

Confidentiality Requested:

Yes  No

**KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

**Form must be Typed**

**Form must be Signed**

**All blanks must be Filled**

**WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Recompletion Date \_\_\_\_\_ Date Reached TD \_\_\_\_\_ Completion Date or Recompletion Date \_\_\_\_\_

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	C & C UNIT 1-30
Doc ID	1509515

All Electric Logs Run

BHCS
MEL
DUCP
DIL





## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Saman Sharifaie

### **C&C Unit #1-30**

### **30-2s-37w Cheyenne,KS**

Start Date: 2020.01.26 @ 23:12:00

End Date: 2020.01.27 @ 08:54:45

Job Ticket #: 66422                      DST #: 1

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

Printed: 2020.02.03 @ 11:47:59



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**30-2s-37w Cheyenne, KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66422

**DST#: 1**

ATTN: Saman Sharifaie

Test Start: 2020.01.26 @ 23:12:00

## GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:28:45

Time Test Ended: 08:54:45

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

**Interval: 4120.00 ft (KB) To 4190.00 ft (KB) (TVD)**

Reference Elevations: 3326.00 ft (KB)

Total Depth: 4190.00 ft (KB) (TVD)

3321.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8652 Outside**

Press@RunDepth: 65.01 psig @ 4121.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.01.26

End Date:

2020.01.27

Last Calib.:

2020.01.27

Start Time: 23:12:05

End Time:

08:54:45

Time On Btm:

2020.01.27 @ 03:28:30

Time Off Btm:

2020.01.27 @ 06:38:15

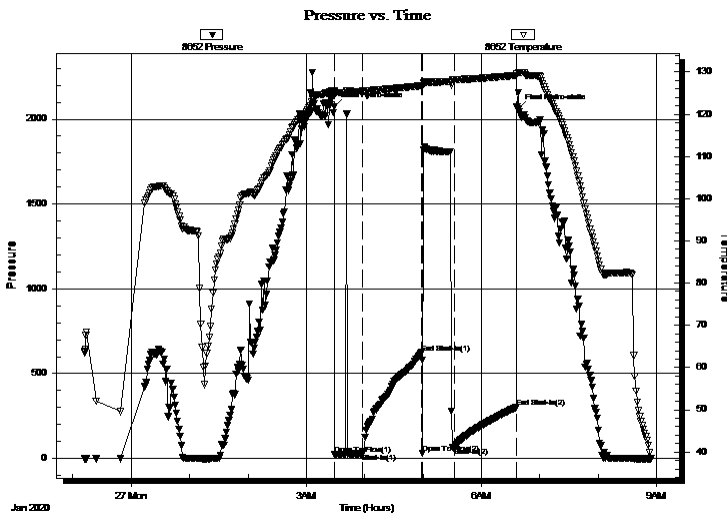
**TEST COMMENT:** 30 - IF: 1/4" Blow at open, flushed tool @ 14 min., Weak surface blow, dead at 22 min.

60 - IS: No blow

30 - FF: No blow

60 - FS: No blow

## PRESSURE SUMMARY



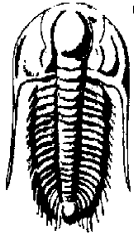
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2072.89	125.50	Initial Hydro-static
1	23.51	124.48	Open To Flow (1)
30	28.86	125.46	Shut-In(1)
90	623.84	126.76	End Shut-In(1)
91	30.49	126.65	Open To Flow (2)
124	65.01	128.23	Shut-In(2)
188	302.28	129.19	End Shut-In(2)
190	2059.54	129.85	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	Mud 100%	0.44

## 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: Saman Sharifaie

**30-2s-37w Cheyenne, KS**

**C&C Unit #1-30**

Job Ticket: 66422      **DST#: 1**  
Test Start: 2020.01.26 @ 23:12:00

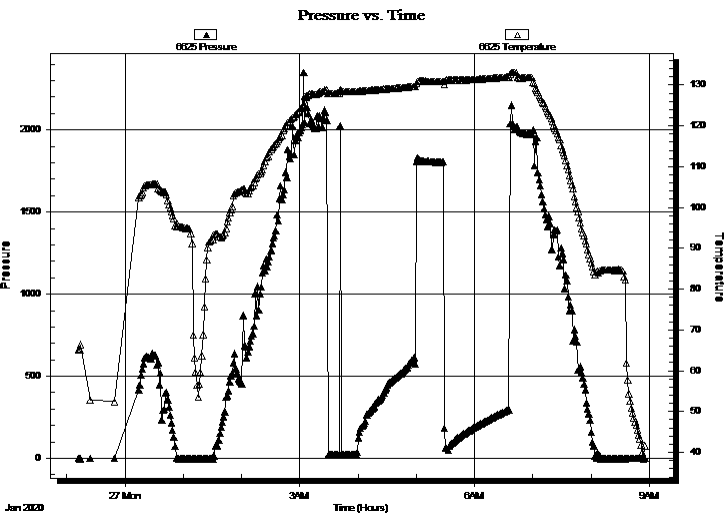
### GENERAL INFORMATION:

Formation: **Oread**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 03:28:45  
Time Test Ended: 08:54:45  
Interval: **4120.00 ft (KB) To 4190.00 ft (KB) (TVD)**  
Total Depth: 4190.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: James Winder  
Unit No: 83  
Reference Elevations: 3326.00 ft (KB)  
3321.00 ft (CF)  
KB to GR/CF: 5.00 ft

### Serial #: 6625 Inside

Press@RunDepth:                      psig @ 4121.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2020.01.26      End Date: 2020.01.27      Last Calib.: 2020.01.27  
Start Time: 23:12:05      End Time: 08:55:15      Time On Btm:  
Time Off Btm:

TEST COMMENT: 30 - IF: 1/4" Blow at open, flushed tool @ 14 min., Weak surface blow, dead at 22 min.  
60 - IS: No blow  
30 - FF: No blow  
60 - FS: No blow



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
90.00	Mud 100%	0.44

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**30-2s-37w Cheyenne,KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66422

**DST#: 1**

ATTN: Saman Sharifaie

Test Start: 2020.01.26 @ 23:12:00

## Tool Information

Drill Pipe:	Length: 3927.00 ft	Diameter: 3.80 inches	Volume: 55.09 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 55.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4120.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.00 ft			
Tool Length:	99.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Rig hit a tight spot going in. 17 stds DP in - we came back out to check everything and then started in again.  
Tight spot 14th std drill pipe going in. Worked through 10'+ of fill - landed 10'+ high from where I figured bottom.  
When I went up to turn the tool at end of final open, the weight indicator showed that the fill had gave way, I sat the tool back on bottom - it slid 6' - bled off the surge blow and didn't get a blow after a couple of minutes so I closed the tool for the final

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4092.00	
Shut In Tool	5.00			4097.00	
Hydraulic tool	5.00			4102.00	
Jars	5.00			4107.00	
Safety Joint	3.00			4110.00	
Packer	5.00			4115.00	29.00 Bottom Of Top Packer
Packer	5.00			4120.00	
Stubb	1.00			4121.00	
Recorder	0.00	6625	Inside	4121.00	
Recorder	0.00	8652	Outside	4121.00	
Perforations	30.00			4151.00	
Blank Spacing	33.00			4184.00	
Perforations	3.00			4187.00	
Bullnose	3.00			4190.00	70.00 Bottom Packers & Anchor

**Total Tool Length: 99.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**30-2s-37w Cheyenne,KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66422

**DST#: 1**

ATTN: Saman Sharifaie

Test Start: 2020.01.26 @ 23:12:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	Mud 100%	0.443

