

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	SLAB CITY 1-20
Doc ID	1636196

All Electric Logs Run

DIL
DUCP
MEL
BHCS

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	SLAB CITY 1-20
Doc ID	1636196

Perforations

Shots Per Foot	Perforation Top	Perforation Bottom	BridgePlugType	BridgePlugSet At	Material Record
4	3479	3482			500 gal 15% SDA
4	3490	3493			175 gal 15% MCA, 250 gal 15% SDA
4	3496	3498			175 gal 15% MCA, 250 gal 15% SDA
4	3524	3526			250 gal 15% MCA, 750 gal 15% NEFE, 250 gal 15% SDA, 250 gal 15% NEFE
4	3531	3533			250 gal 15% MCA, 250 gal 15% SDA, 250 gal 15% NEFE
4	3560	3563			250 gal 15% MCA





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water  
Wichita, KS 67202

ATTN: Brad Rine

### **Slab City #1-20**

### **20-4s-26w Decatur,KS**

Start Date: 2022.01.14 @ 18:28:31

End Date: 2022.01.15 @ 02:10:31

Job Ticket #: 68381                      DST #: 1

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

Printed: 2022.01.19 @ 16:46:20

Murfin Drilling Co Inc  
20-4s-26w Decatur,KS  
Slab City #1-20  
DST # 1  
Toronto - LKC A  
2022.01.14



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N Water  
 Wichita, KS 67202  
 ATTN: Brad Rine

**20-4s-26w Decatur, KS**

**Slab City #1-20**

Job Ticket: 68381      **DST#: 1**  
 Test Start: 2022.01.14 @ 18:28:31

## GENERAL INFORMATION:

Formation: **Toronto - LKC A**  
 Deviated: No Whipstock:      ft (KB)  
 Time Tool Opened: 20:44:01  
 Time Test Ended: 02:10:31  
 Interval: **3408.00 ft (KB) To 3460.00 ft (KB) (TVD)**  
 Total Depth: 3460.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Brandon Turley  
 Unit No: 79  
 Reference Elevations: 2475.00 ft (KB)  
 2470.00 ft (CF)  
 KB to GR/CF: 5.00 ft

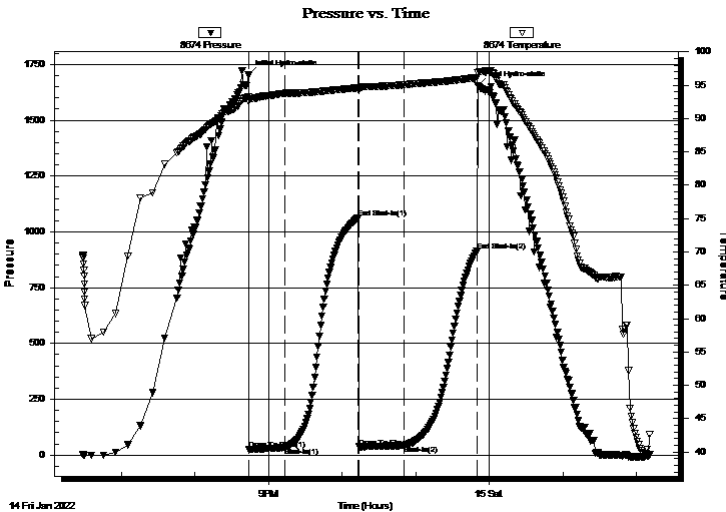
## Serial #: 8674

**Outside**

Press@RunDepth: 42.99 psig @ 3409.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2022.01.14      End Date: 2022.01.15      Last Calib.: 2022.01.15  
 Start Time: 18:28:36      End Time: 02:10:30      Time On Btm: 2022.01.14 @ 20:43:31  
 Time Off Btm: 2022.01.14 @ 23:50:31

TEST COMMENT: IF: 1/4" blow built to 3/4"  
 IS: No return.  
 FF: 1/4" blow built to 1 1/4"  
 FS: No return. 30-60-35-60

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1702.70	93.21	Initial Hydro-static
1	24.80	92.58	Open To Flow (1)
30	33.35	93.76	Shut-In(1)
90	1062.51	94.60	End Shut-In(1)
91	36.62	94.56	Open To Flow (2)
127	42.99	95.06	Shut-In(2)
186	913.18	96.11	End Shut-In(2)
187	1656.06	96.82	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	ocm 10%o 90%m	0.20

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**20-4s-26w Decatur,KS**

250 N Water  
Wichita, KS 67202

**Slab City #1-20**

Job Ticket: 68381

**DST#: 1**

ATTN: Brad Rine

Test Start: 2022.01.14 @ 18:28:31

## Tool Information

Drill Pipe:	Length: 3168.00 ft	Diameter: 3.80 inches	Volume: 44.44 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: 30000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 45.62 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3408.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	81.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00		Fluid	3380.00	
Shut In Tool	5.00			3385.00	
Hydraulic tool	5.00			3390.00	
Jars	5.00			3395.00	
EM Tool	2.00			3397.00	
Safety Joint	2.00			3399.00	
Packer	5.00			3404.00	29.00 Bottom Of Top Packer
Packer	4.00			3408.00	
Stubb	1.00			3409.00	
Recorder	0.00	8790	Inside	3409.00	
Recorder	0.00	8674	Outside	3409.00	
Perforations	14.00			3423.00	
Change Over Sub	1.00			3424.00	
Drill Pipe	32.00			3456.00	
Change Over Sub	1.00			3457.00	
Bullnose	3.00			3460.00	52.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>81.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**20-4s-26w Decatur,KS**

250 N Water  
Wichita, KS 67202

**Slab City #1-20**

Job Ticket: 68381

**DST#: 1**

ATTN: Brad Rine

Test Start: 2022.01.14 @ 18:28:31

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.80 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	ocm 10%o 90%m	0.197

Total Length: 40.00 ft      Total Volume: 0.197 bbl

Num Fluid Samples: 0

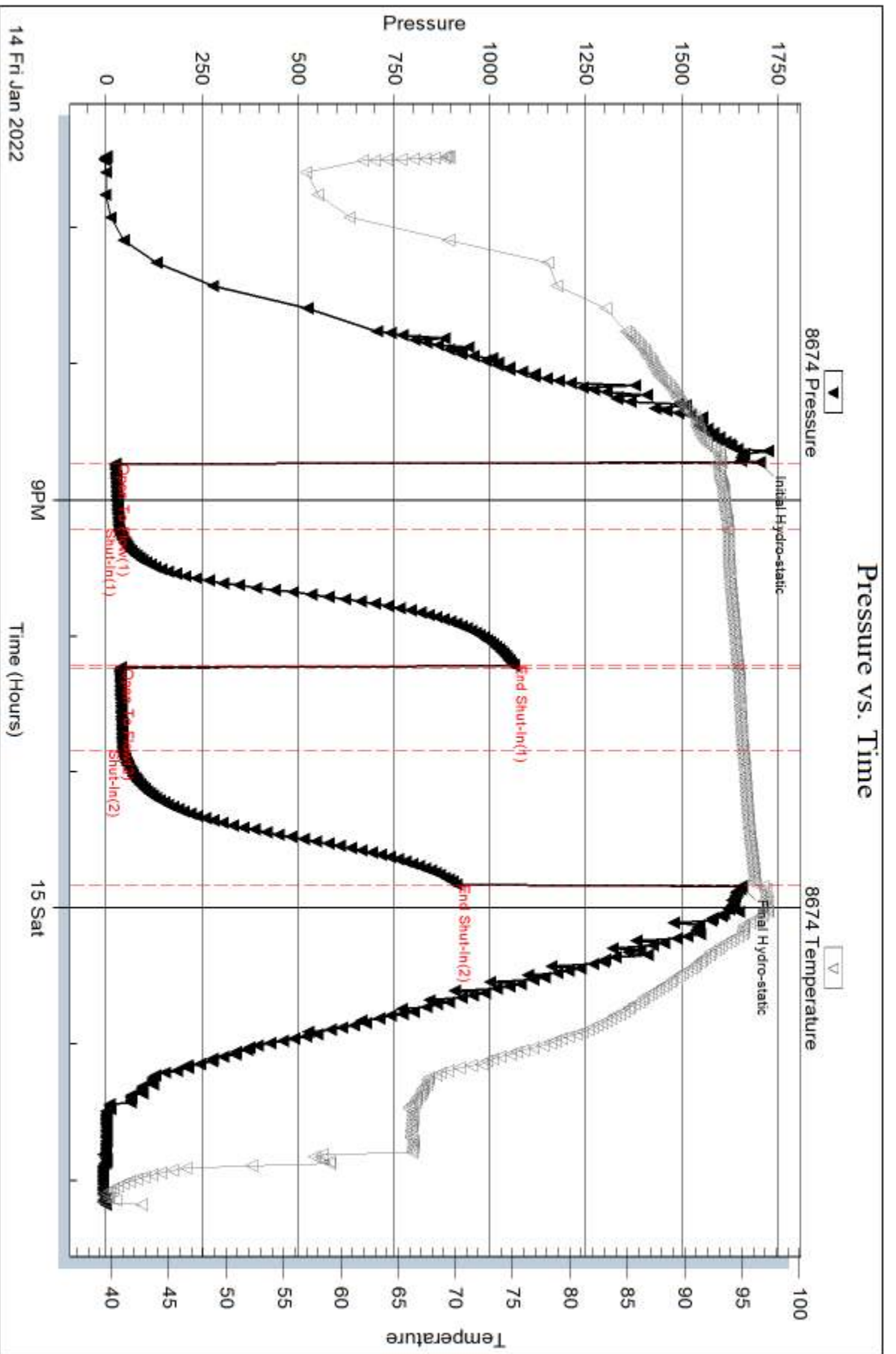
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



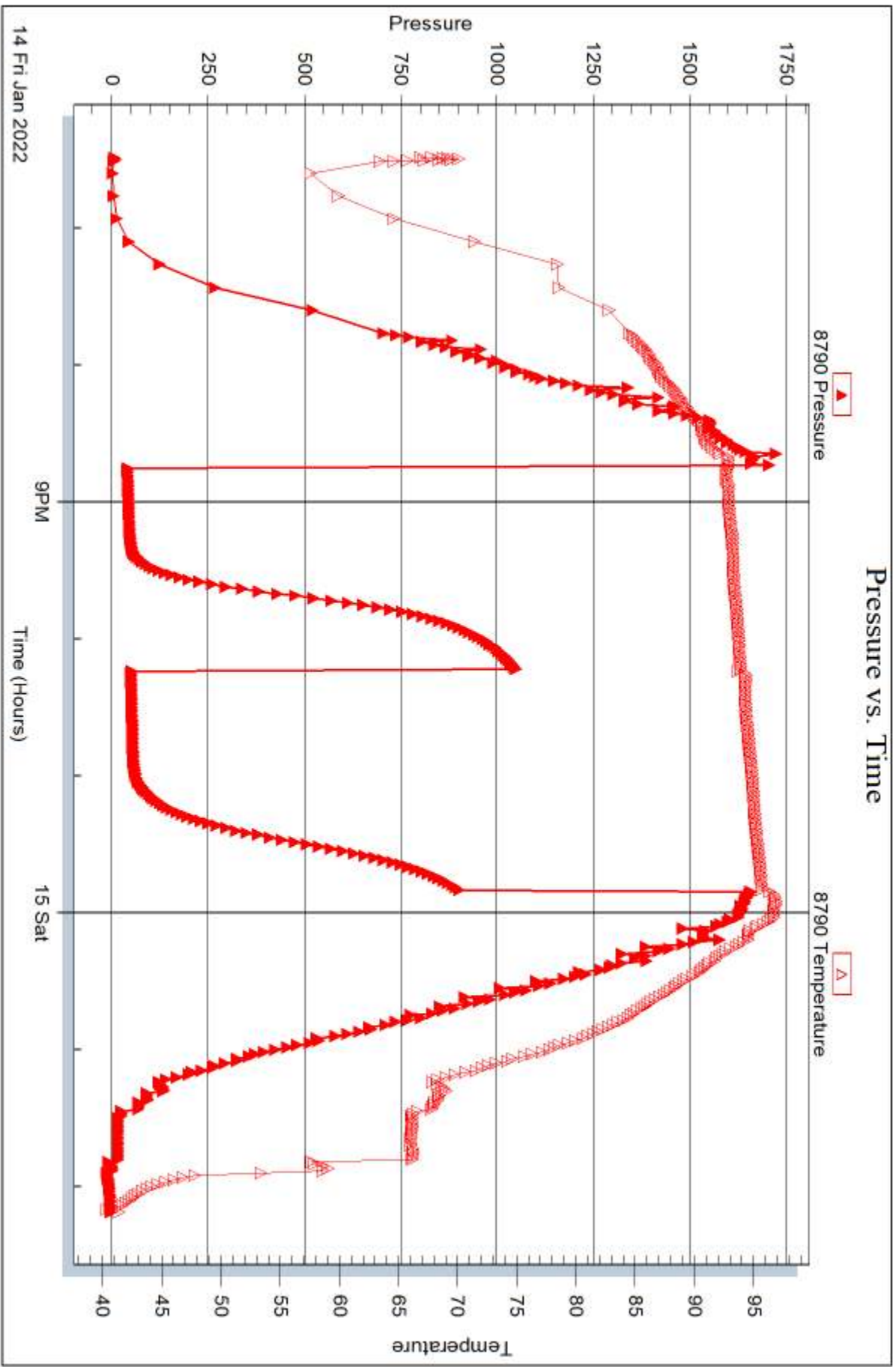
Serial #: 8790

Inside

Murfin Drilling Co Inc

Slab City #1-20

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 68381

Printed: 2022.01.19 @ 16:46:21



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water  
Wichita, KS 67202

ATTN: Brad Rine

### **Slab City #1-20**

#### **20-4s-26w Decatur,KS**

Start Date: 2022.01.15 @ 11:48:43

End Date: 2022.01.15 @ 19:36:13

Job Ticket #: 68382                      DST #: 2

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

Printed: 2022.01.19 @ 16:45:51



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
250 N Water  
Wichita, KS 67202  
ATTN: Brad Rine

