

ALT ☐ I ☐ II ☐ III Approved by: _____ Date: _____

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	CULWELL 'H' 3-19
Doc ID	1707117

All Electric Logs Run

DIL
DUCP
MEL
BHCS

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	CULWELL 'H' 3-19
Doc ID	1707117

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	307	H325	300	
Production	7.875	5.5	15.5	4852	H-con, H-LD	550	



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

Culwell "H" #3-19

19-2s-37w Cheyenne,KS

Start Date: 2023.01.09 @ 19:05:00

End Date: 2023.01.10 @ 02:55:45

Job Ticket #: 69735 DST #: 1

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

Printed: 2023.01.17 @ 11:14:09



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

19-2s-37w Cheyenne,KS

Culwell "H" #3-19

Job Ticket: 69735

DST#: 1

Test Start: 2023.01.09 @ 19:05:00

GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:36:15

Time Test Ended: 02:55:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Nathan Aneas

Unit No: 71

Interval: 4146.00 ft (KB) To 4220.00 ft (KB) (TVD)

Total Depth: 4220.00 ft (KB) (TVD)

Hole Diameter: 7.87 inches Hole Condition: Fair

Reference Elevations: 3356.00 ft (KB)

3351.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8353 Outside

Press@RunDepth: 33.87 psig @ 4147.00 ft (KB)

Start Date: 2023.01.09

End Date:

2023.01.10

Start Time: 19:05:01

End Time:

02:55:45

Capacity: 8000.00 psig

Last Calib.: 2023.01.10

Time On Btm: 2023.01.09 @ 21:35:30

Time Off Btm: 2023.01.10 @ 00:51:30

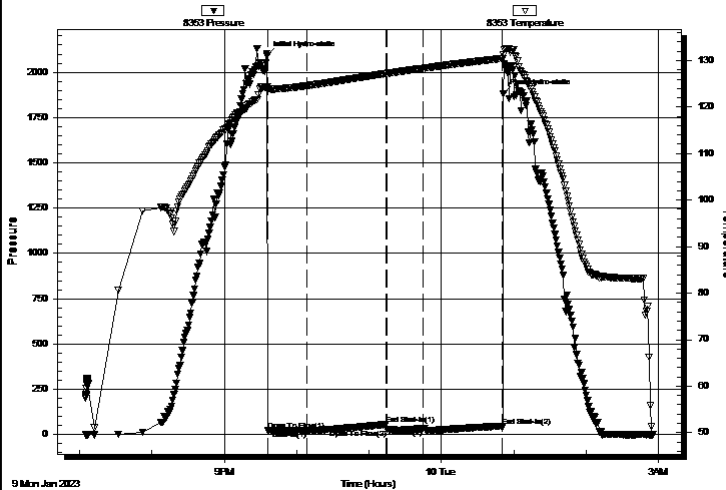
TEST COMMENT: 30:IF- Weak surface blow , built to 1/4" in 10 min, final is 1/2"

60:IS- No blow back

30:FF- No blow

60:FS- No blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2092.94	124.30	Initial Hydro-static
1	21.94	123.98	Open To Flow (1)
34	22.18	124.58	Shut-In(1)
99	56.96	127.19	End Shut-In(1)
100	28.02	127.23	Open To Flow (2)
130	33.87	128.33	Shut-In(2)
195	46.78	130.42	End Shut-In(2)
196	1881.26	131.28	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100%M (spots of oil in tool)	0.05

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

19-2s-37w Cheyenne,KS

Culwell "H" #3-19

Job Ticket: 69735

DST#: 1

Test Start: 2023.01.09 @ 19:05:00

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Hole Diameter: 7.87 inches Hole Condition: Fair

Reference Elevations: 3356.00 ft (KB)

3351.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8676 Inside

Press@RunDepth: psig @ 4147.00 ft (KB)

Start Date: 2023.01.09

End Date:

2023.01.10

Start Time: 19:05:01

End Time:

02:56:00

Capacity: 8000.00 psig

Last Calib.: 2023.01.10

Time On Btm:

Time Off Btm:

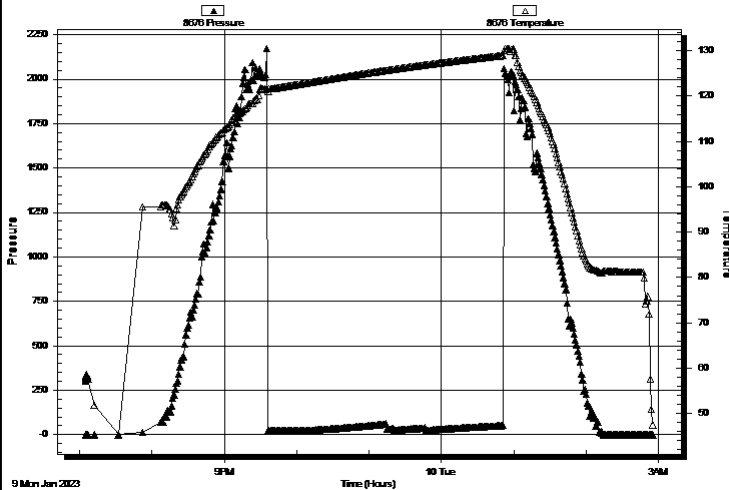
TEST COMMENT: 30:IF- Weak surface blow , built to 1/4" in 10 min, final is 1/2"

60:IS- No blow back

30:FF- No blow

60:FS- No blow back

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
10.00	Mud 100%M (spots of oil in tool)	0.05

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company Inc

19-2s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell "H" #3-19

Job Ticket: 69735

DST#: 1

ATTN: Robert Hendrix

Test Start: 2023.01.09 @ 19:05:00

Tool Information

Drill Pipe:	Length:	3897.00 ft	Diameter:	3.80 inches	Volume:	54.66 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:	25000.00 lb
Drill Collar:	Length:	240.00 ft	Diameter:	2.25 inches	Volume:	1.18 bbl	Weight to Pull Loose:	66000.00 lb
					Total Volume:	55.84 bbl	Tool Chased	ft
Drill Pipe Above KB:		23.00 ft					String Weight: Initial	64000.00 lb
Depth to Top Packer:		4146.00 ft					Final	64000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		74.00 ft						
Tool Length:		106.00 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			4119.00	
Hydraulic tool	5.00			4124.00	
Jars	5.00			4129.00	
EM Tool	4.00			4133.00	
Safety Joint	3.00			4136.00	
Packer	5.00			4141.00	32.00 Bottom Of Top Packer
Packer	5.00			4146.00	
Stubb	1.00			4147.00	
Recorder	0.00	8353	Outside	4147.00	
Recorder	0.00	8676	Inside	4147.00	
Perforations	37.00			4184.00	
Change Over Sub	1.00			4185.00	
Blank Spacing	31.00			4216.00	
Change Over Sub	1.00			4217.00	
Bullnose	3.00			4220.00	74.00 Bottom Packers & Anchor

Total Tool Length: 106.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

19-2s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell "H" #3-19

Job Ticket: 69735

DST#: 1

ATTN: Robert Hendrix

Test Start: 2023.01.09 @ 19:05:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 74.00 sec/qt

Water Loss: 5.98 in³

Resistivity: ohm.m

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud 100%M (spots of oil in tool)	0.049