Total Length: 90.00 ft      Total Volume: 0.443 bbl

Num Fluid Samples: 0

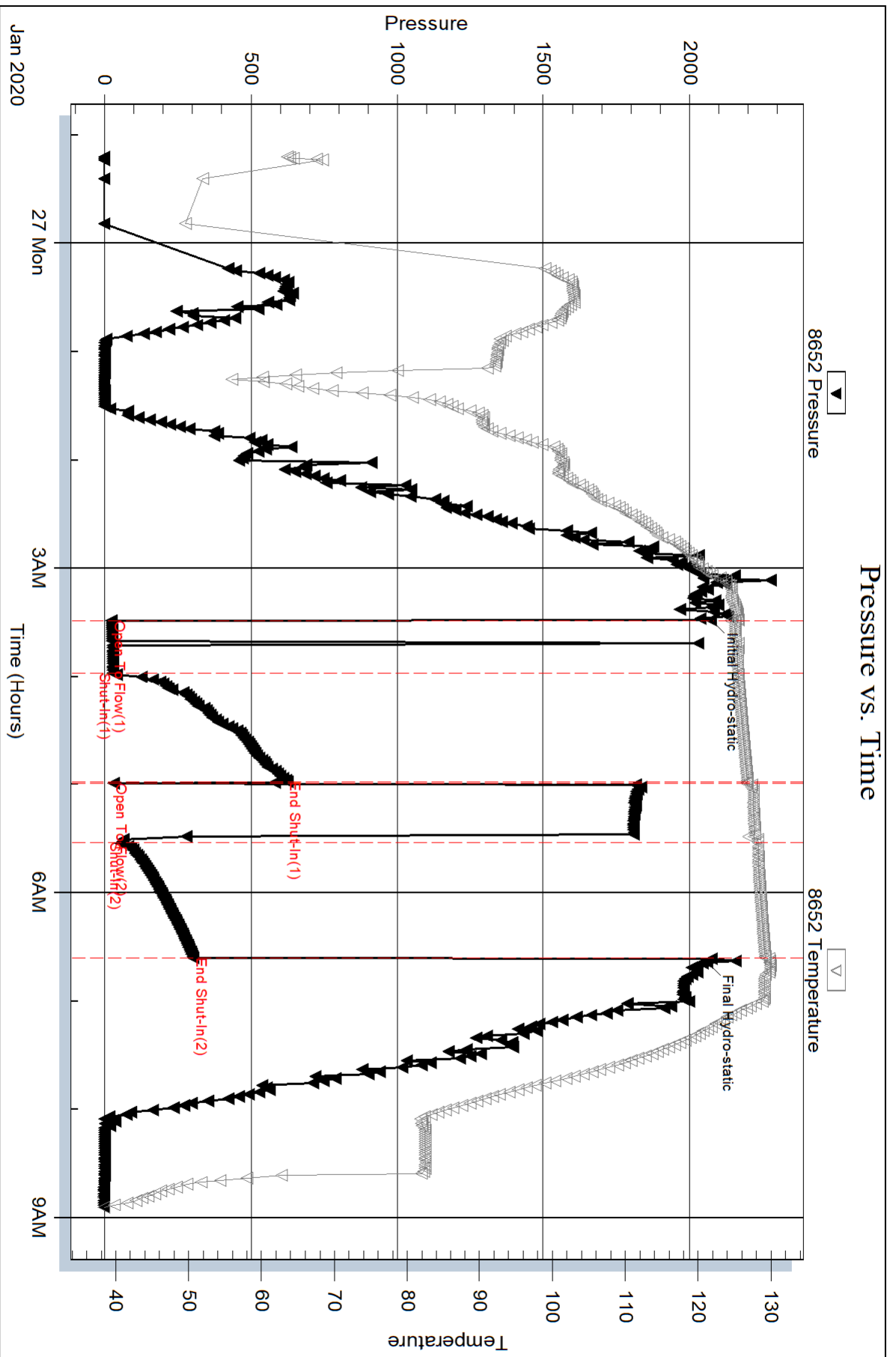
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



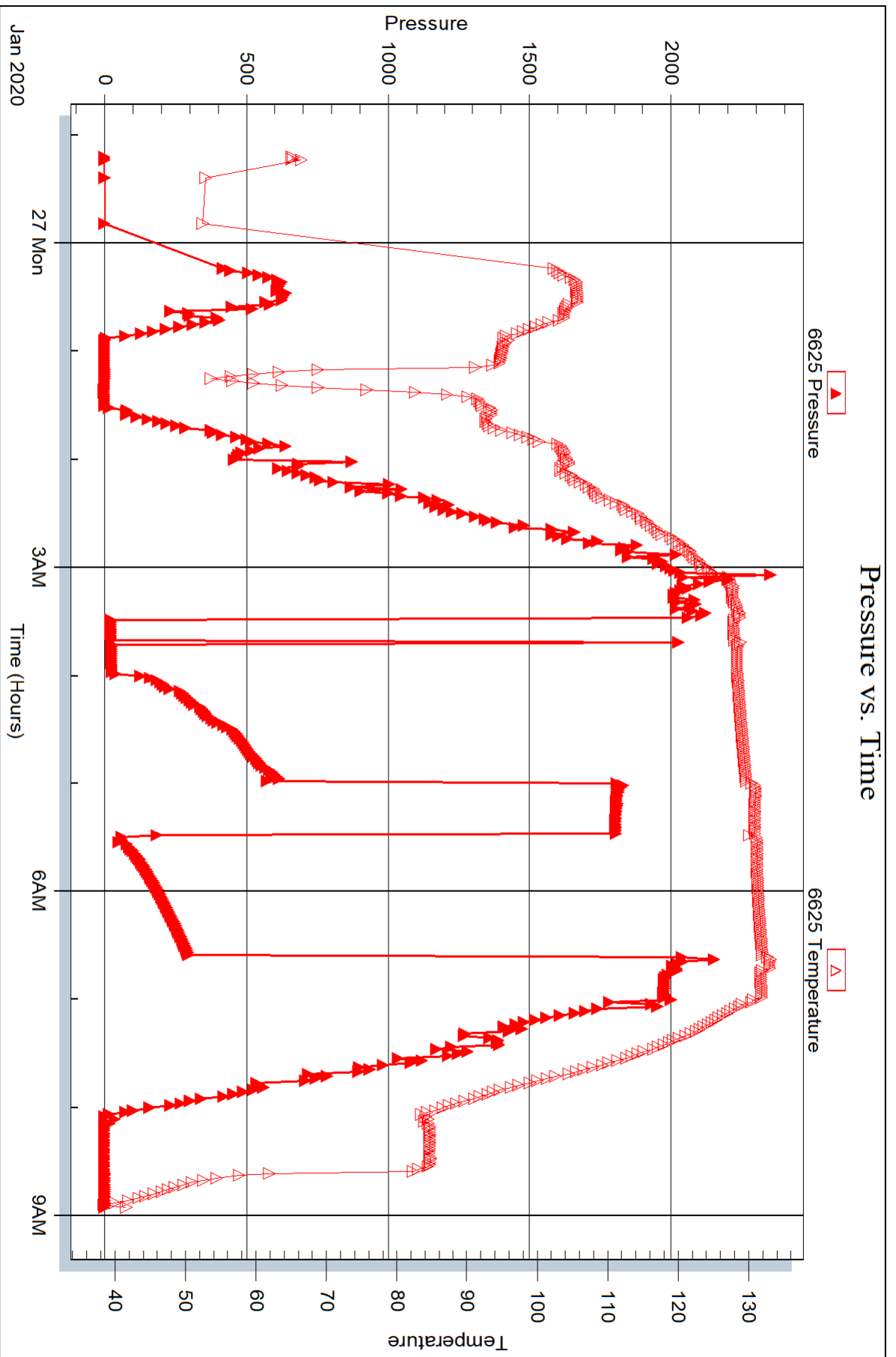
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

C&G Unit #1-30

DST Test Number: 1





## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Saman Sharifaie

### **C&C Unit #1-30**

### **30-2s-37w Cheyenne,KS**

Start Date: 2020.01.28 @ 05:05:00

End Date: 2020.01.28 @ 13:24:30

Job Ticket #: 66423                      DST #: 2

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

Printed: 2020.02.03 @ 11:46:05

Murfin Drilling Co., Inc.

30-2s-37w Cheyenne,KS

C&C Unit #1-30

DST # 2

LKC "A - D"

2020.01.28



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**30-2s-37w Cheyenne, KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66423

**DST#: 2**

ATTN: Saman Sharifaie

Test Start: 2020.01.28 @ 05:05:00

## GENERAL INFORMATION:

Formation: **LKC "A - D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:12:30

Time Test Ended: 13:24:30

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

**Interval: 4194.00 ft (KB) To 4340.00 ft (KB) (TVD)**

Reference Elevations: 3326.00 ft (KB)

Total Depth: 4340.00 ft (KB) (TVD)

3321.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8652 Outside**

Press@RunDepth: 165.83 psig @ 4195.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.01.28 End Date: 2020.01.28

Last Calib.: 2020.01.28

Start Time: 05:05:05 End Time: 13:24:29

Time On Btm: 2020.01.28 @ 07:12:15

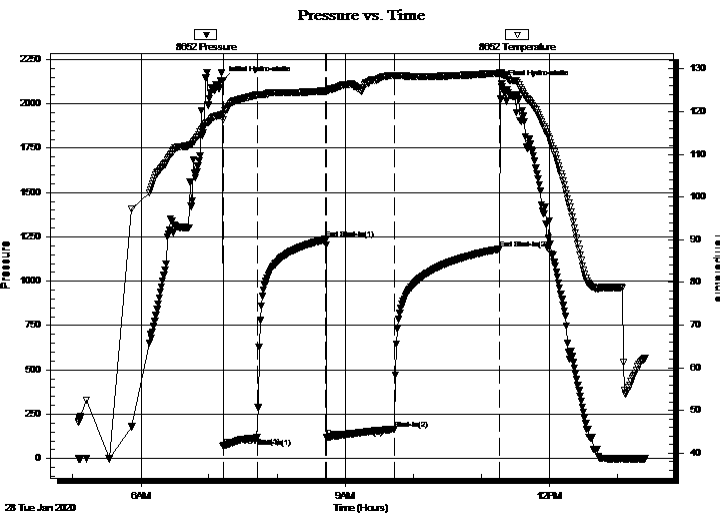
Time Off Btm: 2020.01.28 @ 11:17:45

**TEST COMMENT:** 30 - IF: 3 1/2" Blow at open, built to 9"

60 - IS: No blow back

60 - FF: Blow built to 7 1/2"

90 - FS: No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2132.15	119.29	Initial Hydro-static
1	67.11	118.07	Open To Flow (1)
31	117.06	123.90	Shut-In(1)
91	1236.72	124.87	End Shut-In(1)
92	120.01	124.73	Open To Flow (2)
151	165.83	128.45	Shut-In(2)
244	1181.68	129.01	End Shut-In(2)
246	2110.86	128.99	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	GM w /Oil spots 91% m, 7% g, 2% o	0.89
125.00	Mud w /Oil spots 98% m, 2% o	1.75

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Murfin Drilling Co., Inc.

