

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 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)</i> <i>(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	RUSCO-DAVIS 4-1
Doc ID	1636200

All Electric Logs Run

DIL
MEL
BHCS
DUCP

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	RUSCO-DAVIS 4-1
Doc ID	1636200

Perforations

Shots Per Foot	Perforation Top	Perforation Bottom	BridgePlugType	BridgePlugSet At	Material Record
4	3379	3382			200 gal 15% MCA, 500 gal 20% MCA
4	3422	3427			150 gal 15% MCA, 750 gal 15% HCL
4	3434	3438			250 gal 15% MCA, 150 gal 15% MCA, 750 gal 15% HCL
			CIBP Cast Iron Bridge Plug	3625	
4	3646	3650			30 gal 15% MCA, 125 gal 15% MCA, 500 gal 15% SDA
4	3656	3664			30 gal 15% MCA, 125 gal 15% MCA, 500 gal 15% SDA







**CEMENT TREATMENT REPORT**

<b>Customer:</b> Murfin Drilling	<b>Well:</b> Rusco-Davis # 4-1	<b>Ticket:</b> WP 2414
<b>City, State:</b> Oakley KS	<b>County:</b> Ellis KS	<b>Date:</b> 2/14/2022
<b>Field Rep:</b> Josh Mosier	<b>S-T-R:</b> 1-12S-20W	<b>Service:</b> 2 Stage

**Downhole Information**

Hole Size:	7 7/8 in
Hole Depth:	3699.09 ft
Casing Size:	5 1/2 in
Casing Depth:	3699 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	87.7 bbis

**Calculated Slurry - Lead**

Blend:	H-LD
Weight:	14.8 ppg
Water / Sx:	6.4 gal / sx
Yield:	1.50 ft <sup>3</sup> / sx
Annular Bbls / Ft.:	0.0309 bbs / ft.
Depth:	3699 ft
Annular Volume:	114.3 bbis
Excess:	
Total Slurry:	41.5 bbis
Total Sacks:	155 sx

**Calculated Slurry - Tail**

Blend:	H-con
Weight:	12 ppg
Water / Sx:	14.6 gal / sx
Yield:	2.56 ft <sup>3</sup> / sx
Annular Bbls / Ft.:	0.0309 bbs / ft.
Depth:	3699 ft
Annular Volume:	114.2991 bbis
Excess:	
Total Slurry:	176.6 bbis
Total Sacks:	450 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
730P			-	-	GOT TO LOCATION
735P			-	-	SAFETY MEETING
116A			-	-	LANDED CASING
116A			-	-	DROPPED BALL
130A			-	-	CIRCULATED HOLE
255A	5.0	350.0	10.0	10.0	PUMPED H2O SPACER
257A	5.0	350.0	12.0	22.0	PUMPED 500 GAL OF SUPER MUD FLUSH
300A	5.0	350.0	100.0	122.0	PUMPED H2O SPACER
305A	4.2	400.0	41.5	163.5	PUMPED 155 SKS OF H- LD @ 3699FT
315A				163.5	SHUT DOWN WASHED UP PUMP AND LINES/ LOADED PLUG
327A	6.5	400.0	30.0	193.5	DISPLACED WITH H2O
333A	7.2	800.0	57.7		DISPLACED WITH MUD
341A		1,200.0			PLUG DOWN / PLUG HELD
345A					DROPPED BOMB
415A	1.0	750.0	2.0		OPENED TOOL
423A					CIRCULATED WITH RIG PUMP
444A					CEMENT FLAG CAME UP
540A	3.0	150.0	6.6		PUMPED 15 SKS OF H- CON IN MH
543A	3.0	150.0	6.6		PUMPED 15 SKS OF H- CON IN RH
550A	7.2	700.0	182.4		PUMPED 420 SKS OF H- CON @ 2626FT
615A					SHUT DOWN WASHED UP PUMP AND LINES/ LOADED PLUG
636A	6.2	800.0	62.4		DISPLACED WITH H2O
645A		1,200.0			PLUG DOWN / CIRCULATED 5 BBL TO PIT
650A					WASHED UP PUMP TRUCK
655A					RIGGED DOWN TRUCKS
715A					OFF LOCATION

CREW		UNIT	SUMMARY		
Cementer:	Josh	73	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Kale	230	4.8 bpm	585 psi	511 bbis
Bulk #1:	Trevino	194/250			
Bulk #2:	Trevino	242			

## DRILLING REPORT - LOG TOPS - RUSCO DAVID 4-1

Rusco-Davis #4-1 1000FNL 2250FWL Sec. 1-T12S-R20W 2050' KB
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Formation	Sample tops	Datum	Ref	Log Tops	Datum	Ref
Anhydrite	1419	+631	+3	1419	631	+3
B/Anhydrite	1462	+588	+6	1465	585	+9
Topeka	3077	-1027	-6	3076	-1026	-5
Heebner	3303	-1253	-10	3300	-1050	-7
Lansing	3338	-1288	-5	3338	-1288	-5
Stark	3526	-1476	-8	3528	-1478	-10
Arbuckle	3644	-1594	-7	3645	-1595	-8
RTD	3700	-1650	+4			
LTD						

Scale 1:240 Imperial

Well Name: RUSCO-DAVIS #4-1  
Surface Location: SW SE NE NW Sec. 1 - 12S - 20W  
Bottom Location:  
API: 15-051-27025  
License Number: 30606  
Spud Date: 2/4/2022 Time: 10:30 AM  
Region: ELLIS COUNTY  
Drilling Completed: 2/13/2022 Time: 6:39 AM  
Surface Coordinates: 1000' FNL & 2250' FWL  
Bottom Hole Coordinates:  
Ground Elevation: 2045.00ft  
K.B. Elevation: 2050.00ft  
Logged Interval: 2900.00ft To: 3700.00ft  
Total Depth: 3700.00ft  
Formation: LANSING-KANSAS CITY; ARBUCKLE  
Drilling Fluid Type: FRESH WATER / CHEMICAL GEL

**OPERATOR**

Company: MURFIN DRILLING COMPANY, INC.  
Address: 250 N WATER  
WICHITA, KS 67202-1216  
Contact Geologist: SARAH KERSTETTER  
Contact Phone Nbr: (316) 267-3241  
Well Name: RUSCO-DAVIS #4-1  
Location: SW SE NE NW Sec. 1 - 12S - 20W  
API: 15-051-27025  
Pool: State: KANSAS Field: STAR SOUTHWEST  
Country: USA

**SURFACE CO-ORDINATES**

Well Type: Vertical  
Longitude: -99.49278  
Latitude: 39.042269  
N/S Co-ord: 1000' FNL  
E/W Co-ord: 2250' FWL

**LOGGED BY**



Company: BIG CREEK CONSULTING, INC.  
Address: 3504 DUNCAN ST  
ST. JOE, MO 64507  
Phone Nbr: (785) 259-3737  
Logged By: GEOLOGIST Name: JEFF LAWLER

**CONTRACTOR**

Contractor: MURFIN DRILLING COMPANY, INC.  
Rig #: 16  
Rig Type: MUD ROTARY  
Spud Date: 2/4/2022 Time: 10:30 AM  
TD Date: 2/13/2022 Time: 6:39 AM  
Rig Release: Time:

### ELEVATIONS

K.B. Elevation: 2050.00ft  
K.B. to Ground: 5.00ft

Ground Elevation: 2045.00ft

### NOTES

### WELL COMPARISON SHEET

FORMATION	RUSCO-DAVIS #4-1								P&A 5/2010				P&A 4/1951							
	RUSCO-DAVIS #1-1								MURFIN DRILLING CO				STRATA ENERGY RESOURCES CORP.							
	NW SE NW 1-12-20								RUSCO-DAVIS #3-1				STAR #1							
	NE NE NE 6-12-19								SE SE NW NW 1-12-20				NE NE SE 1-12-20							
	KB	2050	GL	2045	KB	2054	KB	2056	KB	2091	KB	2132								
	LOG TOPS		SAMPLE TOPS		LOGS		LOG	SMPL.	COMP. CARD		LOG	SMPL.	COMP. CARD		LOG	SMPL.	PLUGGING REPORT		LOG	SMPL.
	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.
ANHYDRITE TOP		1419	631		1426	628		+ 3	1416	640		- 9	1467	624		+ 7	1494	638		- 7
BASE			1462	588	1468	586		+ 2	1462	594		- 6	1505	586		+ 2	1543	589		- 1
TOPEKA	3076	-1026	3077	-1027	3075	-1021	- 5	+ 6	3078	-1022	- 4	- 5	3131	-1040	+ 14	+ 13	3169	-1037	+ 11	+ 10
HEEBERSHALE	3300	-1250	3303	-1253	3297	-1243	- 7	- 10	3299	-1243	- 7	- 10	3353	-1262	+ 12	+ 9	3392	-1260	+ 10	+ 7
TORONTO	3319	-1269	3322	-1272	3318	-1264	- 5	+ 8	3321	-1265	- 4	- 7	3376	-1285	+ 16	+ 13				
LKC	3338	-1288	3338	-1288	3336	-1282	- 6	- 6	3338	-1282	- 6	- 6	3395	-1304	+ 16	+ 16				
STARK SHALE	3529	-1479	3526	-1476	3533	-1479	+ 0	+ 3	3524	-1468	- 11	- 8								
BKC	3556	-1506	3569	-1519	3573	-1519	+ 13	+ 0	3570	-1514	+ 8	- 5	3623	-1532	+ 26	+ 13				
ARBUCKLE	3643	-1593	3644	-1594	3654	-1600	+ 7	+ 6	3643	-1587	- 6	- 7								
TOTAL DEPTH	3700	-1650	3700	-1650	3729	-1675	+ 25	+ 25	3710	-1654	+ 4	+ 4	3720	-1629		- 21	3410	-1278	- 372	- 372

### DST #1 LKC A - D 3330' - 3387'

## DRILL STEM TEST REPORT

Murfin Drilling Co, inc **1-12-20w**

250 N Water **Rusco - Davis 4-1**  
Wichita ,KS 67202 - 1216

ATTN: Jeff Lawler Job Ticket: 47671 **DST#: 1**

Test Start: 2022.02.09 @ 08:20:05

**GENERAL INFORMATION:**

Formation: **lansing A-D**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:35:45  
 Time Test Ended: 16:02:44

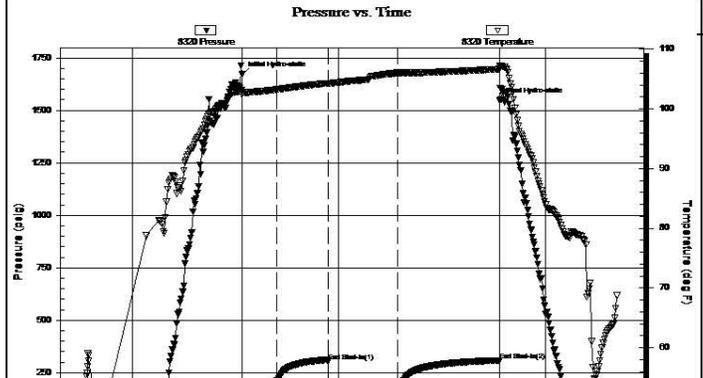
Interval: **3330.00 ft (KB) To 3387.00 ft (KB) (TVD)**  
 Total Depth: 3387.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2050.00 ft (KB)  
 2045.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8320 Outside**

Press@RunDepth: 53.71 psig @ 3331.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2022.02.09	End Date: 2022.02.09
Start Time: 08:20:05	End Time: 16:02:44
	Time On Btm: 2022.02.09 @ 10:35:30
	Time Off Btm: 2022.02.09 @ 14:20:30

**TEST COMMENT:** 1-30 min weak blow building to 2 inches  
 isi 45 -no return  
 FF- 60 surface to 1/2 inch  
 fsi-90-no return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1670.04	103.16	Initial Hydro-static
1	24.14	102.33	Open To Flow (1)
30	39.37	103.20	Shut-In(1)
76	303.27	104.29	End Shut-In(1)
76	40.49	104.24	Open To Flow (2)
136	53.71	106.03	Shut-In(2)
225	308.00	106.66	End Shut-In(2)
225	1545.15	107.21	Final Hydro-static





Recovery

Length (ft)	Description	Volume (bbl)
120.00	mud	1.40

\* Recovery from multiple tests

Gas Rates

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

Trilobite Testing, Inc

Ref. No: 47672

Printed: 2022.02.10 @ 17:07:45

DST #3 LKC D - G 3380' - 3450'

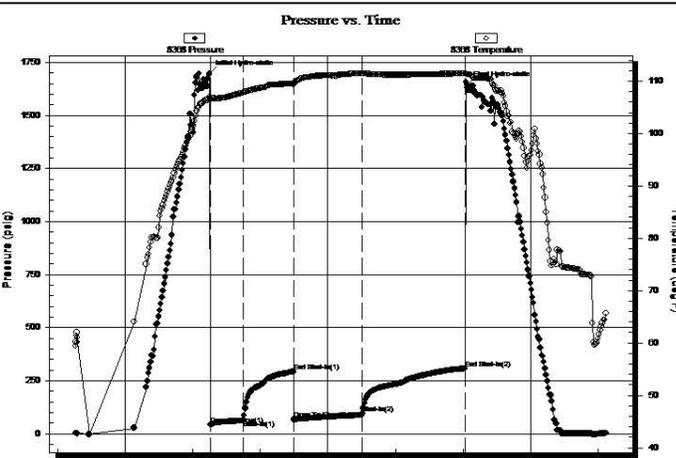
	<b>DRILL STEM TEST REPORT</b>	
	Murfin Drilling Co, inc 250 N Water Wichita ,KS 67202 - 1216 ATTN: Jeff Lawler	<b>1-12-20w</b> <b>Rusco - Davis</b> Job Ticket: 47673 <b>DST#: 3</b> Test Start: 2022.02.10 @ 08:16:00

**GENERAL INFORMATION:**

Formation: <b>Lansing D-G</b>	Test Type: Conventional Bottom Hole (Real-Time)
Deviated: No Whipstock:                      ft (KB)	Tester: Terry Wickham
Time Tool Opened: 10:15:30	Unit No: 75
Time Test Ended: 16:07:00	Reference Elevations: 2050.00 ft (KB)
<b>Interval: 3380.00 ft (KB) To 3450.00 ft (KB) (TVD)</b>	2045.00 ft (CF)
Total Depth: 3450.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Hole Diameter: 7.88 inches Hole Condition: Fair	

<b>Serial #: 8368</b> <b>Inside</b>	Capacity: 8000.00 psig
Press@RunDepth: 95.91 psig @ 3381.00 ft (KB)	Last Calib.: 1899.12.30
Start Date: 2022.02.10      End Date: 2022.02.10	Time On Btm: 2022.02.10 @ 10:15:00
Start Time: 08:16:00      End Time: 16:07:00	Time Off Btm: 2022.02.10 @ 14:03:15

TEST COMMENT: if-30 min - 5 1/2 inches  
 isi-45 min - no return  
 ff-60 min 5inches  
 fsi90 min no return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1695.60	106.96	Initial Hydro-static
1	42.26	106.62	Open To Flow (1)
30	63.40	107.79	Shut-In(1)
75	292.83	109.50	End Shut-In(1)
75	70.56	109.38	Open To Flow (2)
136	95.91	111.43	Shut-In(2)
227	306.79	111.41	End Shut-In(2)
229	1645.16	111.29	Final Hydro-static



Recovery		
Length (ft)	Description	Volume (bbl)
345.00	mud	4.56

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

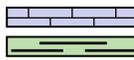
\* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 4767

Printed: 2022.02.11 @ 16:45:03

### ROCK TYPES

 Lmst fw7> shale, grn	 shale, gry	 Carbon Sh	 Shblk shale, red	 Arg/Shale
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### ACCESSORIES