Total Length: 10.00 ft

Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

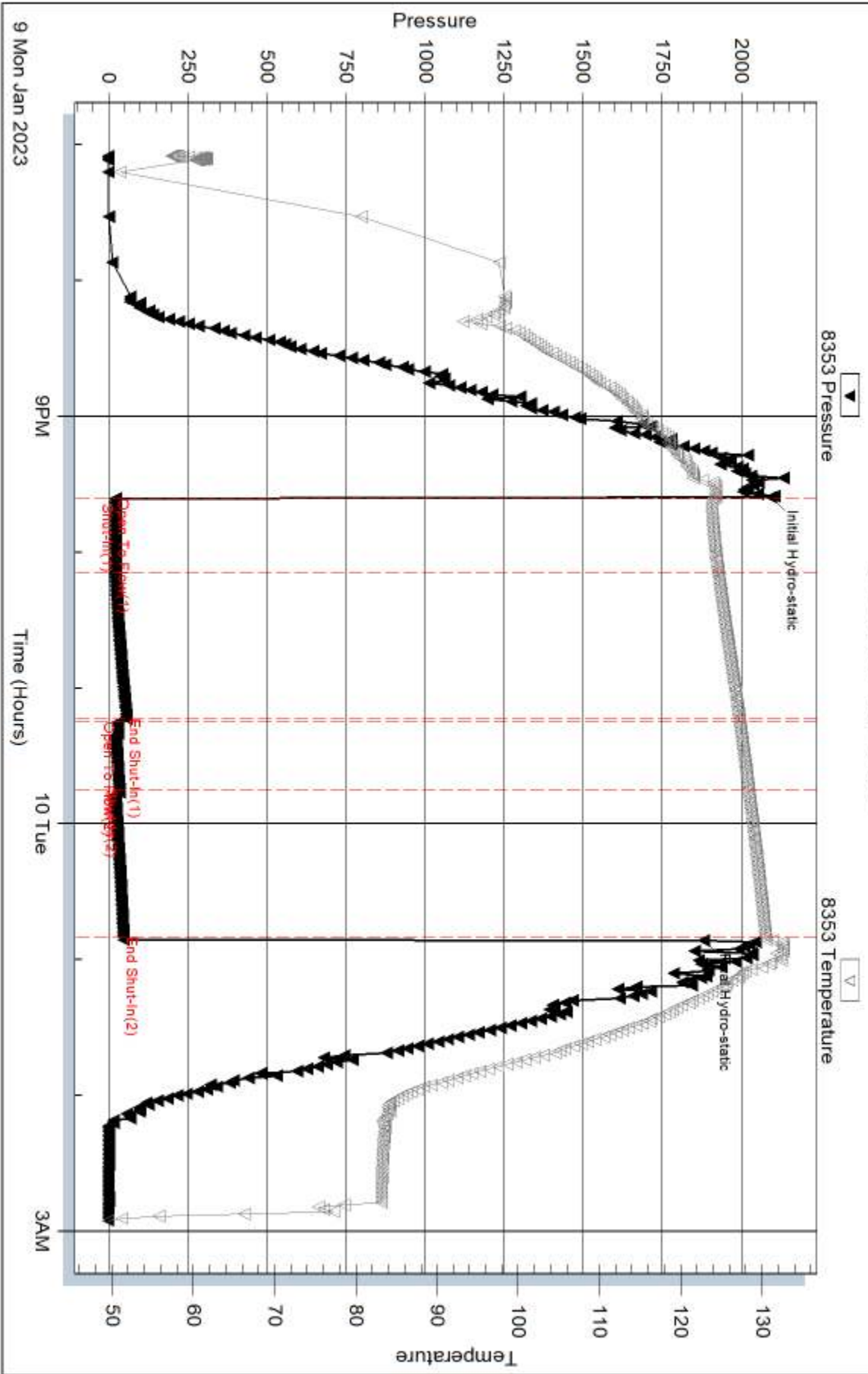
Serial #: 8353

Outside Murfin Drilling Company Inc

Culwell "H" #3-19

DST Test Number: 1

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 69735

Printed: 2023.01.17 @ 11:14:10

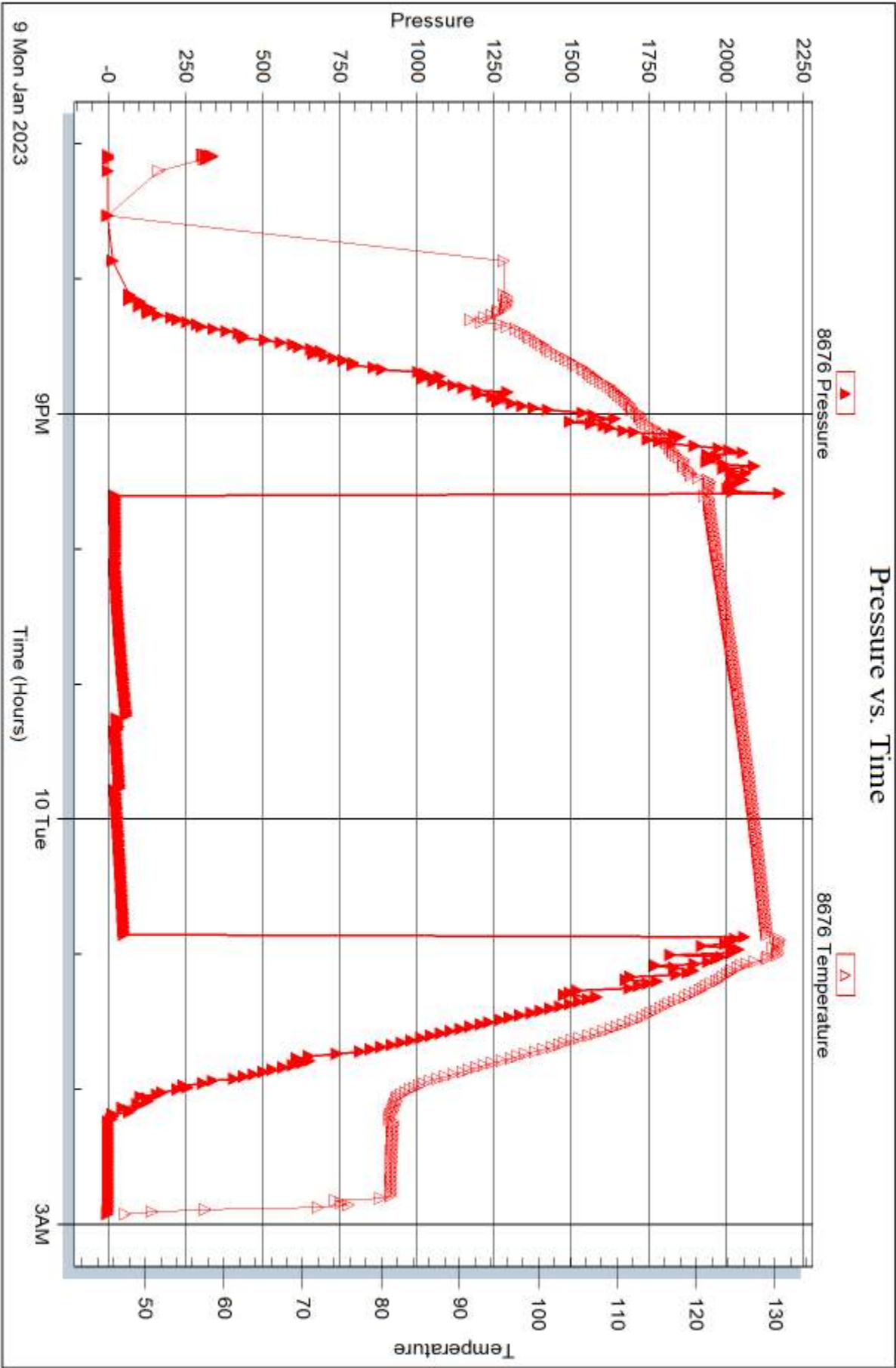
Serial #: 8676

Inside

Murfin Drilling Company Inc

Oilwell "H" #3-19

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

Culwell "H" #3-19

19-2s-37w Cheyenne,KS

Start Date: 2023.01.10 @ 20:25:00

End Date: 2023.01.11 @ 03:00:30

Job Ticket #: 69736 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2023.01.17 @ 11:13:00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

19-2s-37w Cheyenne,KS

Culwell "H" #3-19

Job Ticket: 69736

DST#: 2

Test Start: 2023.01.10 @ 20:25:00

GENERAL INFORMATION:

Formation: **LKC A-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:14:15

Time Test Ended: 03:00:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Nathan Aneas

Unit No: 71

Interval: 4226.00 ft (KB) To 4368.00 ft (KB) (TVD)

Total Depth: 4368.00 ft (KB) (TVD)

Hole Diameter: 7.87 inches Hole Condition: Fair

Reference Elevations: 3356.00 ft (KB)

3351.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8353 Outside

Press@RunDepth: 66.91 psig @ 4227.00 ft (KB)

Start Date: 2023.01.10

End Date:

2023.01.11

Start Time: 20:25:01

End Time:

03:00:30

Capacity: 8000.00 psig

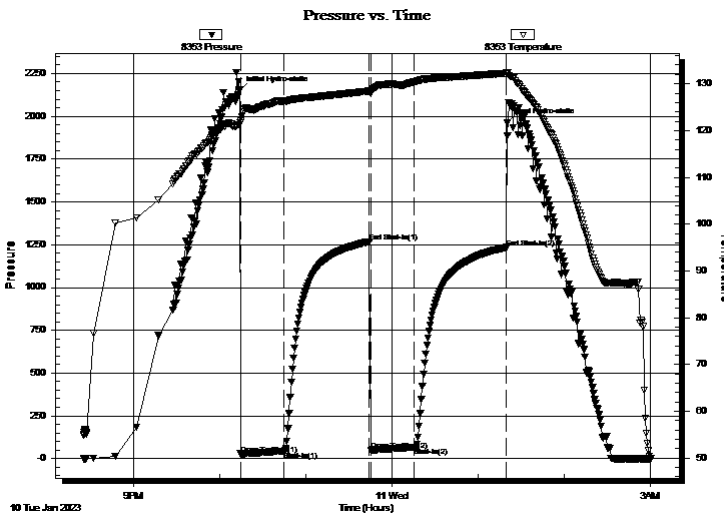
Last Calib.: 2023.01.11

Time On Btm: 2023.01.10 @ 22:13:30

Time Off Btm: 2023.01.11 @ 01:20:15

TEST COMMENT: 30:IF- Fair surface blow , built to 2" in 10 min, final is 2 3/4"
60:IS- No blow back
30:FF- Weak surface blow , built to 1/4" in 10 min, final is 3/4"
60:FS- No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2150.67	121.25	Initial Hydro-static
1	27.68	121.70	Open To Flow (1)
31	44.44	126.34	Shut-In(1)
91	1267.55	128.46	End Shut-In(1)
92	50.88	128.49	Open To Flow (2)
122	66.91	130.42	Shut-In(2)
187	1233.75	132.26	End Shut-In(2)
187	1959.93	132.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	VSGOCM 95%M 3%G 2%O (Spots of oil 0.59)	

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

19-2s-37w Cheyenne,KS

Culwell "H" #3-19

Job Ticket: 69736

DST#: 2

Test Start: 2023.01.10 @ 20:25:00

GENERAL INFORMATION:

Formation: **LKC A-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:14:15

Time Test Ended: 03:00:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Nathan Aneas

Unit No: 71

Interval: 4226.00 ft (KB) To 4368.00 ft (KB) (TVD)

Total Depth: 4368.00 ft (KB) (TVD)

Hole Diameter: 7.87 inches Hole Condition: Fair

Reference Elevations: 3356.00 ft (KB)

3351.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8676 Inside

Press@RunDepth: psig @ 4227.00 ft (KB)

Start Date: 2023.01.10

End Date:

2023.01.11

Start Time: 20:25:01

End Time:

03:00:45

Capacity: 8000.00 psig

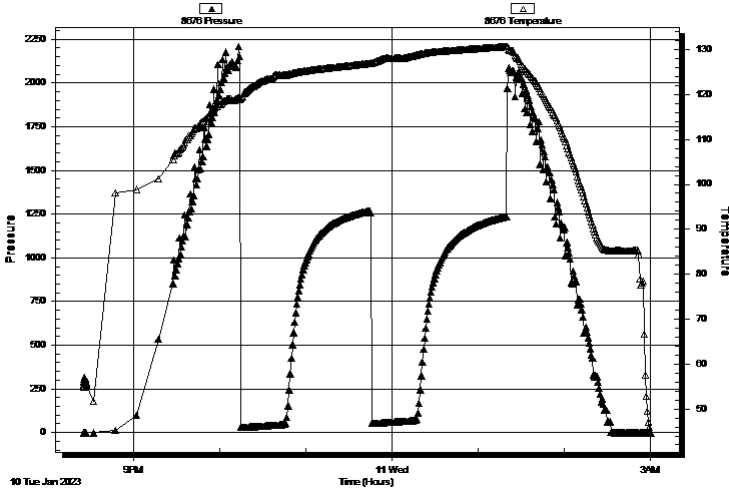
Last Calib.: 2023.01.11

Time On Btm:

Time Off Btm:

TEST COMMENT: 30:IF- Fair surface blow , built to 2" in 10 min, final is 2 3/4"
60:IS- No blow back
30:FF- Weak surface blow , built to 1/4" in 10 min, final is 3/4"
60:FS- No blow back

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
120.00	VSGOCM 95%M 3%G 2%O (Spots of oil 0.59)	

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company Inc

19-2s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell "H" #3-19

Job Ticket: 69736

DST#: 2

ATTN: Robert Hendrix

Test Start: 2023.01.10 @ 20:25:00

Tool Information

Drill Pipe:	Length:	3961.00 ft	Diameter:	3.80 inches	Volume:	55.56 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:	240.00 ft	Diameter:	2.25 inches	Volume:	1.18 bbl	Weight to Pull Loose:	64000.00 lb
					Total Volume:	56.74 bbl	Tool Chased	ft
Drill Pipe Above KB:		7.00 ft					String Weight: Initial	64000.00 lb
Depth to Top Packer:		4226.00 ft					Final	64000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		142.00 ft						
Tool Length:		174.00 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			4199.00	
Hydraulic tool	5.00			4204.00	
Jars	5.00			4209.00	
EM Tool	4.00			4213.00	
Safety Joint	3.00			4216.00	
Packer	5.00			4221.00	32.00 Bottom Of Top Packer
Packer	5.00			4226.00	
Stubb	1.00			4227.00	
Recorder	0.00	8353	Outside	4227.00	
Recorder	0.00	8676	Inside	4227.00	
Perforations	10.00			4237.00	
Change Over Sub	1.00			4238.00	
Blank Spacing	126.00			4364.00	
Change Over Sub	1.00			4365.00	
Bullnose	3.00			4368.00	142.00 Bottom Packers & Anchor