**30-2s-37w Cheyenne,KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66423

**DST#: 2**

ATTN: Saman Sharifaie

Test Start: 2020.01.28 @ 05:05:00

**GENERAL INFORMATION:**

Formation: **LKC "A - D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:12:30

Time Test Ended: 13:24:30

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

**Interval: 4194.00 ft (KB) To 4340.00 ft (KB) (TVD)**

Reference Elevations: 3326.00 ft (KB)

Total Depth: 4340.00 ft (KB) (TVD)

3321.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6625**

Inside

Press@RunDepth: psig @ 4195.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.01.28 End Date: 2020.01.28

Last Calib.: 2020.01.28

Start Time: 05:05:05 End Time: 13:24:44

Time On Btm:

Time Off Btm:

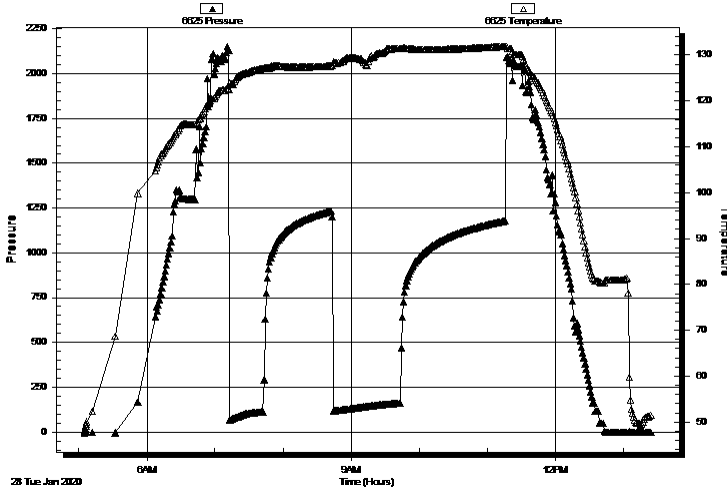
**TEST COMMENT:** 30 - IF: 3 1/2" Blow at open, built to 9"

60 - IS: No blow back

60 - FF: Blow built to 7 1/2"

90 - FS: No blow back

Pressure vs. Time



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
180.00	GM w/Oil spots 91% <sub>m</sub> , 7% <sub>g</sub> , 2% <sub>o</sub>	0.89
125.00	Mud w/Oil spots 98% <sub>m</sub> , 2% <sub>o</sub>	1.75

**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.

**30-2s-37w Cheyenne,KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66423

**DST#: 2**

ATTN: Saman Sharifaie

Test Start: 2020.01.28 @ 05:05:00

### Tool Information

Drill Pipe:	Length: 3990.00 ft	Diameter: 3.80 inches	Volume: 55.97 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 56.86 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4194.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	146.00 ft			
Tool Length:	175.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Tool chased 5' to bottom at open, lost 10' of mud - 3 1/2" surge blow at open

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4166.00	
Shut In Tool	5.00			4171.00	
Hydraulic tool	5.00			4176.00	
Jars	5.00			4181.00	
Safety Joint	3.00			4184.00	
Packer	5.00			4189.00	29.00 Bottom Of Top Packer
Packer	5.00			4194.00	
Stubb	1.00			4195.00	
Recorder	0.00	6625	Inside	4195.00	
Recorder	0.00	8652	Outside	4195.00	
Perforations	13.00			4208.00	
Blank Spacing	129.00			4337.00	
Bullnose	3.00			4340.00	146.00 Bottom Packers & Anchor

**Total Tool Length: 175.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**30-2s-37w Cheyenne,KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66423

**DST#: 2**

ATTN: Saman Sharifaie

Test Start: 2020.01.28 @ 05:05:00

## 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:

bbbl

Water Loss: 6.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	GM w /Oil spots 91%m, 7%g, 2%o	0.885
125.00	Mud w /Oil spots 98%m, 2%o	1.753

Total Length: 305.00 ft      Total Volume: 2.638 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

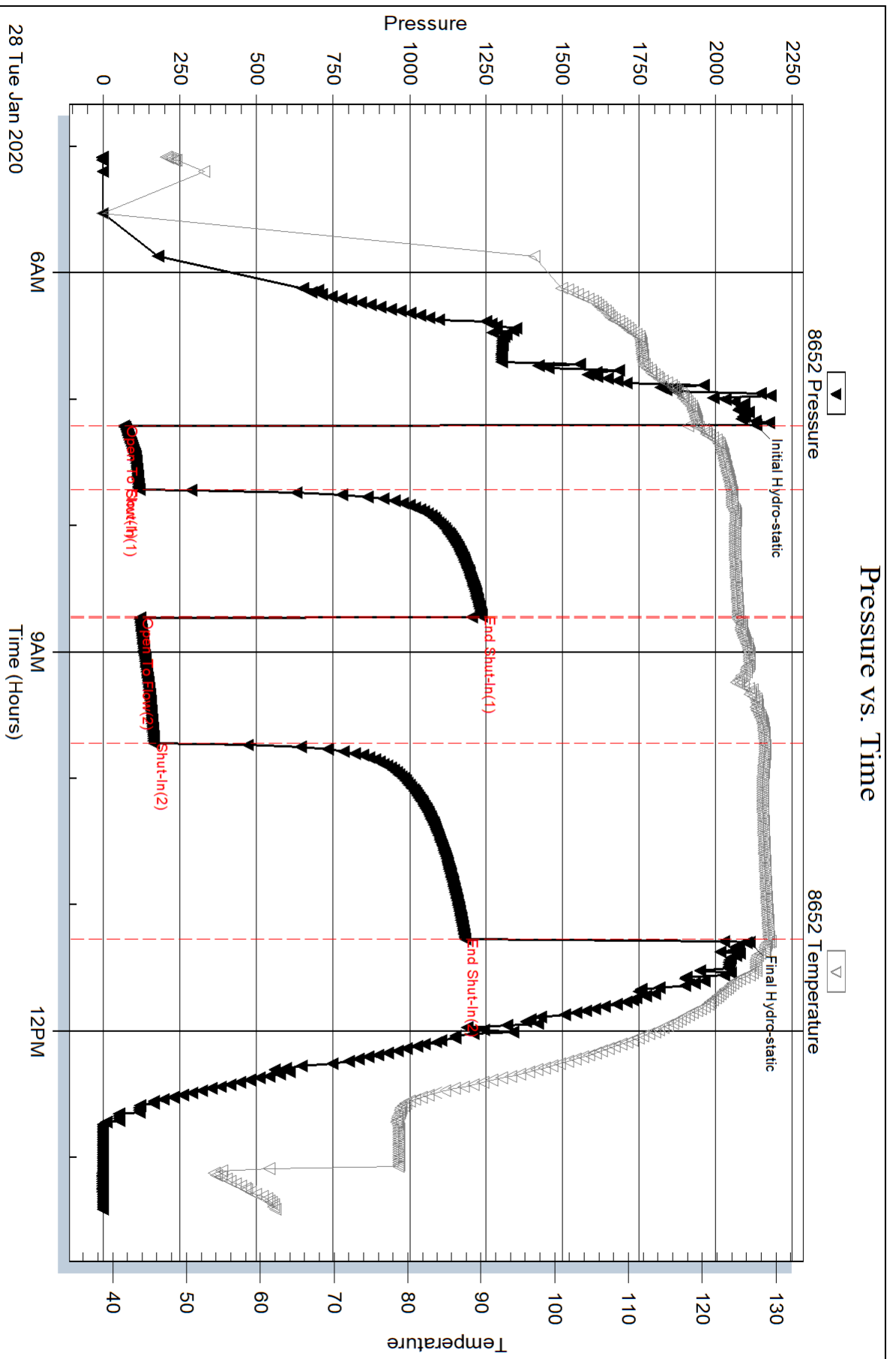
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