#### MINERAL

.\* Sandy

#### STRINGER

~ Chert

#### TEXTURE

C Chalky

### OTHER SYMBOLS

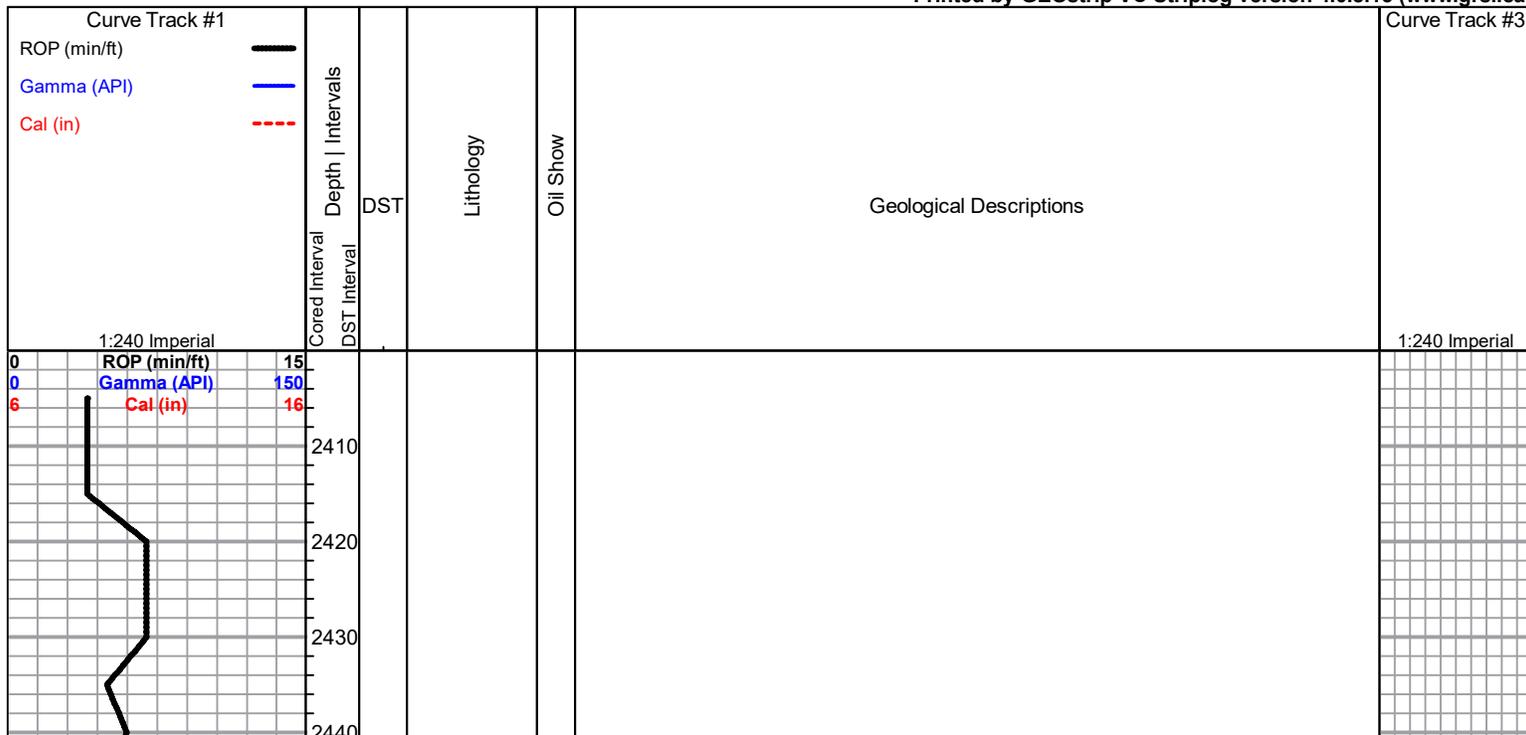
#### MISC

-  Daily Report
-  Digital Photo
-  Document
-  Folder
-  Link
-  Vertical Log File
-  Horizontal Log File
-  Core Log File
-  Drill Cuttings Rpt

#### DST

-  DST Int
-  DST alt

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)

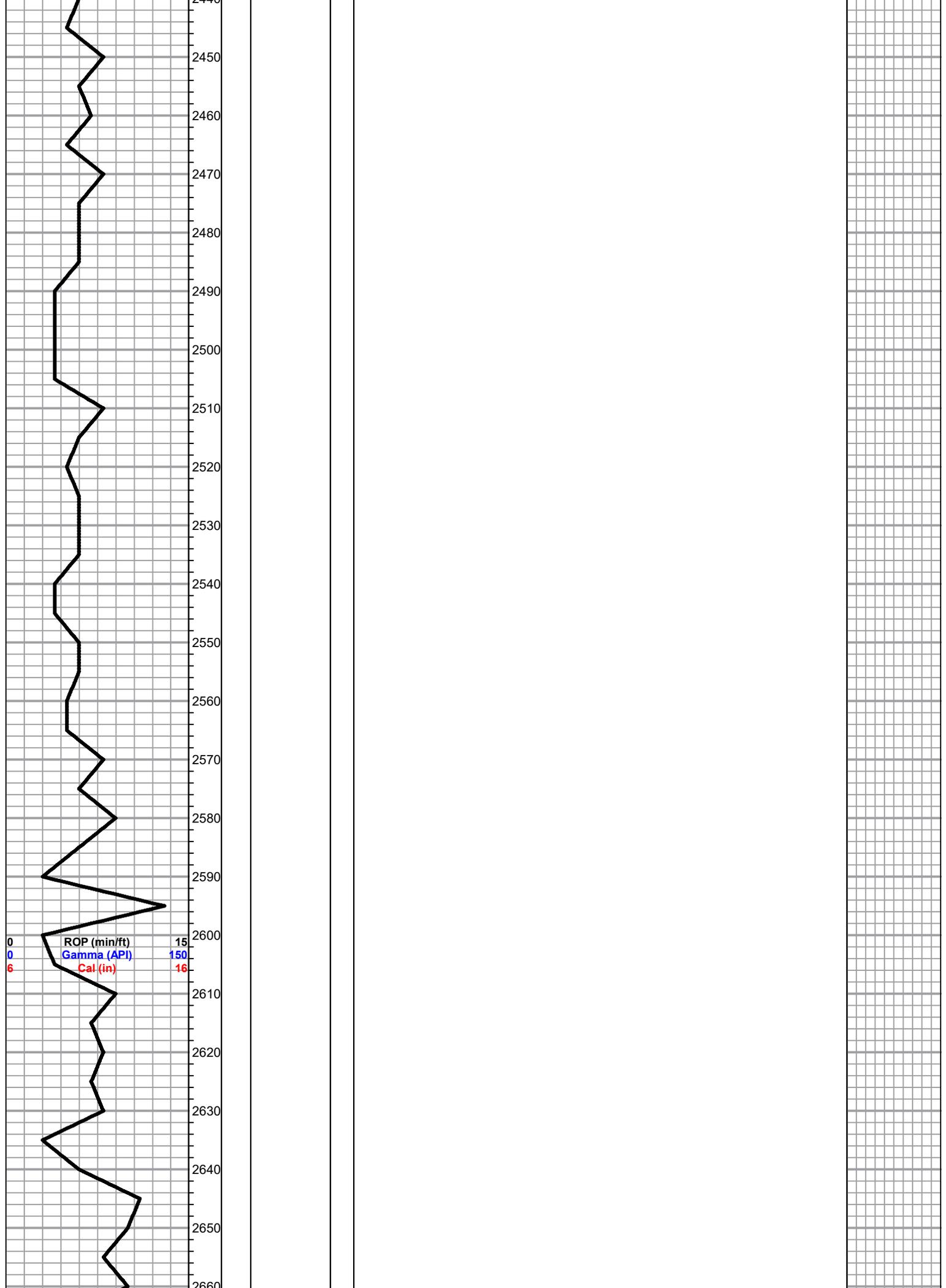


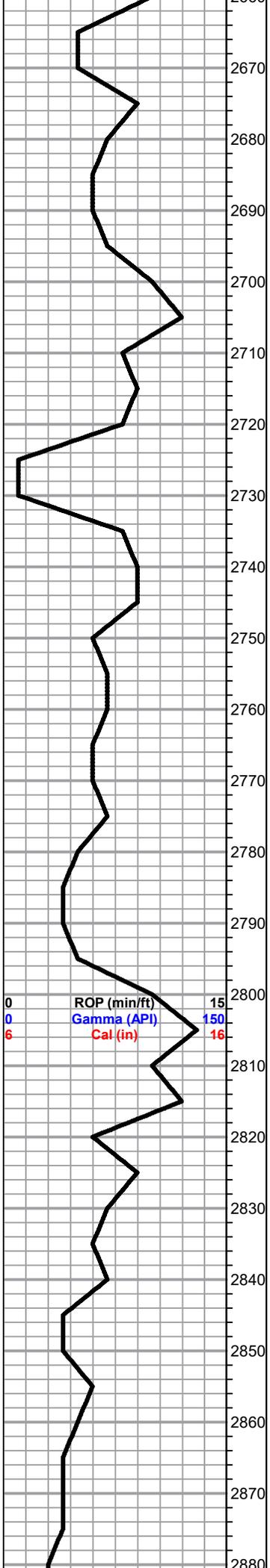
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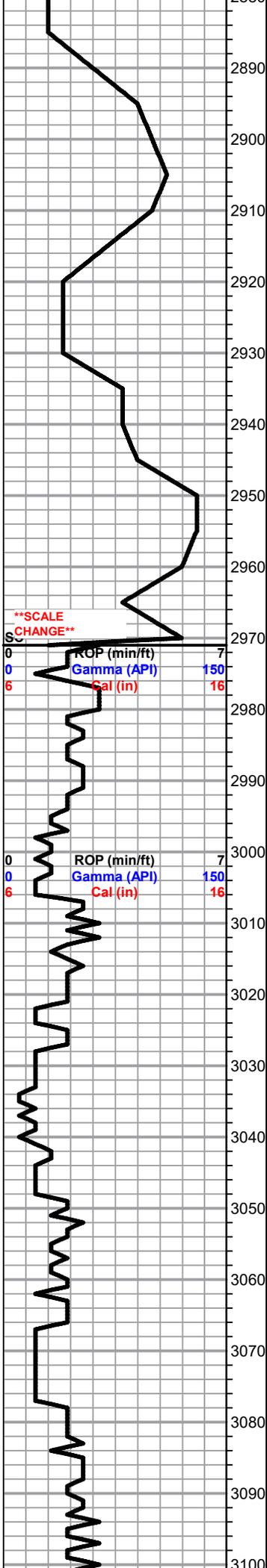
ROP (min/ft)  
Gamma (API)  
Cal (in)

15  
150  
16





0 ROP (min/ft) 15  
0 Gamma (API) 150  
6 Cal (in) 16



**5' DRILL TIME FROM 1310' - 1390'**  
**1' DRILL TIME FROM 1390' - 1480'**  
**5' DRILL TIME FROM 1480' - 2970'**  
**1' DRILL TIME FROM 2970' - RTD**  
**10' WET/DRY SAMPLES FROM 2970' - RTD**

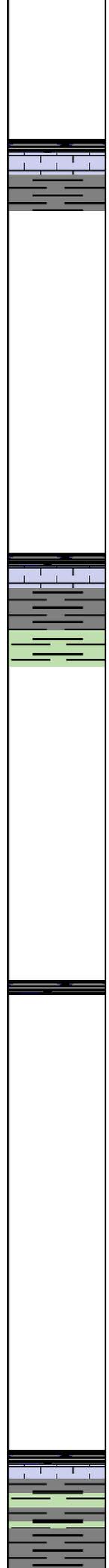
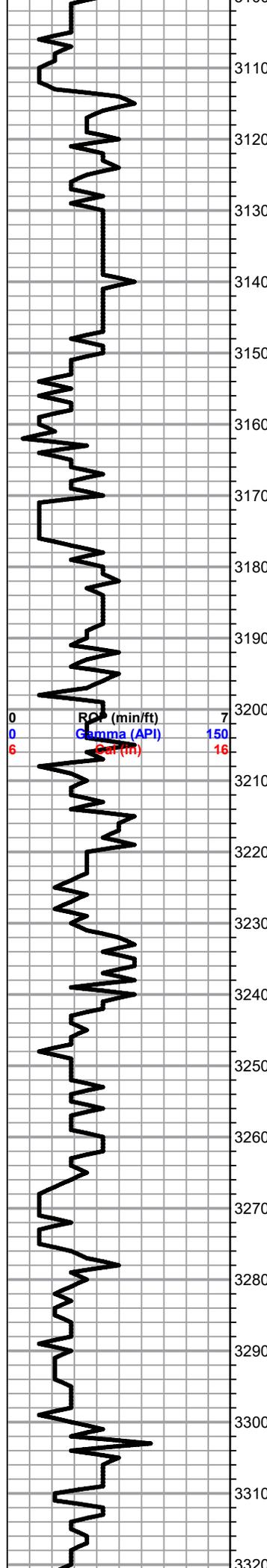
MUD-CO  
 WT: 8.7  
 VIS: 60+  
 WL: 5.4  
 CHLOR: 2,100

**GEOLOGICAL SUPERVISION BY JEFF LAWLER FROM 2670' - RTD**

**8 5/8" SURFACE PIPE SET @ 262' SURVEY 1/4 deg.**

**ANHYDRITE TOP 1419' (+631) E-LOG**  
**ANHYDRITE BASE 1462' (+588) E-LOG**

- Lm- Tan, FXLN, high energy w/ fsl fragments, sctrd XLN porosity, barren
- Sh- Black Gray White, dense & waxy, argillaceous clumps
- Lm- Cream, FXLN, hvy fsl, dense XLN porosity, barren
- Lm- Cream Buff Tan, FXLN, hvy fsl, hvy mottling, sctrd to dense XLN porosity, barren, some soft white chalk
- Sh- Gray Brown Green, abundant argillaceous clumps
- Sh- A/A, w/ some sl sandy shales
- Lm- Cream Buff Gray, FXLN, mix of high energy w/ fsl fragments, mottled, dense & tight, sl chalky in part, & VFXLN, dense & tight w/o vis. porosity, all barren
- Sh- Gray White, dense & calcareous, argillaceous clumps/wash
- Ss- Frosted Gray, Fn Grn, loosely cemented, consolidated & mod. well sorted, sub-rounded, micaceous, glauconite inclusions, barren
- Sh- Gray, dense & waxy, calcareous, abundant argillaceous clumps
- Sh- Maroon Gray Green White, A/A w/ sandy shale/clay, abundant argillaceous clumps
- Sh- Black Gray Green, dense & waxy, calcareous, argillaceous clumps/wash
- TOPEKA 3077' (-1027) E-LOG 3076' (-1026)** Lm- Cream Tan, mix of VFXLN, fsl & oolitic, vry well cemented, sctrd micro XLN porosity, some w/ sctrd clear replacement cementation, barren, & loosely cemented, chalky in part, sctrd XLN porosity
- Lm- Cream Buff Tan, VF-FXLN, some sl fsl, most poorly dev. w/ poor vis. porosity



Lm- Cream, FXLN, sl dolomitic Ls w/ consistent micro XLN porosity, barren, some soft white chalk

Lm- Dark Gray, FXLN, trashy high-energy w/ fsl fragments, sctrd XLN porosity, barren

Sh- Black Gray, fissile & carbonaceous, argillaceous clumps/wash

Lm- Cream, FXLN, fsl & sl oolitic, dense XLN porosity, some sctrd clear secondary reXLN porosity, barren

Sh- Gray Maroon, dense & waxy

Lm- Cream Tan Buff, VF-FXLN, vry well cemented, sl fsl dolomitic Ls mostly w/ consistent microXLN porosity throughout, much soft white chalk, barren

Sh- Black Gray Maroon, fissile & carbonaceous, argillaceous clumps, gritty & earthy

Sh- Green Gray White, abundant argillaceous wash & clay

Lm- Cream, FXLN, oolitic w/ TR of oomoldic, well cemented, poorly dev. w/ sctrd XLN porosity, some soft white chalk, barren

A/A w/ influx of chalk

Lm/Chert- Cream Milky Gray, mix of sl fsl FXLN, massive, poorly dev. w/ sctrd XLN porosity, some clastic high-energy mix, & sl fsl fresh bedded vitreous chert

Lm- Cream, VF-FXLN, dense & tight sl dolomitic Ls w/ consistent microXLN porosity, much soft white chalk

Sh- Black Gray, waxy & carbonaceous, argillaceous wash/clumps

Lm- Cream Off White, VFXL, well cemented, sl chalky in part, consistent microXLN porosity throughout, TR WK SCTRD STN, NSFO, TR ODR

Lm- Tan Cream, FXLN, hvy fsl, hvy mottling, dense XLN porosity, some sl clastic, barren