**20-4s-26w Decatur,KS**

**Slab City #1-20**

Job Ticket: 68382

**DST#: 2**

Test Start: 2022.01.15 @ 11:48:43

## GENERAL INFORMATION:

Formation: **LKC B - D**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:16:13  
 Time Test Ended: 19:36:13  
 Interval: **3462.00 ft (KB) To 3500.00 ft (KB) (TVD)**  
 Total Depth: 3500.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brandon Turley  
 Unit No: 79  
 Reference Elevations: 2475.00 ft (KB)  
 2470.00 ft (CF)  
 KB to GR/CF: 5.00 ft

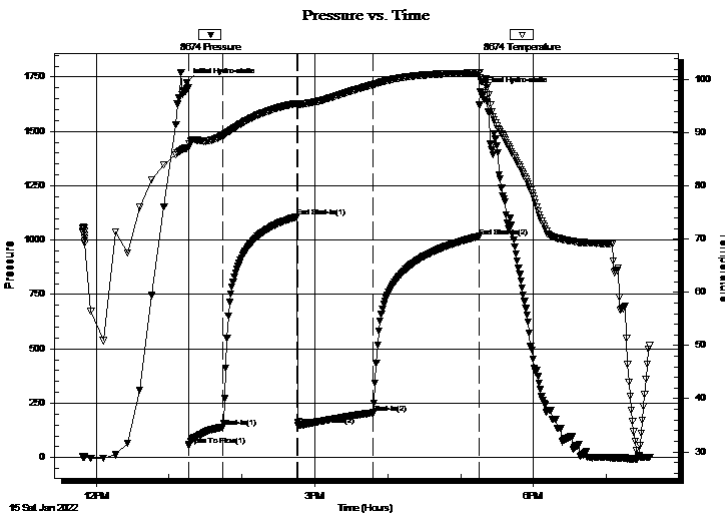
## Serial #: 8674

**Outside**

Press@RunDepth: 205.71 psig @ 3463.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2022.01.15 End Date: 2022.01.15 Last Calib.: 2022.01.15  
 Start Time: 11:48:48 End Time: 19:36:12 Time On Btm: 2022.01.15 @ 13:14:13  
 Time Off Btm: 2022.01.15 @ 17:16:13

**TEST COMMENT:** IF: BOB in 12 mins. 18 1/2"  
 IS: Surface blow built to 2"  
 FF: BoB in 12 mins. 29 1/2"  
 FS: Surface blow built to 3 1/2" died to 1". 30-60-60-90

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1722.42	87.13	Initial Hydro-static
2	55.88	87.23	Open To Flow (1)
30	140.33	89.53	Shut-In(1)
91	1107.68	95.58	End Shut-In(1)
92	147.62	95.35	Open To Flow (2)
154	205.71	99.07	Shut-In(2)
241	1016.94	101.28	End Shut-In(2)
242	1681.80	100.37	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	mcw 95%w 5%m	0.62
126.00	ocw m 5%o 35%w 60%m	0.73
126.00	mco 80%o 20%m	1.77
63.00	oil 100%o	0.88
0.00	189 GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**20-4s-26w Decatur,KS**

250 N Water  
Wichita, KS 67202

**Slab City #1-20**

Job Ticket: 68382

**DST#: 2**

ATTN: Brad Rine

Test Start: 2022.01.15 @ 11:48:43

## Tool Information

Drill Pipe:	Length: 3203.00 ft	Diameter: 3.80 inches	Volume: 44.93 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: 30000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 46.11 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3462.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	67.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	3434.00	
Shut In Tool	5.00			3439.00	
Hydraulic tool	5.00			3444.00	
Jars	5.00			3449.00	
EM Tool	2.00			3451.00	
Safety Joint	2.00			3453.00	
Packer	5.00			3458.00	29.00 Bottom Of Top Packer
Packer	4.00			3462.00	
Stubb	1.00			3463.00	
Recorder	0.00	8790	Inside	3463.00	
Recorder	0.00	8674	Outside	3463.00	
Perforations	1.00			3464.00	
Change Over Sub	1.00			3465.00	
Drill Pipe	31.00			3496.00	
Change Over Sub	1.00			3497.00	
Bullnose	3.00			3500.00	38.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>67.00</b>				





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**20-4s-26w Decatur,KS**

250 N Water  
Wichita, KS 67202

**Slab City #1-20**

Job Ticket: 68382

**DST#: 2**

ATTN: Brad Rine

Test Start: 2022.01.15 @ 11:48:43

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

35000 ppm

Viscosity: 75.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	mcw 95%w 5%m	0.620
126.00	ocw m 5%o 35%w 60%m	0.729
126.00	mco 80%o 20%m	1.767
63.00	oil 100%o	0.884
0.00	189 GIP	0.000

Total Length: 441.00 ft      Total Volume: 4.000 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

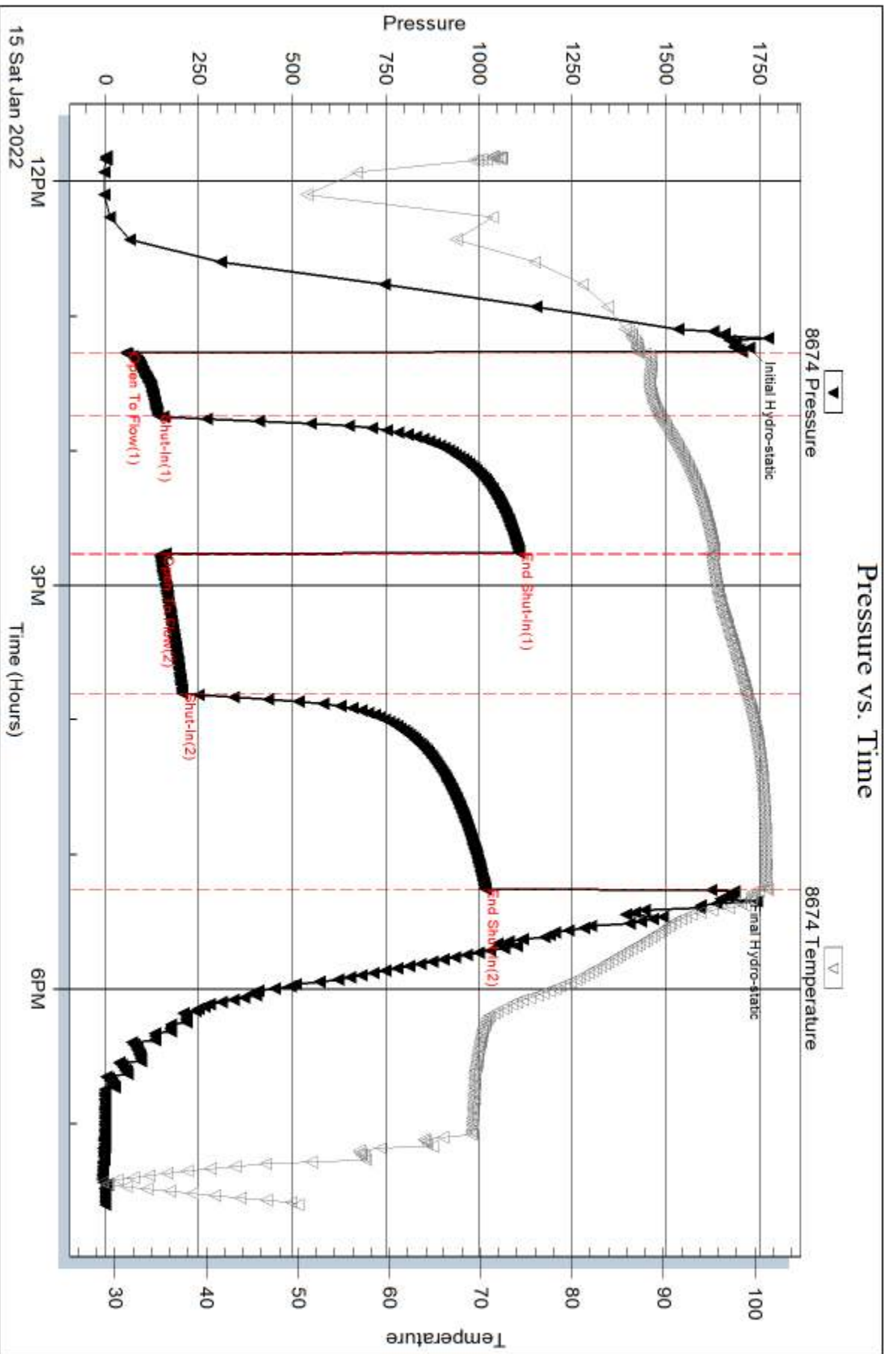
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 33@30=36

.62@23=35000



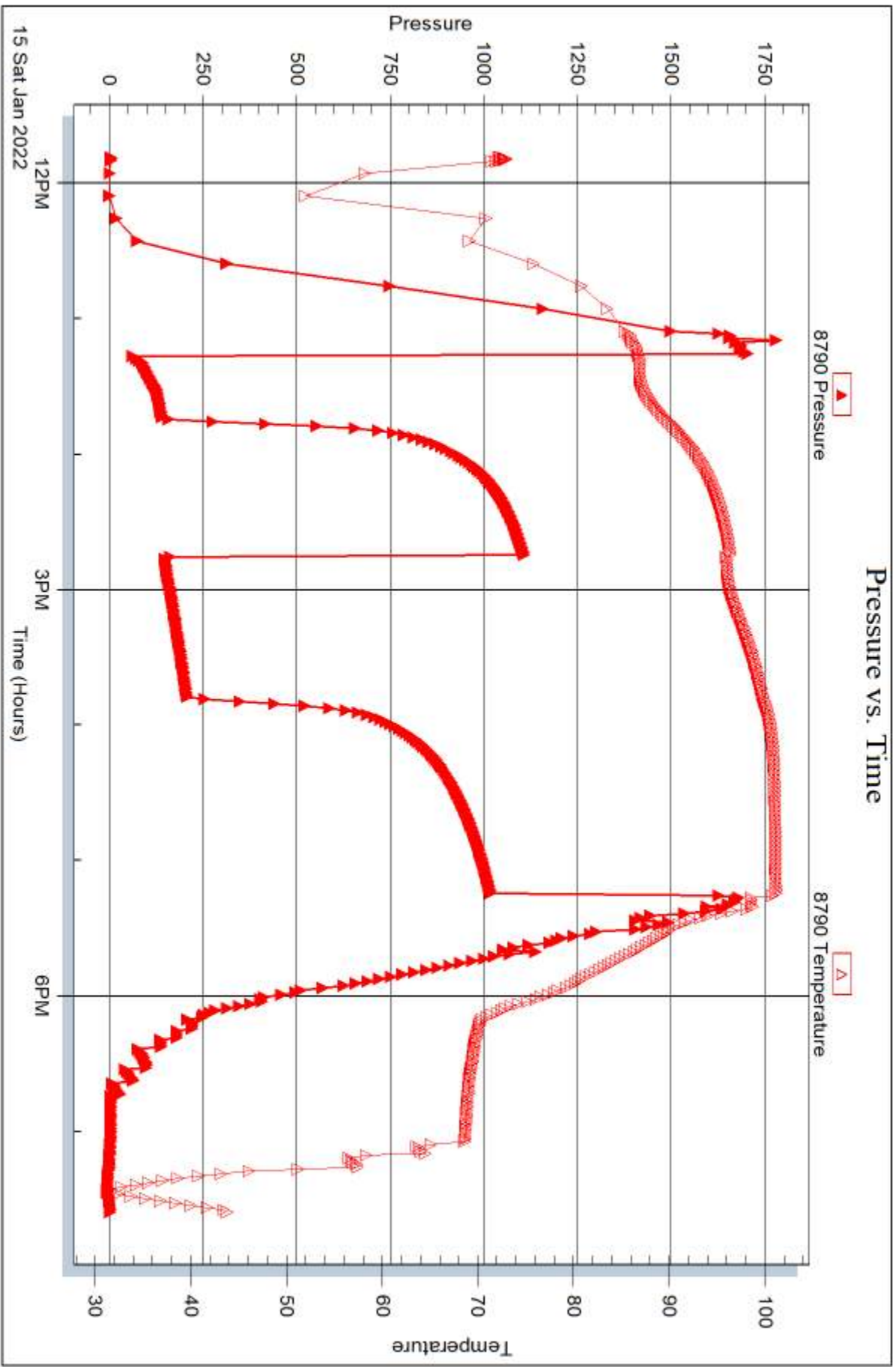
Serial #: 8790

Inside

Murfin Drilling Co Inc

Slab City #1-20

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 68382

Printed: 2022.01.19 @ 16:45:53



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water  
Wichita, KS 67202

ATTN: Brad Rine

### **Slab City #1-20**

#### **20-4s-26w Decatur,KS**

Start Date: 2022.01.16 @ 09:46:33

End Date: 2022.01.16 @ 17:19:03

Job Ticket #: 68383                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.01.19 @ 16:40:03



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc

**20-4s-26w Decatur, KS**

250 N Water  
Wichita, KS 67202

**Slab City #1-20**

Job Ticket: 68383

**DST#: 3**

ATTN: Brad Rine

Test Start: 2022.01.16 @ 09:46:33

## GENERAL INFORMATION:

Formation: **LKC F - G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:18:33

Time Test Ended: 17:19:03

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 3506.00 ft (KB) To 3551.00 ft (KB) (TVD)**

Reference Elevations: 2475.00 ft (KB)

Total Depth: 3551.00 ft (KB) (TVD)

2470.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8674 Outside**

Press@RunDepth: 177.28 psig @ 3507.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.01.16