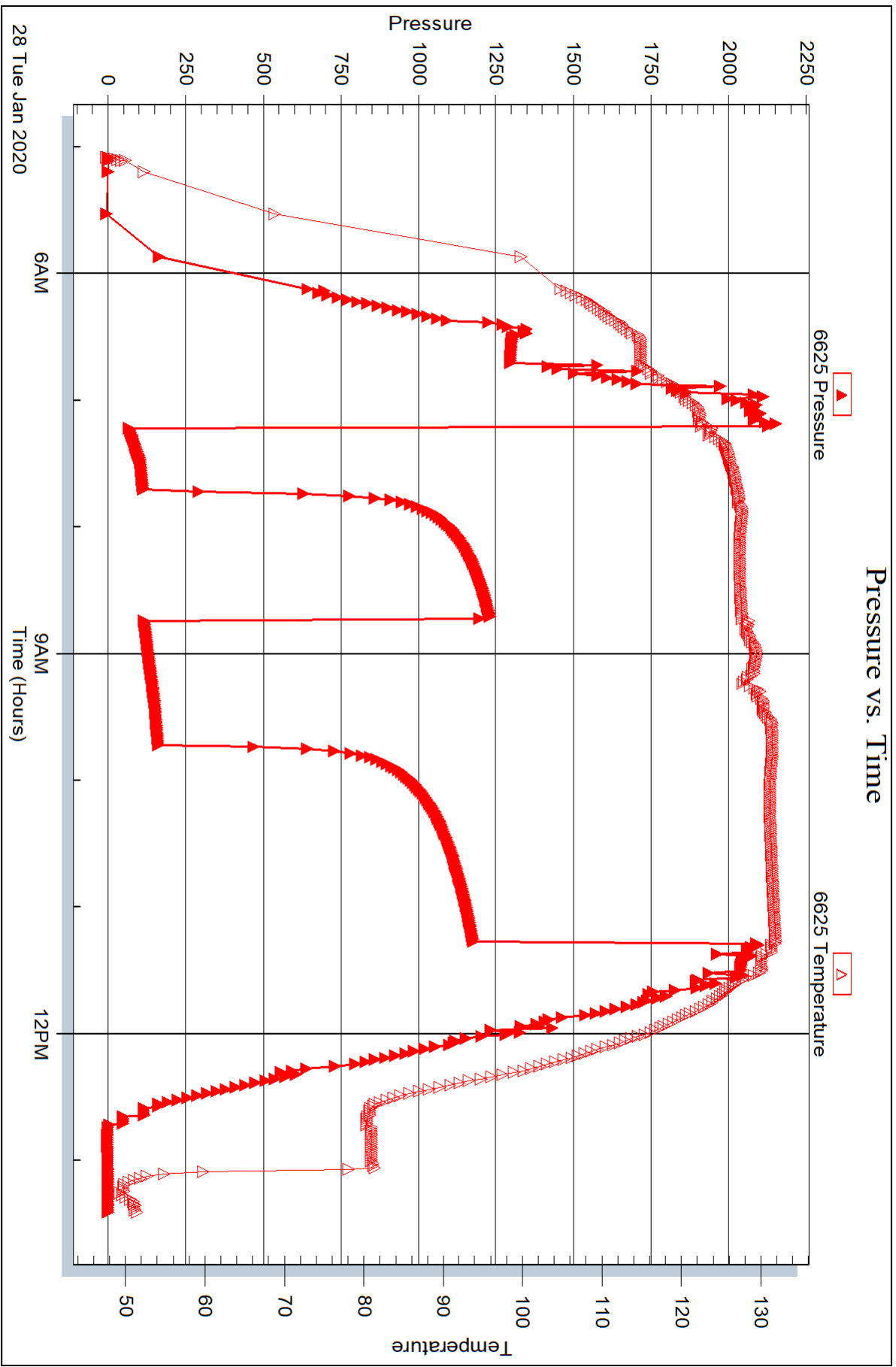
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

C&C Unit #1-30

DST Test Number: 2





## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Saman Sharifaie

### **C&C Unit #1-30**

### **30-2s-37w Cheyenne,KS**

Start Date: 2020.01.29 @ 11:38:00

End Date: 2020.01.29 @ 19:21:15

Job Ticket #: 66424                      DST #: 3

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

Printed: 2020.02.03 @ 11:43:21

Murfin Drilling Co., Inc.

30-2s-37w Cheyenne,KS

C&C Unit #1-30

DST # 3

LKC "G - J"

2020.01.29



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**30-2s-37w Cheyenne, KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66424

**DST#: 3**

ATTN: Saman Sharifaie

Test Start: 2020.01.29 @ 11:38:00

## GENERAL INFORMATION:

Formation: **LKC "G - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:32:30

Time Test Ended: 19:21:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

**Interval: 4340.00 ft (KB) To 4470.00 ft (KB) (TVD)**

Reference Elevations: 3326.00 ft (KB)

Total Depth: 4470.00 ft (KB) (TVD)

3321.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8652 Outside**

Press@RunDepth: 635.18 psig @ 4341.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.01.29 End Date: 2020.01.29

Last Calib.: 2020.01.29

Start Time: 11:38:05 End Time: 19:21:14

Time On Btm: 2020.01.29 @ 13:32:15

Time Off Btm: 2020.01.29 @ 16:35:30

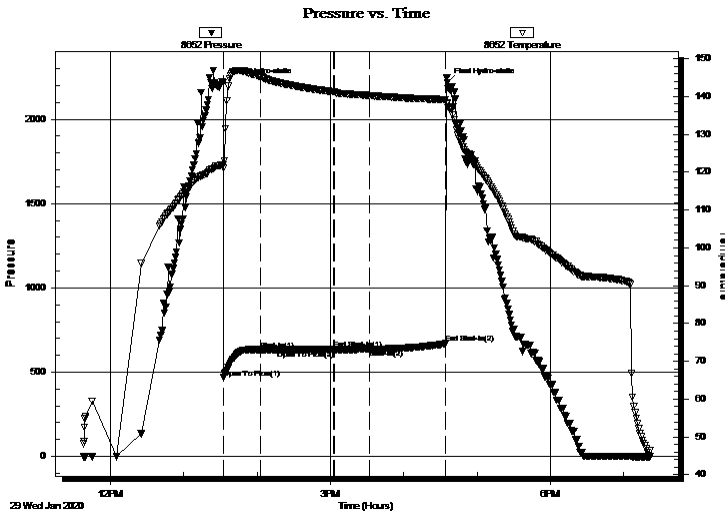
**TEST COMMENT:** 30 - IF: Blow built to BOB (11") at 45 sec., built to 151 1/2"

60 - IS: No blow back

30 - FF: Blow built to 1", died back to 1/2"

60 - FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2218.58	122.04	Initial Hydro-static
1	467.18	121.01	Open To Flow (1)
31	633.66	145.30	Shut-In(1)
90	634.41	141.28	End Shut-In(1)
91	631.35	141.25	Open To Flow (2)
120	635.18	140.28	Shut-In(2)
182	669.63	139.23	End Shut-In(2)
184	2216.08	138.07	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
445.00	Water w/Oil spots 97%w, 2%m, 1%o	4.60
375.00	GOCW 65%w, 19%o, 14%g, 2%m	5.26
315.00	GMOCW 51%w, 24%o, 17%g, 8%m	4.42
280.00	GOCM 67%m, 21%o, 12%g	3.93

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE**  
**TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

30-2s-37w Cheyenne, KS

250 N. Water STE 300  
Wichita, KS 67202

C&C Unit #1-30

Job Ticket: 66424

DST#: 3

ATTN: Saman Sharifaie

Test Start: 2020.01.29 @ 11:38:00

## GENERAL INFORMATION:

Formation: **LKC "G - J"**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 13:32:30

Time Test Ended: 19:21:15

Interval: **4340.00 ft (KB) To 4470.00 ft (KB) (TVD)**

Total Depth: **4470.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Test Type: **Conventional Bottom Hole (Reset)**

Tester: **James Winder**

Unit No: **83**

Reference Elevations: **3326.00 ft (KB)**

**3321.00 ft (CF)**

KB to GR/CF: **5.00 ft**

**Serial #: 6625** Inside

Press@RunDepth: **psig @ 4341.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2020.01.29**

End Date: **2020.01.29**

Last Calib.: **2020.01.29**

Start Time: **11:38:05**

End Time: **19:21:44**

Time On Btm:

Time Off Btm:

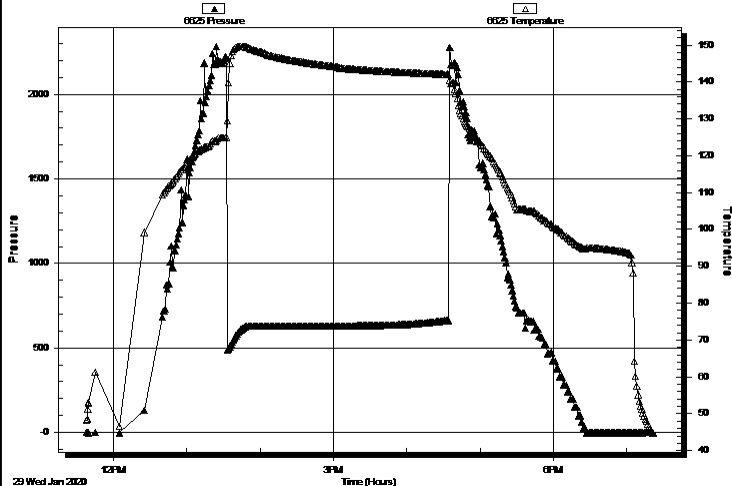
TEST COMMENT: 30 - IF: Blow built to BOB (11") at 45 sec., built to 151 1/2"

60 - IS: No blow back

30 - FF: Blow built to 1", died back to 1/2"

60 - FS: No blow back

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
445.00	Water w/Oil spots 97%w , 2%m, 1%o	4.60
375.00	GOCW 65%w , 19%o, 14%g, 2%m	5.26
315.00	GMOCW 51%w , 24%o, 17%g, 8%m	4.42
280.00	GOCM 67%m, 21%o, 12%g	3.93

\* 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.