Total Tool Length: 174.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

19-2s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell "H" #3-19

Job Ticket: 69736

DST#: 2

ATTN: Robert Hendrix

Test Start: 2023.01.10 @ 20:25:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 89.00 sec/qt

Water Loss: 6.38 in³

Resistivity: ohm.m

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	VSGOCM 95%M 3%G 2%O (Spots of oil in to	0.590

Total Length: 120.00 ft

Total Volume: 0.590 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

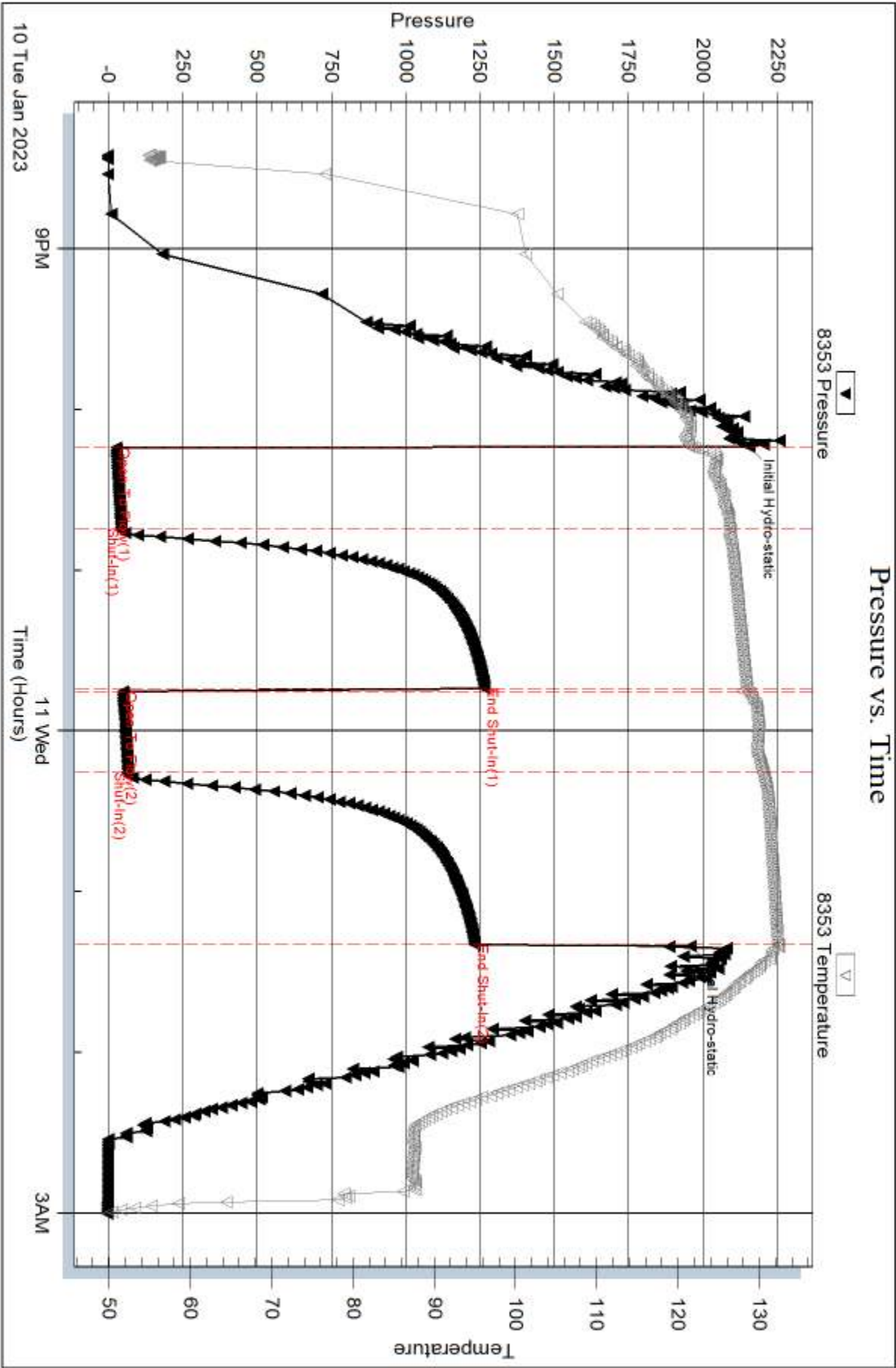
Recovery Comments:

Serial #: 8353

Outside Murfin Drilling Company Inc

Culwell "H" #3-19

DST Test Number: 2



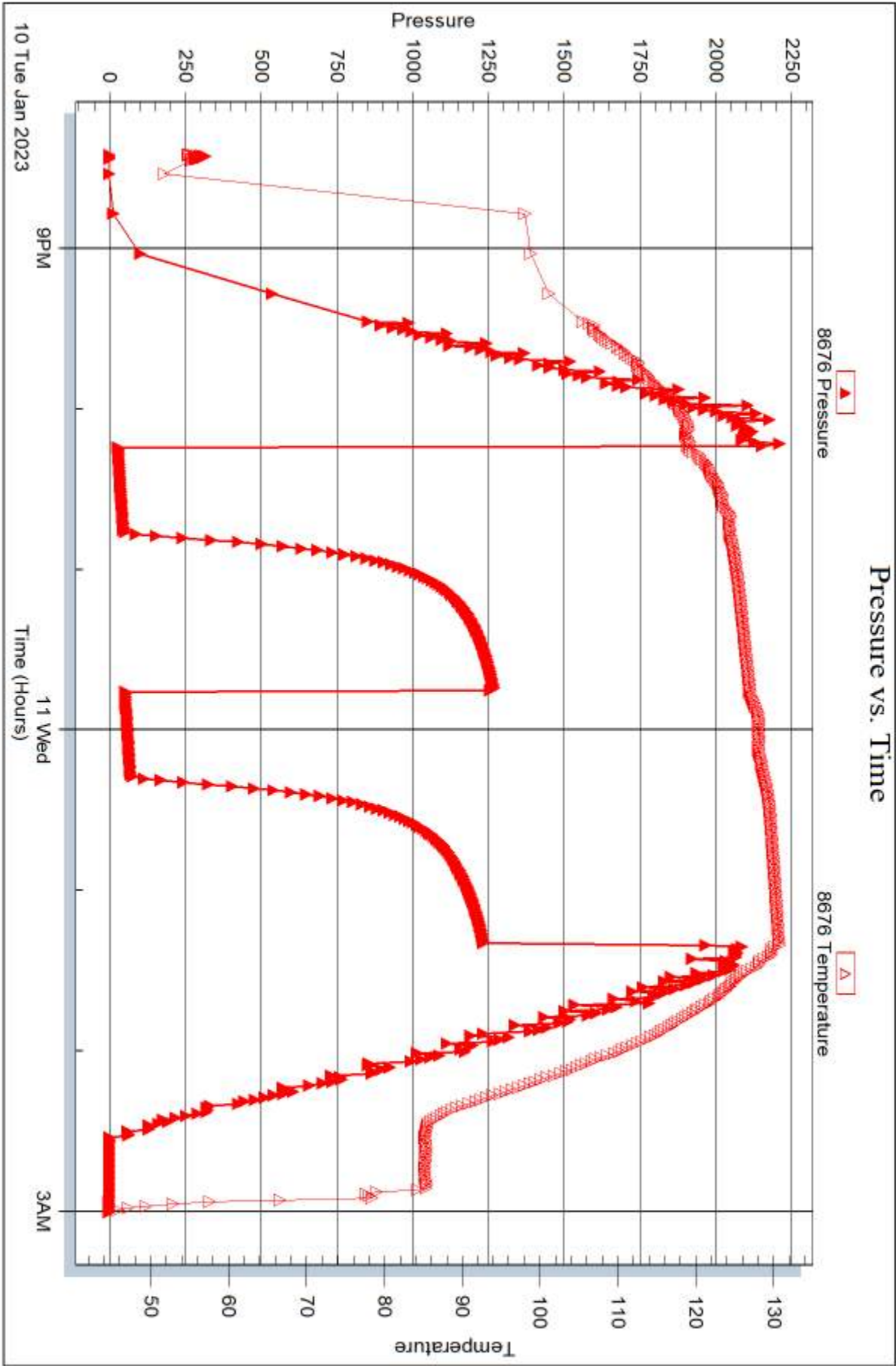
Serial #: 8676

Inside

Murfin Drilling Company Inc

Oilwell "H" #3-19

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

Culwell "H" #3-19

19-2s-37w Cheyenne,KS

Start Date: 2023.01.11 @ 12:40:00

End Date: 2023.01.11 @ 19:24:30

Job Ticket #: 69737 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2023.01.17 @ 11:10:54



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

19-2s-37w Cheyenne,KS

Culwell "H" #3-19

Job Ticket: 69737

DST#: 3

Test Start: 2023.01.11 @ 12:40:00

GENERAL INFORMATION:

Formation: **LKC G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:15:30

Time Test Ended: 19:24:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Nathan Aneas

Unit No: 71

Interval: 4364.00 ft (KB) To 4416.00 ft (KB) (TVD)

Total Depth: 4416.00 ft (KB) (TVD)

Hole Diameter: 7.87 inches Hole Condition: Fair

Reference Elevations: 3356.00 ft (KB)

3351.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8353 Outside

Press@RunDepth: 41.28 psig @ 4365.00 ft (KB)

Start Date: 2023.01.11

End Date:

2023.01.11

Start Time: 12:40:01

End Time:

19:24:30

Capacity: 8000.00 psig

Last Calib.: 2023.01.11

Time On Btm: 2023.01.11 @ 14:14:45

Time Off Btm: 2023.01.11 @ 17:18:45

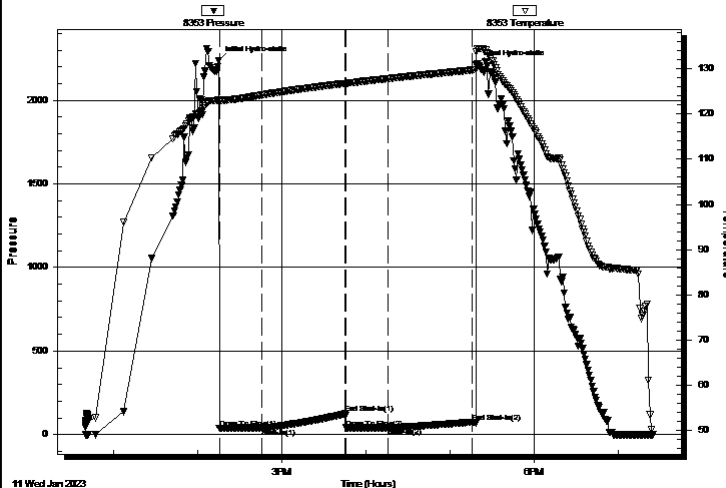
TEST COMMENT: 30:IF- Weak surface blow , stayed weak surface in 10 min, final is weak surface