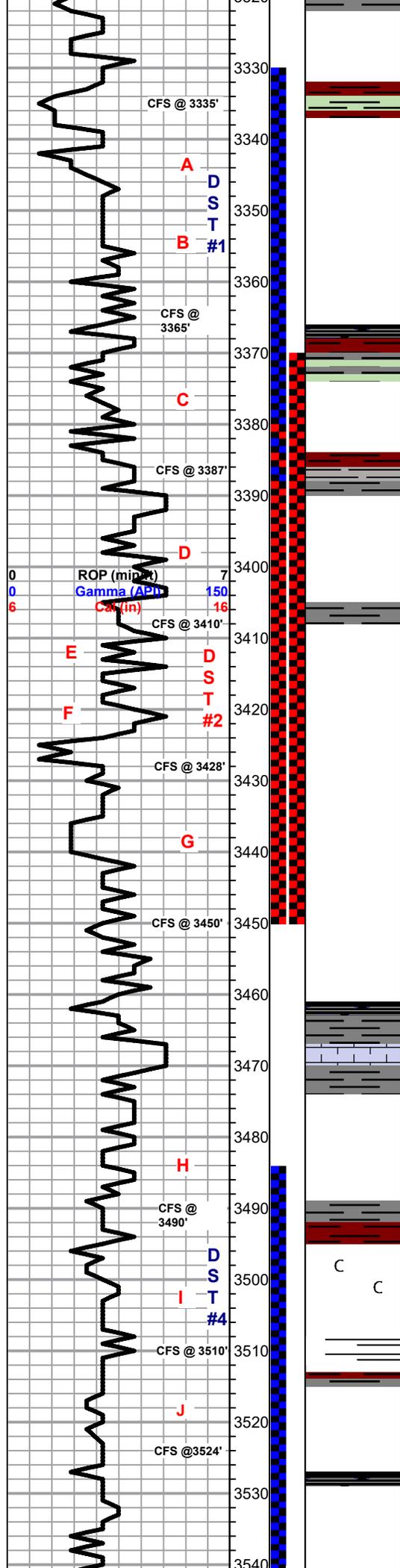
Lm- Tan, VFXLN, dense tight cherty Ls w/ poor vis. porosity, much soft white chalk, much soft white chalk

Lm- Cream Off White, FXLN, hvy packed fusulinids, hvy mottled, dense XLN porosity, barren

Lm- A/A, less fsl, influx of soft white chalk, barren

**HEEBNER 3303' (-1253) E-LOG 3300' (-1250)** Sh- Black Gray Maroon, fissile & carbonaceous, argillaceous, earthy





**TORONTO 3322' (-1272) E-LOG 3319' (-1269)** Lm- Cream Off White, FXLN, sl fsl, mostly tight w/ scstrd-dense XLN porosity, some cherty Ls w/ scstrd XLN porosity, all vry clean & barren

**LKC 3338' (-1288) E-LOG 3338' (-1288)** Lm- Off White, FXLN, fsl & oolitic, mod. well dev. w/ dense XLN porosity, some sl chalky in part, TR WK STN, NSFO, NODR

Lm/Chert- mix of milky gray vitreous fresh bedded cryptoXLN chert & few pcs of gritty dolomitic cherty Ls w/ dense microXLN porosity, all barren

Lm- Gray Buff, VFXLN, dense, gritty, vry well cemented & tight

Lm- Off White Cream, FXLN, oolitic w/ tr of oomoldic, fn ppt interoolite & dense XLN porosity, SCTRD TO SUB-SAT DRK STN, NSFO, FR ODR, much soft white chalk

Lm- Cream Tan, VF-FXLN, sl fsl, scstrd XLN porosity, some brittle cherty Ls w/ poor vis. porosity, chalky, barren

Sh- Gray Maroon, calcareous, gritty & earthy

Lm- Off White, VFXLN, sl fsl, brittle cherty Ls w/ dense XLN porosity, SCTRD LT STN, 1 PC W/ TR FRO, WK ODR

Lm- Cream, FXLN, loosely cemented, sl fsl, vry dense XLN porosity, some reXLN porosity, SCTRD DRK STN, TR FRO, GD ODR, chalky in part

Lm- Tan Cream, VF-FXLN, sl fsl w/ dense XLN porosity, loosely cemented, & cherty Ls w/ XLN porosity, tr vuggy porosity, ALL W/ SCTRD DRK STN, OILY SHEEN, NSFO, WK ODR

Sh- Green, dense & waxy w/ abundant argillaceous clumps

Lm- White, F-MedXLN, loosely cemented sl dolomitic Ls w/ consistent vry fn ppt porosity, DRK STN, TR GSY OIL UPON CRUSH, WK ODR

Lm- Cream Off White, VF-FXLN, mix of cherty Ls w/ scstrd XLN porosity, microXLN dolomitic Ls w/ consistent porosity throughout, & fsl Ls w/ dense XLN porosity, all clean & barren

Lm- Cream Off White, FXLN, sl fsl, cherty Ls w/ scstrd XLN porosity, much soft white chalk, barren

Lm/Chert- Off White, FXLN, sl fsl, dense XLN porosity, barren, Chert- Tan Milky Brown, mostly vitreous fresh bedded cryptoXLN, few pcs of sl dolomitic chert

Sh- Black Gray, fissile & carbonaceous, sl sandy

Lm- Brown Tan, FXLN, dense, well cemented & tight w/ scstrd XLN porosity

Sh- Gray, argillaceous clumps

Lm- Cream Buff, VF-FXLN, mix of sl fsl w/ scstrd XLN porosity & tight well cemented w/ no vis. porosity, all barren, some chalky in part

A/A, tr milky gray vitreous fresh bedded chert

Sh- Gray Maroon, waxy & blocky, gritty & earthy

Lm- Cream Tan, VFXLN, mix of well cemented, poorly dev. w/ scstrd XLN porosity, chalky in part, some sl cherty cryptoXLN Ls, & fsl w/ scstrd-dense XLN porosity, SCTRD DRK STN, 1 PC W/ TR FO, NO ODR

Sh- Drk & Lt Gray Maroon, waxy & blocky, argillaceous, gritty & earthy

Lm- Cream Off White, FXLN, sl fsl & oolitic, scstrd XLN porosity, soft white chalk, poorly dev. w/ show in chalk, WK SCTRD STN, NSFO, TR (?) ODR

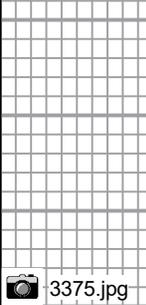
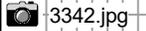
**STARK SHALE 3526' (-1476) E-LOG 3529' (-1479)** Sh- Black Maroon, soft & carbonaceous, gritty & earthy

Lm- Cream Off White, sl fsl & oolitic, scstrd-dense XLN porosity, chalky in part, SCTRD LT STN, NSFO, FR ODR

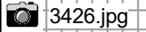
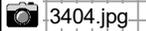
DST #1 LKC A-D  
3330' - 3387'  
30-45-60-90

55' OSPM (100%)

IFP: 24-39#  
FFP: 40-54#  
SIP: 303-308#



MUD-CO  
WT: 8.9  
VIS: 63  
WL: 5.8  
CHLOR: 1800

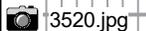
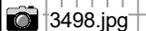


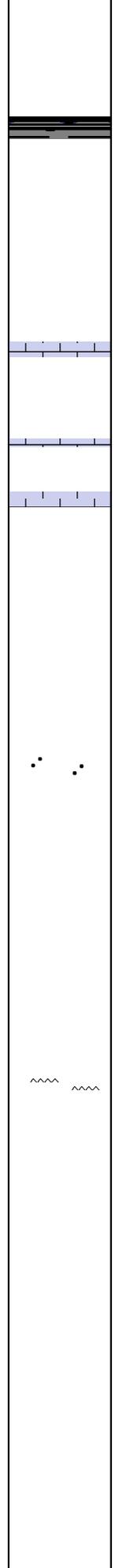
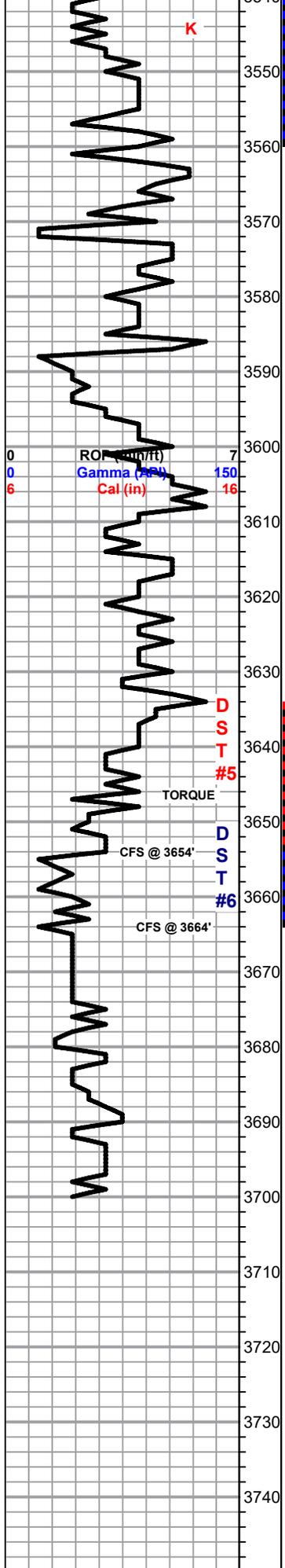
DST #2 LKC D-G  
3370' - 3450'  
MISRUN  
DST #3 LKC D-G  
3380' - 3450'  
30-45-60-90

105' TOTAL FLUID  
60' MW (50/50)  
45' WM  
30%W, 70%M)

IFP: 42-63#  
FFP: 71-96#  
SIP: 292-306#

MUD-CO  
WT: 9.2  
VIS: 57  
WL: 5.8  
CHLOR: 4500





A/A little better development, w/ more consistent porosity, less chalk, SCTRD DRK STN, NSFO, FR ODR

Lm- Cream Tan, FXLN, sl fsl, well cemented, sctrd XLN porosity, much soft white chalk, barren

Lm- Cream Buff Tan, VF-FXLN, fsl & sl oolitic, vry dense XLN porosity, some chalky in part, some brittle cherty Ls w/ poor vis. porosity, barren

**BKC 3569' (-1519) E-LOG 3556' (-1506)** Sh- Maroon Gray Green, gritty & earthy, sandy, argillaceous wash

Ls- Maroon tint, VFXLN, well cemented, sl conglomerate Ls w/ poor vis. porosity

Sh- A/A dense & waxy

Lm- Lt Gray, thin interbedded trashy Ls w/ dense XLN porosity, barren

Lm- Maroon Tan, mostly dense well cemented conglomerate Ls w/ min. vis. porosity, some fresh bedded vitreous chert/cherty Ls

Conglomerate- Chert/Ls, mix of fresh bedded vitreous & detrital chert & Ls A/A

Chert- Buff Gray, mostly dolomitic chert & some fresh bedded chert & chery Ls, all tight w/ poor vis. porosity, barren

A/A w/ influx of shale, 2 PCS OF MED GRN SUB-ANGULAR SS, TR BLK STN, NSFO, NO ODR

**ARBUCKLE 3644' (-1594) E-LOG 3643' (-1593)** Dol- Tan, VF-FXLN, sucrosic, semi-friable, consistent XLN porosity throughout, most w/ SUB-SAT LT STN, NSFO, WK ODR, few pcs of sl cherty dolomite w/ STN A/A

**3654' 40"-** Dol- Tan, FXLN, consistent microXLN/XLN porosity throughout, semi-friable to mod. cemented, sucrosic, SAT DRK STN, TR FO, FR ODR

Dol- Cream Tan, F-MEDXLN, well dev. semi-friable to mod. cemented, consistent XLN porosity throughout, sucrosic, SCTRD-SAT STN, OIL SCUM IN WET CUP, GD ODR, Chert- White Cream, oolitic vitreous fresh bedded cryptoXLN

Dol- Buff, MEDXLN, sucrosic, well cemented, consistent XLN porosity throughout, SCTRD DRK STN, TR FO, FR ODR, some mostly barren, much soft white chalk

Dol/Chert- Cream Tan, VF-MEDXLN, mix of tight cherty barren dolomite w/ micro no vis. to microXLN porosity, well dev. med XLN w/ XLN & sctrd fn ppt porosity, some vis. rhombs, SCTRD DRK STN, TR FO, FR-GD ODR, some mostly barren

Dol- Cream Salmon Yellow, Crypto-VFXLN, dense tight mix of mostly cherty dolomite, few pcs w/ angular qtz, inclusions, all barren

**RTD 3700' (-1650) LTD 3700' (-1650) @ 06:39 2/13/2022**

3545.jpg  
SURVEY 1/4 deg.  
DST #4 LKC I - K  
3485' - 3560'  
30-60-30-60  
\*\*LOST PACKER  
SEAT SECOND  
OPEN\*\*  
345' MUD (100%)  
IFP: 39-40#  
FFP: 41-205#  
SIP: 305-410#  
MUD-CO  
WT: 9.3  
VIS: 53  
WL: 6.0  
CHLOR: 4700  
DST #5  
ARBUCKLE  
3634' - 3654'  
30-45-30-45  
20' MCO  
(95% O, 5% M)  
IFP: 24-24#  
FFP: 28-32#  
SIP: 1102-1018#  
BHT: 110 deg.  
DST 5.jpg  
3646.jpg  
3652.jpg  
3658.jpg  
DST 6.jpg  
MUD-CO  
WT: 9.3  
VIS: 54  
WL: 6.0  
CHLOR: 4500  
3680.jpg  
3692.jpg  
DST #6  
ARBUCKLE  
3654' - 3664'  
30-60-45-60  
60' OCM  
(95% O, 5% M)  
IFP: 21-31#  
FFP: 38-42#  
SIP: 1040-934#  
BHT: 110 deg.



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, inc**

250 N Water  
Wichita, KS 67202

ATTN: Jeff Lawler

**Rusco - Davis #4-1**

**1-12s-20w Ellis,KS**

Start Date: 2022.02.09 @ 08:20:05

End Date: 2022.02.09 @ 16:02:44

Job Ticket #: 47671                      DST #: 1

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

Printed: 2022.02.15 @ 11:01:09

Murfin Drilling Co, inc  
1-12s-20w Ellis,KS  
Rusco - Davis #4-1  
DST # 1  
LKC A-D  
2022.02.09



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, inc  
250 N Water  
Wichita, KS 67202  
ATTN: Jeff Lawler

**1-12s-20w Ellis,KS**

**Rusco - Davis #4-1**

Job Ticket: 47671

**DST#: 1**

Test Start: 2022.02.09 @ 08:20:05

## GENERAL INFORMATION:

Formation: **LKC A-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:35:45

Time Test Ended: 16:02:44

Test Type: Conventional Bottom Hole (Initial)

Tester: Terry Wickham

Unit No: 75

**Interval: 3330.00 ft (KB) To 3387.00 ft (KB) (TVD)**

Reference Elevations: 2050.00 ft (KB)

Total Depth: 3387.00 ft (KB) (TVD)

2045.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8320 Outside**

Press@RunDepth: 53.71 psig @ 3331.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.02.09 End Date: 2022.02.09

Last Calib.: 2022.02.09

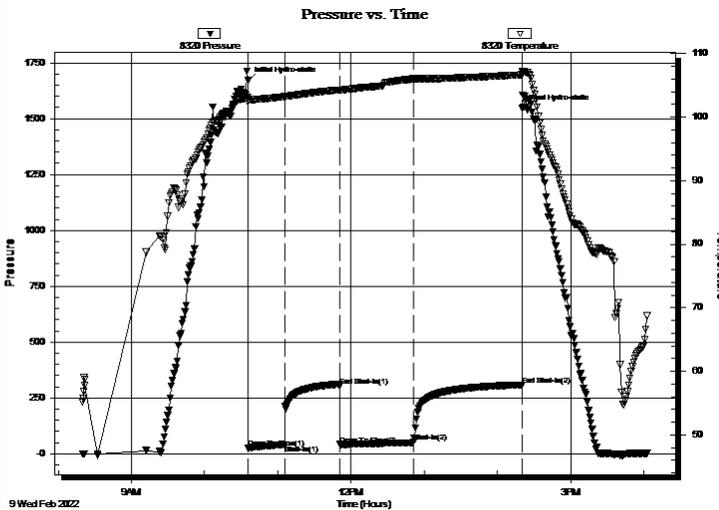
Start Time: 08:20:05 End Time: 16:02:44

Time On Btm: 2022.02.09 @ 10:35:30

Time Off Btm: 2022.02.09 @ 14:20:30

TEST COMMENT: IF 30 min 2"  
ISI 45 -no return  
FF 60- 1/2"  
FSI 90-no return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1670.04	103.16	Initial Hydro-static
1	24.14	102.33	Open To Flow (1)
30	39.37	103.20	Shut-In(1)
76	303.27	104.29	End Shut-In(1)
76	40.49	104.24	Open To Flow (2)
136	53.71	106.03	Shut-In(2)
225	308.00	106.66	End Shut-In(2)
225	1545.15	107.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
55.00	mud with oil spots	0.49