**30-2s-37w Cheyenne,KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66424

**DST#: 3**

ATTN: Saman Sharifaie

Test Start: 2020.01.29 @ 11:38:00

## Tool Information

Drill Pipe:	Length: 4151.00 ft	Diameter: 3.80 inches	Volume: 58.23 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 59.12 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4340.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	130.00 ft			
Tool Length:	159.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4312.00	
Shut In Tool	5.00			4317.00	
Hydraulic tool	5.00			4322.00	
Jars	5.00			4327.00	
Safety Joint	3.00			4330.00	
Packer	5.00			4335.00	29.00 Bottom Of Top Packer
Packer	5.00			4340.00	
Stubb	1.00			4341.00	
Recorder	0.00	6625	Inside	4341.00	
Recorder	0.00	8652	Outside	4341.00	
Perforations	29.00			4370.00	
Blank Spacing	97.00			4467.00	
Bullnose	3.00			4470.00	130.00 Bottom Packers & Anchor

**Total Tool Length: 159.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**30-2s-37w Cheyenne,KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66424

**DST#: 3**

ATTN: Saman Sharifaie

Test Start: 2020.01.29 @ 11:38:00

## 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:

20000 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

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
445.00	Water w/Oil spots 97%w , 2%m, 1%o	4.602
375.00	GOCW 65%w , 19%o, 14%g, 2%m	5.260
315.00	GMOCW 51%w , 24%o, 17%g, 8%m	4.419
280.00	GOCM 67%m, 21%o, 12%g	3.928

Total Length: 1415.00 ft      Total Volume: 18.209 bbl

Num Fluid Samples: 0

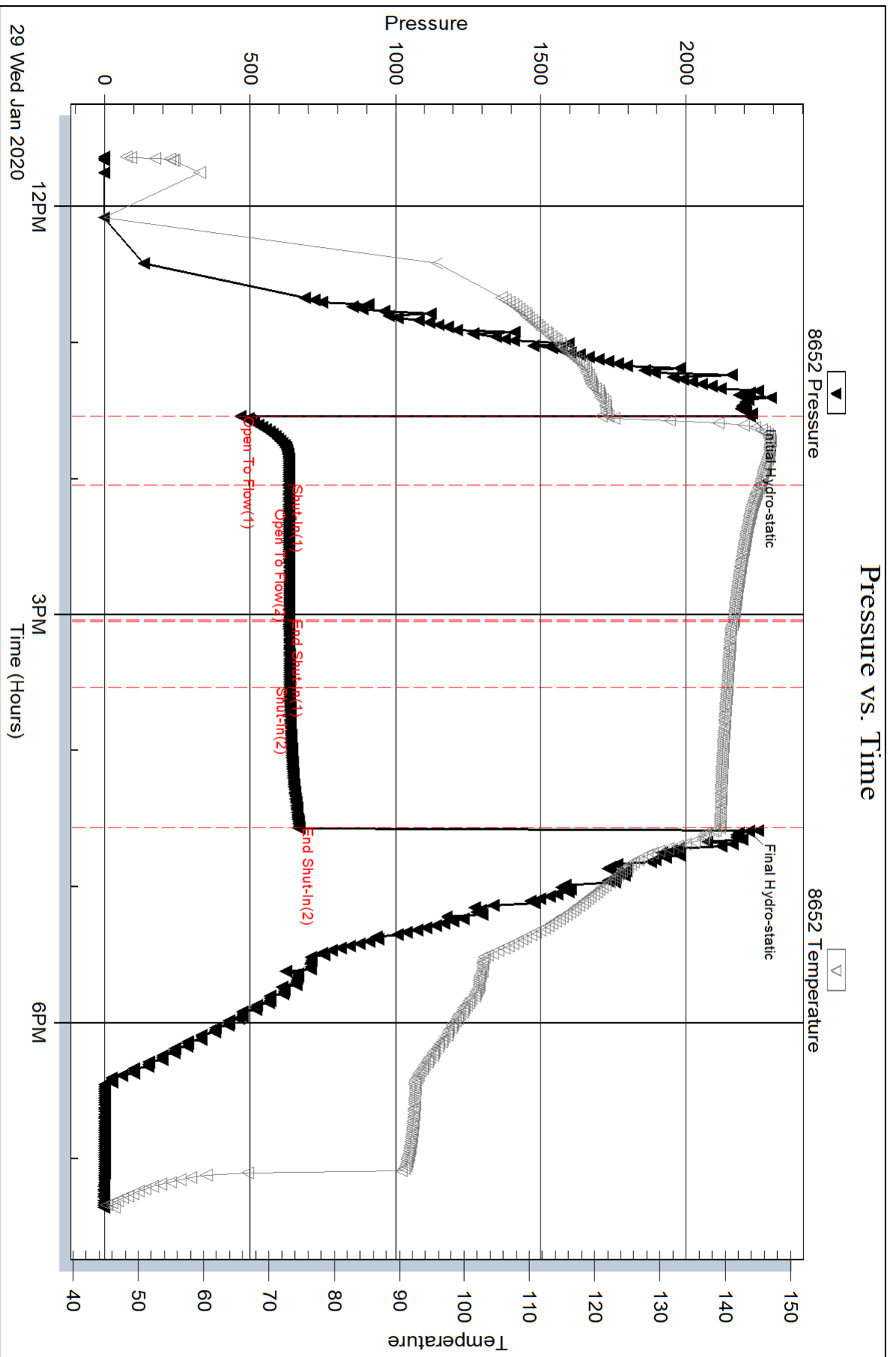
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .540 ohms @ 43.4 deg F Chlorides = 20,000 ppm





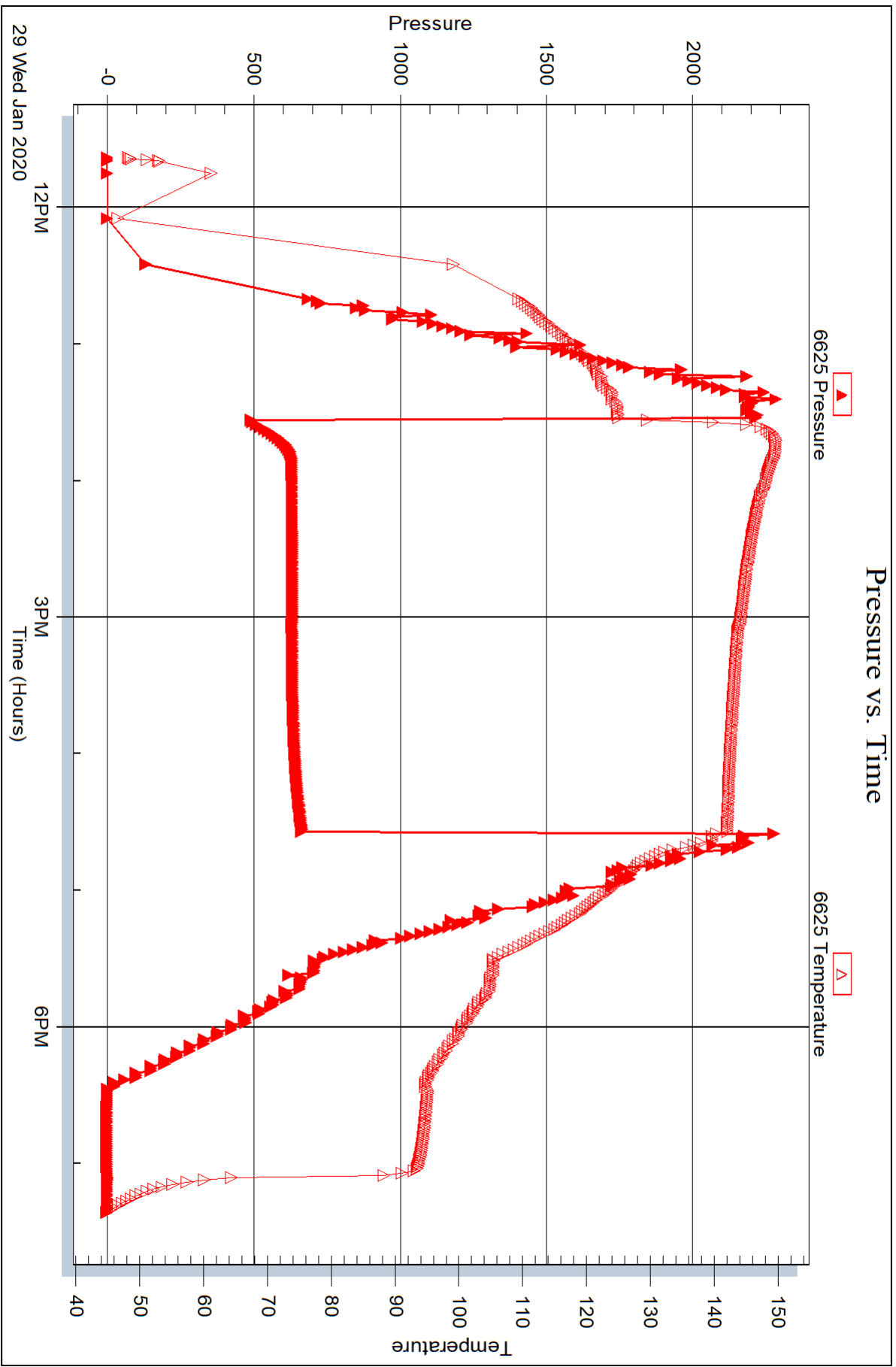
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