End Date: 2022.01.16

Last Calib.: 2022.01.16

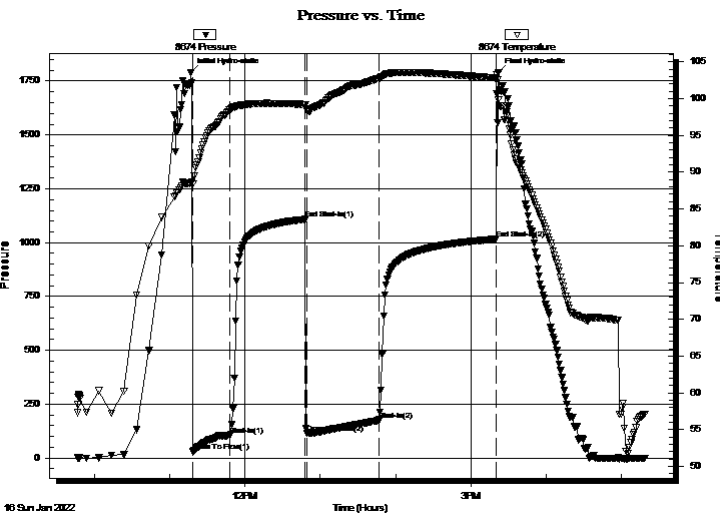
Start Time: 09:46:38

End Time: 17:19:02

Time On Btm: 2022.01.16 @ 11:16:33

Time Off Btm: 2022.01.16 @ 15:22:03

**TEST COMMENT:** IF: 1/2" blow built to BOB in 16 mins 23"  
IS: Surface blow built to 2.  
FF: BOB in 9 mins 48"  
FS: Surface blow BOB in 21 mins. 12" 30-60-60-90



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1787.72	88.57	Initial Hydro-static
2	28.85	88.47	Open To Flow (1)
32	106.07	98.51	Shut-In(1)
92	1108.30	99.18	End Shut-In(1)
93	116.04	98.39	Open To Flow (2)
151	177.28	102.73	Shut-In(2)
244	1015.81	102.80	End Shut-In(2)
246	1790.09	99.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
124.00	mcgo 20%g 40%o 40%m	0.61
186.00	mcgo 10%g 80%o 10%m	1.55
124.00	mcgo 20%g 60%o 20%m	1.74

\* 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

**20-4s-26w Decatur,KS**

250 N Water  
Wichita, KS 67202

**Slab City #1-20**

Job Ticket: 68383

**DST#: 3**

ATTN: Brad Rine

Test Start: 2022.01.16 @ 09:46:33

## Tool Information

Drill Pipe:	Length: 3263.00 ft	Diameter: 3.80 inches	Volume: 45.77 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: 30000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 46.95 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	3506.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	74.00 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
Stubb	1.00		Fluid	3478.00	
Shut In Tool	5.00			3483.00	
Hydraulic tool	5.00			3488.00	
Jars	5.00			3493.00	
EM Tool	2.00			3495.00	
Safety Joint	2.00			3497.00	
Packer	5.00			3502.00	29.00 Bottom Of Top Packer
Packer	4.00			3506.00	
Stubb	1.00			3507.00	
Recorder	0.00	8790	Inside	3507.00	
Recorder	0.00	8674	Outside	3507.00	
Perforations	7.00			3514.00	
Change Over Sub	1.00			3515.00	
Drill Pipe	32.00			3547.00	
Change Over Sub	1.00			3548.00	
Bullnose	3.00			3551.00	45.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>74.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co Inc

**20-4s-26w Decatur,KS**

250 N Water  
Wichita, KS 67202

**Slab City #1-20**

Job Ticket: 68383

**DST#: 3**

ATTN: Brad Rine

Test Start: 2022.01.16 @ 09:46:33

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 75.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
124.00	mcgo 20%g 40%o 40%m	0.610
186.00	mcgo 10%g 80%o 10%m	1.552
124.00	mcgo 20%g 60%o 20%m	1.739

Total Length: 434.00 ft

Total Volume: 3.901 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

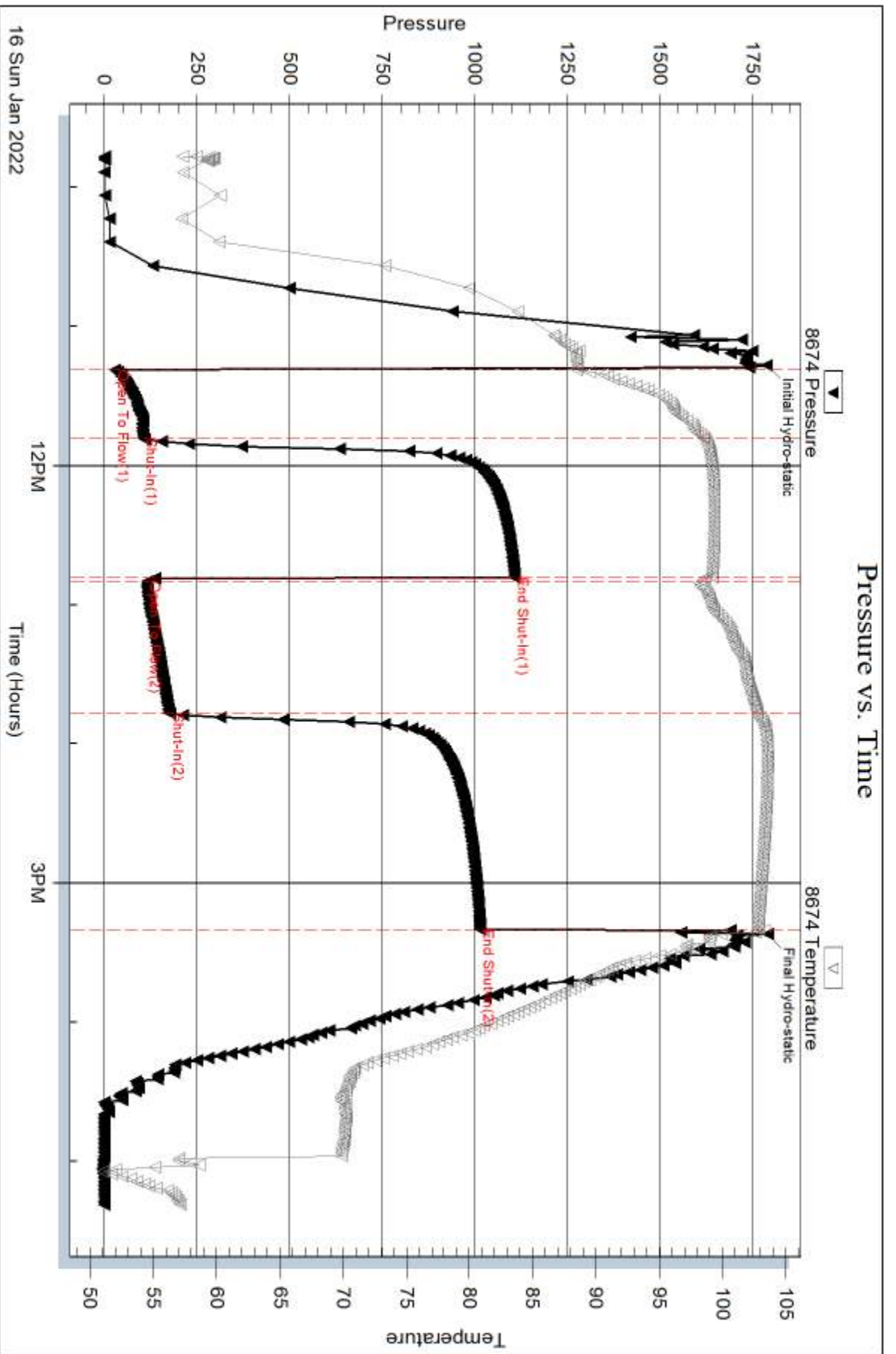
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





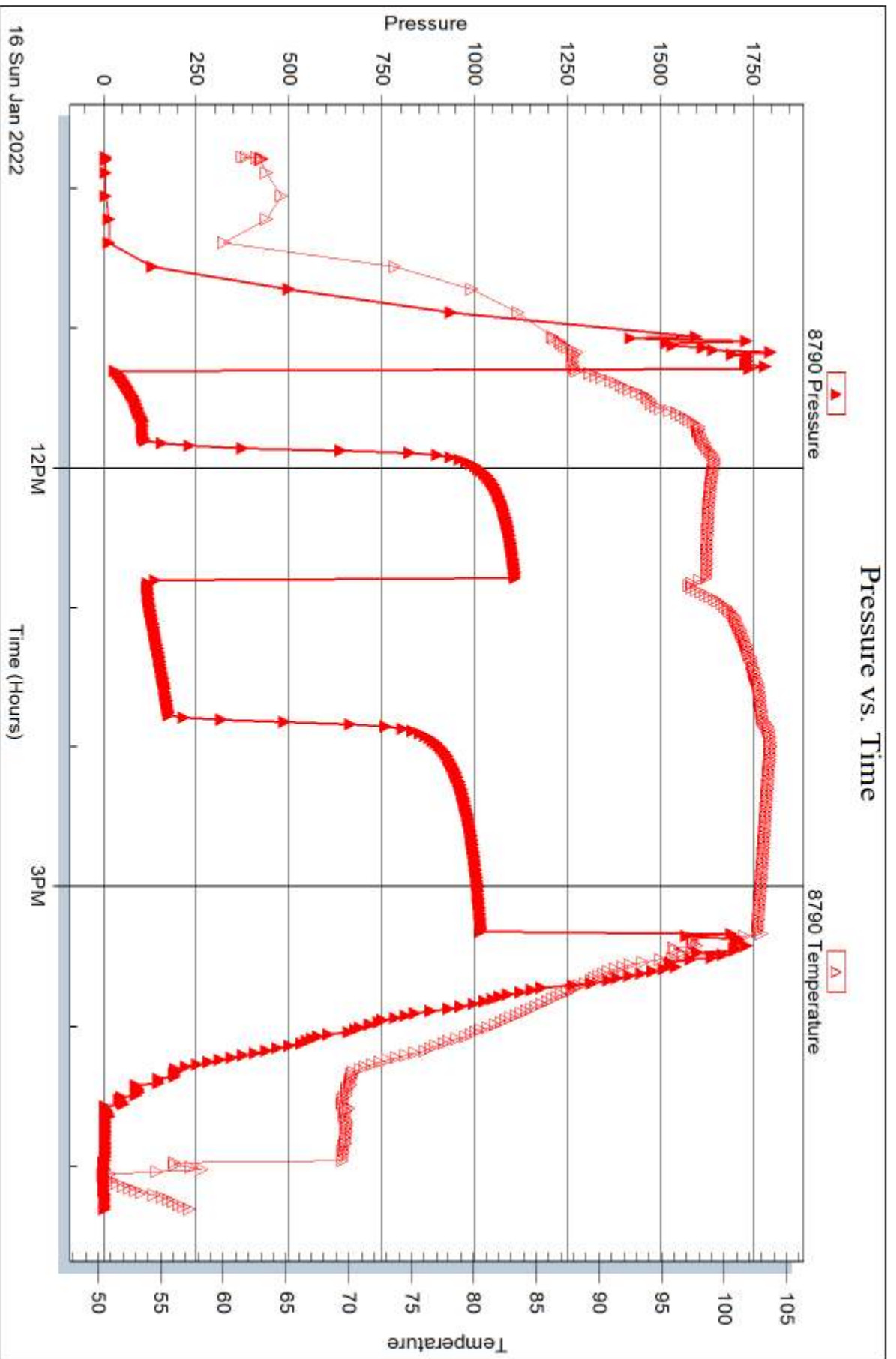
Serial #: 8790

Inside

Murfin Drilling Co Inc

Slab City #1-20

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 68383

Printed: 2022.01.19 @ 16:40:04



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water  
Wichita, KS 67202

ATTN: Brad Rine

### **Slab City #1-20**

#### **20-4s-26w Decatur,KS**

Start Date: 2022.01.17 @ 02:47:16

End Date: 2022.01.17 @ 09:46:46

Job Ticket #: 68384                      DST #: 4

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

Printed: 2022.01.19 @ 16:31:39



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N Water  
 Wichita, KS 67202  
 ATTN: Brad Rine

**20-4s-26w Decatur, KS**

**Slab City #1-20**

Job Ticket: 68384

**DST#: 4**

Test Start: 2022.01.17 @ 02:47:16

## GENERAL INFORMATION:

Formation: **LKC H - J**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 05:02:16  
 Tester: Brandon Turley  
 Time Test Ended: 09:46:46  
 Unit No: 79  
**Interval: 3545.00 ft (KB) To 3600.00 ft (KB) (TVD)**  
 Reference Elevations: 2475.00 ft (KB)  
 Total Depth: 3600.00 ft (KB) (TVD) 2470.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

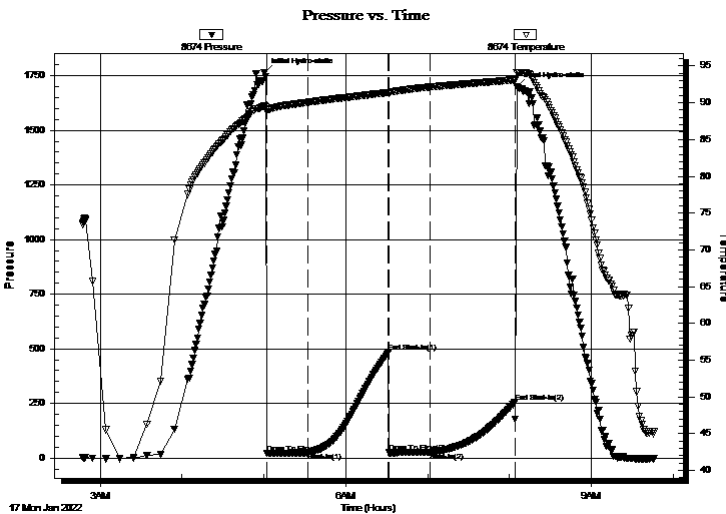
## Serial #: 8674

**Outside**

Press@RunDepth: 25.12 psig @ 3546.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2022.01.17 End Date: 2022.01.17 Last Calib.: 2022.01.17  
 Start Time: 02:47:21 End Time: 09:46:45 Time On Btm: 2022.01.17 @ 05:00:16  
 Time Off Btm: 2022.01.17 @ 08:05:16