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co, inc

**1-12s-20w Ellis,KS**

250 N Water  
Wichita, KS 67202

**Rusco - Davis #4-1**

Job Ticket: 47671

**DST#: 1**

ATTN: Jeff Lawler

Test Start: 2022.02.09 @ 08:20:05

## Tool Information

Drill Pipe:	Length: 3270.00 ft	Diameter: 3.80 inches	Volume: 45.87 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume:</u>	Tool Chased	ft
			- bbl	String Weight: Initial	56000.00 lb
Drill Pipe Above KB:	2.00 ft			Final	56000.00 lb
Depth to Top Packer:	3330.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	57.00 ft				
Tool Length:	88.00 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			3300.00	
Shut In Tool	5.00			3305.00	
Hydraulic tool	5.00			3310.00	
Jars	5.00			3315.00	
EM Tool	3.00			3318.00	
Safety Joint	3.00			3321.00	
Packer	5.00			3326.00	31.00 Bottom Of Top Packer
Packer	4.00			3330.00	
Stubb	1.00			3331.00	
Recorder	0.00	8368	Inside	3331.00	
Recorder	0.00	8320	Outside	3331.00	
Perforations	14.00			3345.00	
Change Over Sub	1.00			3346.00	
Drill Pipe	32.00			3378.00	
Change Over Sub	1.00			3379.00	
Perforations	5.00			3384.00	
Bullnose	3.00			3387.00	57.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>88.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, inc

**1-12s-20w Ellis,KS**

250 N Water  
Wichita, KS 67202

**Rusco - Davis #4-1**

Job Ticket: 47671

**DST#: 1**

ATTN: Jeff Lawler

Test Start: 2022.02.09 @ 08:20:05

### 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: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
55.00	mud with oil spots	0.489

Total Length: 55.00 ft      Total Volume: 0.489 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

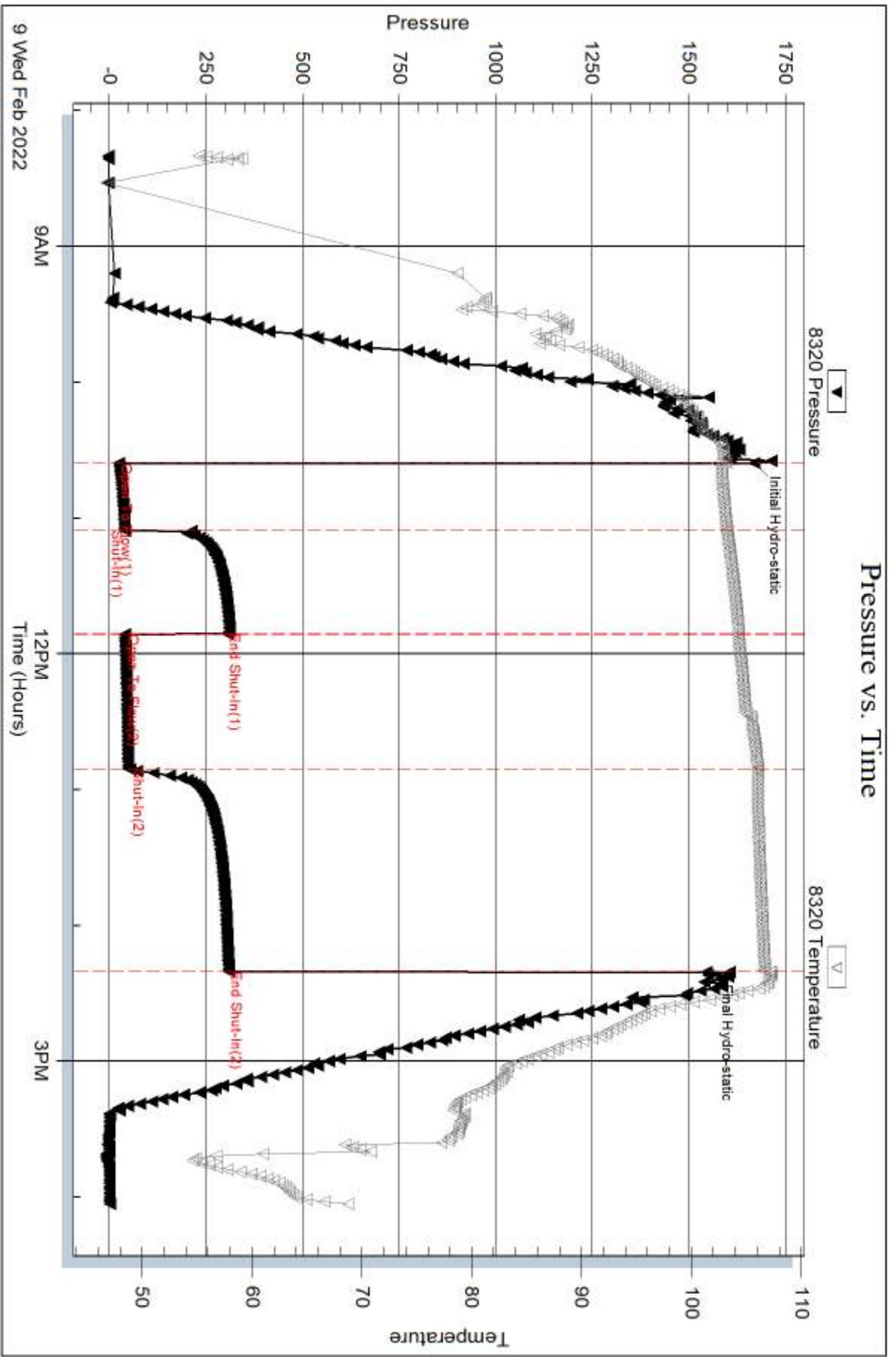
Recovery Comments: 2#LCM

Serial #: 8320

Outside Marfin Drilling Co, inc

Rusco - Davis #4-1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 47671

Printed: 2022.02.15 @ 11:01:10

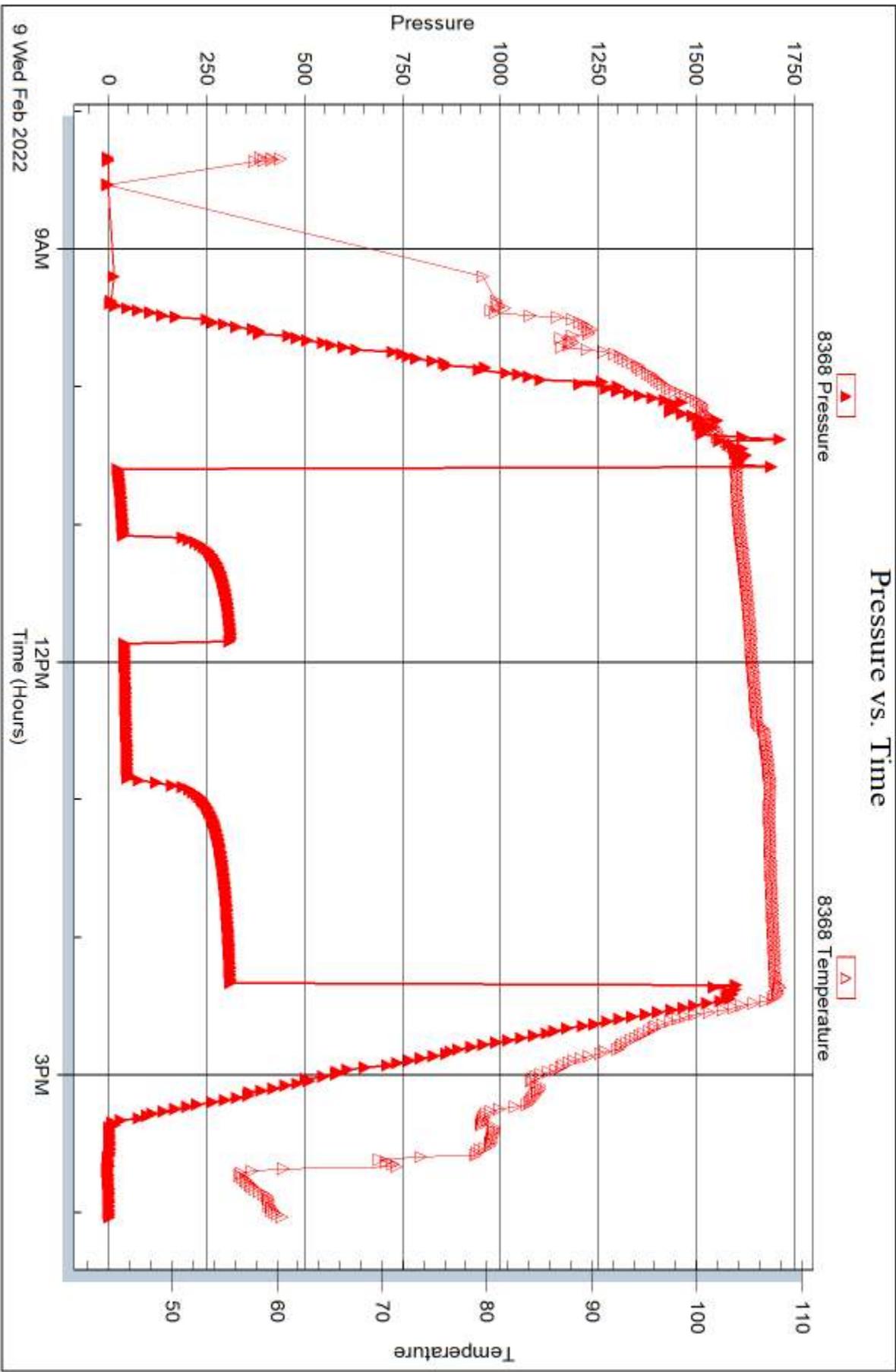
Serial #: 8368

Inside

Murfin Drilling Co, inc

Rusco - Davis #4-1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 47671

Printed: 2022.02.15 @ 11:01:10



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, inc**

250 N Water  
Wichita, KS 67202

ATTN: Jeff Lawler

**Rusco - Davis #4-1**

**1-12s-20w Ellis,KS**

Start Date: 2022.02.10 @ 00:00:00

End Date:

Job Ticket #: 47672

DST #: 2

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

Printed: 2022.02.15 @ 10:59:31







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co, inc

**1-12s-20w Ellis,KS**

250 N Water  
Wichita, KS 67202

**Rusco - Davis #4-1**

Job Ticket: 47672

**DST#: 2**

ATTN: Jeff Lawler

Test Start: 2022.02.10 @ 00:00:00

## Tool Information

Drill Pipe:	Length: 3311.00 ft	Diameter: 3.80 inches	Volume: 46.44 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	56000.00 lb
			<u>Total Volume:</u> - bbl	Tool Chased	ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3370.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	80.00 ft				
Tool Length:	111.00 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			3340.00	
Shut In Tool	5.00			3345.00	
Hydraulic tool	5.00			3350.00	
Jars	5.00			3355.00	
EM Tool	3.00			3358.00	
Safety Joint	3.00			3361.00	
Packer	5.00			3366.00	31.00 Bottom Of Top Packer
Packer	4.00			3370.00	
Stubb	1.00			3371.00	
Recorder	0.00	8368	Inside	3371.00	
Recorder	0.00	8320	Outside	3371.00	
Perforations	4.00			3375.00	
Change Over Sub	1.00			3376.00	
Drill Pipe	63.00			3439.00	
Change Over Sub	1.00			3440.00	
Perforations	7.00			3447.00	
Bullnose	3.00			3450.00	80.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>111.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, inc

**1-12s-20w Ellis,KS**

250 N Water  
Wichita, KS 67202

**Rusco - Davis #4-1**

Job Ticket: 47672

**DST#: 2**

ATTN: Jeff Lawler

Test Start: 2022.02.10 @ 00:00:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

#### Recovery Table

Length ft	Description	Volume bbl
120.00	mud	1.401

Total Length: 120.00 ft      Total Volume: 1.401 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: packer failure