C&C Unit #1-30

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 66424

Printed: 2020.02.03 @ 11:43:22



## DRILL STEM TEST REPORT

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

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Saman Sharifaie

### **C&C Unit #1-30**

### **30-2s-37w Cheyenne,KS**

Start Date: 2020.01.31 @ 09:45:00

End Date: 2020.01.31 @ 16:48:15

Job Ticket #: 66425                      DST #: 4

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

Printed: 2020.02.03 @ 11:40:57



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**30-2s-37w Cheyenne, KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66425

**DST#: 4**

ATTN: Saman Sharifaie

Test Start: 2020.01.31 @ 09:45:00

## GENERAL INFORMATION:

Formation: **Ft. Scott - Celia**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:46:30

Time Test Ended: 16:48:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

**Interval: 4626.00 ft (KB) To 4765.00 ft (KB) (TVD)**

Reference Elevations: 3326.00 ft (KB)

Total Depth: 4765.00 ft (KB) (TVD)

3321.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8652 Outside**

Press@RunDepth: 26.99 psig @ 4627.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.01.31

End Date:

2020.01.31

Last Calib.: 2020.01.31

Start Time: 09:45:05

End Time:

16:48:14

Time On Btm: 2020.01.31 @ 11:46:15

Time Off Btm: 2020.01.31 @ 14:49:15

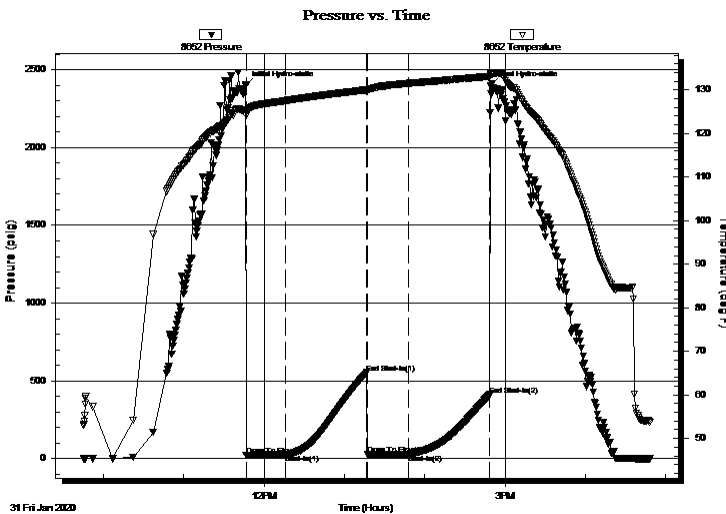
**TEST COMMENT:** 30 - IF: 1/4" Blow at open, built to 1"

60 - IS: No blow back

30 - FF: No blow

60 - FS: No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2400.96	125.49	Initial Hydro-static
1	21.74	124.16	Open To Flow (1)
30	24.26	127.58	Shut-In(1)
91	552.32	130.05	End Shut-In(1)
91	25.79	129.82	Open To Flow (2)
122	26.99	131.53	Shut-In(2)
183	410.84	133.15	End Shut-In(2)
183	2398.48	133.41	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud w /Oil spots 98%m, 2%o	0.15

## 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.

**30-2s-37w Cheyenne,KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66425

**DST#: 4**

ATTN: Saman Sharifaie

Test Start: 2020.01.31 @ 09:45:00

### Tool Information

Drill Pipe:	Length: 4438.00 ft	Diameter: 3.80 inches	Volume: 62.25 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 63.14 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4626.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	139.00 ft			
Tool Length:	168.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4598.00	
Shut In Tool	5.00			4603.00	
Hydraulic tool	5.00			4608.00	
Jars	5.00			4613.00	
Safety Joint	3.00			4616.00	
Packer	5.00			4621.00	29.00 Bottom Of Top Packer
Packer	5.00			4626.00	
Stubb	1.00			4627.00	
Recorder	0.00	6625	Inside	4627.00	
Recorder	0.00	8652	Outside	4627.00	
Perforations	6.00			4633.00	
Blank Spacing	129.00			4762.00	
Bullnose	3.00			4765.00	139.00 Bottom Packers & Anchor

**Total Tool Length: 168.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**30-2s-37w Cheyenne,KS**

250 N. Water STE 300  
Wichita, KS 67202

**C&C Unit #1-30**

Job Ticket: 66425

**DST#: 4**

ATTN: Saman Sharifaie

Test Start: 2020.01.31 @ 09:45:00

## 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: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Mud w /Oil spots 98% <sub>m</sub> , 2% <sub>o</sub>	0.148

Total Length: 30.00 ft      Total Volume: 0.148 bbl

Num Fluid Samples: 0

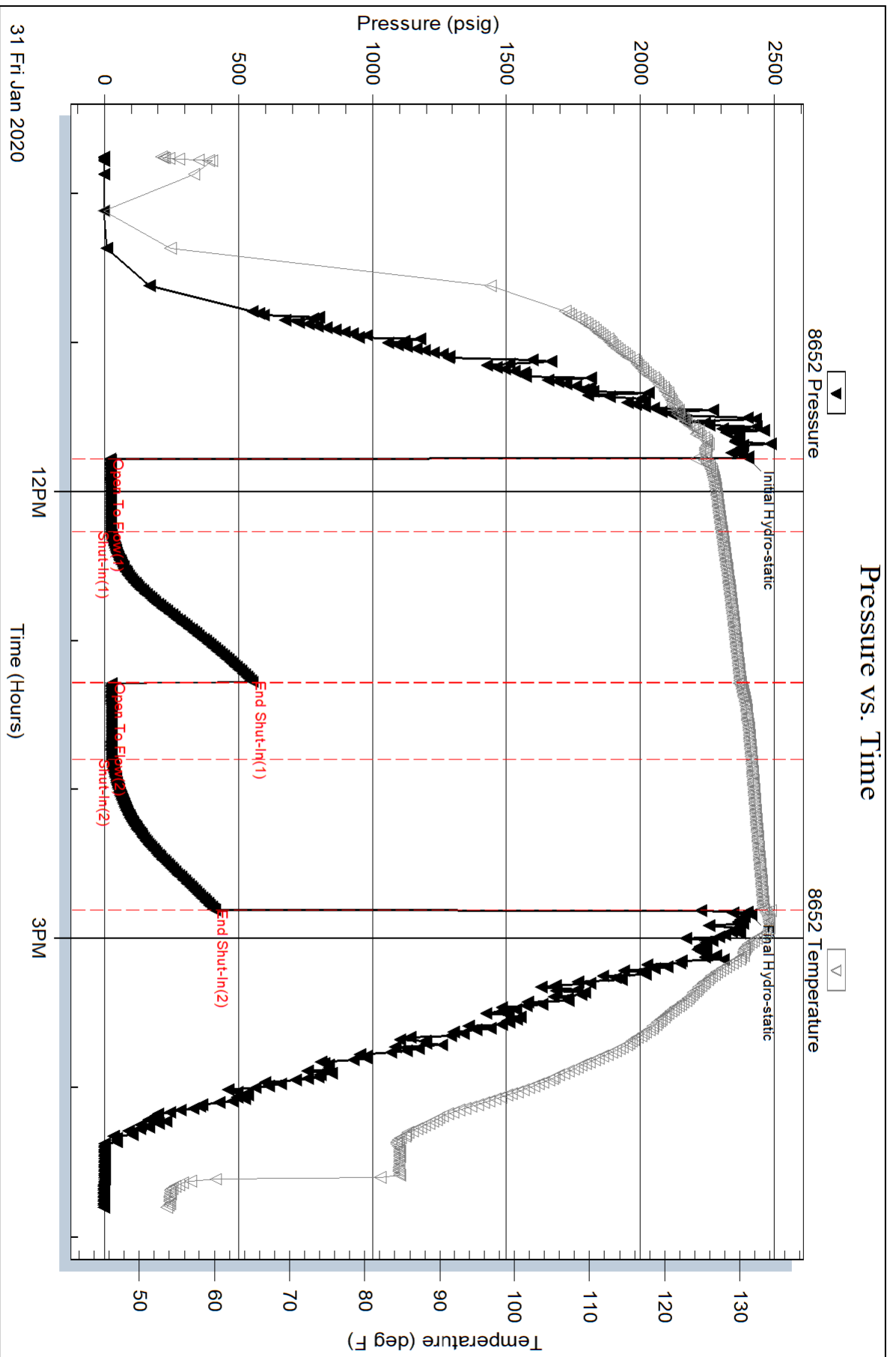
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



