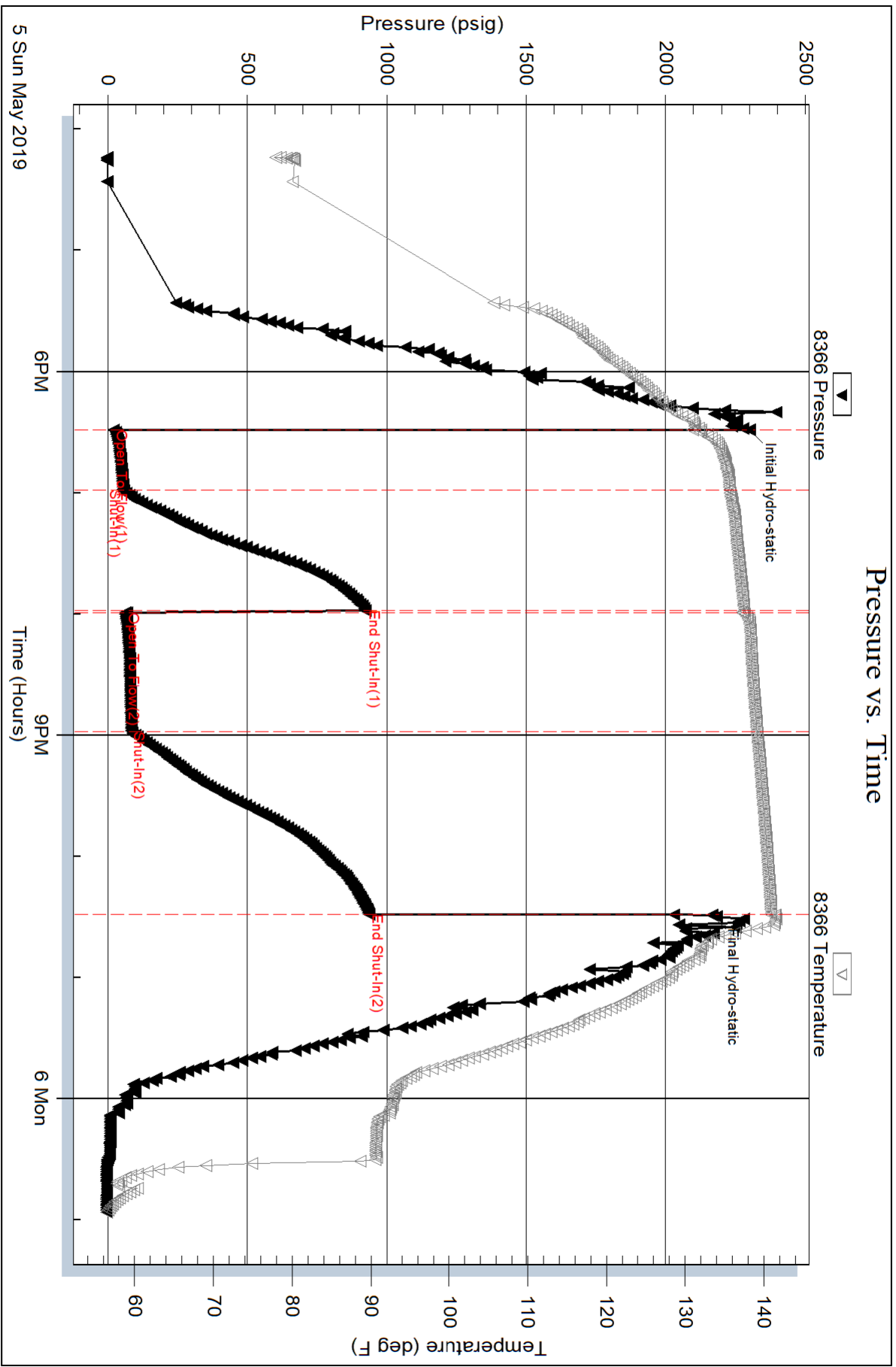
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 37 @ 60 DEG F