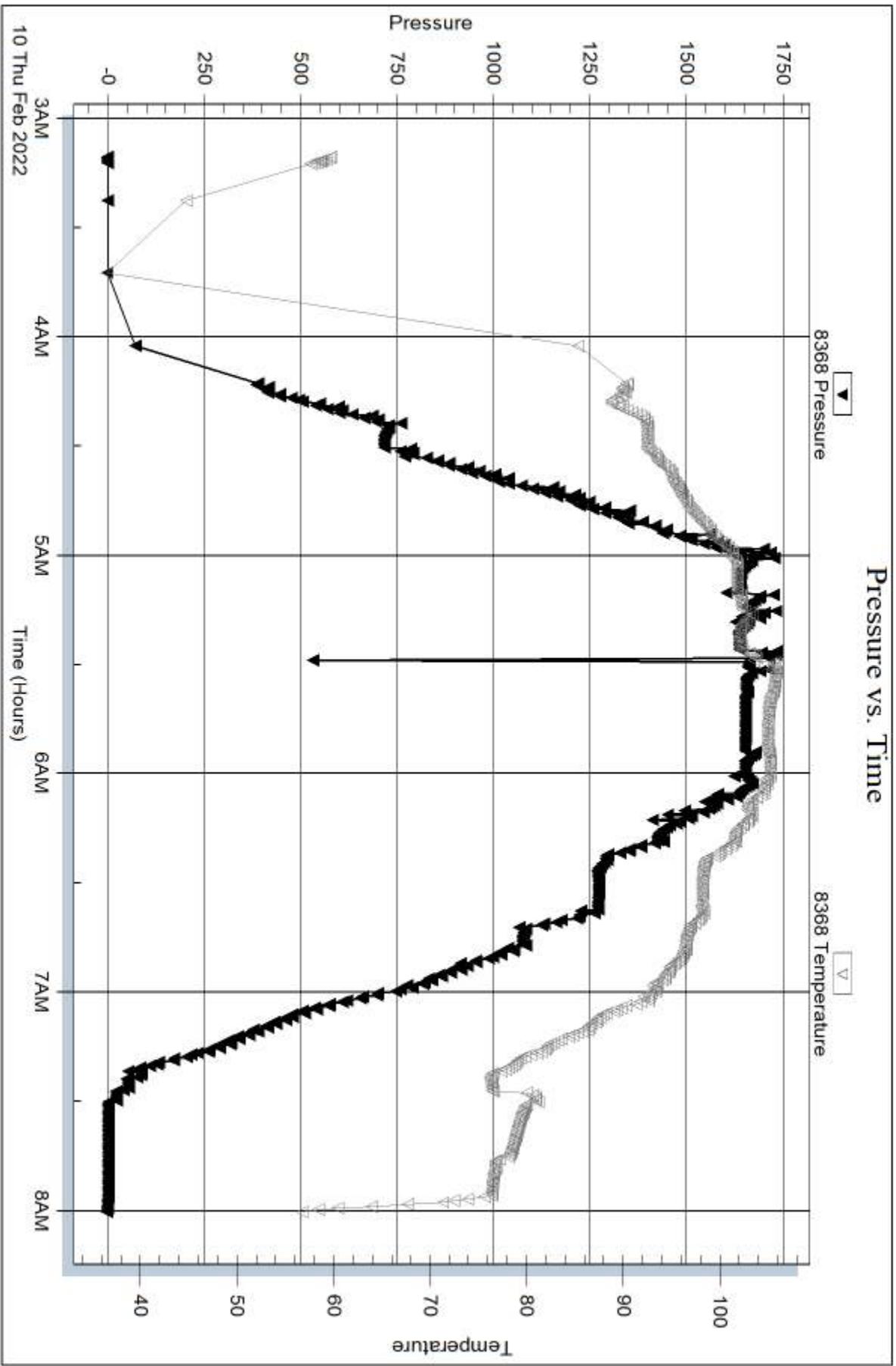
Serial #: 8368

Inside

Murfin Drilling Co, inc

Rusco - Davis #4-1

DST Test Number: 2



Tribble Testing, Inc

Ref. No: 47672

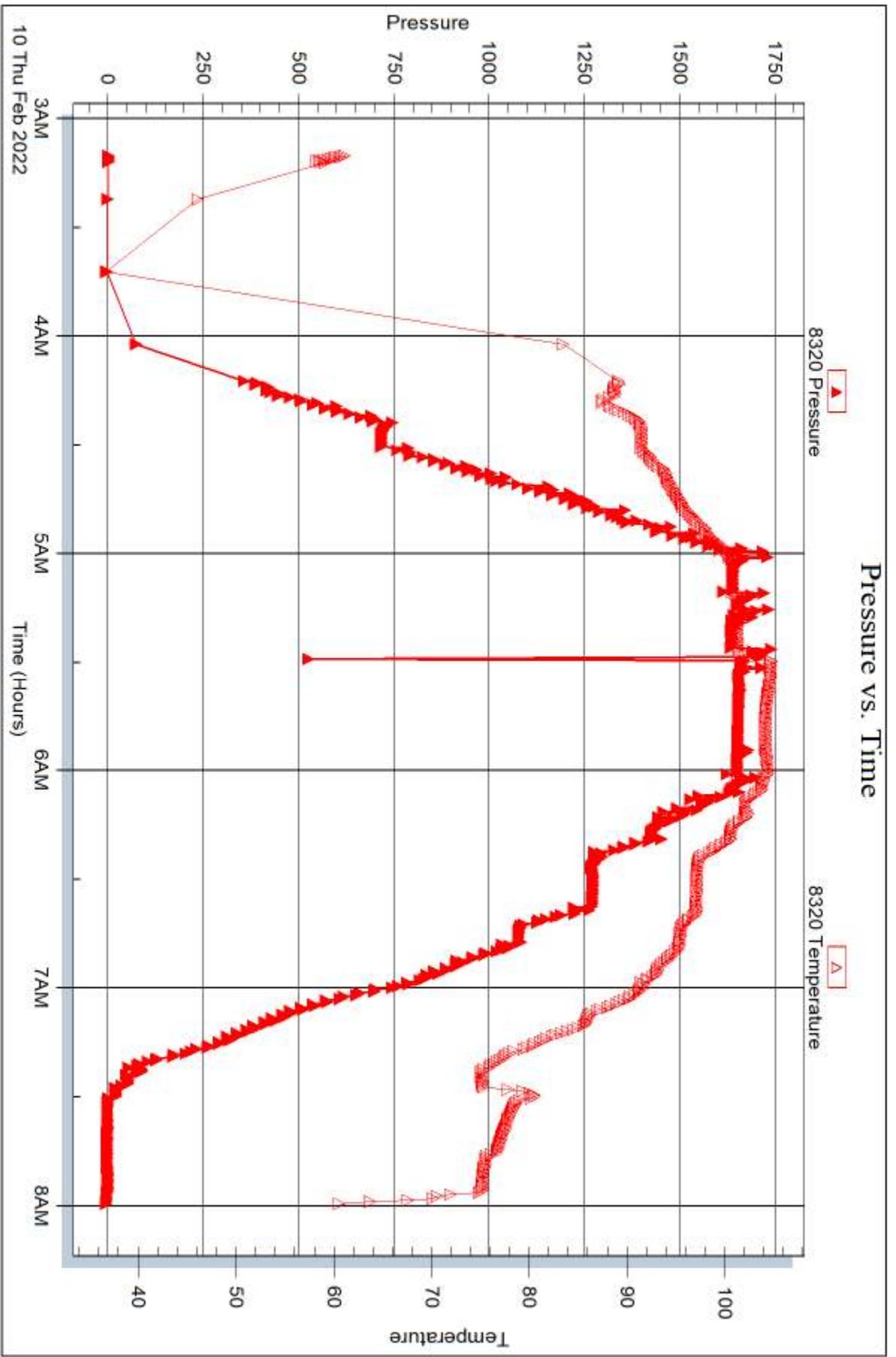
Printed: 2022.02.15 @ 10:59:34

Serial #: 8320

Outside Marfin Drilling Co, inc

Rusco - Davis #4-1

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, inc**

250 N Water  
Wichita, KS 67202

ATTN: Jeff Lawler

**Rusco - Davis #4-1**

**1-12s-20w Ellis,KS**

Start Date: 2022.02.10 @ 08:16:00

End Date: 2022.02.10 @ 16:07:00

Job Ticket #: 47673                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.02.15 @ 10:59:04



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, inc  
250 N Water  
Wichita, KS 67202  
ATTN: Jeff Lawler

**1-12s-20w Ellis,KS**

**Rusco - Davis #4-1**

Job Ticket: 47673

**DST#: 3**

Test Start: 2022.02.10 @ 08:16:00

## GENERAL INFORMATION:

Formation: **LKC D-G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:15:30

Time Test Ended: 16:07:00

Test Type: Conventional Bottom Hole (Real-Time)

Tester: Terry Wickham

Unit No: 75

**Interval: 3380.00 ft (KB) To 3450.00 ft (KB) (TVD)**

Total Depth: 3450.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2050.00 ft (KB)

2045.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8368**

**Inside**

Press@RunDepth: 95.91 psig @ 3381.00 ft (KB)

Start Date: 2022.02.10

End Date:

2022.02.10

Start Time: 08:16:05

End Time:

16:06:59

Capacity: 8000.00 psig

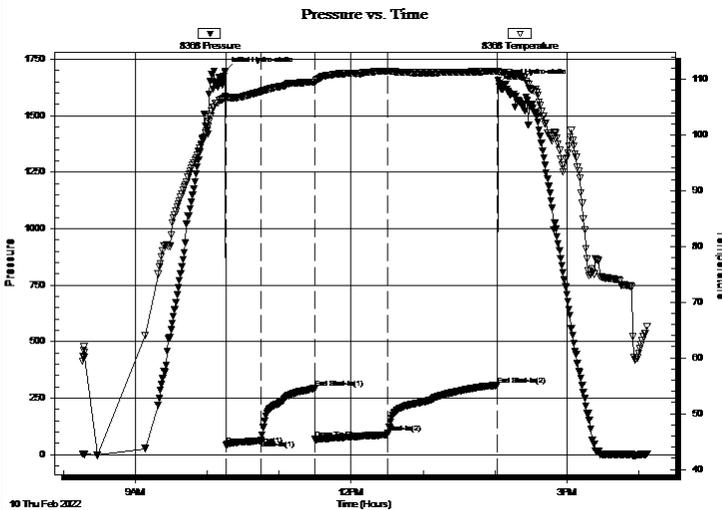
Last Calib.: 2022.02.10

Time On Btm: 2022.02.10 @ 10:15:00

Time Off Btm: 2022.02.10 @ 14:03:15

**TEST COMMENT:** IF -30 min - 5 1/2"  
ISI 45 min - no return  
FF 60 min 5"  
FSI 90 min no return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1695.60	106.96	Initial Hydro-static
1	42.26	106.62	Open To Flow (1)
30	63.40	107.79	Shut-In(1)
75	292.83	109.50	End Shut-In(1)
75	70.56	109.38	Open To Flow (2)
136	95.91	111.43	Shut-In(2)
227	306.79	111.41	End Shut-In(2)
229	1645.16	111.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	mw 50%water 50% mud	0.56
45.00	w m 30%water 70%MUD	0.63

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co, inc

**1-12s-20w Ellis,KS**

250 N Water  
Wichita, KS 67202

**Rusco - Davis #4-1**

Job Ticket: 47673

**DST#: 3**

ATTN: Jeff Lawler

Test Start: 2022.02.10 @ 08:16:00

## Tool Information

Drill Pipe:	Length: 3333.00 ft	Diameter: 3.80 inches	Volume: 46.75 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 56000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3380.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.00 ft			
Tool Length:	101.00 ft			
Number of Packers:	2	Diameter: 6.88 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3350.00	
Shut In Tool	5.00			3355.00	
Hydraulic tool	5.00			3360.00	
Jars	5.00			3365.00	
EM Tool	3.00			3368.00	
Safety Joint	3.00			3371.00	
Packer	5.00			3376.00	31.00 Bottom Of Top Packer
Packer	4.00			3380.00	
Stubb	1.00			3381.00	
Recorder	0.00	8368	Inside	3381.00	
Recorder	0.00	8320	Outside	3381.00	
Perforations	4.00			3385.00	
Change Over Sub	1.00			3386.00	
Drill Pipe	32.00			3418.00	
Change Over Sub	1.00			3419.00	
Perforations	28.00			3447.00	
Bullnose	3.00			3450.00	70.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>101.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, inc

**1-12s-20w Ellis,KS**

250 N Water  
Wichita, KS 67202

**Rusco - Davis #4-1**

Job Ticket: 47673

**DST#: 3**

ATTN: Jeff Lawler

Test Start: 2022.02.10 @ 08:16:00

### 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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	mw 50%w ater 50% mud	0.559
45.00	w m 30%w ater 705MUD	0.631

Total Length: 105.00 ft      Total Volume: 1.190 bbl

Num Fluid Samples: 0

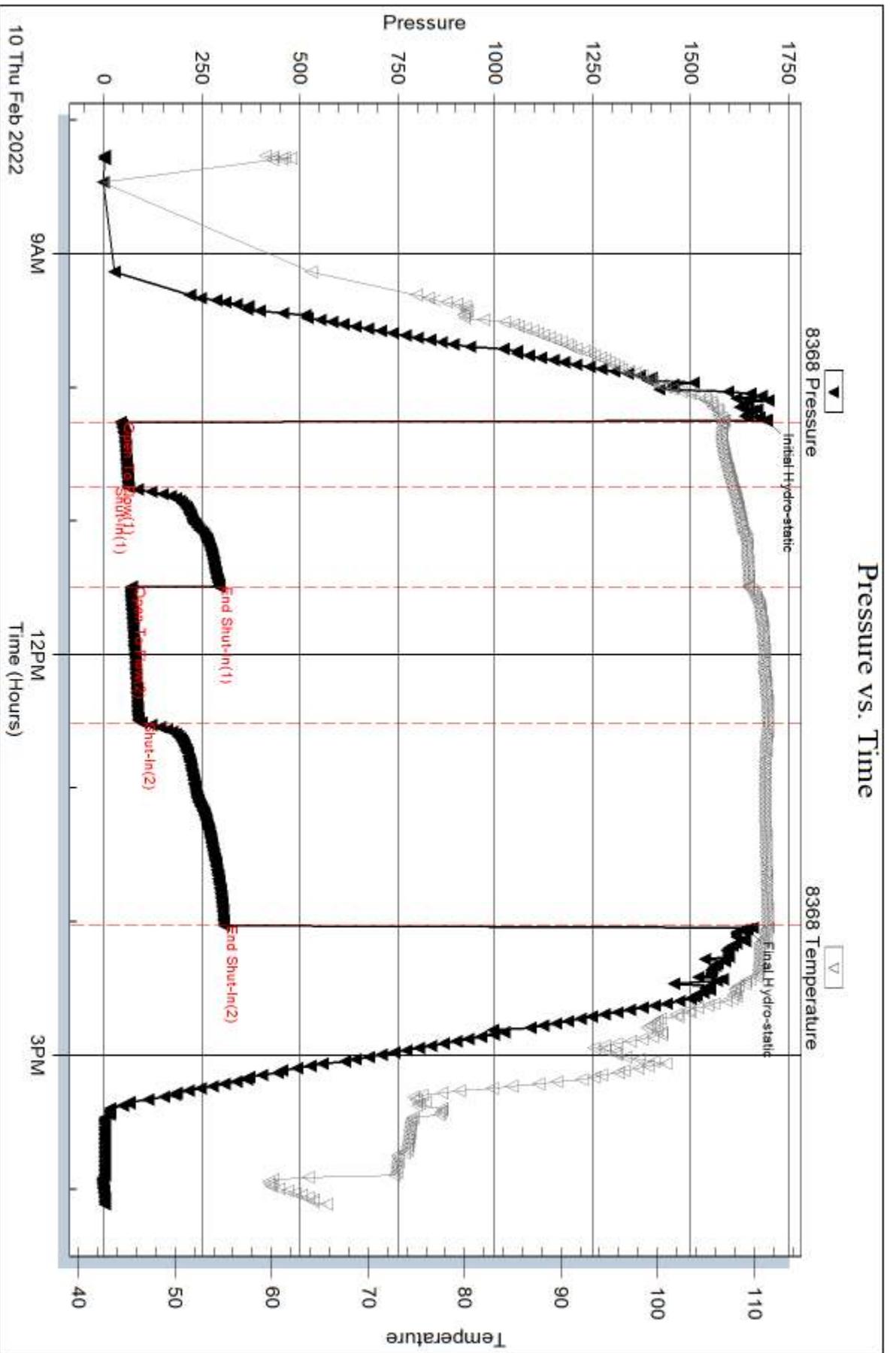
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Rw .135 @ 74

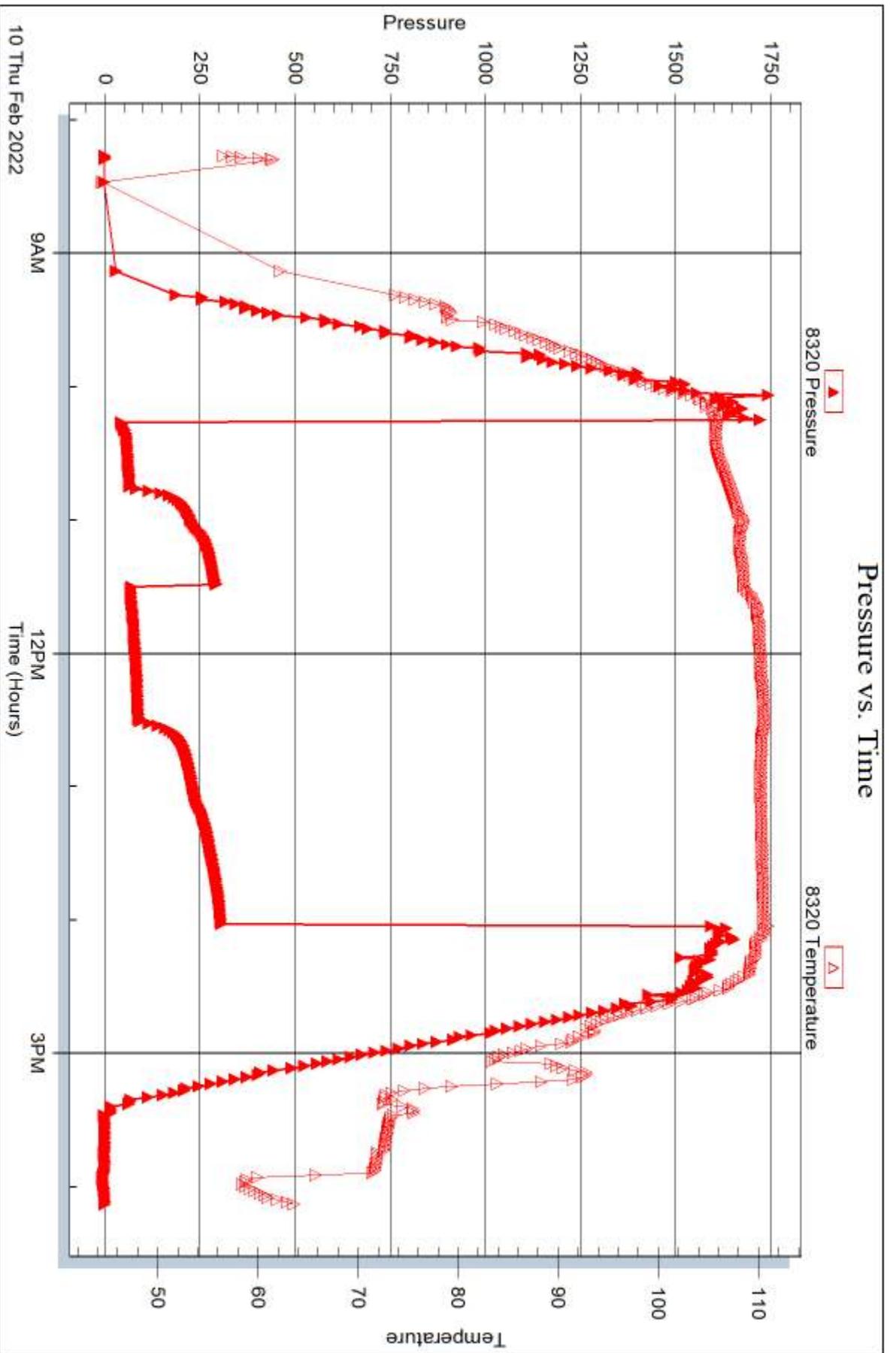


Serial #: 8320

Outside Marfin Drilling Co, inc

Rusco - Davis #4-1

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 47673

Printed: 2022.02.15 @ 10:59:06



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, inc**

250 N Water  
Wichita, KS 67202

ATTN: Jeff Lawler

### **Rusco - Davis #4-1**

### **1-12s-20w Ellis,KS**

Start Date: 2022.02.11 @ 09:50:00

End Date: 2022.02.11 @ 17:01:45

Job Ticket #: 4767                      DST #: 4

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

Printed: 2022.02.15 @ 10:55:34



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, inc  
250 N Water  
Wichita, KS 67202  
ATTN: Jeff Lawler