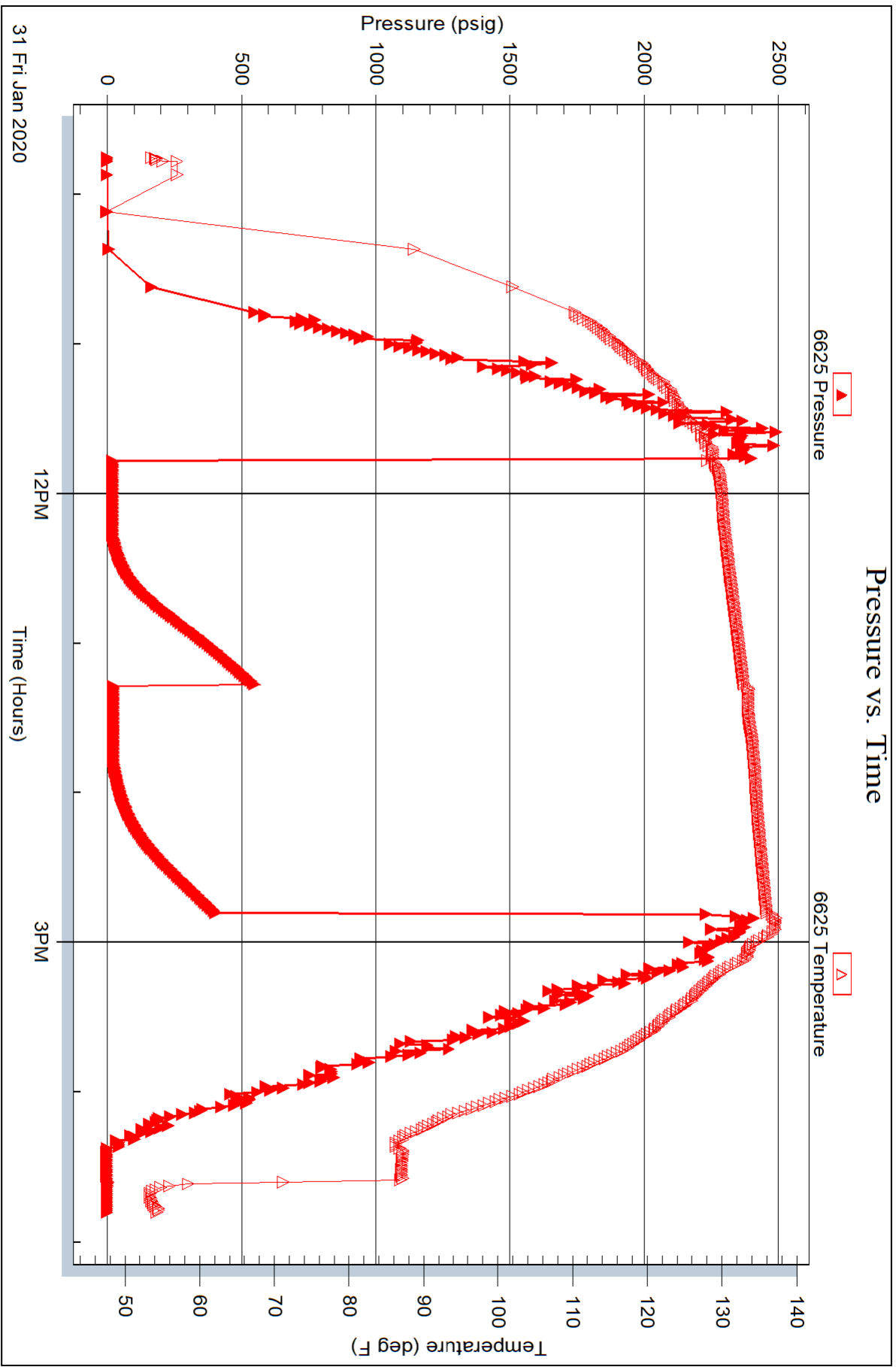
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

C&G Unit #1-30

DST Test Number: 4

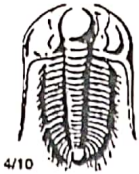


Triobite Testing, Inc

Ref. No: 66425

Printed: 2020.02.03 @ 11:40:58





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 66422

NO.

Well Name & No. C & C Unit #1-30 Test No. 1 Date 1-26-20  
 Company Murfin Drilling Co Inc Elevation 3326 KB 3321 GL  
 Address 250 N Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #07  
 Location: Sec. 30 Twp 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4120 - 4190 Zone Tested Oread  
 Anchor Length 70 Drill Pipe Run 3927 Mud Wt. 9.0  
 Top Packer Depth 4115 Drill Collars Run 180 Vls 64  
 Bottom Packer Depth ~~4020~~ 4120 Wt. Pipe Run - WL 6.4  
 Total Depth 4190 Chlorides 900 ppm System LCM 4

Blow Description IF: 1/4" Blow at open, Flushed tool @ 14min., Weak surface blow, dead at 22 min.  
ISI: No blow  
FF: No blow  
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</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 90 BHT 129 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2073  Test 1300 T-On Location 21:30 1/26  
 (B) First Initial Flow 24  Jars 250 T-Started 23:12  
 (C) First Final Flow 29  Safety Joint 75 T-Open 3:28  
 (D) Initial Shut-In 624  Circ Sub \_\_\_\_\_ T-Pulled 6:36  
 (E) Second Initial Flow 30  Hourly Standby \_\_\_\_\_ T-Out 8:55 1/27  
 (F) Second Final Flow 65  Mileage 128 RT 128 Comments Worked through flight  
 (G) Final Shut-In 302  Sampler \_\_\_\_\_ spot around 1110' - worked  
 (H) Final Hydrostatic 2060  Straddle \_\_\_\_\_ through 10' fill - landed 10'  
 Shale Packer \_\_\_\_\_ high  
 Extra Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Ruined Packer 320  
 Day Standby \_\_\_\_\_ Sub Total 320  
 Accessibility \_\_\_\_\_ Total 2073  
 Sub Total 1753 MP/DST Disc't \_\_\_\_\_

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

Approved By \_\_\_\_\_ Our Representative James Hunter  
 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 66423

NO.

Well Name & No. C&C Unit #1-30 Test No. 2 Date 1-28-20  
 Company Murfin Drilling Co Inc. Elevation 3326 KB 3321 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #7  
 Location: Sec. 30 Twp 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4194 - 4340 Zone Tested LKC "A-D"  
 Anchor Length 146 Drill Pipe Run 3990 Mud Wt. 9.2  
 Top Packer Depth 4189 Drill Collars Run 180 Vls 69  
 Bottom Packer Depth 4194 Wt. Pipe Run - WL 6.4  
 Total Depth 4340 Chlorides 900 ppm System LCM 4

Blow Description IF: 3 1/2" Blow at open, built to 9"  
ISI: No blowback  
FF: Blow built to 7 1/2"  
FSI: No blowback

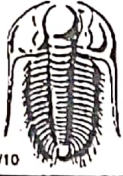
Rec	Feet of	%gas	%oil	%water	%mud
<u>125</u>	<u>Mud w/oil spots</u>	<u>2</u>	<u>2</u>	<u>98</u>	<u>98</u>
<u>180</u>	<u>Gm w/oil spots</u>	<u>7</u>	<u>2</u>	<u>91</u>	<u>91</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 305 BHT 129 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm  
 (A) Initial Hydrostatic 2132  Test 1300 T-On Location 3:40  
 (B) First Initial Flow 67  Jars 250 T-Started 5:05  
 (C) First Final Flow 117  Safety Joint 75 T-Open 7:12  
 (D) Initial Shut-In 1237  Circ Sub \_\_\_\_\_ T-Pulled 11:16  
 (E) Second Initial Flow 120  Hourly Standby \_\_\_\_\_ T-Out 13:20  
 (F) Second Final Flow 166  Mileage 128 RT 128  
 (G) Final Shut-In 1182  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2111  Straddle \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Packer \_\_\_\_\_  
 Final Flow 60  Extra Recorder \_\_\_\_\_  
 Final Shut-In 90  Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1753 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative James Winder  
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 66424

NO.

Well Name & No. C+C Unit #1-30 Test No. 3 Date 1-29-20  
 Company Murfin Drilling Co. Inc Elevation 3326 KB 3321 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #7  
 Location: Sec. 30 Twp 2s Rge. 37w Co. Cheyenne State KS

Interval Tested 4340 - 4470 Zone Tested LKC "G-J"  
 Anchor Length 130 Drill Pipe Run 4151 Mud Wt. 9.4  
 Top Packer Depth 4335 Drill Collars Run 180 Vis 62  
 Bottom Packer Depth 4340 Wt. Pipe Run - WL 6.8  
 Total Depth 4470 Chlorides 900 ppm System LCM 4

Blow Description IF: Blow built to BOB (11") at 45 sec., built to 151 1/2"  
ISI: No blowback  
FF: Blow built to 1", died back to 1/2"  
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>280</u>	<u>GOCM</u>	<u>12</u>	<u>21</u>	<u>-</u>	<u>67</u>
<u>315</u>	<u><del>6000</del> GmOCW</u>	<u>17</u>	<u>24</u>	<u>51</u>	<u>8</u>
<u>375</u>	<u>GOCW</u>	<u>14</u>	<u>19</u>	<u>65</u>	<u>2</u>
<u>445</u>	<u>Water w/oil spots</u>	<u>-</u>	<u>1</u>	<u>97</u>	<u>2</u>

Rec Total 1415 BHT 139 Gravity API RW .540 @ 43.4° F Chlorides 20,000 ppm

(A) Initial Hydrostatic 2219  Test 1300 T-On Location 10:35  
 (B) First Initial Flow 467  Jars 250 T-Started 11:38  
 (C) First Final Flow 634  Safety Joint 75 T-Open 13:32  
 (D) Initial Shut-In 634  Circ Sub \_\_\_\_\_ T-Pulled 16:34  
 (E) Second Initial Flow 631  Hourly Standby \_\_\_\_\_ T-Out 19:20  
 (F) Second Final Flow 635  Mileage 128RT 128  
 (G) Final Shut-In 670  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2216  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

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

Sub Total 1753 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative James Winder

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 66425

NO.