60:IS- No blow back

30:FF- No blow

60:FS- No blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2238.65	123.13	Initial Hydro-static
1	37.76	122.96	Open To Flow (1)
31	40.48	124.19	Shut-In(1)
91	124.56	126.78	End Shut-In(1)
91	39.90	126.78	Open To Flow (2)
121	41.28	127.83	Shut-In(2)
181	74.44	129.73	End Shut-In(2)
184	2213.07	133.80	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)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

19-2s-37w Cheyenne,KS

Culwell "H" #3-19

Job Ticket: 69737

DST#: 3

Test Start: 2023.01.11 @ 12:40:00

GENERAL INFORMATION:

Formation: **LKC G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:15:30

Time Test Ended: 19:24:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Nathan Aneas

Unit No: 71

Interval: 4364.00 ft (KB) To 4416.00 ft (KB) (TVD)

Total Depth: 4416.00 ft (KB) (TVD)

Hole Diameter: 7.87 inches Hole Condition: Fair

Reference Elevations: 3356.00 ft (KB)

3351.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8676 Inside

Press@RunDepth: psig @ 4365.00 ft (KB)

Start Date: 2023.01.11

End Date:

2023.01.11

Start Time: 12:40:01

End Time:

19:24:45

Capacity: 8000.00 psig

Last Calib.: 2023.01.11

Time On Btm:

Time Off Btm:

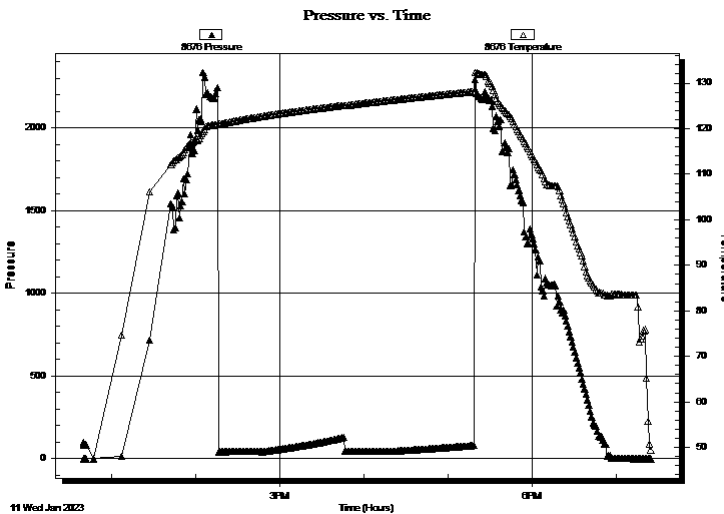
TEST COMMENT: 30:IF- Weak surface blow , stayed weak surface in 10 min, final is weak surface

60:IS- No blow back

30:FF- No blow

60:FS- No blow back

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)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company Inc

19-2s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell "H" #3-19

Job Ticket: 69737

DST#: 3

ATTN: Robert Hendrix

Test Start: 2023.01.11 @ 12:40:00

Tool Information

Drill Pipe:	Length:	4117.00 ft	Diameter:	3.80 inches	Volume:	57.75 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:	240.00 ft	Diameter:	2.25 inches	Volume:	1.18 bbl	Weight to Pull Loose:	66000.00 lb
					Total Volume:	58.93 bbl	Tool Chased	ft
Drill Pipe Above KB:		25.00 ft					String Weight: Initial	64000.00 lb
Depth to Top Packer:		4364.00 ft					Final	64000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		52.00 ft						
Tool Length:		84.00 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			4337.00	
Hydraulic tool	5.00			4342.00	
Jars	5.00			4347.00	
EM Tool	4.00			4351.00	
Safety Joint	3.00			4354.00	
Packer	5.00			4359.00	32.00 Bottom Of Top Packer
Packer	5.00			4364.00	
Stubb	1.00			4365.00	
Recorder	0.00	8353	Outside	4365.00	
Recorder	0.00	8676	Inside	4365.00	
Perforations	15.00			4380.00	
Change Over Sub	1.00			4381.00	
Blank Spacing	31.00			4412.00	
Change Over Sub	1.00			4413.00	
Bullnose	3.00			4416.00	52.00 Bottom Packers & Anchor

Total Tool Length: 84.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

19-2s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell "H" #3-19

Job Ticket: 69737

DST#: 3

ATTN: Robert Hendrix

Test Start: 2023.01.11 @ 12:40:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 85.00 sec/qt

Water Loss: 6.38 in³

Resistivity: ohm.m

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

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:

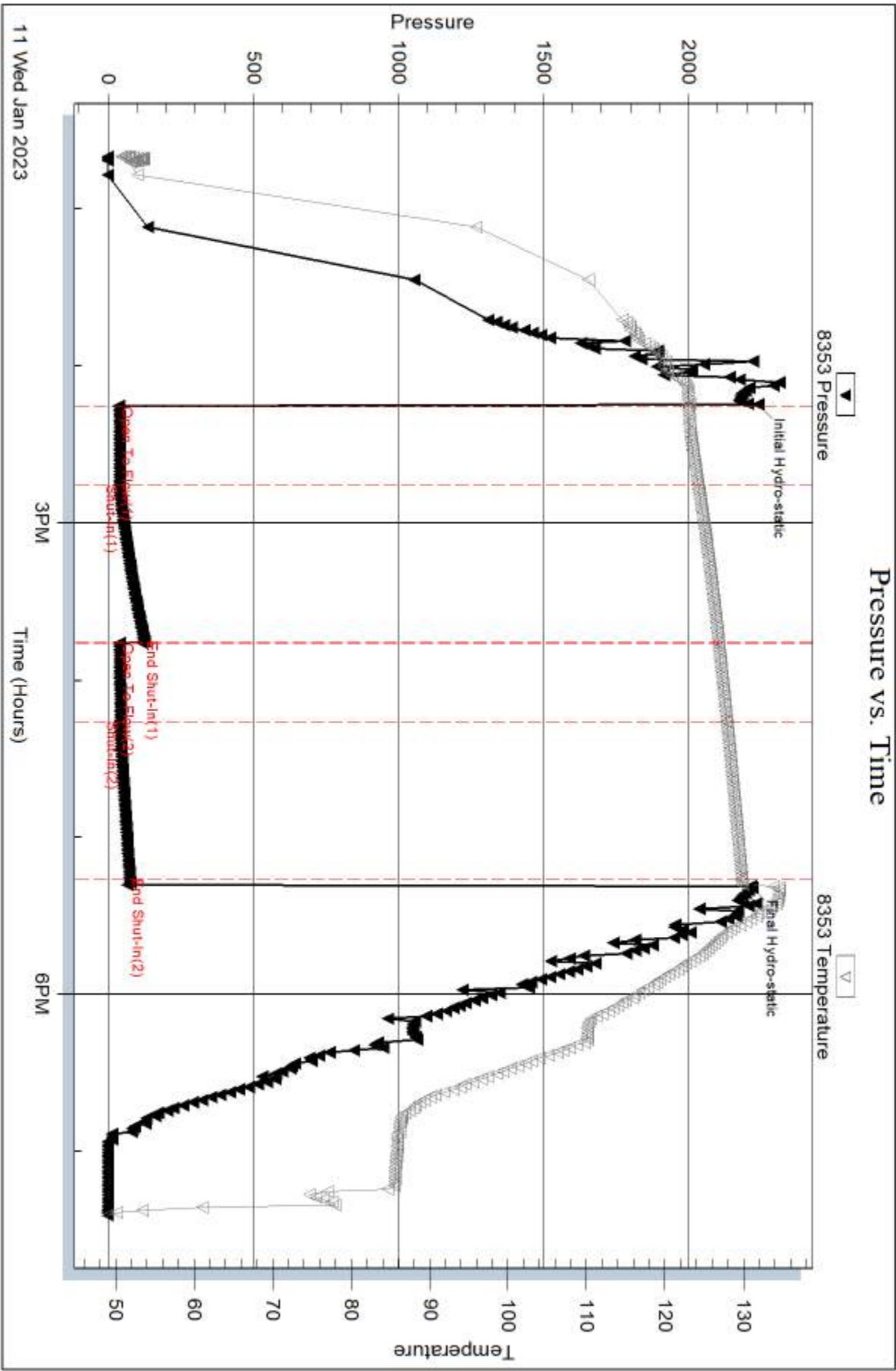
Recovery Comments:

Serial #: 8353

Outside Murfin Drilling Company Inc

Culwell "H" #3-19

DST Test Number: 3



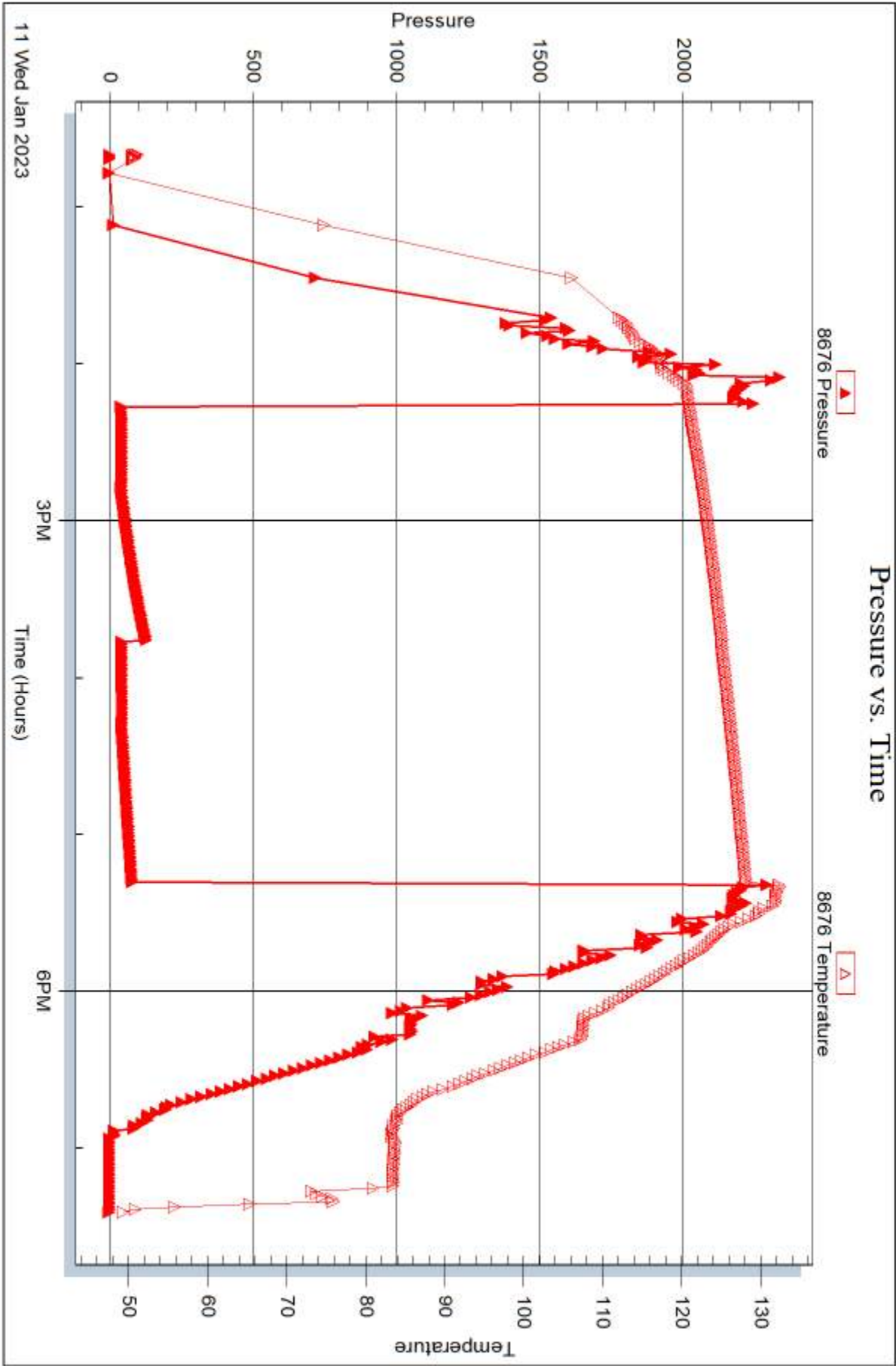
Serial #: 8676

Inside

Murfin Drilling Company Inc

Oilwell "H" #3-19

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

Culwell "H" #3-19

19-2s-37w Cheyenne,KS

Start Date: 2023.01.12 @ 09:10:00

End Date: 2023.01.12 @ 15:49:15

Job Ticket #: 69738 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2023.01.17 @ 11:10:21



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

19-2s-37w Cheyenne,KS

Culwell "H" #3-19

Job Ticket: 69738

DST#: 4

Test Start: 2023.01.12 @ 09:10:00

GENERAL INFORMATION:

Formation: **LKC H-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:40:15

Time Test Ended: 15:49:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Nathan Aneas

Unit No: 71

Interval: 4413.00 ft (KB) To 4497.00 ft (KB) (TVD)

Total Depth: 4497.00 ft (KB) (TVD)

Hole Diameter: 7.87 inches Hole Condition: Fair

Reference Elevations: 3356.00 ft (KB)

3351.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8353 Outside

Press@RunDepth: 52.09 psig @ 4414.00 ft (KB)

Start Date: 2023.01.12

End Date:

2023.01.12

Start Time: 09:10:01

End Time:

15:49:15

Capacity: 8000.00 psig

Last Calib.: 2023.01.12

Time On Btm: 2023.01.12 @ 10:39:30

Time Off Btm: 2023.01.12 @ 13:46:00

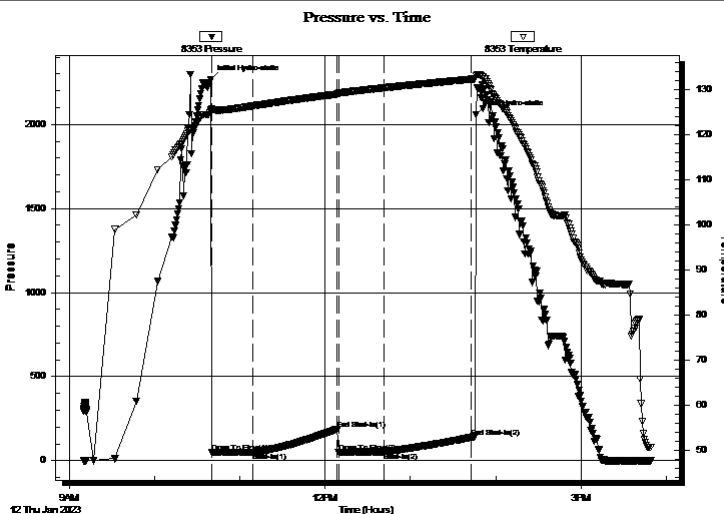
TEST COMMENT: 30:IF- Weak surface blow , built to 3/4", final is 1/2"

60:IS- No blow back

30:FF- No blow

60:FS- No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2265.84	125.60	Initial Hydro-static
1	47.96	125.65	Open To Flow (1)
30	50.53	126.38	Shut-In(1)
89	188.03	129.00	End Shut-In(1)
90	50.49	129.09	Open To Flow (2)
122	52.09	130.41	Shut-In(2)
183	138.38	132.30	End Shut-In(2)
187	2058.02	133.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	Mud 100%M	0.30

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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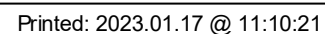
* Recovery from multiple tests



Test Start: 2023.01.12 @ 09:10:00

KB to GR/CF: 5.00 ft

60:FSI- No blow back





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company Inc

19-2s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell "H" #3-19

Job Ticket: 69738

DST#: 4

ATTN: Robert Hendrix

Test Start: 2023.01.12 @ 09:10:00

Tool Information

Drill Pipe:	Length:	4149.00 ft	Diameter:	3.80 inches	Volume:	58.20 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:	240.00 ft	Diameter:	2.25 inches	Volume:	1.18 bbl	Weight to Pull Loose:	66000.00 lb
					Total Volume:	59.38 bbl	Tool Chased	ft
Drill Pipe Above KB:		8.00 ft					String Weight: Initial	64000.00 lb
Depth to Top Packer:		4413.00 ft					Final	64000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		84.00 ft						
Tool Length:		116.00 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			4386.00	
Hydraulic tool	5.00			4391.00	
Jars	5.00			4396.00	
EM Tool	4.00			4400.00	
Safety Joint	3.00			4403.00	
Packer	5.00			4408.00	32.00 Bottom Of Top Packer
Packer	5.00			4413.00	
Stubb	1.00			4414.00	
Recorder	0.00	8353	Outside	4414.00	
Recorder	0.00	8676	Inside	4414.00	
Perforations	15.00			4429.00	
Change Over Sub	1.00			4430.00	
Blank Spacing	63.00			4493.00	
Change Over Sub	1.00			4494.00	
Bullnose	3.00			4497.00	84.00 Bottom Packers & Anchor

Total Tool Length: 116.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

19-2s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell "H" #3-19

Job Ticket: 69738

DST#: 4

ATTN: Robert Hendrix

Test Start: 2023.01.12 @ 09:10:00

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: 69.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	Mud 100%M	0.295

Total Length: 60.00 ft

Total Volume: 0.295 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

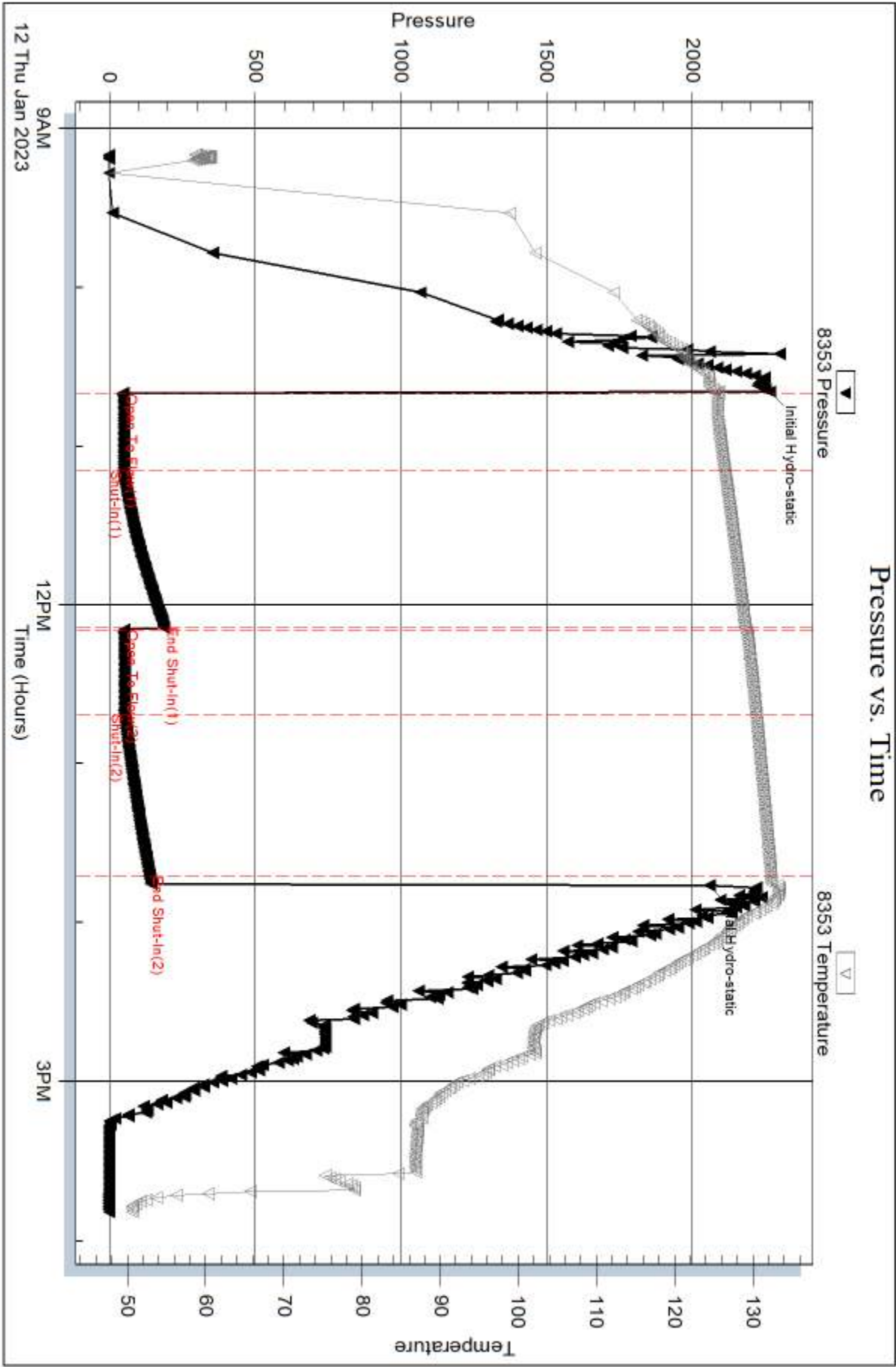
Recovery Comments:

Serial #: 8353

Outside Murfin Drilling Company Inc

Oilwell "H" #3-19

DST Test Number: 4



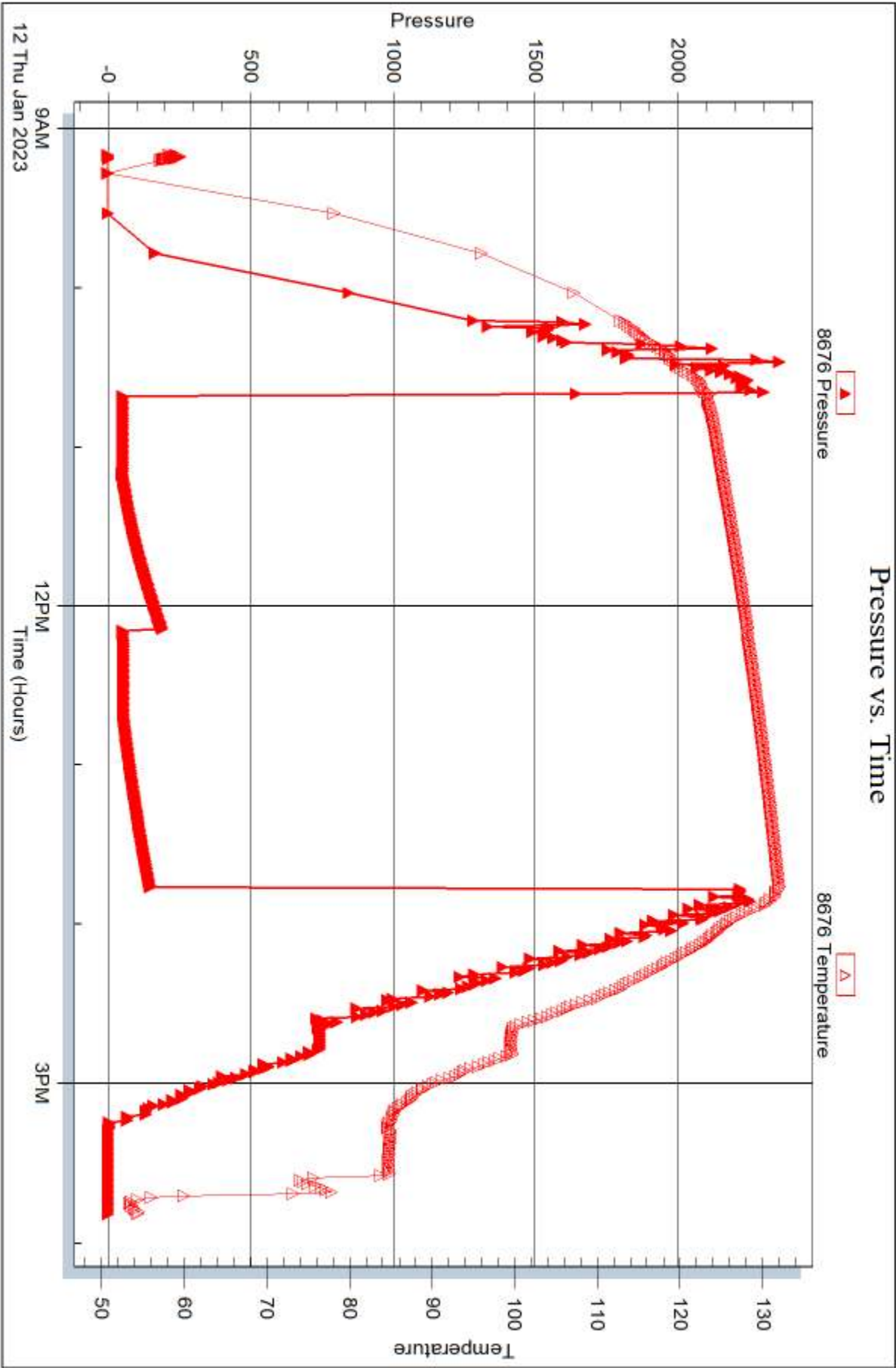
Serial #: 8676

Inside

Murfin Drilling Company Inc

Oilwell "H" #3-19

DST Test Number: 4





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

19-2s-37w Cheyenne,KS

Culwell "H" #3-19

Job Ticket: 68845

DST#: 5

Test Start: 2023.01.13 @ 23:51:00

GENERAL INFORMATION:

Formation: **Ft Scott - Celia**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:14:21

Time Test Ended: 09:40:50

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 73

Interval: 4648.00 ft (KB) To 4785.00 ft (KB) (TVD)

Total Depth: 4785.00 ft (KB) (TVD)

Hole Diameter: 7.87 inches Hole Condition: Fair

Reference Elevations: 3356.00 ft (KB)

3351.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6771 Inside

Press@RunDepth: 122.44 psig @ 4649.00 ft (KB)

Start Date: 2023.01.13

End Date:

2023.01.14

Start Time: 23:51:01

End Time:

09:40:50

Capacity: 8000.00 psig

Last Calib.: 2023.01.14

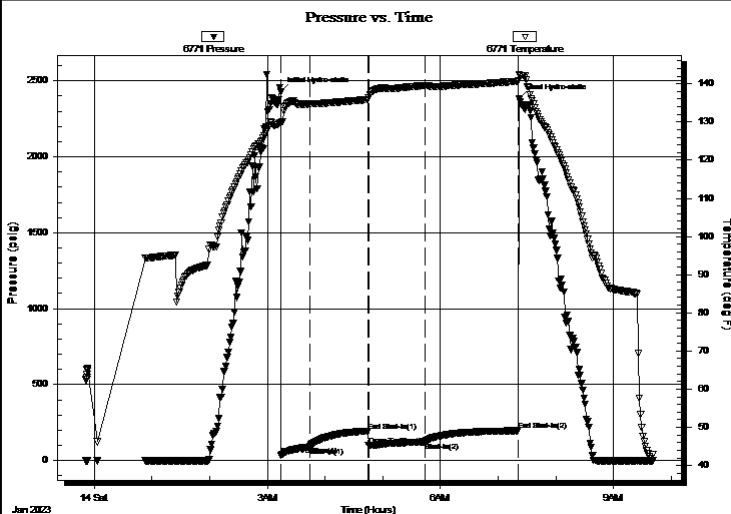
Time On Btm: 2023.01.14 @ 03:13:51

Time Off Btm: 2023.01.14 @ 07:22:06

TEST COMMENT: 30 - IF: Blow built to 9 3/4" (diesel in bucket)
60 - IS: No blow back
60 - FF: Blow built to and stayed at 3"
90 - FS: No blow back

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2425.70	129.55	Initial Hydro-static
1	35.05	129.86	Open To Flow (1)
31	89.58	134.80	Shut-In(1)
91	194.47	135.85	End Shut-In(1)
92	101.47	136.37	Open To Flow (2)
151	122.44	139.59	Shut-In(2)
248	197.65	140.69	End Shut-In(2)
249	2379.44	142.39	Final Hydro-static



Recovery

Length (ft)	Description	Volume (bbl)
180.00	GOCM 72% m, 20% g, 8% o	0.89
60.00	MCO 85% o, 15% m	0.30
20.00	CGO 95% o, 5% g	0.28

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

250 N Water Ste 300
Wichita, KS 67202

ATTN: Robert Hendrix

19-2s-37w Cheyenne,KS

Culwell "H" #3-19

Job Ticket: 68845

DST#: 5

Test Start: 2023.01.13 @ 23:51:00

GENERAL INFORMATION:

Formation: **Ft Scott - Celia**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:14:21

Time Test Ended: 09:40:50

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 73

Interval: 4648.00 ft (KB) To 4785.00 ft (KB) (TVD)

Total Depth: 4785.00 ft (KB) (TVD)

Hole Diameter: 7.87 inches Hole Condition: Fair

Reference Elevations: 3356.00 ft (KB)

3351.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8367 Outside

Press@RunDepth: psig @ 4649.00 ft (KB)

Start Date: 2023.01.13

End Date:

2023.01.14

Start Time: 23:51:01

End Time:

09:40:50

Capacity: 8000.00 psig

Last Calib.: 2023.01.14

Time On Btm:

Time Off Btm:

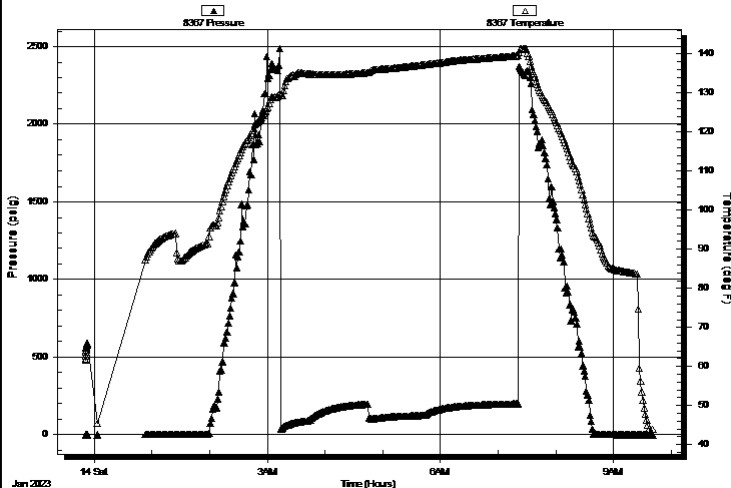
TEST COMMENT: 30 - IF: Blow built to 9 3/4" (diesel in bucket)

60 - ISI: No blow back

60 - FF: Blow built to and stayed at 3"

90 - FSI: No blow back

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
180.00	GOCM 72%o, 20%g, 8%o	0.89
60.00	MCO 85%o, 15%m	0.30
20.00	CGO 95%o, 5%g	0.28

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

19-2s-37w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Culwell "H" #3-19

Job Ticket: 68845

DST#: 5

ATTN: Robert Hendrix

Test Start: 2023.01.13 @ 23:51:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 72.00 sec/qt

Water Loss: 6.79 in³

Resistivity: ohm.m

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

28.2 deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	GOCM 72%m, 20%g, 8%o	0.885
60.00	MCO 85%o, 15%m	0.295
20.00	CGO 95%o, 5%g	0.281

Total Length: 260.00 ft

Total Volume: 1.461 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 26.6 api @ 44 deg F Corrected Gravity = 28.2 api