**TEST COMMENT:** IF: Surface blow built to 3/4"  
 IS: No return.  
 FF: No blow,  
 FS: No return. 30-60-30-60

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1765.00	89.54	Initial Hydro-static
2	21.30	88.80	Open To Flow (1)
32	24.35	90.05	Shut-In(1)
91	484.01	91.38	End Shut-In(1)
92	24.13	91.33	Open To Flow (2)
122	25.12	92.15	Shut-In(2)
184	254.48	93.11	End Shut-In(2)
185	1699.20	94.12	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**20-4s-26w Decatur,KS**

250 N Water  
Wichita, KS 67202

**Slab City #1-20**

Job Ticket: 68384

**DST#: 4**

ATTN: Brad Rine

Test Start: 2022.01.17 @ 02:47:16

## Tool Information

Drill Pipe:	Length: 3295.00 ft	Diameter: 3.80 inches	Volume: 46.22 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:	30000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume: 47.40 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial	65000.00 lb
Depth to Top Packer:	3545.00 ft			Final	65000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	55.00 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**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	3517.00	
Shut In Tool	5.00			3522.00	
Hydraulic tool	5.00			3527.00	
Jars	5.00			3532.00	
EM Tool	2.00			3534.00	
Safety Joint	2.00			3536.00	
Packer	5.00			3541.00	29.00 Bottom Of Top Packer
Packer	4.00			3545.00	
Stubb	1.00			3546.00	
Recorder	0.00	8790	Inside	3546.00	
Recorder	0.00	8674	Outside	3546.00	
Perforations	17.00			3563.00	
Change Over Sub	1.00			3564.00	
Drill Pipe	32.00			3596.00	
Change Over Sub	1.00			3597.00	
Bullnose	3.00			3600.00	55.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>84.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**20-4s-26w Decatur,KS**

250 N Water  
Wichita, KS 67202

**Slab City #1-20**

Job Ticket: 68384

**DST#: 4**

ATTN: Brad Rine

Test Start: 2022.01.17 @ 02:47:16

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

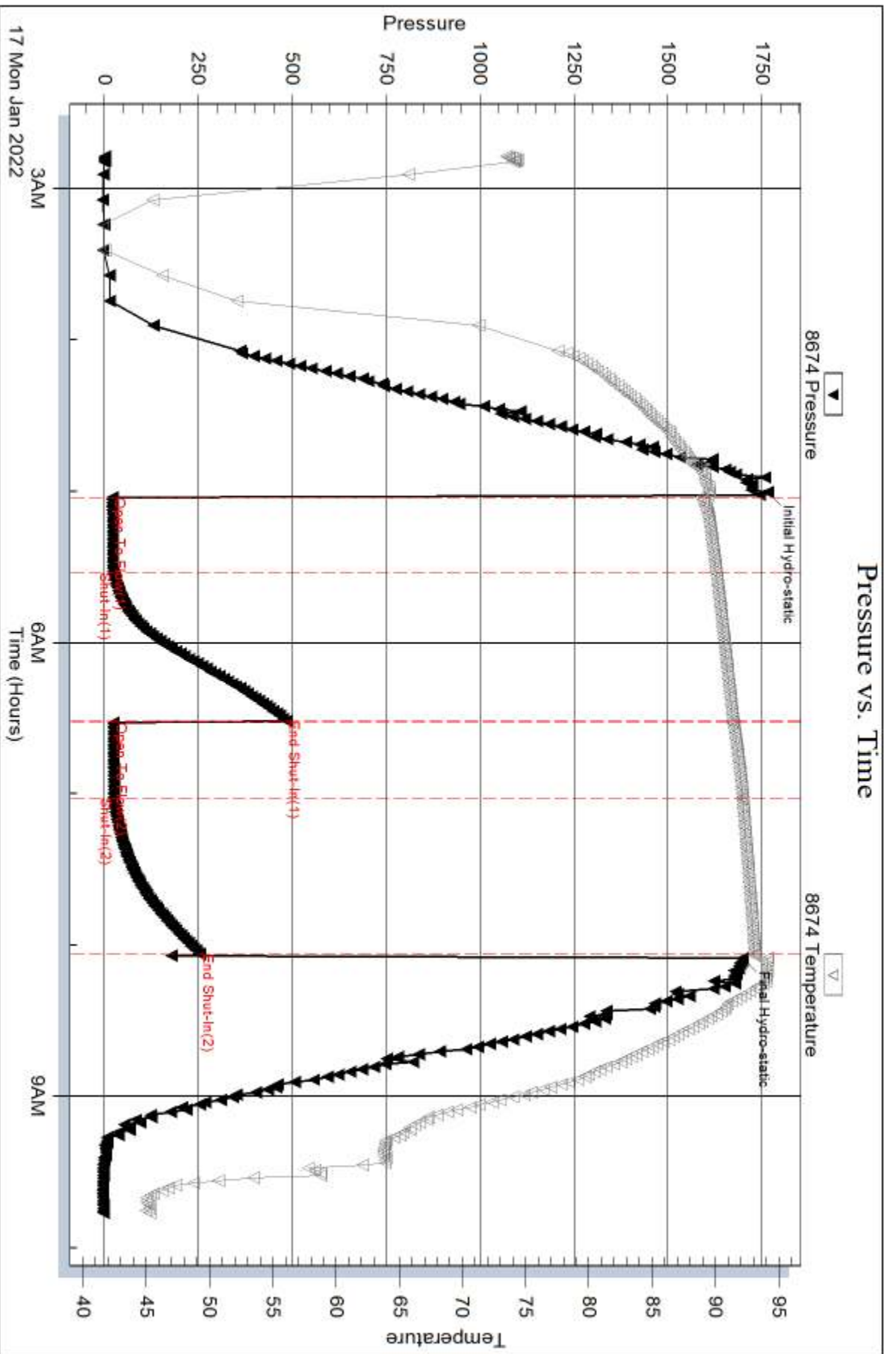
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





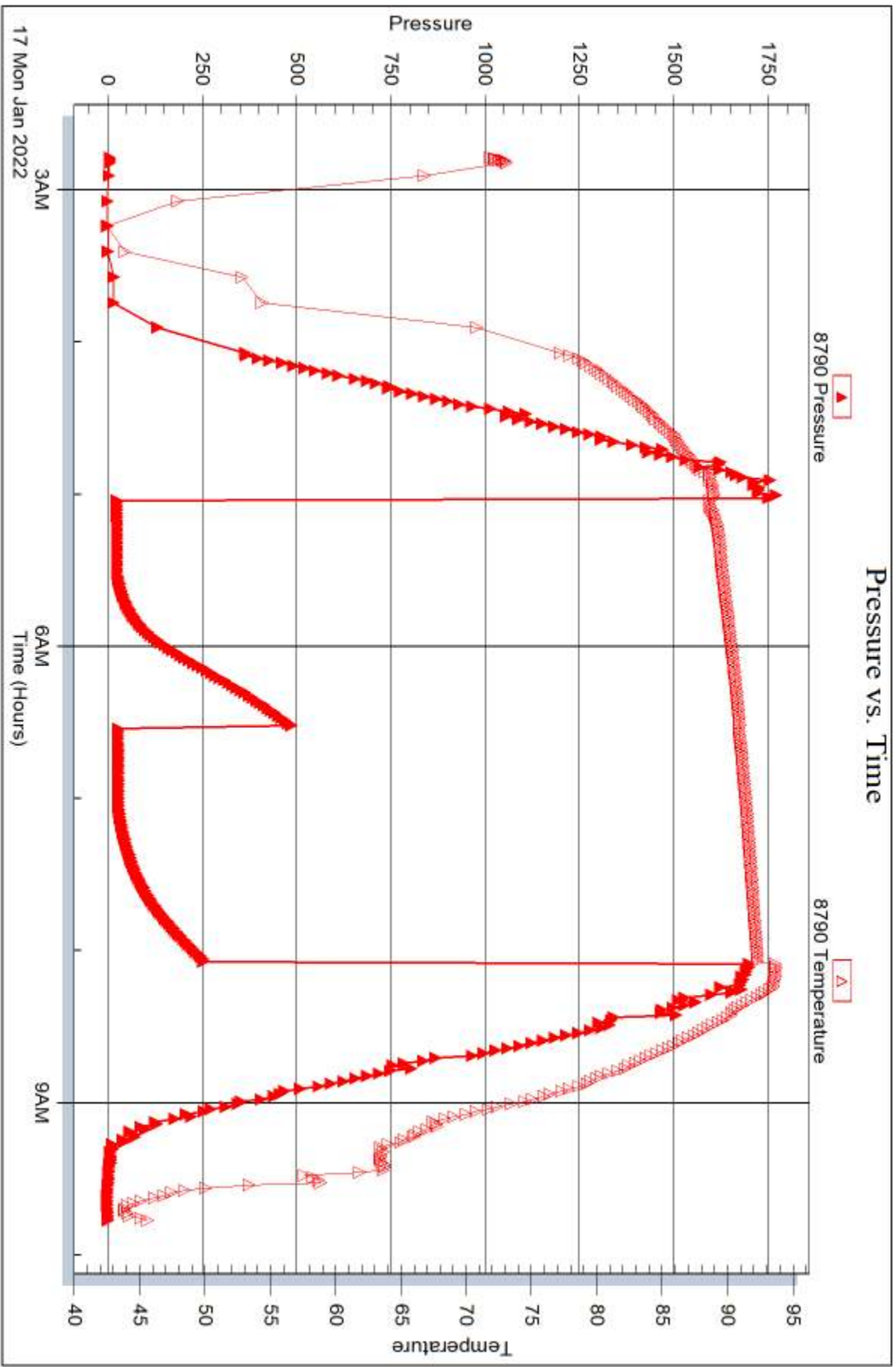
Serial #: 8790

Inside

Murfin Drilling Co Inc

Slab City #1-20

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 68384

Printed: 2022.01.19 @ 16:31:41



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water  
Wichita, KS 67202

ATTN: Brad Rine

### **Slab City #1-20**

### **20-4s-26w Decatur,KS**

Start Date: 2022.01.17 @ 19:47:09

End Date: 2022.01.18 @ 03:06:09

Job Ticket #: 68385                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.01.19 @ 16:09:32



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N Water  
 Wichita, KS 67202  
 ATTN: Brad Rine

**20-4s-26w Decatur, KS**

**Slab City #1-20**

Job Ticket: 68385      **DST#: 5**  
 Test Start: 2022.01.17 @ 19:47:09

## GENERAL INFORMATION:

Formation: **LKC K - L**  
 Deviated: No Whipstock:      ft (KB)  
 Time Tool Opened: 22:03:39  
 Time Test Ended: 03:06:09  
 Interval: **3598.00 ft (KB) To 3646.00 ft (KB) (TVD)**  
 Total Depth: 3646.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brandon Turley  
 Unit No: 79  
 Reference Elevations: 2475.00 ft (KB)  
 2470.00 ft (CF)  
 KB to GR/CF: 5.00 ft

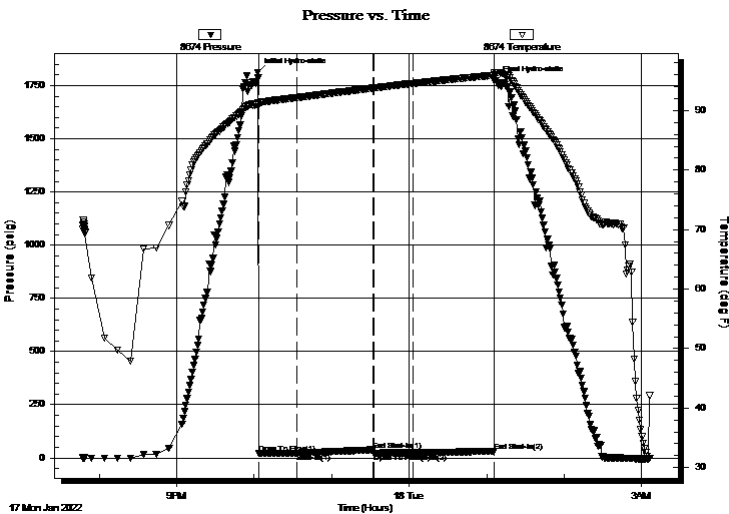
## Serial #: 8674

**Outside**

Press@RunDepth: 22.84 psig @ 3599.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2022.01.17      End Date: 2022.01.18      Last Calib.: 2022.01.18  
 Start Time: 19:47:14      End Time: 03:06:08      Time On Btm: 2022.01.17 @ 22:02:39  
 Time Off Btm: 2022.01.18 @ 01:07:09

TEST COMMENT: IF: Surface blow built to 1/2"  
 IS: No return.  
 FF: No blow,  
 FS: No return. 30-60-30-60

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1811.87	91.05	Initial Hydro-static
1	21.51	91.04	Open To Flow (1)
30	22.25	92.16	Shut-In(1)
90	37.41	93.78	End Shut-In(1)
90	22.50	93.79	Open To Flow (2)
120	22.84	94.55	Shut-In(2)
183	31.34	95.93	End Shut-In(2)
185	1774.80	96.32	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc

**20-4s-26w Decatur,KS**

250 N Water  
Wichita, KS 67202

**Slab City #1-20**

Job Ticket: 68385

**DST#: 5**

ATTN: Brad Rine

Test Start: 2022.01.17 @ 19:47:09

## Tool Information

Drill Pipe:	Length: 3359.00 ft	Diameter: 3.80 inches	Volume: 47.12 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: 30000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 30000.00 lb
			<u>Total Volume: 48.30 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	3598.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	77.00 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
Stubb	1.00		Fluid	3570.00	
Shut In Tool	5.00			3575.00	
Hydraulic tool	5.00			3580.00	
Jars	5.00			3585.00	
EM Tool	2.00			3587.00	
Safety Joint	2.00			3589.00	
Packer	5.00			3594.00	29.00 Bottom Of Top Packer
Packer	4.00			3598.00	
Stubb	1.00			3599.00	
Recorder	0.00	8790	Inside	3599.00	
Recorder	0.00	8674	Outside	3599.00	
Perforations	10.00			3609.00	
Change Over Sub	1.00			3610.00	
Drill Pipe	32.00			3642.00	
Change Over Sub	1.00			3643.00	
Bullnose	3.00			3646.00	48.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>77.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc

**20-4s-26w Decatur,KS**

250 N Water  
Wichita, KS 67202

**Slab City #1-20**

Job Ticket: 68385

**DST#: 5**

ATTN: Brad Rine

Test Start: 2022.01.17 @ 19:47:09

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

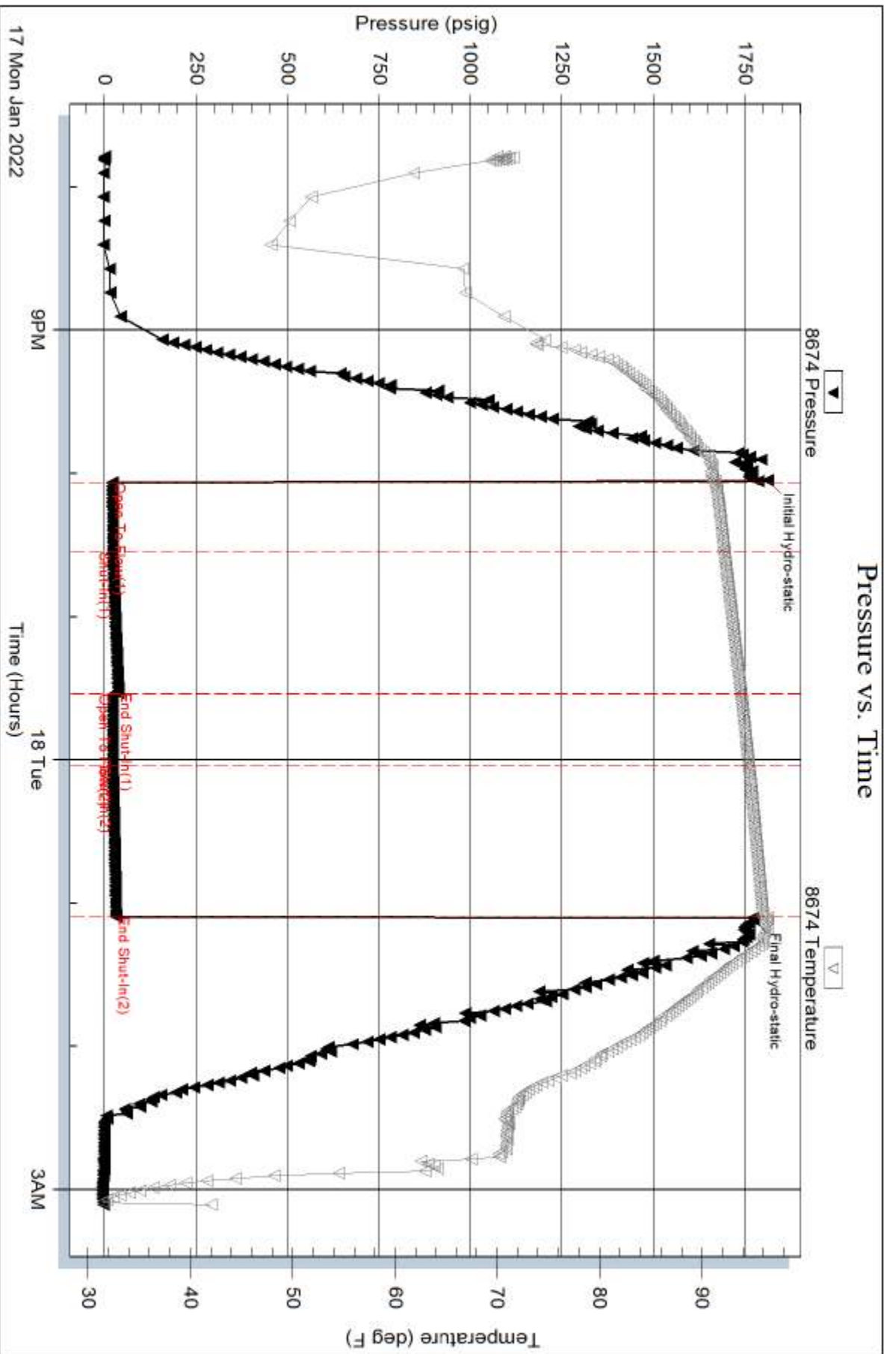
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



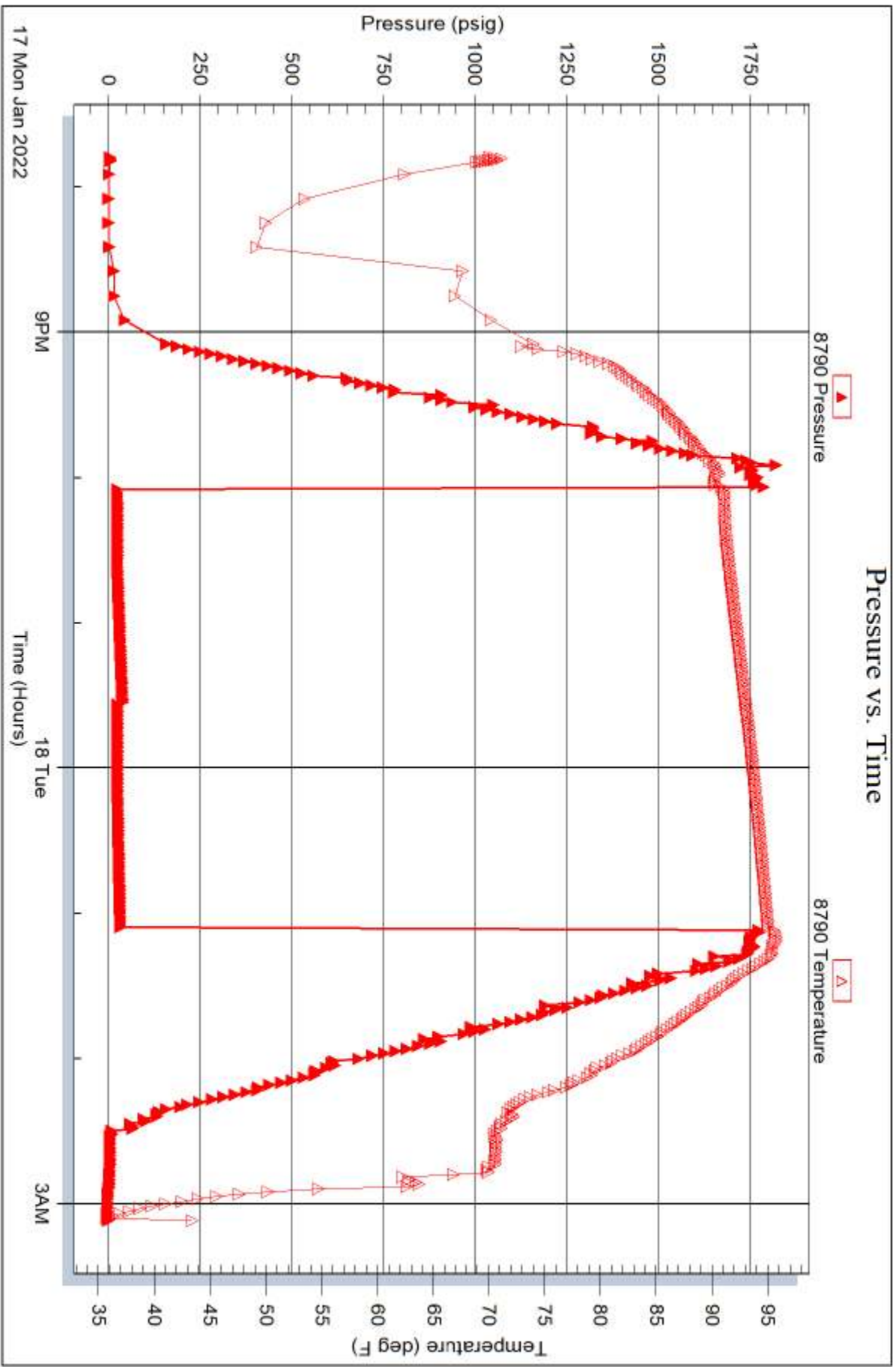
Serial #: 8790

Inside

Murfin Drilling Co Inc

Slab City #1-20

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 68385

Printed: 2022.01.19 @ 16:09:35





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 68381

Well Name & No. Slab city 1-20 Test No. 1 Date 1-14-22  
 Company Murfin Drilling Co Inc Elevation 2475 KB 2470 GL  
 Address 250 N water wichita, KS 67202  
 Co. Rep / Geo. Brod Rine Rig Murfin 7  
 Location: Sec. 20 Twp 45 Rge. 26 Co. Decatur State KS

Interval Tested 3408 3460 Zone Tested Toronto - Leasing A  
 Anchor Length 52 Drill Pipe Run 3168 Mud Wt. 8.7  
 Top Packer Depth 3403 Drill Collars Run 240 Vls 63  
 Bottom Packer Depth 3408 Wt. Pipe Run — WL 6.8  
 Total Depth 3460 Chlorides 1200 ppm System LCM 5

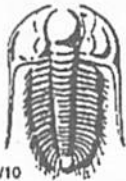
Blow Description IF: 1/4 blow built to 3/4.  
IS: No return.  
FF: 1/4 blow built to 1 1/4.  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>46</u>	<u>ocm</u>	<u>10</u>		<u>90</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 40 BHT 96 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1702  Test 1300 T-On Location 16:00  
 (B) First Initial Flow 24  Jars 250 T-Started 18:28  
 (C) First Final Flow 33  Safety Joint 75 T-Open 20:43  
 (D) Initial Shut-In 1062  Circ Sub NIL T-Pulled 23:48  
 (E) Second Initial Flow 36  Hourly Standby — T-Out 2:11  
 (F) Second Final Flow 42  Mileage 180 - 47rt 58.75 Comments out of town  
 (G) Final Shut-In 913  Sampler —  
 (H) Final Hydrostatic 1656  Straddle —  EM Tool 350 NS  
 Shale Packer —  Ruined Shale Packer —  
 Extra Packer —  Ruined Packer —  
 Extra Recorder —  Extra Copies —  
 Day Standby — Sub Total 0  
 Accessibility — Total 1683.75  
 Sub Total 1683.75 MP/DST Disc't —

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. 68382

Well Name & No. 5/96 city 1-20 Test No. 2 Date 1-15-22  
 Company Murfin Drilling Co Inc Elevation 2475 KB 2470 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Brod Rine Rig Murfin 7  
 Location: Sec. 20 Twp 45 Rge. 26W Co. Deatur State KS

Interval Tested 3462 3500 Zone Tested Lensing B-D  
 Anchor Length 38 Drill Pipe Run 3203 Mud Wt. 8.9  
 Top Packer Depth 3457 Drill Collars Run 240 Vis 75  
 Bottom Packer Depth 3462 Wt. Pipe Run — WL 6.8  
 Total Depth 3500 Chlorides 900 ppm System LCM 5

Blow Description IF: BoB in 12 min. 18 1/2.  
IF: Surface blow built to 2.  
FF: BoB in 12 mins. 29 1/2  
FS: surface blow built to 3 1/2 died to 1.

Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>oil</u>	<u>100</u>			
<u>126</u>	<u>MCO</u>	<u>80</u>		<u>20</u>	
<u>126</u>	<u>OCWM</u>	<u>5</u>	<u>35</u>	<u>60</u>	
<u>126</u>	<u>MCW</u>		<u>95</u>	<u>5</u>	

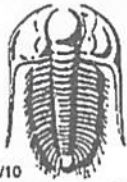
Rec Total 441 BHT 101 Gravity 36 API RW .62 @ 23 °F Chlorides 35,000 ppm

(A) Initial Hydrostatic 1722  Test 1300 T-On Location 11:40  
 (B) First Initial Flow 55  Jars 250 T-Started 11:48  
 (C) First Final Flow 140  Safety Joint 75 T-Open 13:15  
 (D) Initial Shut-In 1107  Circ Sub NIL T-Pulled 17:15  
 (E) Second Initial Flow 147  Hourly Standby \_\_\_\_\_ T-Out 19:39  
 (F) Second Final Flow 205  Mileage 180 - 58.75 Comments out of town  
 (G) Final Shut-In 1016  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1681  Straddle \_\_\_\_\_  EM Tool 350 NS  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90  
 Sub Total 1683.75 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 68383

Well Name & No. Slab city 1-20 Test No. 3 Date 1-16-22  
 Company Murfin Drilling Co INC Elevation 2475 KB 2470 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Brod Rine Rig Murfin 7  
 Location: Sec. 20 Twp 45 Rge. 26W Co. Deatur State KS

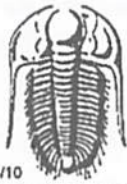
Interval Tested 3506 3551 Zone Tested Lensing F-G  
 Anchor Length 45 Drill Pipe Run 3263 Mud Wt. 8.9  
 Top Packer Depth 3501 Drill Collars Run 240 Vis 75  
 Bottom Packer Depth 3506 Wt. Pipe Run \_\_\_\_\_ WL 6.8  
 Total Depth 3551 Chlorides 900 ppm System LCM 5  
 Blow Description IF: 1/2 blow built to BOB in 16 min. 23"  
ISI surface blow built to 2.  
FF: BOB in 9 mins. 48"  
FSi surface blow BOB in 21 mins. 12"

Rec	Feet of	%gas	%oil	%water	%mud
<u>124</u>	<u>MC90</u>	<u>20</u>	<u>60</u>	<u>20</u>	
<u>186</u>	<u>MC90</u>	<u>10</u>	<u>80</u>	<u>10</u>	
<u>124</u>	<u>MC90</u>	<u>26</u>	<u>40</u>	<u>40</u>	
Rec _____	Feet of <u>826 GIP</u>	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 434 BHT 102 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1787</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>5:00</u>
(B) First Initial Flow <u>28</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>8:15</u>
(C) First Final Flow <u>106</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>9:46</u>
(D) Initial Shut-In <u>1108</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>13:46</u>
(E) Second Initial Flow <u>116</u>	<input checked="" type="checkbox"/> Hourly Standby <u>2-200.00</u>	T-Out <u>15:50</u>
(F) Second Final Flow <u>177</u>	<input checked="" type="checkbox"/> Mileage <u>180</u> 58.75	Comments <u>Short trip out of town</u>
(G) Final Shut-In <u>1015</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1790</u>	<input type="checkbox"/> Straddle _____	<input checked="" type="checkbox"/> EM Tool <u>350 NS</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1683.75</u>
	Sub Total <u>1683.75</u>	MP/DST Disc't _____

Approved By \_\_\_\_\_ Our Representative [Signature]  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 68384

Well Name & No. Sl9b city 1-20 Test No. 4 Date 1-17-22  
 Company Murfin Drilling Elevation 2475 KB 2470 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Brad Rine Rig Murfin 7  
 Location: Sec. 20 Twp 45 Rge. 26W Co. Decatur State KS

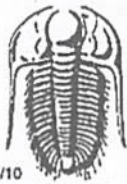
Interval Tested 3545 3600 Zone Tested Lansing H-J  
 Anchor Length 55 Drill Pipe Run 3295 Mud Wt. 9.1  
 Top Packer Depth 3540 Drill Collars Run 240 Vis 50  
 Bottom Packer Depth 3545 Wt. Pipe Run \_\_\_\_\_ WL 6.8  
 Total Depth 3600 Chlorides 1200 ppm System LCM 4  
 Blow Description IF: surface blow built to 3/4,  
IS: No return,  
FF: No blow,  
FS: No return.