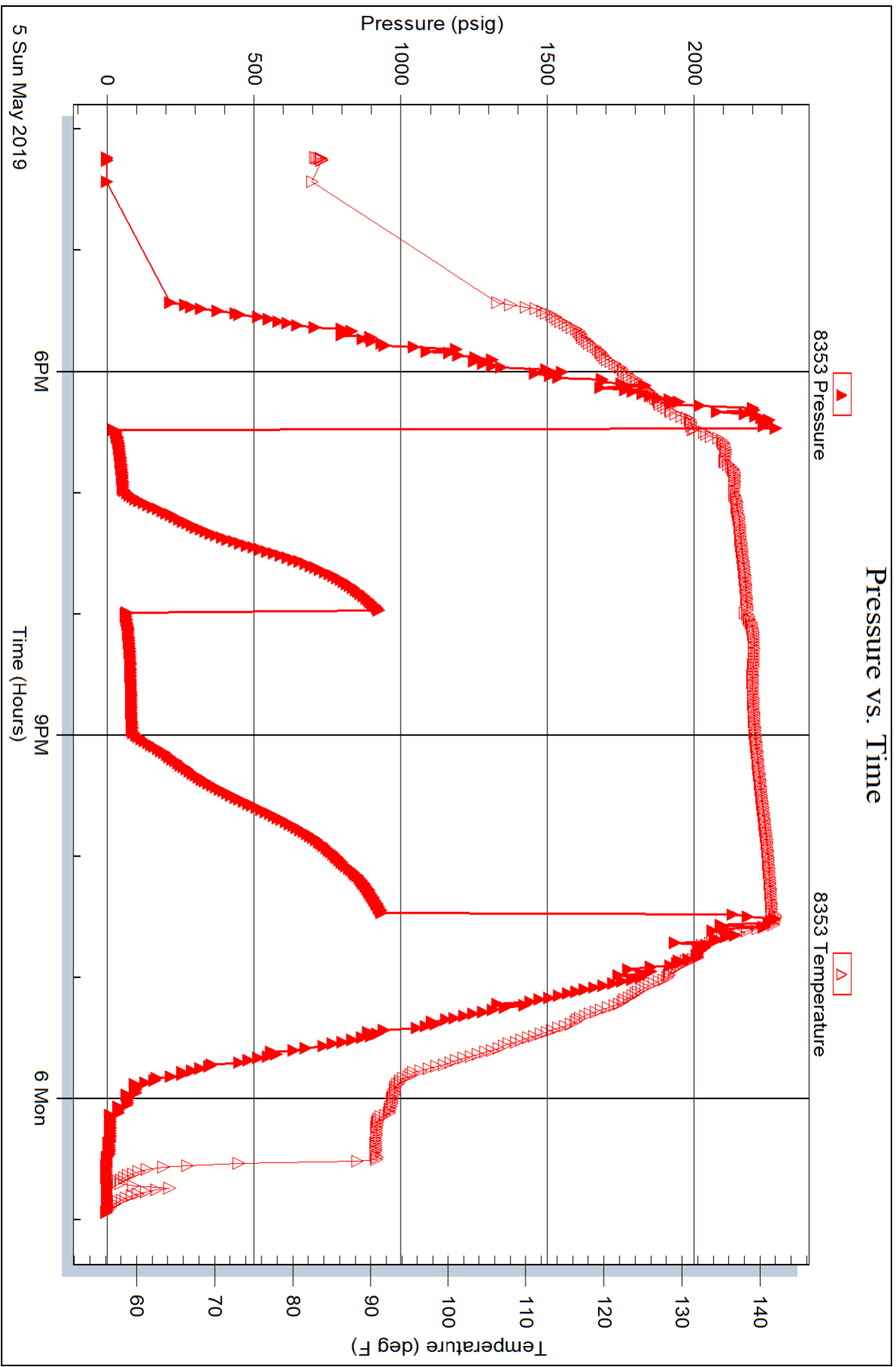
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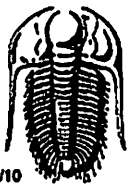
Inside

Murfin Drilling Co. Inc.

Jean 'A' #1-7

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65537

Well Name & No. Jean 'A' #1-7 Test No. 1 Date 4/30/19
 Company Murfin Drilling Co. Inc. Elevation 3168 KB 3163 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3
 Location: Sec. 7 Twp 15 Rge. 37W Co. Cherokee State KS

Interval Tested 3802 - 3903 Zone Tested Statler - Topoka
 Anchor Length 101' Drill Pipe Run 3605' Mud Wt. 8.9
 Top Packer Depth 3797 Drill Collars Run 177' Vis 64
 Bottom Packer Depth 3802 Wt. Pipe Run 0' WL 5.6
 Total Depth 3903 Chlorides 900 ppm System LCM 4
 Blow Description 30 IF - Blow built to 1 1/2"
60 ISI - No return
30 FF - No blow
60 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5' BHT 125° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1890</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>23:30</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>00:21</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>02:55</u>
(D) Initial Shut-In <u>359</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>05:58</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>07:45</u>
(F) Second Final Flow <u>23</u>	<input checked="" type="checkbox"/> Mileage <u>149 RT</u> 149	Comments _____
(G) Final Shut-In <u>278</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> EM Tool
(H) Final Hydrostatic <u>1866</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1674</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1674</u>	