Serial #: 6771

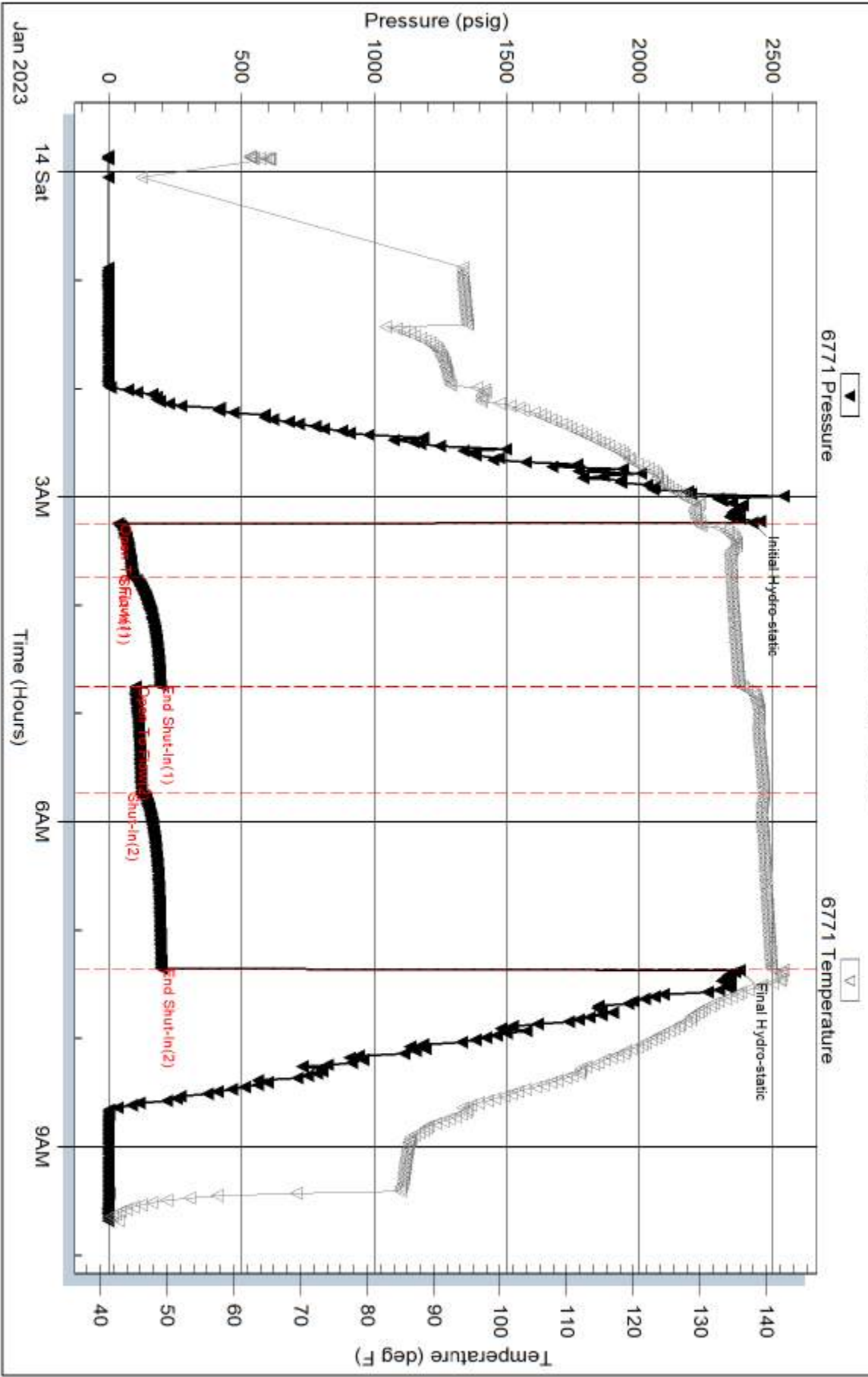
Inside

Murfin Drilling Company Inc

Oilwell "H" #3-19

DST Test Number: 5

Pressure vs. Time

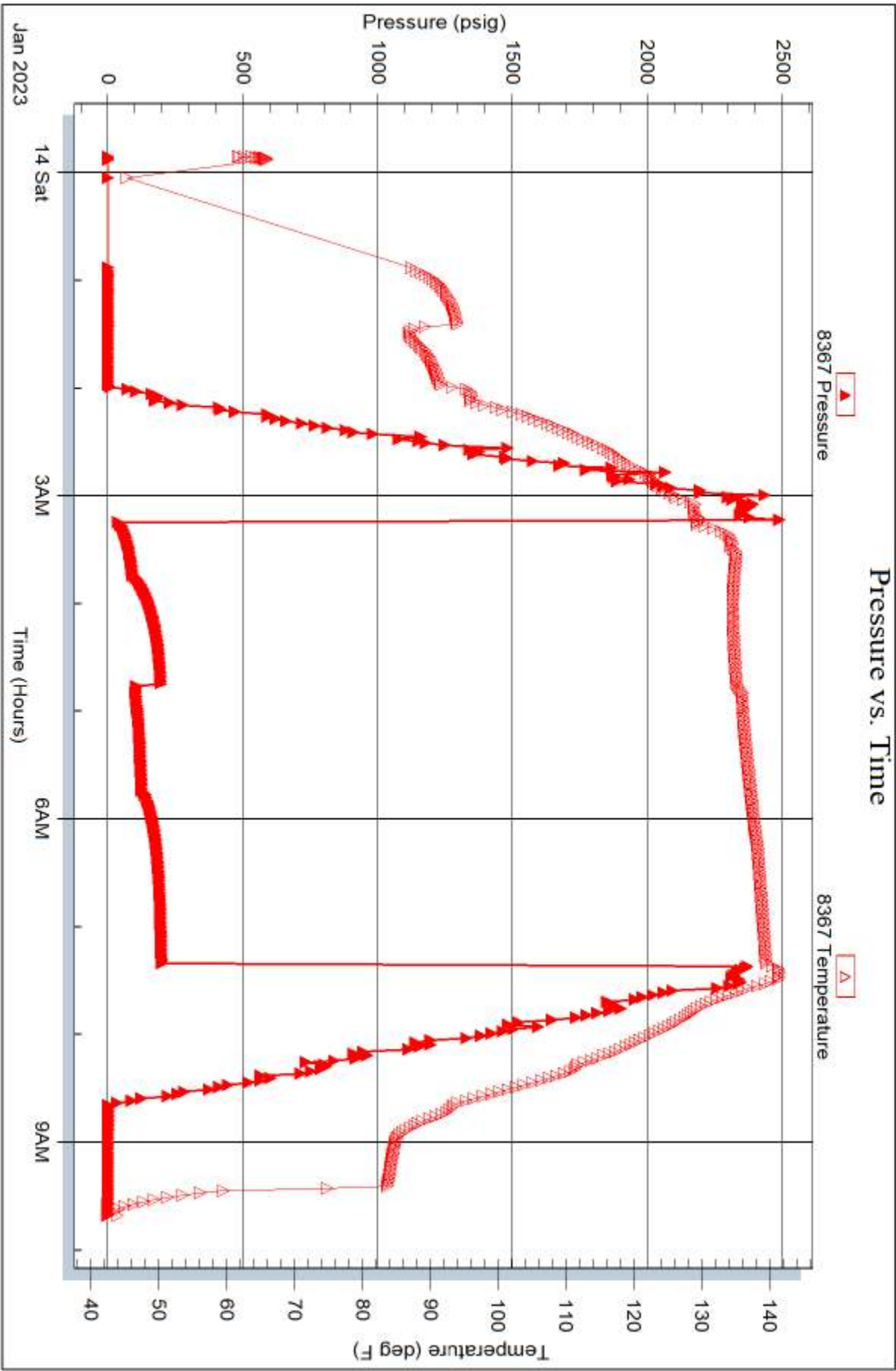


Serial #: 8367

Outside Murfin Drilling Company Inc

Culwell "H" #3-19

DST Test Number: 5





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **69735**

Well Name & No. Culwell 'H' #3-19 Test No. 1 Date 09/09/23
 Company Murfin Drilling Company Inc Elevation 3356 KB 3351 GL
 Address 250 N Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #7
 Location: Sec. 19 Twp 2S Rge. 37W Co. Cheyenne State KS

Interval Tested 4146-4220 Zone Tested Oread
 Anchor Length 74' Drill Pipe Run 3897 Mud Wt. 8.9
 Top Packer Depth 4141 Drill Collars Run 240 Vls 74
 Bottom Packer Depth 4146 Wt. Pipe Run _____ WL 6.0
 Total Depth 4220 Chlorides 600 ppm System LCM 4#

Blow Description IF-Weak surface blow, built to 1/4" in 10min, Final is 1/2"

~~SI~~-No blow back

~~FF~~-No blow

~~FSI~~-No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud (spots of oil in tool)</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 10' BHT 130' Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2093
 (B) First Initial Flow 22
 (C) First Final Flow 22
 (D) Initial Shut-In 57
 (E) Second Initial Flow 28
 (F) Second Final Flow 34
 (G) Final Shut-In 47
 (H) Final Hydrostatic 1881

☒ Test 1950
☒ Jars 300
☒ Safety Joint
☐ Circ Sub
☐ Hourly Standby
☒ Mileage 128 RT 224
☐ Sampler
☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
 Sub Total 2474

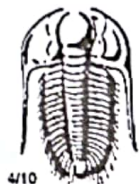
T-On Location 18:30
 T-Started 19:05
 T-Open 21:36
 T-Pulled 00:50
 T-Out 02:50
 Comments _____
☒ EM Tool
☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
 Sub Total 0
 Total 2474
 MP/DSI Disc't _____

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

Approved By _____

Our Representative [Signature]

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. **69736**

Well Name & No. Culwell 'H' #3-P1 Test No. 2 Date 01/10/23
 Company Murfin Drilling Company Inc Elevation 3356 KB 3351 GL
 Address 250 N Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #7
 Location: Sec. 19 Twp 2S Rge. 37W Co. Cheyenne State KS

Interval Tested 4226 - 4368 Zone Tested LKC A-D
 Anchor Length 142' Drill Pipe Run 3961 Mud Wt. 9.0
 Top Packer Depth 4221 Drill Collars Run 240 Vis 89
 Bottom Packer Depth 4226 Wt. Pipe Run WL 6.4
 Total Depth 4368 Chlorides 700 ppm System LCM 4#

Blow Description FF - Fair surface blow, built to 2" in 10 min, Final is 2 3/4"

ISI - No blow back

FF - Weak surface blow, built to 1/4" in 10 min, Final is 3/4"

FSI - No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>120'</u>	<u>VSGOOM</u>	<u>3</u>	<u>2</u>	<u>95</u>	<u>95</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 120' BHT 132° Gravity API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2151
 (B) First Initial Flow 28
 (C) First Final Flow 44
 (D) Initial Shut-In 1268
 (E) Second Initial Flow 51
 (F) Second Final Flow 67
 (G) Final Shut-In 1234
 (H) Final Hydrostatic 1960

☒ Test 1950
☒ Jars 300
☒ Safety Joint
☐ Circ Sub
☐ Hourly Standby
☒ Mileage 128 RT 224
☐ Sampler
☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
 Sub Total 2474

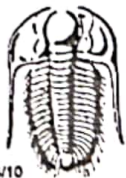
T-On Location 18:45
 T-Started 20:25
 T-Open 22:14
 T-Pulled 01:25
 T-Out 03:00
 Comments
☒ EM Tool
☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
 Sub Total 0
 Total 2474