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

Rec Total 5 BHT 93 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1765</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>1:15</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>2:47</u>
(C) First Final Flow <u>24</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>5:02</u>
(D) Initial Shut-In <u>484</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>8:02</u>
(E) Second Initial Flow <u>24</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>9:48</u>
(F) Second Final Flow <u>25</u>	<input checked="" type="checkbox"/> Mileage <u>180</u> - 58.75	Comments <u>out of town</u>
(G) Final Shut-In <u>254</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1699</u>	<input type="checkbox"/> Straddle _____	<input checked="" type="checkbox"/> EM Tool <u>350 NS</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1683.75</u>
	Sub Total <u>1683.75</u>	MP/DST Disc't _____

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 68385

Well Name & No. 5196 city 1-20 Test No. 5 Date 1-17-22  
 Company Murfin Drilling Elevation 2475 KB 2470 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Brad Rine Rig Murfin 7  
 Location: Sec. 20 Twp 45 Rge. 26<sup>W</sup> Co. Decatur State KS

Interval Tested 3598 3646 Zone Tested Lansing K-L  
 Anchor Length \_\_\_\_\_ 48 Drill Pipe Run 3359 Mud Wt. 8.9  
 Top Packer Depth \_\_\_\_\_ 3593 Drill Collars Run 290 Vls 50  
 Bottom Packer Depth \_\_\_\_\_ 3598 Wt. Pipe Run \_\_\_\_\_ WL 6.4  
 Total Depth \_\_\_\_\_ 3646 Chlorides 1400 ppm System LCM 4

Blow Description #F: Surface blow built to 1/2 died in 30 min.  
KS: No return.  
FF: No blow.  
FS: No return.

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

Rec Total 5 BHT 95 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1811</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>18:00</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>19:47</u>
(C) First Final Flow <u>22</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>22:14</u>
(D) Initial Shut-In <u>37</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>1:14</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>3:22</u>
(F) Second Final Flow <u>22</u>	<input checked="" type="checkbox"/> Mileage <u>180 - 58.75</u>	Comments <u>out of town</u>
(G) Final Shut-In <u>31</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1774</u>	<input type="checkbox"/> Straddle _____	<input checked="" type="checkbox"/> EM Tool <u>350 NS</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1683.75</u>
	Sub Total <u>1683.75</u>	MP/DST Disc't _____

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**M. Bradford Rine**

*Consulting Geologist*

*Licensed/Certified: Kansas, Wyoming, AAPG/DPA, SIPES*

*Phone: (316) 250-5941*

**Scale 1:240 (5"=100') Imperial  
Measured Depth Log**

**Well Name:** Slab City #1-20 - Murfin Drilling Company, Inc.  
**API:** 15-039-21277-00-00  
**Location:** W2-NW-SW-NW, Section 20-04S-26W  
**License Number:** KCC #30606 **Region:** Decatur County, Ks.  
**Spud Date:** January 11, 2022 **Drilling Completed:** January 18, 2022  
**Surface Coordinates:** 1650' FNL & 100' FWL, **Results:** Production Casing Set  
of Section  
**Bottom Hole Vertical Wellbore** **Field:** Jennings Northeast  
**Coordinates:**  
**Ground Elevation (ft):** 2470 Ft. **K.B. Elevation (ft):** 2475 Ft.  
**Logged Interval (ft):** 3100 Ft. **To:** 3700 Ft. **Total Depth (ft):** RTD 3700 Ft. LTD 3697 Ft.  
**Formation:** Lower Pennsylvanian at Total Depth  
**Type of Drilling Fluid:** Chemical

Printed by MudLog from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

**Operator**

**Company:** Murfin Drilling Company, Inc.  
**Address:** 250 North Water, Suite #300  
Wichita, Kansas 67202+1216

**Geologist**

**Name:** M. Bradford Rine  
**Company:** Consulting Geologist, Kansas Lic. #204, Wyo #189, AAPG Cert. #2647  
**Address:** 100 South Main, Suite #320A  
Wichita, Kansas 67202

**Remarks**

Based on sample observations, drill stem test results, and electric log evaluation, it was the decision of the Operator, to set production casing on the "Slab City #1-20", on January 18, 2022.

Respectfully submitted,  
M. Bradford Rine, geologist

## Drilling Information

**Rig:** Murfin Drilling #7  
**Pump:** Emsco D-375 6x14  
**Drawworks:** Ideco H35  
**Collars:** 532' 2-1/4" x 6-1/4"  
**Drillpipe:** 4-1/2" 16.6# XH  
**Toolpusher:** Arturo Cabeza

**Mud:** Morgan (Cade Lines, David Lines)  
**Gas Detector:** None  
**Drill Stem Tests:** Trilobite (Brandon Turley)  
**Logs:** Midwest (Dan Schmidt)  
**Water:** Water Well Drilled on Location  
**Company Representatives:**  
**Office:** Bo Beins  
**Field:** .....

## Daily Drilling Status

<b>Date:</b>	<b>Operations/Depth/Comments</b>
01-08-22	MIRT @ 0'
01-10-22	MIRT, RU @ 0'
01-11-22	Spud @ 0'
01-12-22	Drilling @ 1017'
01-13-22	Drilling @ 2951'
01-14-22	Circulating for Samples @ 3370'
01-15-22	Circulating for Samples @ 3483'
01-16-22	Tripping Out of Hole/Bit for DST #3 @ 3551'
01-17-22	On Bottom with DST #4 @ 3600'
01-18-22	Drilling @ 3665'
01-19-22	Plug Down on Casing at 5:45 AM @ 3698'

	Results: Oil			(Well A) Oil		
	Murfin Drilling Co, Inc.			Murfin Drilling Co., Inc.		
	Slab City #1-20			Carter Unit #1-20		
	1650'FNL & 100'FWL			100'FNL & 1630'FWL		
	Sec. 20-04S-26W			Sec. 20-04S-26W		
	KB 2475			KB 2480		Well A
Formations	Sample	E-Log	Datum	E-Log	Datum	Comparison
Anhydrite	2046	2047	428	2050	430	-2
B/Anhydrite	2078	2078	397	2084	396	1
Tarkio	3125	3128	-653	3132	-652	-1
Topeka	3230	3232	-757	3236	-756	-1
Heebner Sh.	3409	3411	-936	3414	-934	-2
Toronto	3436	3438	-963	3440	-960	-3
Lansing	3450	3452	-977	3456	-976	-1
Stark Sh.	3599	3600	-1125	3602	-1122	-3
B/Kansas City	3642	3643	-1168	3646	-1166	-2
Lenepah	3660	3662	-1187	3668	-1188	1
Total Depth	3700	3697	-1222	3871	-1391	169



## Casing Record, Bit Record, Deviation Surveys

### CASING:

Conductor: None

Surface: Ran 7jts of 23# 8 5/8" surf csg set @ 288'. (HSI) Cement with 250sx Comm, 3%cc, 2%gel. PD @ 2:00PM, January 11, 2022. Cement did circulate. Drill Out @ 10:00PM.

Production: Ran 87 jts 5-1/5", 15.5# casing, set @ 3698 ft. (HSI) Cement with 375 sx H-con & 150 sx H-ld, 25 sx in Rathole, 20 sx in Mousehole. Plug down at 5:45 AM, January 19, 2022.

### BITS:

No.	Size	Make	Model	Depth In	Depth Out	Hours
1	12-1/4	Sec.	FQHC	0	288	2.5
2	7-7/8	ST	MDI516	288	3108	32.0
3	7-7/8	ST	FH120	3108	3700	32.5

### DEVIATION SURVEYS:

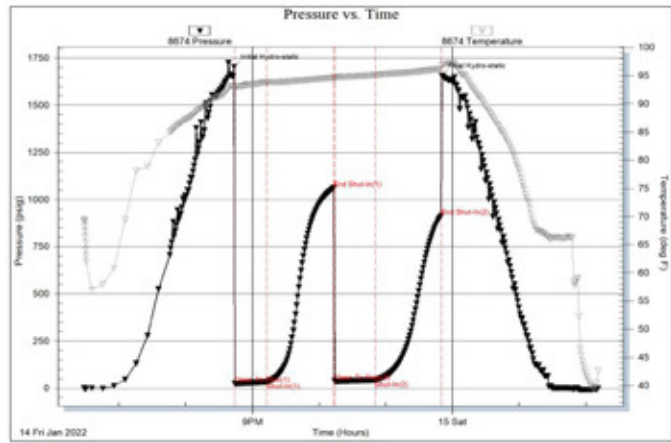
Deviation:	Depth:	Deviation:	Depth:
0.75*	288'	0.75*	3460'
1.00*	1461'	0.75*	3600'
0.50*	3108'	0.50*	3700'

### PIPE STRAPS:

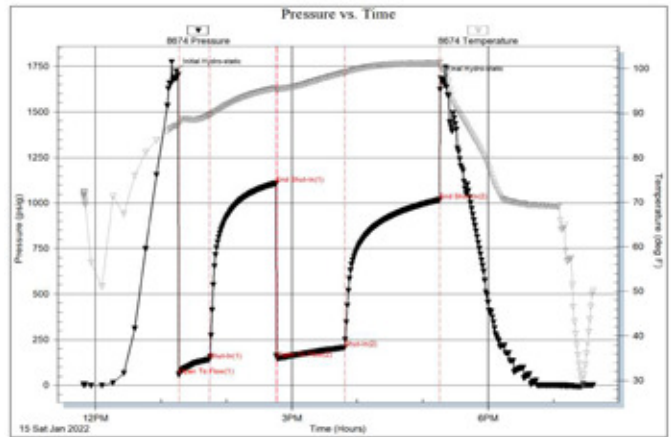
Difference:	Depth:
1.38' Long	3108'

Displace and MUD UP:  
2951'

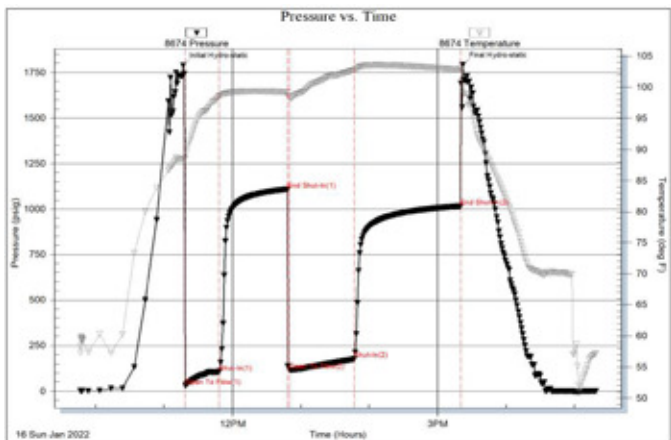
**DST #1: 3408-3460 (Toronto, Lans A)**  
**Times: 30-60-35-60**  
**Initial Open: Wk Blow, built to .75" i.b.**  
**Final Open: Wk Blow, built to 1.25" i.b.**  
**Rec: 40' OCM: 10%o 90%m**  
**IHP: 1702 FHP: 1656**  
**IFP: 24-33 FFP: 36-42**  
**ISIP: 1062 FSIP: 913**  
**BHT: 96°F**



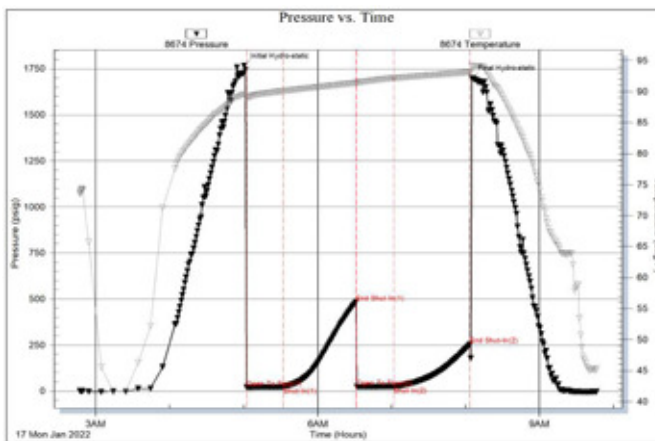
**DST #2: 3462-3500 (Lans B, Lans D)**  
**Times: 30-60-60-90**  
**Initial Open: Stg Blow, b.o.b. 12 min, built to 18.5", Return blow built to 2" i.b.**  
**Final Open: Stg Blow, b.o.b. 12 min, built to 29.5", Return blow built to 3.5", decr. to 1"**  
**Rec: 441' Total Fluid, 189' gas in pipe**  
**63' Oil: 100%o**  
**126' MCO': 80%o 20%m**  
**126' OWCM: 05%o 35%w 60%m**  
**126' MCW: 95%w 05%m**  
**(Chl/wtr: 35000 ppm, API oil 36)**  
**IHP: 1722 FHP: 1681**  
**IFP: 55-140 FFP: 147-205**  
**ISIP: 1107 FSIP: 1016**  
**BHT: 101°F**