**1-12s-20w Ellis,KS**

**Rusco - Davis #4-1**

Job Ticket: 4767

**DST#: 4**

Test Start: 2022.02.11 @ 09:50:00

## GENERAL INFORMATION:

Formation: **LKC I-K**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 11:54:30  
 Tester: Terry Wickham  
 Time Test Ended: 17:01:45  
 Unit No: 75  
 Interval: **3485.00 ft (KB) To 3560.00 ft (KB) (TVD)**  
 Reference Elevations: 2050.00 ft (KB)  
 Total Depth: 3560.00 ft (KB) (TVD)  
 2045.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

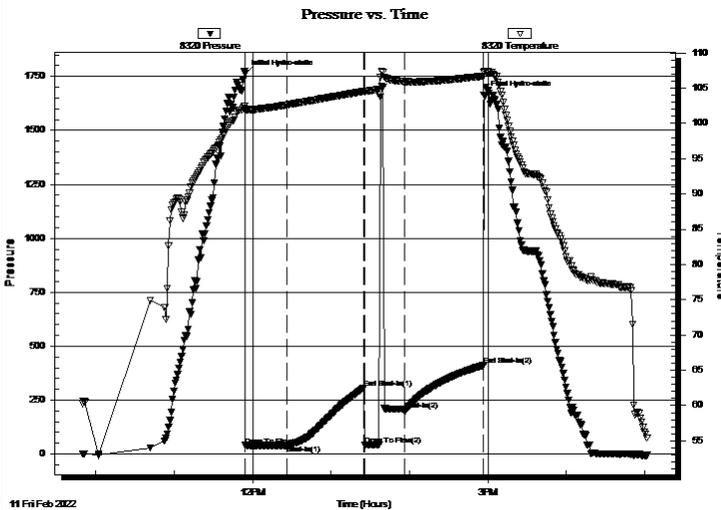
**Serial #: 8320**

**Outside**

Press@RunDepth: 205.50 psig @ 3486.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2022.02.11 End Date: 2022.02.11 Last Calib.: 2022.02.11  
 Start Time: 09:50:05 End Time: 17:01:44 Time On Btm: 2022.02.11 @ 11:54:15  
 Time Off Btm: 2022.02.11 @ 14:57:00

**TEST COMMENT:** IF 30 min 1"  
 ISI 60 min no return  
 FF 30 min flush tool . packer failure ,reset packer and it held  
 FSI 60 min no return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1762.41	102.50	Initial Hydro-static
1	39.53	101.83	Open To Flow (1)
33	40.19	102.62	Shut-In(1)
91	305.17	104.53	End Shut-In(1)
92	41.47	104.51	Open To Flow (2)
122	205.50	105.91	Shut-In(2)
183	410.65	106.70	End Shut-In(2)
183	1664.72	107.27	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
345.00	mud	4.56

## 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

**1-12s-20w Ellis,KS**

250 N Water  
Wichita, KS 67202

**Rusco - Davis #4-1**

Job Ticket: 4767

**DST#: 4**

ATTN: Jeff Lawler

Test Start: 2022.02.11 @ 09:50:00

## Tool Information

Drill Pipe:	Length: 3429.00 ft	Diameter: 3.80 inches	Volume: 48.10 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume:</u>	Tool Chased	ft
				String Weight: Initial	56000.00 lb
Drill Pipe Above KB:	6.00 ft			Final	58000.00 lb
Depth to Top Packer:	3485.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	75.00 ft				
Tool Length:	106.00 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			3455.00	
Shut In Tool	5.00			3460.00	
Hydraulic tool	5.00			3465.00	
Jars	5.00			3470.00	
EM Tool	3.00			3473.00	
Safety Joint	3.00			3476.00	
Packer	5.00			3481.00	31.00 Bottom Of Top Packer
Packer	4.00			3485.00	
Stubb	1.00			3486.00	
Recorder	0.00	8368	Inside	3486.00	
Recorder	0.00	8320	Outside	3486.00	
Perforations	4.00			3490.00	
Change Over Sub	1.00			3491.00	
Drill Pipe	32.00			3523.00	
Change Over Sub	1.00			3524.00	
Perforations	33.00			3557.00	
Bullnose	3.00			3560.00	75.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>106.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, inc

**1-12s-20w Ellis,KS**

250 N Water  
Wichita, KS 67202

**Rusco - Davis #4-1**

Job Ticket: 4767

**DST#: 4**

ATTN: Jeff Lawler

Test Start: 2022.02.11 @ 09:50:00

### 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: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
345.00	mud	4.557

Total Length: 345.00 ft      Total Volume: 4.557 bbl

Num Fluid Samples: 0

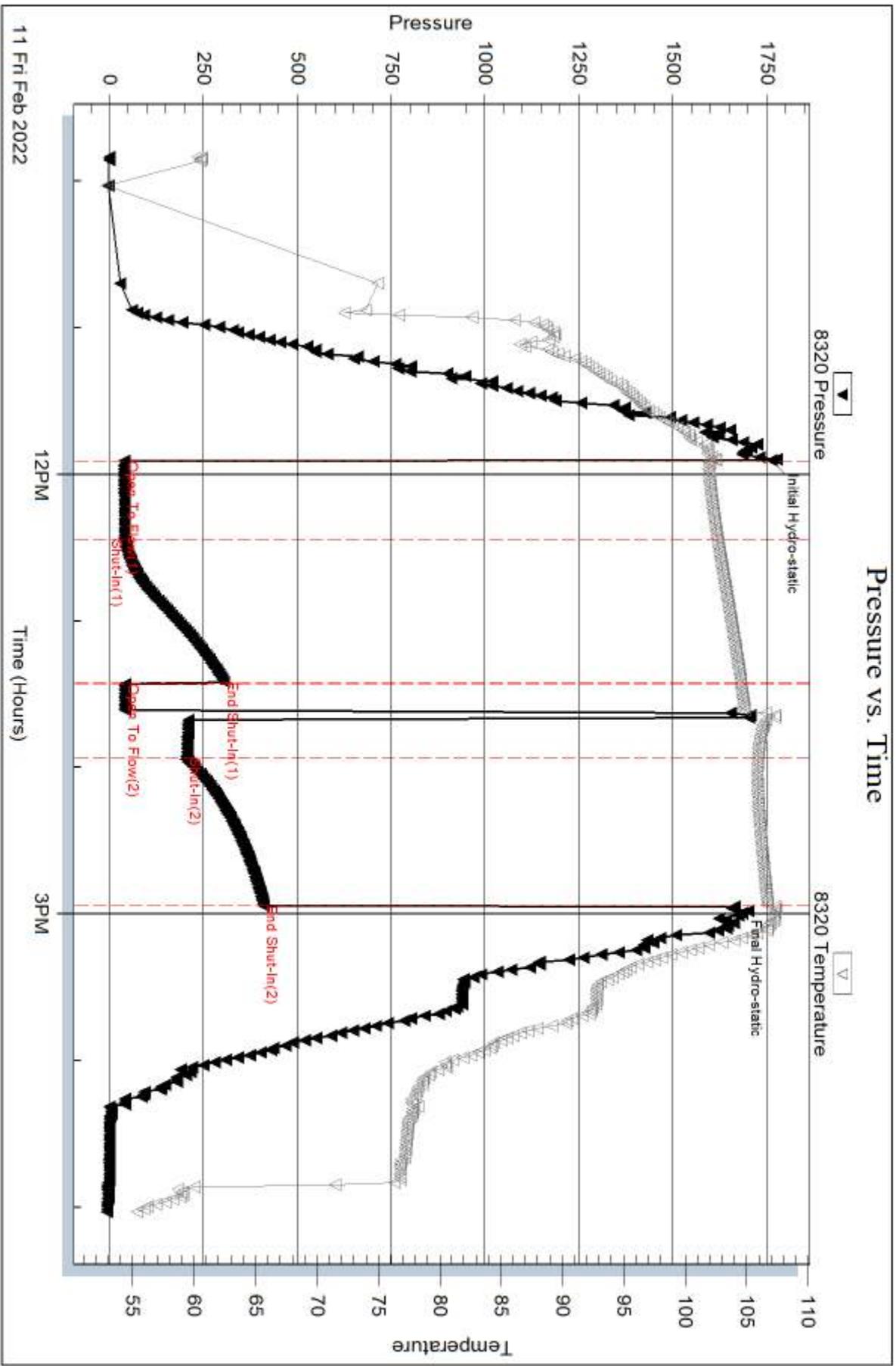
Num Gas Bombs: 0

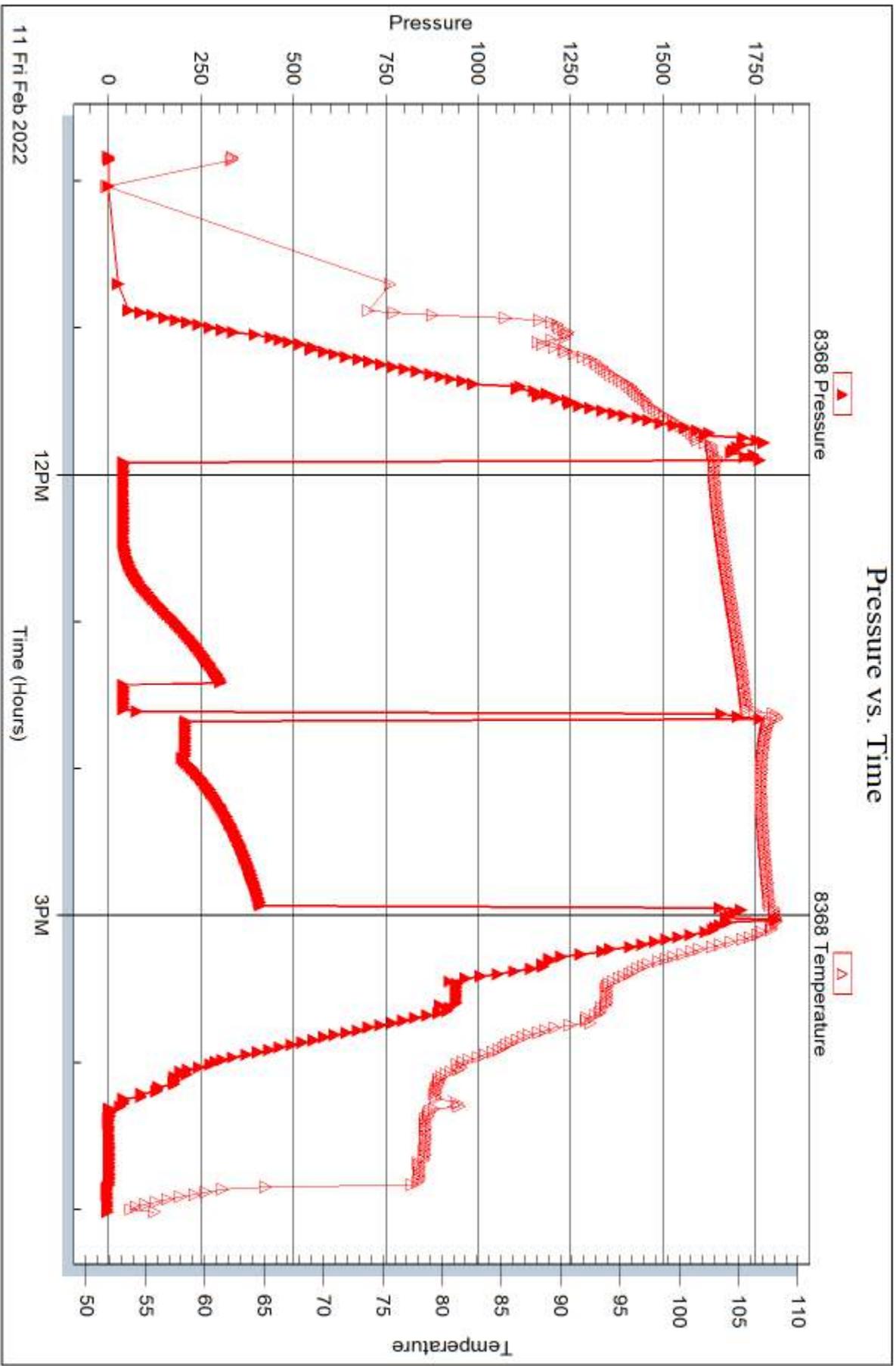
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: recovery result of packer failure when flushing tool







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, inc**

250 N Water  
Wichita, KS 67202

ATTN: Jeff Lawler

### **Rusco - Davis #4-1**

### **1-12s-20w Ellis,KS**

Start Date: 2022.02.12 @ 05:40:00

End Date: 2022.02.12 @ 12:14:30

Job Ticket #: 47674                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.02.15 @ 10:50:26



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, inc  
250 N Water  
Wichita, KS 67202  
ATTN: Jeff Lawler

**1-12s-20w Ellis,KS**  
**Rusco - Davis #4-1**  
Job Ticket: 47674 **DST#: 5**  
Test Start: 2022.02.12 @ 05:40:00

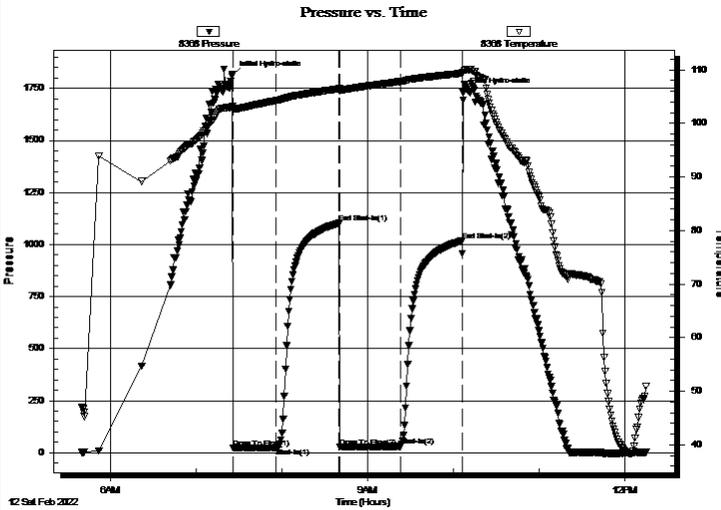
## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 07:25:45  
Time Test Ended: 12:14:30  
Interval: **3634.00 ft (KB) To 3654.00 ft (KB) (TVD)**  
Total Depth: 3654.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2050.00 ft (KB)  
2045.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Terry Wickham  
Unit No: 75

**Serial #: 8368 Inside**  
Press@RunDepth: 31.76 psig @ 3635.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2022.02.12 End Date: 2022.02.12 Last Calib.: 2022.02.12  
Start Time: 05:40:05 End Time: 12:14:29 Time On Btm: 2022.02.12 @ 07:25:30  
Time Off Btm: 2022.02.12 @ 10:06:30