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

Approved By

Our Representative

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. **69737**

Well Name & No. Culwell 'H' #3-19 Test No. 3 Date 01/11/23
Company Murfin Drilling Company Inc Elevation 3356 KB 3351 GL
Address 250 N Water Ste 300 Wichita, KS 67202
Co. Rep / Geo. Robert Hendrix Rig Murfin #7
Location: Sec. 19 Twp 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4364-4416 Zone Tested LKC 'G'
Anchor Length 52' Drill Pipe Run 4117 Mud Wt. 9.1
Top Packer Depth 4359 Drill Collars Run 240 Vis 85
Bottom Packer Depth 4364 Wt. Pipe Run WL 6.4
Total Depth 4416 Chlorides 700 ppm System LCM 4#

Blow Description IF-Weak surface blow, ~~stayed~~ stayed weak surface in 10min, Final

ISI- No blow back

FE- No blow

FSI- No blow back

Rec <u>5'</u>	Feet of <u>Mud</u>	%gas	%oil	%water	<u>100</u> %mud
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 2239
(B) First Initial Flow 38
(C) First Final Flow 40
(D) Initial Shut-In 125
(E) Second Initial Flow 40
(F) Second Final Flow 41
(G) Final Shut-In 74
(H) Final Hydrostatic 2213

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

☒ Test 1950
☒ Jars 300
☒ Safety Joint
☐ Circ Sub
☐ Hourly Standby
☒ Mileage 128 RT ²²⁴
☐ Sampler
☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
Sub Total 2474

T-On Location 11:45
T-Started 12:40
T-Open 14:15
T-Pulled 17:20
T-Out 19:25
Comments
☒ EM Tool
☐ Ruined Shale Packer
☒ Ruined Packer 460
☐ Extra Copies
Sub Total 460
Total 2934
MP/DST Disc

Approved By

Our Representative

Trilobite Testing Inc. shall not be liable for damaged or destroyed 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. **69738**

Well Name & No. Culwell 'H' #3-19 Test No. 4 Date 01/12/23
Company Murfin Drilling Company Inc Elevation 3356 KB 3351 GL
Address 250 N Water Ste 300 Witchita, KS 67202
Co. Rep / Geo. Robert Hendrix Rig Murfin #7
Location: Sec. 19 Twp 2S Rge. 37W Co. Cheyenne State KS

Interval Tested 4413 - 4497 Zone Tested LKC H-J
Anchor Length 84' Drill Pipe Run 4149 Mud Wt. 9.3
Top Packer Depth 4408 Drill Collars Run 240 Vis 69
Bottom Packer Depth 4413 Wt. Pipe Run WL 6.8
Total Depth 4497 Chlorides 700 ppm System LCM 4H

Blow Description FF-Weak surface blow, built to 3/4" in 10 min, Final is 1/2"
TSI - No blow back
FF - No blow
FSI - No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</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

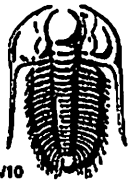
Rec Total 60' BHT 132° Gravity API RW @ °F Chlorides ppm

(A) Initial Hydrostatic <u>2266</u>	☒ Test <u>1950</u>	T-On Location <u>08:00</u>
(B) First Initial Flow <u>48</u>	☒ Jars <u>300</u>	T-Started <u>09:10</u>
(C) First Final Flow <u>51</u>	☒ Safety Joint	T-Open <u>10:40</u>
(D) Initial Shut-In <u>188</u>	☐ Circ Sub	T-Pulled <u>01:40 13:40</u>
(E) Second Initial Flow <u>50</u>	☐ Hourly Standby	T-Out <u>15:45</u>
(F) Second Final Flow <u>52</u>	☒ Mileage <u>128 RT</u> ²²⁴	Comments
(G) Final Shut-In <u>138</u>	☐ Sampler	
(H) Final Hydrostatic <u>2058</u>	☐ Straddle	

Initial Open <u>30</u>	☐ Shale Packer	☒ EM Tool
Initial Shut-In <u>60</u>	☐ Extra Packer	☐ Ruined Shale Packer
Final Flow <u>30</u>	☐ Extra Recorder	☒ Ruined Packer <u>X2</u> ⁹²⁰
Final Shut-In <u>60</u>	☐ Day Standby	Sub Total <u>920</u>
	☐ Accessibility	Total <u>3394</u>
	Sub Total <u>2474</u>	MP/DST Disct

Approved By Our Representative

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68845

Well Name & No. Culwell 'H' #3-19 Test No. 5 Date 1-14-23
 Company Murfin Drilling Co. Inc Elevation 3356 KB 3351 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #7
 Location: Sec. 19 Twp 2S Rge. 37W Co. Cheyenne State KS

Interval Tested 4648 - 4785 Zone Tested Ft Scott - Celig
 Anchor Length 137 Drill Pipe Run 4402 Mud Wt. 9.4
 Top Packer Depth 4643 Drill Collars Run 240 Vls 72
 Bottom Packer Depth 4648 Wt. Pipe Run - WL 6.8
 Total Depth 4785 Chlorides 700 ppm System LCM 4

Blow Description IF: Blow built to 9 3/4" (in diesel)
ISI: No blowback
FF: Blow built to and stayed at 3"
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>CGO</u>	<u>5</u>	<u>95</u>		
<u>60</u>	<u>mco</u>		<u>85</u>		<u>15</u>
<u>180</u>	<u>GOCm</u>	<u>20</u>	<u>8</u>		<u>72</u>

Rec Total 260 BHT 141 Gravity 28.2 API RW @ °F Chlorides ppm
 (A) Initial Hydrostatic 2426 ☒ Test 1950 T-On Location 22:20 4/3
 (B) First Initial Flow 35 ☒ Jars 300 T-Started 23:51
 (C) First Final Flow 90 ☒ Safety Joint T-Open 3:14
 (D) Initial Shut-In 194 ☐ Circ Sub T-Pulled 2:21
 (E) Second Initial Flow 101 ☐ Hourly Standby T-Out 9:40 1/14
 (F) Second Final Flow 122 ☒ Mileage 122 RT 224 Comments
 (G) Final Shut-In 198 ☐ Sampler
 (H) Final Hydrostatic 2379 ☐ Straddle

Initial Open 30 ☒ EM Tool
 Initial Shut-In 60 ☐ Ruined Shale Packer
 Final Flow 60 ☐ Ruined Packer
 Final Shut-In 90 ☐ Extra Copies
 Sub Total 0
 Total 2474
 Sub Total 2474 MP/DST Disc't

Approved By James Winder Our Representative James Winder
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Robert D. Hendrix
Petroleum Geologist

GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

COMPANY Murfin Drilling Company Inc.

ELEVATIONS

LEASE Culwell H #3-19

FIELD Ken Southwest

LOCATION 9901st & 19801st

SEC 19 TWP 2s RGE 37w

COUNTY Cheyenne STATE Kansas

CONTRACTOR Murfin Drilling Company Inc. Rig #7

SPUD 1/5/2023 COMP 1/15/2023

RTD 4850 LTD 4852

MUD UP 3713 TYPE MUD Chemical

SAMPLES SAVED FROM 3940 TO 4850

DRILLING TIME KEPT FROM 3940 TO 4850

SAMPLES EXAMINED FROM 3940 TO 4850

GEOLOGICAL SUPERVISION FROM 3940 TO 4850

GEOLOGIST ON WELL Robert D. Hendrix

FORMATIONS TOPS

ANHYDRITE 3225 (+124)

TOPEKA 4048 (-692)

OREAD 4193 (-837)

LANSING 4266 (-910)

STARK 4500 (-1144)

MOUND CITY 4551 (-1195)

FT. SCOTT 4676 (-1320)

OAKLEY 4753 (-1397)

KB 3356

DF

GL 3351

Measurements Are All From Keilly Busting

CASING

CONDUCTOR 8-8 1/2" @ 307

SURFACE 5-8 1/2" @ 4852

PRODUCTION 5 1/2" @ 4852

ELECTRICAL

Surveys

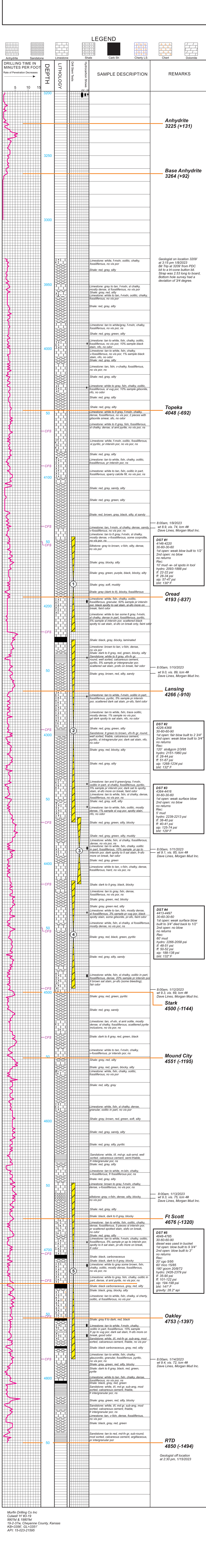
Dual Comp. possibly, Microlog

Dual Induction, Midwest Wireline

APIT # 15-023-21595

REMARKS:
Due to positive results on DST#5 and E-Log response it was determined that casing should be set to further test the zone. .
Ran 115 jts of 15.5# of 5 1/2" prod csg set @ 4852'. HSI cmt w/550sxs (400 H-com 150 H-LD). PD @ 1:00AM 01/16/2023. Cmt circ. RR @ 5:00AM 01/16/2023.

LEGEND



DRILLING REPORT - LOG TOPS - CULWELL H 3-19

	MDCI Culwell 'H' #3-19 990' FSL 1980' FEL Sec. 19-T2S-R37W 3356' KB					
Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	3225	+131	+1	3231	+125	-5
B/Anhydrite	3266	+90	-5	3265	+91	-4
Topeka	4048	-692	-10	4051	-695	-13
Oread	4193	-837	-12	4194	-838	-13
Lansing	4266	-910	-9	4267	-911	-10
Stark	4500	-1144	-11	4498	-1142	-9
Mound City	4551	-1195	-12	4550	-1194	-11
Ft. Scott	4676	-1320	-6	4680	-1324	-10
Oakley	4753	-1397	-10	4750	-1394	-7
RTD				4850		
LTD	4852					



Calculated Slurry - Tall	
Blend:	H-LD
Weight:	14.8 ppg
Water / Sx:	6.5 gal / sx
Yield:	1.51 ft ³ / sx
Annular Bbls / Ft.:	0.0309 bbs / ft.
Depth:	ft
Annular Volume:	0 bbls
Excess:	
Total Slurry:	0.0 bbls
Total Sacks:	0 sx

	CREW	UNIT	SUMMARY			
	Comenter:	John	73	Average Rate	Average Pressure	Total Fluid
	Pump Operator:	Jose V	230	4.3 bpm	637 psi	392 bbls
	Bulk #1:	Kale	194-250			
	Bulk #2:	Adrian	205			