Approved By _____

Our Representative Ky 29th St

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65538

Well Name & No. Jean 'A' #1-7 Test No. 2 Date 5/1/19
 Company Murkin Drilling Co Inc. Elevation 3168 KB 3163 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murkin #3
 Location: Sec. 7 Twp 15 Rge. 37 W Co. Cheyenne State KS

Interval Tested 3988 - 4041 Zone Tested Oread
 Anchor Length 53' Drill Pipe Run 3793' Mud Wt. 9.0
 Top Packer Depth 3983 Drill Collars Run 177' Vis 66
 Bottom Packer Depth 3988 Wt. Pipe Run 0' WL 5.6
 Total Depth 4041 Chlorides 900 ppm System LCM 4
 Blow Description 30 IF - Blow built to 1/2" died back to surface
60 ISI - No return
30 FF - No blow
60 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

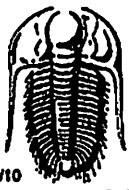
Rec Total 5' BHT 129° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2004</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>20:45</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>21:27</u>
(C) First Final Flow <u>16</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>23:34</u>
(D) Initial Shut-In <u>23</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>02:34</u>
(E) Second Initial Flow <u>15</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>04:15</u>
(F) Second Final Flow <u>16</u>	<input checked="" type="checkbox"/> Mileage <u>149 RT</u> 149	Comments
(G) Final Shut-In <u>17</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1970</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1774</u>
	Sub Total <u>1774</u>	MP/DST Disc't

Approved By _____

Our Representative [Signature]

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TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65539

Well Name & No. Jean 'A' # 1-7 Test No. 3 Date 5/2/19
 Company Martin Drilling Co. Inc. Elevation 3168 KB 3163 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Martin # 3
 Location: Sec. 7 Twp 15 Rge. 37W Co. Cheyenne State KS

Interval Tested 4068 - 4181 Zone Tested LKC "A-D"
 Anchor Length 113' Drill Pipe Run 3885' Mud Wt. 9.1
 Top Packer Depth 4063 Drill Collars Run 177' Vis 65
 Bottom Packer Depth 4068 Wt. Pipe Run 0' WL 5.6
 Total Depth 4181 Chlorides 900 ppm System LCM 4
 Blow Description 30 FF - Blow built to 1 1/2"
60 IST - No return
30 FF - No blow
60 FSI - No return

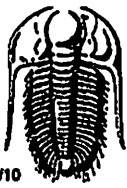
Rec	Feet of	%gas	%oil	%water	%mud
<u>20'</u>	<u>Mud w/oil spots in tool</u>	<u>Spots</u>		<u>100%</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 20' BHT 131° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2073</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>20:15</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>20:56</u>
(C) First Final Flow <u>26</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>23:18</u>
(D) Initial Shut-In <u>1128</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>02:17</u>
(E) Second Initial Flow <u>29</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>04:15</u>
(F) Second Final Flow <u>34</u>	<input checked="" type="checkbox"/> Mileage <u>149'</u>	Comments
(G) Final Shut-In <u>1086</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2061</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1774</u>
	Sub Total <u>1774</u>	MP/DST Disc't

Approved By _____ Our Representative Ray J. Nichols

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65540

Well Name & No. Jean A # 1-7 Test No. 4 Date 5/13/19
 Company Murfin Drilling Co. Inc. Elevation 3168 KB 3163 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin # 3
 Location: Sec. 7 Twp 15 Rge. 37W Co. Cheyenne State KS

Interval Tested 4178 - 4235 Zone Tested LKC "G"
 Anchor Length 57' Drill Pipe Run 3980' Mud Wt. 9.3
 Top Packer Depth 4173 Drill Collars Run 177' Vis 63
 Bottom Packer Depth 4178 Wt. Pipe Run 0' WL 6.0
 Total Depth 4235 Chlorides 900 ppm System LCM 4
 Blow Description 30 IF - BoB @ 11 mins
60 ISI - Surface blow return died @ 40 mins
60 FF - BoB @ 15 mins
90 FSI - BoB @ 32 mins

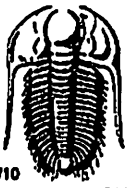
Rec	Feet of	%gas	%oil	%water	%mud
<u>65</u>	<u>60</u>	<u>5</u>	<u>95</u>		
<u>126</u>	<u>60</u>	<u>40</u>	<u>80</u>		
<u>189</u>	<u>GMCO</u>	<u>15</u>	<u>65</u>		<u>20</u>
<u>63</u>	<u>GMWCO</u>	<u>15</u>	<u>45</u>	<u>20</u>	<u>20</u>
<u>303</u>	<u>OMCW</u>		<u>10</u>	<u>75</u>	<u>15</u>