TEST COMMENT: IF 30 1 1/2" blow  
ISI 45 No return  
FF 30 Weak blow died  
FSI 45 No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1815.49	103.18	Initial Hydro-static
1	23.28	102.70	Open To Flow (1)
31	24.00	104.28	Shut-In(1)
75	1102.79	106.50	End Shut-In(1)
75	27.62	106.03	Open To Flow (2)
118	31.76	107.83	Shut-In(2)
161	1018.44	109.38	End Shut-In(2)
161	1730.17	109.60	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	mco 95%o 5% m	0.10

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co, inc

**1-12s-20w Ellis,KS**

250 N Water  
Wichita, KS 67202

**Rusco - Davis #4-1**

Job Ticket: 47674

**DST#: 5**

ATTN: Jeff Lawler

Test Start: 2022.02.12 @ 05:40:00

## Tool Information

Drill Pipe:	Length: 3588.00 ft	Diameter: 3.80 inches	Volume: 50.33 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3634.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	51.00 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			3604.00	
Shut In Tool	5.00			3609.00	
Hydraulic tool	5.00			3614.00	
Jars	5.00			3619.00	
EM Tool	3.00			3622.00	
Safety Joint	3.00			3625.00	
Packer	5.00			3630.00	31.00 Bottom Of Top Packer
Packer	4.00			3634.00	
Stubb	1.00			3635.00	
Recorder	0.00	8368	Inside	3635.00	
Recorder	0.00	8320	Outside	3635.00	
Perforations	16.00			3651.00	
Bullnose	3.00			3654.00	20.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co, inc

**1-12s-20w Ellis,KS**

250 N Water  
Wichita, KS 67202

**Rusco - Davis #4-1**

Job Ticket: 47674

**DST#: 5**

ATTN: Jeff Lawler

Test Start: 2022.02.12 @ 05:40:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	mco 95%o 5%m	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

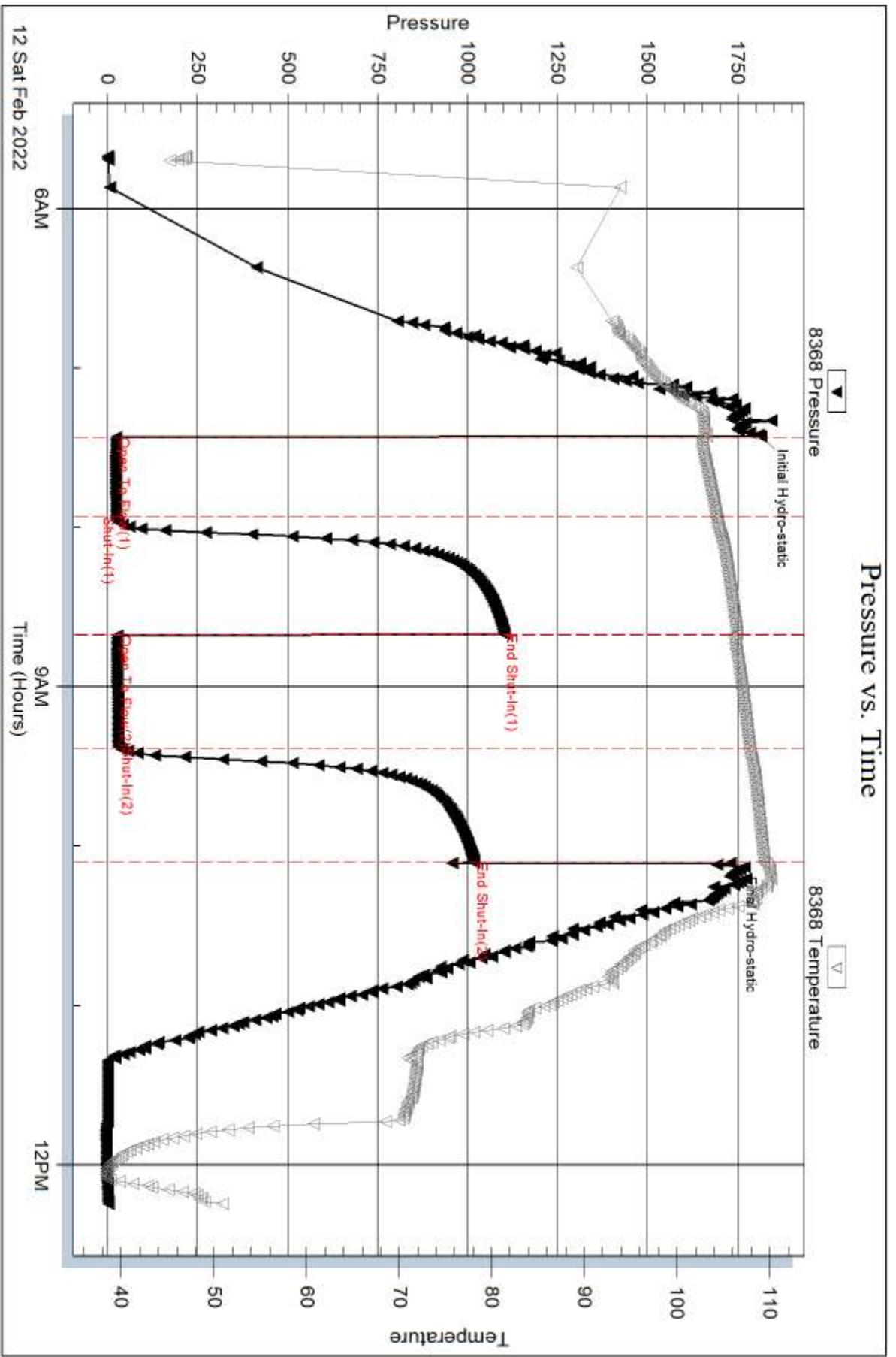
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1# LCM

5% MUD 95%OIL

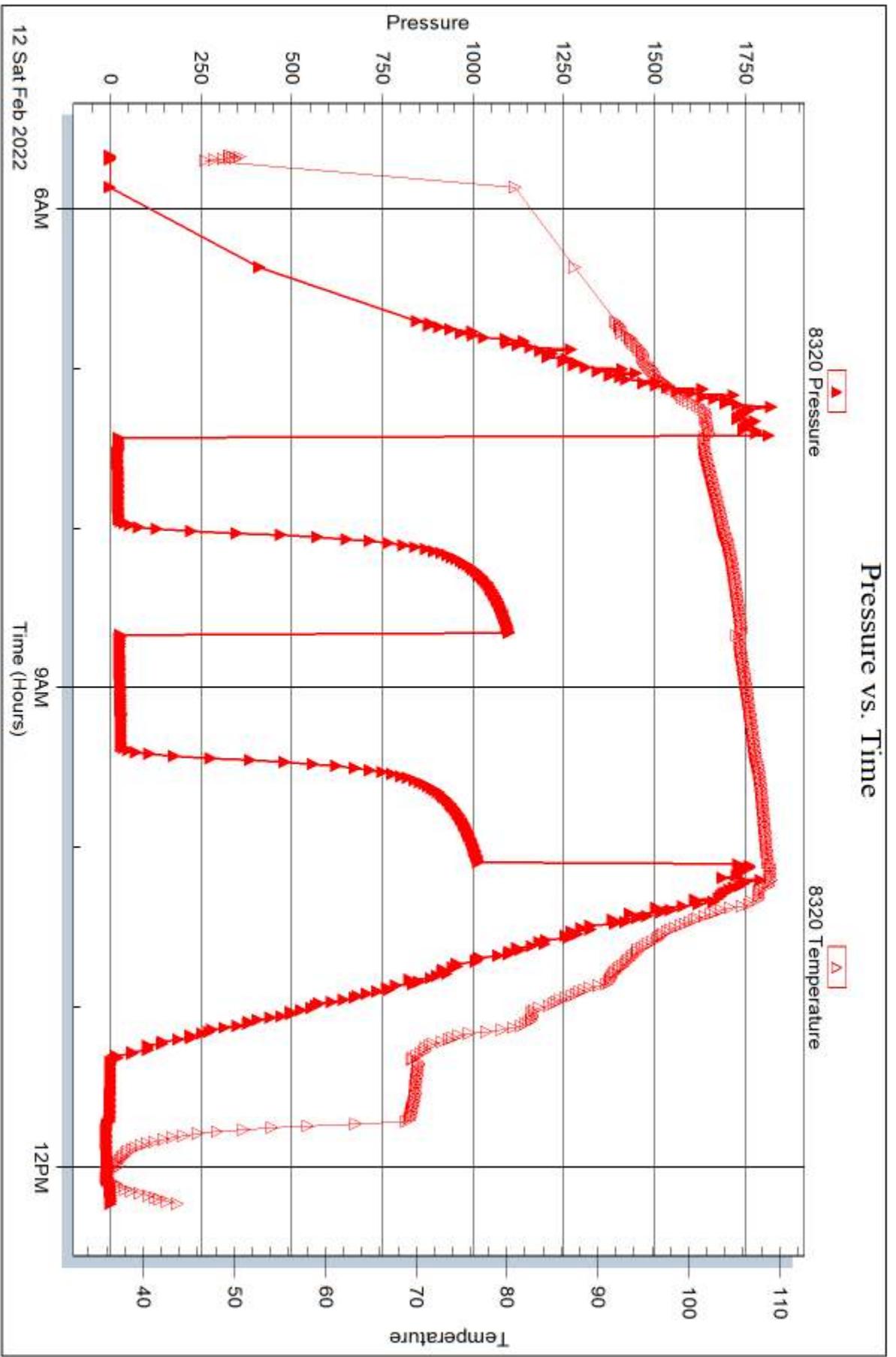


Serial #: 8320

Outside Murfin Drilling Co, inc

Rusco - Davis #4-1

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 47674

Printed: 2022.02.15 @ 10:50:28



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, inc**

250 N Water  
Wichita, KS 67202

ATTN: Jeff Lawler

### **Rusco - Davis #4-1**

### **1-12s-20w Ellis,KS**

Start Date: 2022.02.12 @ 17:20:00

End Date: 2022.02.13 @ 00:51:30

Job Ticket #: 59477                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.02.15 @ 10:42:47



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co, inc  
250 N Water  
Wichita, KS 67202  
ATTN: Jeff Lawler

**1-12s-20w Ellis,KS**

**Rusco - Davis #4-1**

Job Ticket: 59477

**DST#: 6**

Test Start: 2022.02.12 @ 17:20:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:26:30

Time Test Ended: 00:51:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Terry Wickham

Unit No: 75

**Interval: 3654.00 ft (KB) To 3664.00 ft (KB) (TVD)**

Reference Elevations: 2050.00 ft (KB)

Total Depth: 3664.00 ft (KB) (TVD)

2045.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8368**

**Inside**

Press@RunDepth: 42.13 psig @ 3655.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.02.12

End Date:

2022.02.13

Last Calib.: 2022.02.13

Start Time: 17:20:05

End Time:

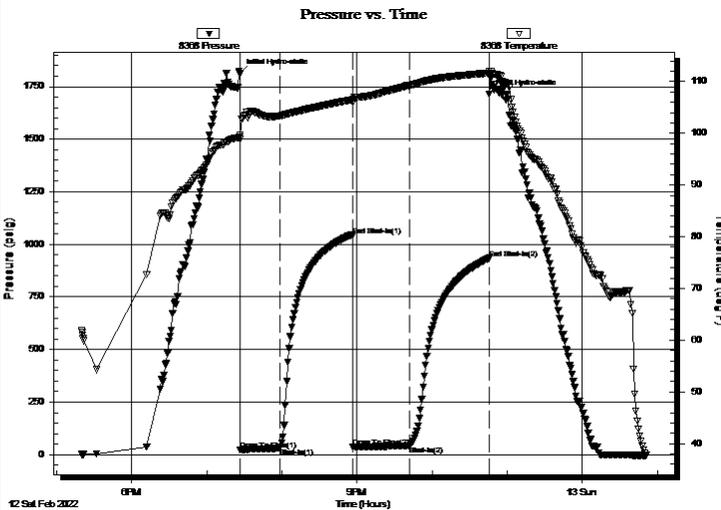
00:51:29

Time On Btm: 2022.02.12 @ 19:26:15

Time Off Btm: 2022.02.12 @ 22:45:45

TEST COMMENT: IF-30 2 1/2" blow  
ISI-60 no return  
FF-45 2" blow  
FSI- 60 no return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1812.12	99.31	Initial Hydro-static
1	21.29	98.79	Open To Flow (1)
32	31.48	103.38	Shut-In(1)
91	1040.12	106.51	End Shut-In(1)
91	38.08	106.08	Open To Flow (2)
136	42.13	109.23	Shut-In(2)
200	934.19	111.63	End Shut-In(2)
200	1713.39	112.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	MCO 95% O 5%M	0.56

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co, inc

**1-12s-20w Ellis,KS**

250 N Water  
Wichita, KS 67202

**Rusco - Davis #4-1**

Job Ticket: 59477

**DST#: 6**

ATTN: Jeff Lawler

Test Start: 2022.02.12 @ 17:20:00

## Tool Information

Drill Pipe:	Length: 3608.00 ft	Diameter: 3.80 inches	Volume: 50.61 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3654.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	41.00 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			3624.00	
Shut In Tool	5.00			3629.00	
Hydraulic tool	5.00			3634.00	
Jars	5.00			3639.00	
EM Tool	3.00			3642.00	
Safety Joint	3.00			3645.00	
Packer	5.00			3650.00	31.00 Bottom Of Top Packer
Packer	4.00			3654.00	
Stubb	1.00			3655.00	
Recorder	0.00	8368	Inside	3655.00	
Recorder	0.00	8320	Outside	3655.00	
Perforations	6.00			3661.00	
Bullnose	3.00			3664.00	10.00 Bottom Packers & Anchor

**Total Tool Length: 41.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co, inc

**1-12s-20w Ellis,KS**

250 N Water  
Wichita, KS 67202

**Rusco - Davis #4-1**

Job Ticket: 59477

**DST#: 6**

ATTN: Jeff Lawler

Test Start: 2022.02.12 @ 17:20:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	MCO 95% O 5%M	0.559

Total Length: 60.00 ft      Total Volume: 0.559 bbl

Num Fluid Samples: 0

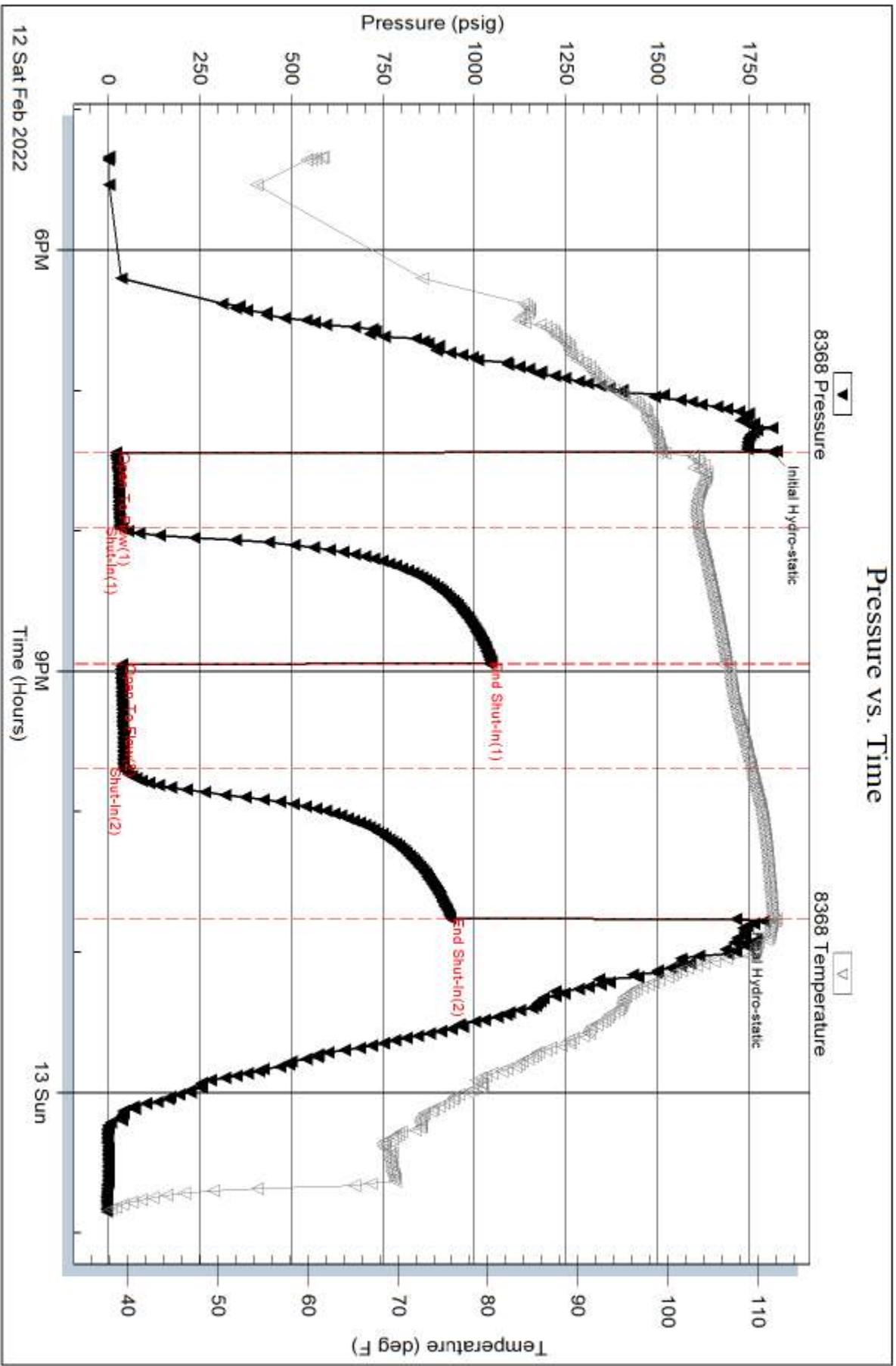
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: gravity 26@40 =28