Well Name & No. C&C Unit #1-30 Test No. 4 Date 1-31-20  
 Company Murfin Drilling Co. Inc Elevation 3326 KB 3321 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Saman Sharifaie Rig Murfin #7  
 Location: Sec. 30 Twp 2S Rge. 37W Co. Cheyenne State KS

Interval Tested 4626-4765 Zone Tested Ft Scott - Celia  
 Anchor Length 139 Drill Pipe Run 4438 Mud Wt. 9.2  
 Top Packer Depth 4621 Drill Collars Run 180 Vls 62  
 Bottom Packer Depth 4626 Wt. Pipe Run - WL 6.4  
 Total Depth 4765 Chlorides 800 ppm System LCM 4  
 Blow Description IF: 1/4" Blow at open, built to 1"  
ISI: No blowback  
FF: No blow  
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>mud w/oil spots</u>	<u>2</u>		<u>98</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 133 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2401  Test 1300 T-On Location 9:00  
 (B) First Initial Flow 22  Jars 250 T-Started 9:45  
 (C) First Final Flow 24  Safety Joint 75 T-Open 11:46  
 (D) Initial Shut-In 552  Circ Sub \_\_\_\_\_ T-Pulled 14:48  
 (E) Second Initial Flow 26  Hourly Standby \_\_\_\_\_ T-Out 16:45  
 (F) Second Final Flow 27  Mileage 128 RT 128 Comments \_\_\_\_\_  
 (G) Final Shut-In 411  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2398  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby 1.5d 1.75h  EM Tool \_\_\_\_\_  
 Accessibility \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 58.33  
 Total 1811.33  
 Sub Total 1753 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative James Winder  
 Tribolite 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.



# Saman Sharifaie

## Petroleum Geologist

### GEOLOGIST'S REPORT

#### DRILLING TIME AND SAMPLE LOG

COMPANY: **Martin Drilling Co., Inc.**

LEASE: **C & C Unit #1-30**

FIELD: **Widitai**

LOCATION: **1320 F.N.I. & 281 S. EEL**

SEC: **30** TWP: **2S** RGE: **37W**

COUNTY: **Cheyenne** STATE: **Kansas**

CONTRACTOR: **Martin Drilling #7**

RTPD: **01/23/20** COMP: **02/02/20**

SPUD: **5100'** TD: **5100'**

WUD UP: **3396'** TYPE MUD: **Chemical**

SAMPLES SAVED FROM: **3910'** TO RTD

DRILLING TIME KEPT FROM: **3900'** TO RTD

SAMPLES EXAMINED FROM: **3910'** TO RTD

GEOLOGICAL SUPERVISION FROM: **3610'**

REFERENCE WELL: **MDCT - Culwell #1-19**

GEOREFERENCED WELL: **MDCT - Culwell #1-19**

Formation	Sample Tops	E-log Tops	Strat Pos.
Anhydrite	3310 (+116)	3302 (+124)	-8
Base Anhydrite	3338 (+88)	3238 (+88)	-9
Tussock	4012 (+66)	4026 (+00)	-19
Oxbed	4166 (+200)	4170 (+840)	-19
Oil shale	4246 (+280)	4245 (+919)	-17
Start	4468 (+142)	4471 (+147)	-18
Norfolk City	4528 (+199)	4524 (+198)	-18
FT Scott	4652 (+326)	4656 (+330)	-20
Orkney	4726 (+400)	4727 (+401)	-17

ELEVATIONS  
KB 3326'

DF \_\_\_\_\_  
GL 3321'

Measurements Are All From Kelly Bushing

CASING  
CONDUCTOR 8-5/8" at 306'  
SURFACE 5-1/2" at 396'

PRODUCTION 5-1/2" at 396'

ELECTRICAL SURVEYS  
CND, DJL, MEL, SMC

REFERENCE WELL: **MDCT - Culwell #1-19**

Fluorescence

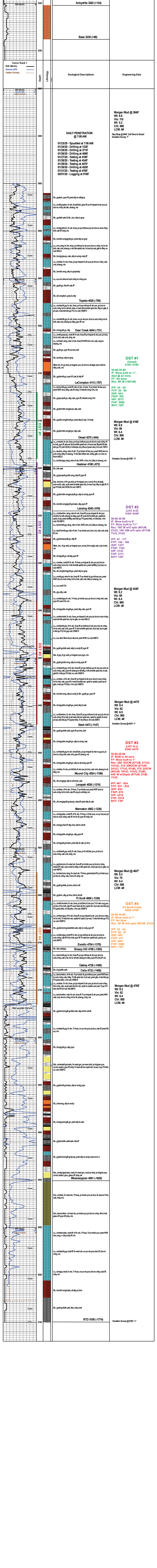
REMARKS Due to poor to fair shows of oil in multiple potential pay zones and positive DST results, it is recommended and agreed upon by all parties that production casing be set to further evaluate this well.

Respectfully Submitted,

API #15-023-21529

Saman Sharifaie  
Petroleum Geologist

\*Tops have been adjusted to electric logs







**CEMENT TREATMENT REPORT**

<b>Customer:</b> Murfin Drilling Co	<b>Well:</b> C and C Unit 1-30	<b>Ticket:</b> ICT2983
<b>City, State:</b>	<b>County:</b> Cheyenne CO	<b>Date:</b> 1/23/2020
<b>Field Rep:</b> Arturo	<b>S-T-R:</b> 30-2-37	<b>Service:</b> Surface

**Downhole Information**

Hole Size:	12.25 in
Hole Depth:	304 ft
Casing Size:	8 5/8 in
Casing Depth:	304 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Depth:	ft
Displacement:	18.5 bbls

**Calculated Slurry**

Weight:	14.8 # / sx
Water / Sx:	6.88 gal / sx
Yield:	1.41 ft <sup>3</sup> / sx
Bbls / Ft.:	0.0735
Depth:	304 ft
Annular Volume:	22.344 bbls
Excess:	220%
Total Slurry:	71.5 bbls
Total Sacks:	285 sx

Product	% / #	#
Class A		
Poz		
Gel		
CaCl		
Gypsum		
Metso		
Kol Seal		
Flo Seal		
Salt (bww)		

TIME	RATE	PSI	BBLs	REMARKS	Total
12:00 AM				Arrive on location	
12:05 AM				Safety Meeting	
12:10 AM				Rig up	
12:33 AM				Casing on bottom	
12:45 AM				Circulate	
1:00 PM	2.0	300.0	5.0	Pump H2O ahead	
1:05 PM	3.5	280.0	71.5	Mix 285 sks of H325	
1:15 PM	3.5	180.0	18.5	Displace	
1:20 PM		100.0		Shut in well	
1:35 PM				Rig down	
1:50 PM				Depart	
				Approx 10 bbls to pit	

CREW		UNIT	SUMMARY		
Cementer:	Dane	29	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Kevin	265	3 bpm	216 psi	95 bbls
Bulk #1:	Michael	180/250			
Bulk #2:					

CUSTOMER Martin	WELL NO. 1-30	LEASE C&C Unit	JOB TYPE Long String	TICKET NO. 032718
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CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1700							On location w/Float Equipment Rig laying down collars
								TD-5100' 122 Jts of 5 1/2" x 15.5 # Set at 5095' Shoe Jt - 21', Baffle Plate - 5074' Centralizers - 1-10, 14, 18, 21, 45, 69 Basket - 21, 45, 69
	1915							Start Pipe w/Float Equipment
	2015							Circulate on Jt 6' @ 2560'
	2030							Continue Running Casing
	2145							Break Circ on Bottom Hook up to Swift
		2	7					Plug Rathole w/30 SKS SMD
		2	5					Plug Mousehole w 15 SKS
		5	12			400		Pump Mud Flush
		5	20			400		Pump KCL spacer
		7 1/2						Start SMD Cmt mix at 11.2 # 330 SKS
		7 1/2	185					Fin SMD, start EA2 at 15.5 # 200 SKS
		5	233				Vac	Fin Cmt
	2350							Drop Plug, Washout Pump + Lines Start Displacement
		7	75			500		Catch Cmt
		6	120			1400		Lift
	0015	6	121			1900		Land Plug, Circ 30 SKS to Pit Release Truck, Dry Wash up Rack up
	0045							Job Complete
								Thanks Jon, Austin, Isaac, Flint

MDCI  
 C & C Unit #1-30  
 1320FSL 2815FEL  
 Sec. 30-T2S-R37W  
 3326' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	3210	+116	-17	3202	+124	-9
B/Anhydrite	3238	+88	-8	3238	+88	-8
Topeka	4012	-686	-5	4026	-700	-19
Oread	4166	-840	-15	4170	-844	-19
Lansing	4246	-920	-18	4245	-919	-17
Stark	4468	-1142	-13	4473	-1147	-18
Mound City	4525	-1199	-19	4524	-1198	-18
Ft Scott	4652	-1326	-16	4656	-1330	-20
Oakley	4726	-1400	-16	4727	-1401	-17
Mississippian				4951	-1625	-13
RTD	5100					
LTD				5100		