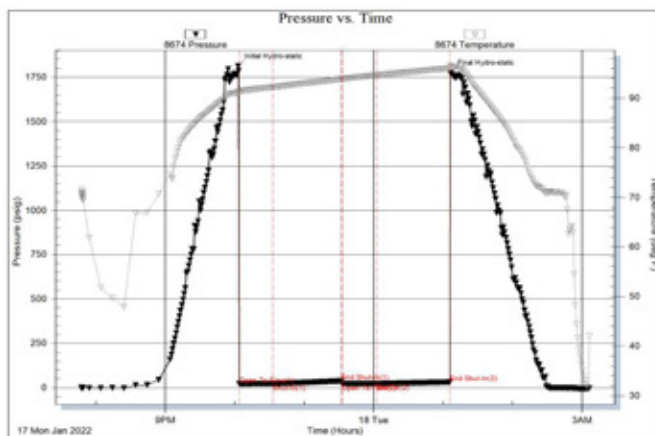
**DST #3: 3506-3551 (Lans F, Lans G)**  
**Times: 30-60-60-90**  
**Initial Open: Stg blow, b.o.b. 16 min, built to 23", Return blow built to 2"**  
**Final Open: Stg blow, b.o.b. 9 min, built to 48", Return blow built to 12"**  
**Rec: 434' Total Fluid, 826' gas in pipe**  
**124' MGCO: 20%g 60%o 20%m**  
**186' MGCO: 10%g 80%o 10%m**  
**124' MGCO: 20%g 40%o 40%m**  
**IHP: 1787 FHP: 1790**  
**IFP: 28-106 FFP: 116-177**  
**ISIP: 1108 FSIP: 1015**  
**BHT: 102°F**



**DST #4: 3545-3600 (Lans H, Lans J)**  
**Times: 30-60-30-60**  
**Initial Open: Wk Blow, built to 3/4" i.b.**  
**Final Open: No Blow**  
**Rec: 5' mud**  
**IHP: 1765 FHP: 1699**  
**IFP: 21-24 FFP: 24-25**  
**ISIP: 484 FSIP: 254**  
**BHT: 94°F**



**DST #5: 3598-3646 (LKC K, LKC L)**  
**Times: 30-60-30-60**  
**Initial Open: Wk blow, built to 1/2", then died in 30 min.**  
**Final Open: No blow**  
**Rec: 5' mud**  
**IHP: 1811 FHP: 1774**  
**IFP: 21-22 FFP: 22-22**  
**ISIP: 37 FSIP: 31**  
**BHT: 95°F**



### Rock Types

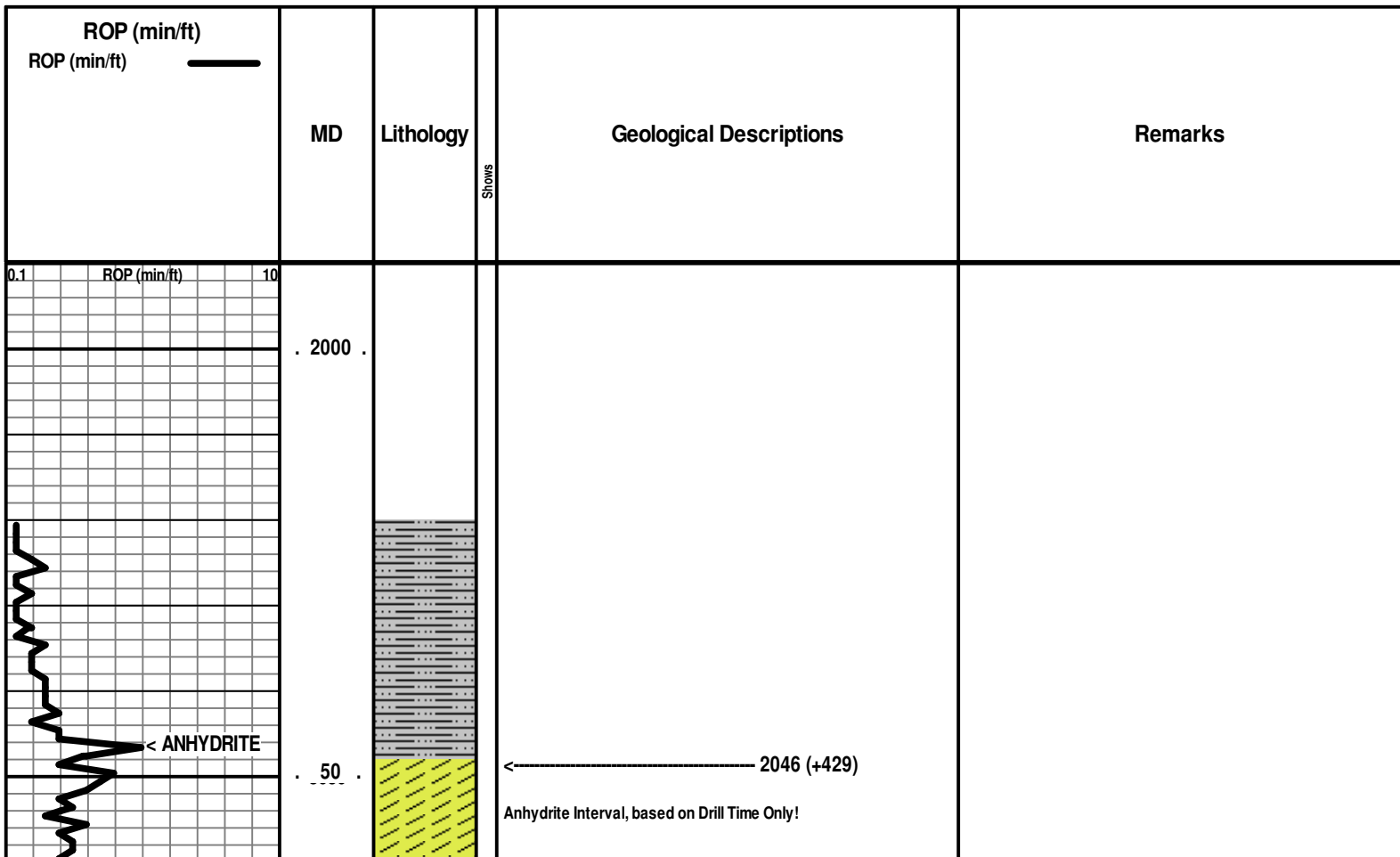
	Cgl/gran wash		Bent		Dol		Salt		Till
	Dol ls/lmy dol		Brec		Gyp		Shale		Siltysh
	New symbol		Cht		Igne		Shcol		Shlysiltst
	Dol ls/lmy dol		Clyst		Lmst		Shgy		Siltst
	New symbol		Blk sh/coal		Meta		Ss		Sandyls
	Anhy		Congl		Mrlst				

### Accessories

<b>MINERAL</b>		Gyp	<b>FOSSIL</b>		Ostra		Siltstrg
	Anhy		Hvymin		Pelec		Ssstrg
	Arggrn		Kaol		Pellet	<b>TEXTURE</b>	
	Arg		Marl		Pisolite		Boundst
	Bent		Minxl		Plant		Chalky
	Bit		Nodule		Strom		Cryxln
	Brecfrag		Phos	<b>STRINGER</b>			Earthy
	Calc		Pyr		Anhy		Finexln
	Carb		Salt		Shale		Grainst
	Chtdk		Sandy		Bent		Lithogr
	Chtlt		Silt		Coal		Microxln
	Dol		Sil		Dol		Mudst
	Feldspar		Sulphur		Gyp		Packst
	Ferrpel		Tuff		Ls		Wackest
	Ferr				Mrst		
	Glau						

### Other Symbols

<b>OIL SHOW</b>		Even		Dead	<b>INTERVAL</b>		
	Oil & gas show		Spotted		Gas		Core
	Gas show		Trace or questionable				Dst



< B/ANHYDRITE

2078 (+397)

<<< Depth Change >>>

3100

\* Displace & Mudup @ 2951 ft!

\* Pipe Strap @ 3108 ft: 1.38' long!

conn

3130' spl: 90% Sh mostly gy-dk gy, some red-pl grn, mushy to subfirm; 10% Ls cr, fn xln, pr xln por

< TARKIO

3125 (-650)

3140' spl: 60% shales as above; 40% Ls wh-cr-gy, fn xln, soft & chalky to mix of dns-pr xln por

conn

3150' spl: 50% Ls cr-tan, fn xln, dns-pr xln por, chalky in pt, sli foss; 50% Shales red-gy, soft to firm (washes red)

3150

3160' spl: 70% Ls cr-tan-gy fn xln, pr vis xln por, a few vugs, packed foss & ool in pt; 30% Shales red-gy-grn  
[No Odor, No fluor, few pcs with brn spotty stn, NSFO]

conn

3180' spl: Ls wh-cr, fn xln, mostly pr vis xln por, some fr xln por, foss

[Fnt Odor, Abund dull fluor, Mod am't pcs with sli-fr shows of lt brn-dk brn FO on crush, v.sli gassy in pt, Spotty-patchy lt brn-brn stn]

Ls wh-cr, fn xln, pr vis xln por-dns, foss; some gy-grn shale

Sh red, mushy-soft (washes deep red)

0.1 conn

Flow (min/ft)

10

3200

Ls wh-pl gy, fn xln, dns

Sh red-gy-black

Ls wh-pl gy, fn xln, dns

Ls wh, fn xln, pr xln por, scatt pp pores, foss in pt

No Odor, Scatt dull flour, scatt spotty tan-lt brn stn, trace to sli shows of tan-lt brn FO on crush]

Sh red mushy-soft (washes red)

< TOPEKA

3230 (-755)

conn

Ls wh-pl gy, fn xln, dns to pr xln por, foss

Sh red mushy-soft (washes red)

3250

Ls wh, chalky & mushy to softer & dns, grainy text in pt, sli foss in pt

Sh red mushy-soft, some pl gmsh (washes red)

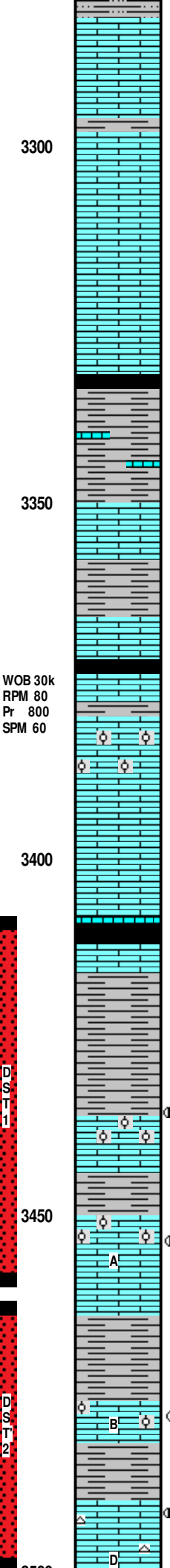
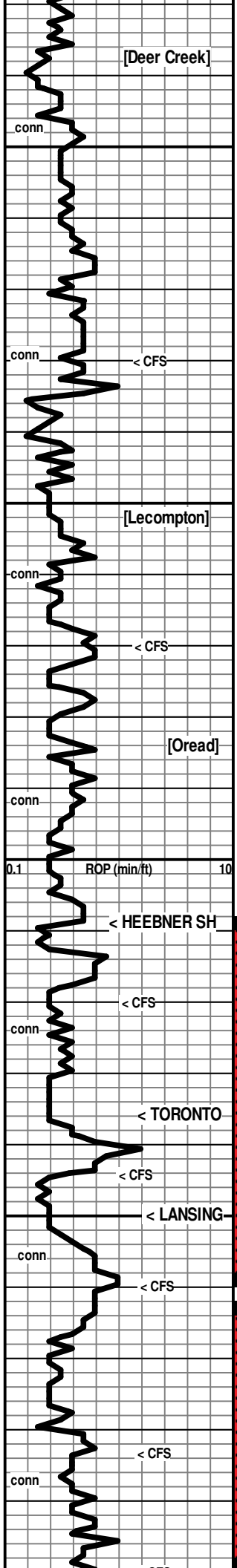
< CFS

conn

Ls wh, chalky & mushy to softer & dns, grainy text in pt, sli foss in pt

Sh red mushy-soft, (washes red)

Sh grn, silty



Sh grn, silty

Ls wh-cr, fn xln, mostly pr xln por, some fr xln por, some chalky-mushy to soft, foss

Ls wh-cr, fn xln, some pr xln por, some fr xln por, some dns, some chalky-mushy to soft, foss in pt

Ls wh-cr-pl gy, fn xln, mostly pr xln por to dns, some fr xln por, some chalky, foss in pt

Sh black, carb

Sh red-pl grn, mostly mushy & soft, sli silty in pt; some Ls wh muchy-soft

Ls wh-cr, fn xln, mostly dns-pr vis xln por, sli foss in pt, some silty text

Sh red-pl grn-grn, mostly mushy to soft, some earthy text, some firm

Ls wh-cr, fn xln, dns to pr xln por, foss in pt

Sh red-gy-grn

Sh gy-dk gy-blk, gm-red in por, ool in pt with scatt oom, scatt embedded dk gm glauc specks

Ls wh-cr, fn xln, pr-fr xln por in pt, dns in pt, scatt pp pores & fossmold pores, foss

← 3409 (-934)  
Sh black, carb (well repres in 3420' spl)  
Ls cr, fn xln, dns, foss

← 3436 (-961)  
Ls wh, fn xln, scatt pr xln por, Rr pp pores, ool in pt with scatt interool pores  
Show Descr. →

← 3450 (-975)  
Ls wh, pr xln por to dns, ool in pt with scatt interool pores, some patches of fr-gd interool pores, becomes fully dns with depth  
Show Descr. →

Sh red-gy-grn, silty in pt (washes red)

Ls wh, fn xln, mostly dns to pr vis xln por with scatt pp pores & sm vugs, sli foss to foss/ool packed with interfoss pores  
Show Descr. →

Sh red-gy (washes red)

Ls wh-cr, fn xln, mostly pr xln por, some fr xln por, scatt pp pores & sm vugs, foss, becomes more dns with depth, chert, fresh, wh-cr, subopaq

Sh mostly red mushy-soft (washes red) potty-patchy lt brn-brn stn. with mostlv sli shows lt brn FO. some fr

7:00 AM, January 14, 2022

3460': Ran Short Trip prior to DST1, Pulled 27 stands, over 20 stands pulled tight!