Rec Total 746' BHT 141° Gravity 27.60° API RW .145 @ 60 ° F Chlorides 58,000 ppm

(A) Initial Hydrostatic <u>2150</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>12:45</u>
(B) First Initial Flow <u>32</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>13:25</u>
(C) First Final Flow <u>188</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>15:03</u>
(D) Initial Shut-In <u>1370</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>19:03</u>
(E) Second Initial Flow <u>190</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>21:30</u>
(F) Second Final Flow <u>332</u>	<input checked="" type="checkbox"/> Mileage <u>149 RT</u>	Comments <u>504' GIP</u>
(G) Final Shut-In <u>1323</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2127</u>	<input type="checkbox"/> Straddle	
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> EM Tool
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Shale Packer
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Ruined Packer
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1774</u>
	Sub Total <u>1774</u>	MP/DST Disc't

Approved By _____ Our Representative Th. J. Thib. B.

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65541

Well Name & No. Jean 'A' #1-7 Test No. 5 Date 5/4/19
 Company Murfin Drilling Co. Inc. Elevation 3168 KB 3163 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3
 Location: Sec. 7 Twp 15 Rge. 37W Co. Cheyenne State KS

Interval Tested 4232 - 4330 Zone Tested LKC "H-J"
 Anchor Length 98' Drill Pipe Run 4040' Mud Wt. 9.0
 Top Packer Depth 4227 Drill Collars Run 177' Vis 59
 Bottom Packer Depth 4232 Wt. Pipe Run 0' WL 5.6
 Total Depth 4330 Chlorides 900 ppm System LCM 5
 Blow Description 30 IF - Blow built to 1 3/4" died back to 1 1/4"
60 ISF - No return
30 FF - No blow
60 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>30'</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30' BHT 129° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2121</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>11:00</u>
(B) First Initial Flow <u>39</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>11:40</u>
(C) First Final Flow <u>41</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>13:30</u>
(D) Initial Shut-In <u>280</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>16:30</u>
(E) Second Initial Flow <u>40</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>18:15</u>
(F) Second Final Flow <u>42</u>	<input checked="" type="checkbox"/> Mileage <u>149 RT</u>	Comments <u>Slide 5'</u>
(G) Final Shut-In <u>203</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2114</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Total <u>1774</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1774</u>	

Approved By _____ Our Representative Tom 2

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65542

Well Name & No. Jean 'A' #1-7 Test No. 6 Date 5/5/19
 Company Murfin Drilling Co. Inc. Elevation 3168 KB 3163 GL
 Address 250 N. Water STE 300 Wichita 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin # 3
 Location: Sec. 7 Twp 15 Rge. 37W Co. Cheyenne State KS

Interval Tested 4485 - 4535 Zone Tested Ft. Scott
 Anchor Length 50' Drill Pipe Run _____ Mud Wt. 9.1
 Top Packer Depth 4480 Drill Collars Run 177' Vis 60
 Bottom Packer Depth 4485 Wt. Pipe Run 0' WL 6.0
 Total Depth 4535 Chlorides 900 ppm System LCM 4
 Blow Description 30 IF - Blow built to 6"
60 ISI - No return
60 FF - Blow built to 5 3/4"
90 FSI - Surface blow return died @ 20 mins

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>60</u>	<u>20</u>	<u>80</u>		
<u>60</u>	<u>60</u>	<u>40</u>	<u>60</u>		
<u>60</u>	<u>GMCO</u>	<u>30</u>	<u>40</u>	<u>30</u>	<u>30</u>
<u>60</u>	<u>GMCO</u>	<u>20</u>	<u>50</u>	<u>30</u>	<u>30</u>

Rec Total 210' BHT 141° Gravity 37 @ 60° API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2300</u>	<input type="checkbox"/> Test <u>1300</u>	T-On Location <u>15:30</u>
(B) First Initial Flow <u>22</u>	<input type="checkbox"/> Jars <u>250</u>	T-Started <u>16:14</u>
(C) First Final Flow <u>56</u>	<input type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>18:29</u>
(D) Initial Shut-In <u>924</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>22:28</u>
(E) Second Initial Flow <u>63</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>00:45</u>
(F) Second Final Flow <u>84</u>	<input type="checkbox"/> Mileage <u>149</u>	Comments <u>120' GIP</u>
(G) Final Shut-In <u>936</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2166</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby _____	Total <u>1774</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1774</u>	

Approved By _____ Our Representative Ry 2 M... B...

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