DST #1: 3408-3460 (Toronto, Lans A)  
Times: 30-60-35-60  
Initial Open: Wk Blow, built to .75" i.b.  
Final Open: Wk Blow, built to 1.25" i.b.  
Rec: 40' OCM: 10%o 90%  
IHP: 1702 FHP: 1656  
IFP: 24-33 FFP: 36-42  
ISIP: 1062 FSIP: 913  
BHT: 96°F

[Fnt Odor, Rr spots of dull fluor, scatt spotty-patchy brn-dk brn stn, mix of brn FO & dk brn NVL oil & dk brn thick heavy subarry oil, v sli gassy in pt]

[V Fnt Odor, Rr scatt spots dull fluor, sli-fr shows of brn FO & dk brn NVL oil, with some dk thick hvy oil, gassy in pt]

Mud Check, Drlg @ 3458 ft:

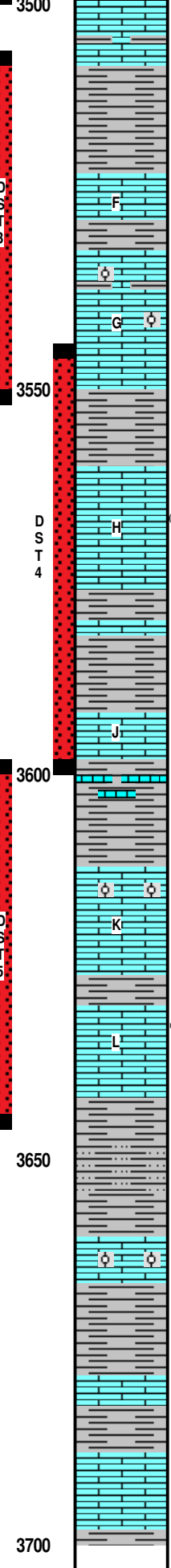
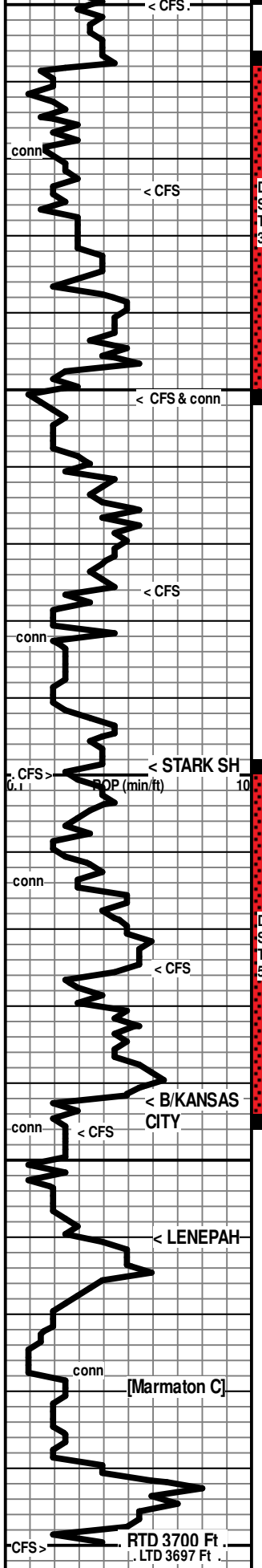
Vis	Wt	WL	PV	YP
63	8.7	6.8	21	25
Chl	Hd	LCM	Solids	
1200	10	5	2.9	

7:00 AM, January 15, 2022

[V Fnt Odor, Rr spots of dull fluor, brn-dk brn stn in pores & vugs, mis of spotty-patchy to some even stn, with sli-fr shows of brn gassy FO & dk brn thick, hvy oil]

Mud Check, TOOH/bit for DST2 @ 3500 ft:

Vis	Wt	WL	PV	YP
62	9.0	6.8	19	21



shows of dk brn gassy FO on crush]

Ls wh mushy; Sh mostly gy-red mushy, some grn silty (washes red and balled up go)

Ls cr-gy, fn xln, mostly dns to pr xln por, with patches of fr xln por, widely scatt sm v. u. s. f. o. s. s.

[V Fnt Odor, No fluor, Where porous: Lt brn-brn to dk brn stn, mix of sli shows of lt brn gassy FO to dk brn NVL on crush, few specks of blackish gils. oil]

Ls wh, fn xln, mostly dns to some pr xln por, widely scatt sm v. u. s. f. o. s. s. & foss molds, few ool pcs (tiny), Ls becomes more dns & fn-vfn xln with depth

[No Odor, Rr spots of dull fluor, v low % pcs with brn-dk brn stn porosity, with trace to sli shows of FO & NVL oil on crush]

Sh red mushy (washes red)

Sh red-gy-pl grn-grn, soft to firm in pt, mushy in pt, silty in pt (washes red)

Ls wh, fn xln, mostly pr vis xln por, some patches of fr xln por, some dns, foss-abund foss with scatt interfoss pores, becomes mostly dns with depth

[Fnt Odor, No fluor, where porous: spotty to patchy brn stn with slight shows of brn FO on crush, v sli gassy in pt]

Sh red mushy (washes red)

Ls wh, fn xln, mostly dns, with scatt Rr vis pr xln por, sli foss in pt

[No Odor, No fluor, Low % pcs with lt tan oily film on crush, and scatt patchy lt tan stn]

← 3599 (-1124)

Sh gy-dk gy-grn-red, earthy-silty-soft to firm; 10% wh Ls

Ls wh-cr, fn xln pr xln por to dns, V Rr micro-pores, micro-ool in pt (well cem)

[No Odor, Rr pcs with trace of spots of brn stn with trace show of brn micro-drops FO on crush]

Sh

Ls wh, fn xln, mostly pr xln por to dns with scatt patches of interfoss pores, some subchalky, some pcs abund foss in patches, bcomes more dns with depth

[V Fnt Odor, No fluor, scatt dk brn-nearly blk stn, mix of NVL oil and thick hvy oil (nearly tarry) on crush]

← 3642 (-1167)

Sh tan-pinkish mushy and Ls wh chalk pastey

Sh mostly red with some grn, soft, silty in pt to reddish siltstone

← 3610 (-1135)

Ls wh, fn xln, ool in pt (well cem) dns

Sh red-gy-grn, silty in pt, muchy in pt

Ls wh, fn xln, dns, foss in pt

Sh pinkish, mushy

Ls wh, vfn-fn xln, some md xln fri pcs, dns, some grainy text in pt, sli-abund foss in pt

Sh mostly pinkish to red with some gr-grn

Chl Hd LCM Solids  
1200 10 4 5.0

DST #2: 3462-3500 (Lans B, Lans D)  
Times: 30-60-60-90  
Initial Open: Stg Blow, b.o.b. 12 min, built to 18.5", Return blow built to 2" i.b.  
Final Open: Stg Blow, b.o.b. 12 min, built to 29.5", Return blow built to 3.5", decr. to 1"  
Rec: 441' Total Fluid, 189' gas in pipe  
63' Oil: 100%o  
126' MCO: 80%o 20%  
126' OWCM: 05%o 35%w 60%  
126' MCW: 95%w 05%  
(Chl/wtr: 35000 ppm, API oil: 36)  
IHP: 1722 FHP: 1681  
IFP: 55-140 FFP: 147-205  
ISIP: 1107 FSIP: 1016  
BHT: 101°F

7:00 AM, January 16, 2022

Mud Check, OB/DST3 @ 3551 ft:  
Vis Wt WL PV YP  
50 9.1 6.8 15 16  
Chl Hd LCM Solids

DST #3: 3506-3551 (Lans F, Lans G)  
Times: 30-60-60-90  
Initial Open: Stg blow, b.o.b. 16 min, built to 23", Return blow built to 2"  
Final Open: Stg blow, b.o.b. 9 min, built to 48", Return blow built to 12"  
Rec: 434' Total Fluid, 826' gas in pipe  
124' MGCO: 20%g 60%o 20%  
186' MGCO: 10%g 80%o 10%  
124' MGCO: 20%g 40%o 40%  
IHP: 1787 FHP: 1790  
IFP: 28-106 FFP: 116-177  
ISIP: 1108 FSIP: 1015  
BHT: 102°F

7:00 AM, January 17, 2022

DST #4: 3545-3600 (Lans H, Lans J)  
Times: 30-60-30-60  
Initial Open: Wk Blow, built to 3/4" i.b.  
Final Open: No Blow  
Rec: 5' mud  
IHP: 1765 FHP: 1699  
IFP: 21-24 FFP: 24-25  
ISIP: 484 FSIP: 254  
BHT: 94°F

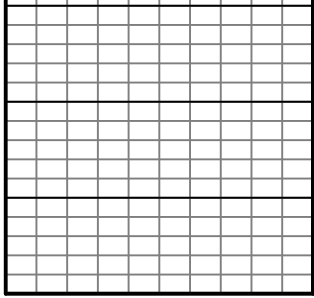
Mud Check, Drlg @ 3611 ft:  
Vis Wt WL PV YP  
50 8.9 6.4 16 16  
Chl Hd LCM Solids  
1400 10 4 4.3

7:00 AM, January 18, 2022

DST #5: 3598-3646 (LKC K, LKC L)  
Times: 30-60-30-60  
Initial Open: Wk blow, built to 1/2", then died in 30 min.  
Final Open: No blow  
Rec: 5' mud  
IHP: 1811 FHP: 1774  
IFP: 21-22 FFP: 22-22  
ISIP: 37 FSIP: 31  
BHT: 95°F

RTD @ 3700 Ft. reached at 8:52 A.M., January 18, 2022

Mud Check, Drlg @ 3685 ft:  
Vis Wt WL PV YP  
60 8.9 6.4 19 20  
Chl Hd LCM Solids  
1200 10 4 4.3



2750









**CEMENT TREATMENT REPORT**

<b>Customer:</b> Murfin Drilling	<b>Well:</b> Slab City # 1-20	<b>Ticket:</b> WP-2323
<b>City, State:</b> Oakley KS	<b>County:</b> Decatur KS	<b>Date:</b> 1/18/2022
<b>Field Rep:</b> Nate	<b>S-T-R:</b> 20-4S-26W	<b>Service:</b> Longstring

Downhole Information	
Hole Size:	7 7/8 in
Hole Depth:	3700 ft
Casing Size:	5 1/2 in
Casing Depth:	3688 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	87.5 bbls

Calculated Slurry - Lead	
Blend:	H-Con
Weight:	12.0 ppg
Water / Sx:	15.5 gal / sx
Yield:	2.56 ft <sup>3</sup> / sx
Annular Bbls / Ft.:	0.0309 bbs / ft.
Depth:	3688 ft
Annular Volume:	114.0 bbls
Excess:	
Total Slurry:	209.7 bbls
Total Sacks:	460 sx

Calculated Slurry - Tail	
Blend:	H-LD
Weight:	14.8 ppg
Water / Sx:	6.5 gal / sx
Yield:	1.51 ft <sup>3</sup> / sx
Annular Bbls / Ft.:	0.0309 bbs / ft.
Depth:	3688 ft
Annular Volume:	113.9592 bbls
Excess:	
Total Slurry:	40.3 bbls
Total Sacks:	150 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
11:30p			-	-	Arrival
11:35p			-	-	Safety meeting
12:45a			-	-	Run float equipment
2:45a			-	-	Drop ball
3:00a			-	-	Circulate hole for 1 hour ball went through @ 200 P.S.I
4:15a	4.6	220.0	5.0	5.0	H2O ahead
4:17a	4.5	230.0	12.0	17.0	12 bbl Super flush
4:20a	4.5	240.0	5.0	22.0	H2O behide
4:25a	3.5	150.0	11.3	33.3	Mixed 25 sks @ 12 ppg @ Rat hole
4:30a	5.2	150.0	9.1	42.4	Mixed 20 sks @ 12 ppg @ Mouse hole
4:34a	5.4	300.0	189.2	231.6	Mixed 415 sks of H-Con @ 12 ppg @ 3688'
5:10a	5.2	360.0	40.3	271.9	Mixed 150 sks of H-LD @ 14.8 ppg @ 3688'
6:24a					Wash up pump and lines
6:25a					Drop plug
6:28a	6.8	400.0	87.5	359.4	Displace H2O
6:45a					Land plug @ 86.5 bbl @ 1600
6:51a					Wash up pump and lines
6:00a					Rig down
6:30a					Depart location
					2:50 a.m. Rotating head blew apart on first start of circulate at 200 P.S.I. Floor was clear no injuries reported.
					Couldnt rotate casing
					Circulated 17 bbl to pit

CREW		UNIT	SUMMARY		
Cementer:	Jesse J	78	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Michael R	230	5.0 bpm	256 psi	359 bbls
Bulk #1:	Jose V	194/254			
Bulk #2:	Kale O	165/235			

## DRILLING REPORT - LOG TOPS - Slab City 1-20

MDCI Slab City #1-20 1650 FNL 100 FWL Sec. 20-T4S-R26W 2475' KB
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Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	2040	+435	+7	2047	+428	Flat
B/Anhydrite	2078	+397	+1	2078	+397	+1
Topeka	3230	-755	+1	3232	-757	-1
Heebner	3409	-934	Flat	3409	-934	Flat
Toronto	3434	-959	+1	3438	-963	-3
Lansing	3450	-975	+1	3452	-977	-1
Mound City	3642	-1167	-1	3643	-1168	-2
Arbuckle	DNR			DNR		
RTD	3700					
LTD				3697	-1222	