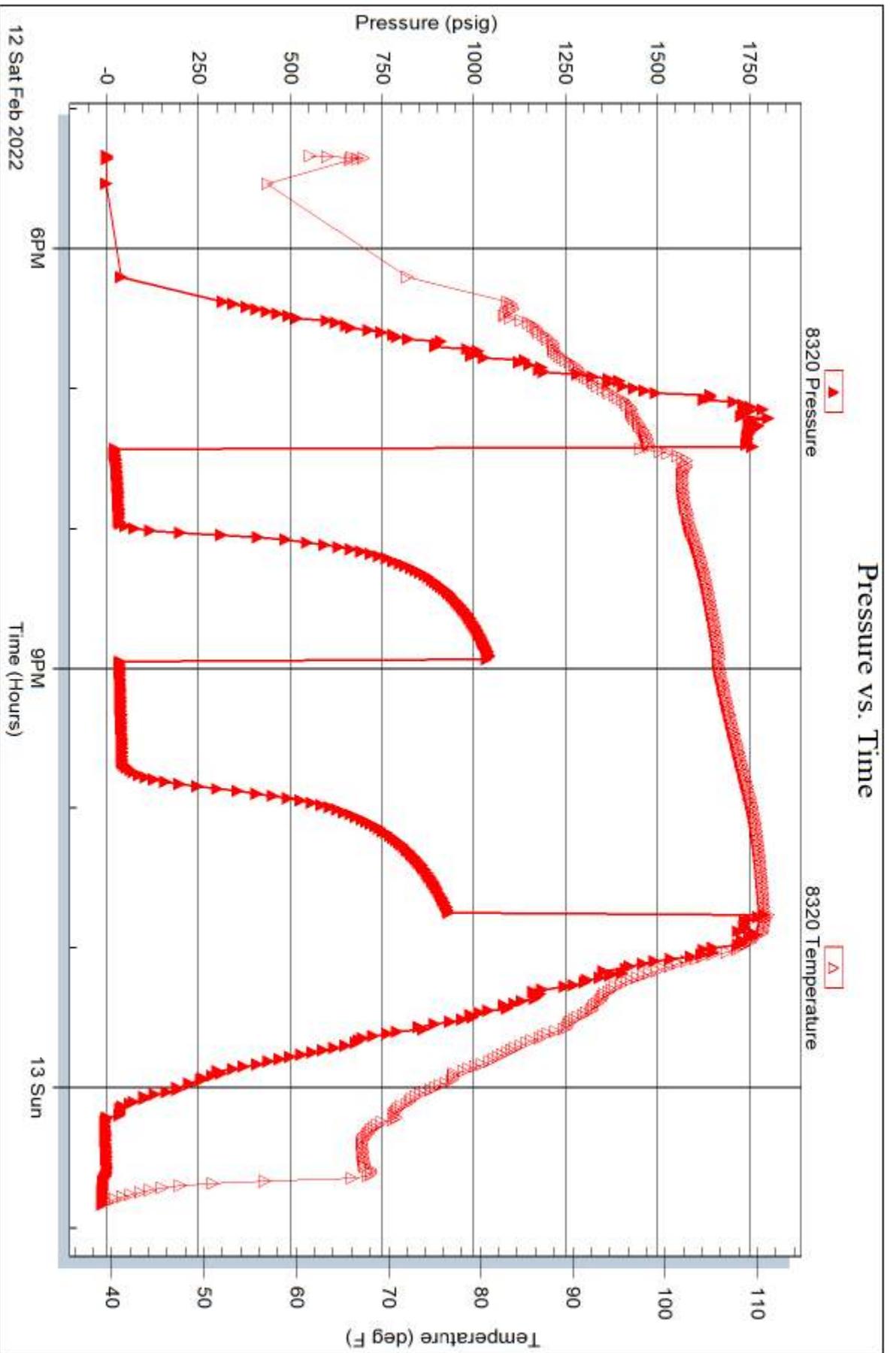


Serial #: 8320

Outside Marfin Drilling Co, inc

Rusco - Davis #4-1

DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 59477

Printed: 2022.02.15 @ 10:42:48

#4-1 Test No. 47 Date Feb 9, 2022  
 Drilling Co. Elevation 2045 KB 2050 GL  
 50 N Water Wichita, KS 67202 + 1214  
 Co. Rep / Geo. Jeff Lawler Rig Martin #16  
 Location: Sec. 1 Twp. 12 Rge. 20 W Co. Ellis State KS

Interval Tested 3330-3387 Zone Tested Lansing A-D  
 Anchor Length 57' Drill Pipe Run 3270 Mud Wt. 8.9  
 Top Packer Depth 3325 Drill Collars Run 31 Vis 63  
 Bottom Packer Depth 3330 Wt. Pipe Run \_\_\_\_\_ WL 58  
 Total Depth 3397 Chlorides 1800 ppm System LCM 2#

Blow Description IF-30 min 2 inch blow  
ISI-45 min No Return  
FF-60 min 1/2 inch blow  
SSI-90 min No Return

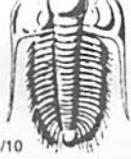
Rec	Feet of	%gas	%oil	%water	%mud
<u>55</u>	<u>Oil spotted mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total \_\_\_\_\_ BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm  
 (A) Initial Hydrostatic 1670  Test 1300 T-On Location 7:10 AM  
 (B) First Initial Flow 24-~~30~~  Jars 250 T-Started 8:22 AM  
 (C) First Final Flow ~~303~~ 39  Safety Joint 75 T-Open 10:40 AM  
 (D) Initial Shut-In ~~40-54~~ 303  Circ Sub \_\_\_\_\_ T-Pulled 14:25 PM  
 (E) Second Initial Flow ~~303~~ 40  Hourly Standby \_\_\_\_\_ T-Out 4:08  
 (F) Second Final Flow 54  Mileage 20 XZ 50 Comments \_\_\_\_\_  
 (G) Final Shut-In 308  Sampler \_\_\_\_\_ EM 350  
 (H) Final Hydrostatic 1545  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 350  
 Day Standby \_\_\_\_\_ Total 2025  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1675

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 60  
 Final Shut-In 90

Approved By \_\_\_\_\_ Our Representative Terry Wickham

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 47672

Well Name & No. Russio - Davis Test No. 2 Date 2/10/2022  
 Company Murfin Drilling Co., Inc. Elevation 2045 KB 2050 GL  
 Address 250 N Water Wichita KS 67202 + 1214  
 Co. Rep / Geo. Left Lawler Rig Murfin 14  
 Location: Sec. 1 Twp. 2 Rge. 20 W Co. Ellis State KS

Interval Tested 3370-3450 Zone Tested D-6  
 Anchor Length 80' Drill Pipe Run \_\_\_\_\_ Mud Wt. 8.9  
 Top Packer Depth 3385 Drill Collars Run \_\_\_\_\_ Vis 63  
 Bottom Packer Depth 3370 Wt. Pipe Run \_\_\_\_\_ WL 58  
 Total Depth 3450 Chlorides 1800 ppm System LCM 2#  
 Blow Description Miss Run - Packer Failure

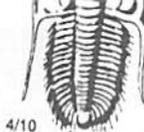
Rec	Feet of	%gas	%oil	%water	%mud
<u>120</u>	<u>Mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

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

(A) Initial Hydrostatic \_\_\_\_\_  Test 1050 \_\_\_\_\_ T-On Location 2:50 AM  
 (B) First Initial Flow \_\_\_\_\_  Jars 250 \_\_\_\_\_ T-Started 3:10 AM  
 (C) First Final Flow \_\_\_\_\_  Safety Joint 75 \_\_\_\_\_ T-Open 5:10 AM  
 (D) Initial Shut-In \_\_\_\_\_  Circ Sub \_\_\_\_\_ T-Pulled 6:00 AM  
 (E) Second Initial Flow \_\_\_\_\_  Hourly Standby \_\_\_\_\_ T-Out 8:02 AM  
 (F) Second Final Flow \_\_\_\_\_  Mileage 20 XZ 50 \_\_\_\_\_ Comments \_\_\_\_\_  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic \_\_\_\_\_  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Open \_\_\_\_\_  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In \_\_\_\_\_  Extra Recorder \_\_\_\_\_ Sub Total \_\_\_\_\_  
 Final Flow \_\_\_\_\_  Day Standby \_\_\_\_\_ Total 1425  
 Final Shut-In \_\_\_\_\_  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1425

Approved By \_\_\_\_\_ Our Representative Terry

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.



Well Name & No. Rusco Davis Test No. 3 Date 2-10-2022  
 Company Murkin Drilling Co., Inc. Elevation 2045 KB 2050 GL  
 Address 250 N Water Wichita, KS 67202-1214  
 Co. Rep / Geo. Jeff Lawler Rig Murkin # 2  
 Location: Sec. 1 Twp. 2 Rge. 20W Co. Ellis State KS

Interval Tested 3340 - 3450 Zone Tested Lansing D-6  
 Anchor Length 70' Drill Pipe Run 3333 Mud Wt. 9.2  
 Top Packer Depth 3375 Drill Collars Run 31 Vis 57  
 Bottom Packer Depth 3380 Wt. Pipe Run ~~5500~~ WL 5.8  
 Total Depth 3450 Chlorides 55,000 ppm System LCM 4800  
 Blow Description FG - 30 min 5 1/2" Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>105'</u>	<u>WM</u>		<u>40</u>	<u>60</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 \_\_\_\_\_ BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1696  Test 1300 T-On Location \_\_\_\_\_  
 (B) First Initial Flow 42  Jars 250 T-Started 8:16  
 (C) First Final Flow 63  Safety Joint 75 T-Open 10:15  
 (D) Initial Shut-In 292  Circ Sub \_\_\_\_\_ T-Pulled 1400  
 (E) Second Initial Flow 71  Hourly Standby \_\_\_\_\_ T-Out 1600  
 (F) Second Final Flow 96  Mileage 20X2 Comments \_\_\_\_\_  
 (G) Final Shut-In 306  Sampler \_\_\_\_\_ EM 350  
 (H) Final Hydrostatic 1645  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 350  
 Day Standby \_\_\_\_\_ Total 1975  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1625

Approved By \_\_\_\_\_ Our Representative Terry

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

TEST TICKET

NO. 47674

Well Name & No. Rosco-Davis Test No. 4 Date 2-11-22  
 Company Murfin Drilling Co. Inc. Elevation 2045 KB 2050 GL  
 Address 250 N Water Wichita, Ks 67202-1216  
 Co. Rep / Geo. Jeff Lawler Rig Murfin #16  
 Location: Sec. 1 Twp. 2 Rge. 20 W Co. Ellis State Kansas

Interval Tested 3485 - 3560 Zone Tested L/KC I-K  
 Anchor Length 75' Drill Pipe Run \_\_\_\_\_ Mud Wt. \_\_\_\_\_  
 Top Packer Depth 3480 Drill Collars Run 31 Vis \_\_\_\_\_  
 Bottom Packer Depth 3485 Wt. Pipe Run - WL \_\_\_\_\_  
 Total Depth \_\_\_\_\_ Chlorides \_\_\_\_\_ ppm System \_\_\_\_\_ LCM \_\_\_\_\_

Blow Description IS-30 min 1" Blow  
ISI-60 min No Return  
FS-30 min flush tool - Packer Failure - Reset Packers no blow  
ISI-60 min - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>345</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 \_\_\_\_\_ BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic \_\_\_\_\_  Test 1300  
 (B) First Initial Flow \_\_\_\_\_  Jars 250  
 (C) First Final Flow \_\_\_\_\_  Safety Joint 75  
 (D) Initial Shut-In \_\_\_\_\_  Circ Sub \_\_\_\_\_  
 (E) Second Initial Flow \_\_\_\_\_  Hourly Standby \_\_\_\_\_  
 (F) Second Final Flow \_\_\_\_\_  Mileage 20 x 2 50  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic \_\_\_\_\_  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Sub Total 1675

T-On Location 7:10 AM  
 T-Started 9:50  
 T-Open 10:54  
 T-Pulled 1:55  
 T-Out 4:10  
 Comments \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 350  
 Total 2025  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Terry  
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Well Name & No. ~~77664~~ Rusco Davis Test No. 5 Date 2-12-22  
 Company Martin Drilling Co. Elevation 2045 KB 2050 GL  
 Address 250 N Water Wichita, KS 67202-1210  
 Co. Rep / Geo. Jeff Leuber Rig Martin #16  
 Location: Sec. 1 Twp. 2 Rge. 20w Co. Ellis State KS

Interval Tested 3634-3654 Zone Tested Arbuckle  
 Anchor Length 20' Drill Pipe Run 3588 Mud Wt. 9.3  
 Top Packer Depth 3626 Drill Collars Run 31 Vis 54  
 Bottom Packer Depth 3634 Wt. Pipe Run \_\_\_\_\_ WL 6.0  
 Total Depth 3654 Chlorides 4500 ppm System LCM 1#

Blow Description IF - 30min - 1 1/2" Blow  
ISI - 45min - No Return  
FF - 30min Weak Blow - Died  
FSI - 45min No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>MO</u>	<u>0/5</u>		<u>5</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 20 BHT \_\_\_\_\_ Gravity 28 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm  
 (A) Initial Hydrostatic 1815  Test 1300  
 (B) First Initial Flow 24  Jars 250  
 (C) First Final Flow 24  Safety Joint 75  
 (D) Initial Shut-In 1102  Circ Sub \_\_\_\_\_  
 (E) Second Initial Flow 28  Hourly Standby \_\_\_\_\_  
 (F) Second Final Flow 32  Mileage 40 50  
 (G) Final Shut-In 1018  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1730  Straddle \_\_\_\_\_

T-On Location 4:10  
 T-Started 5:40  
 T-Open 7:25  
 T-Pulled 10:05  
 T-Out \_\_\_\_\_  
 Comments \_\_\_\_\_  
 \_\_\_\_\_ EM 350 NS  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1675  
 MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 30  
 Final Shut-In 45

Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1675

Approved By \_\_\_\_\_ Our Representative Terry Wickham  
 Triobite Testing Inc. shall not be liable for damaged or 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. 59477

4/10

Well Name & No. Rusco Davis #4-1 Test No. 6 Date 2-12-22  
 Company Martin Drly Co., Inc. Elevation 2045 KB 2050 GL  
 Address 250 N Water Wichita, KS 67202-1210  
 Co. Rep / Geo. Jeff Lawler Rig Martin Rig 16  
 Location: Sec. 1 Twp. 2 Rge. 20W Co. Ellis State Kansas

Interval Tested 3654 - 3664 Zone Tested Arbuckle  
 Anchor Length 10' Drill Pipe Run 3608 Mud Wt. 9.3  
 Top Packer Depth 3649 Drill Collars Run 31 Vis 54  
 Bottom Packer Depth 3654 Wt. Pipe Run 744 WL 610  
 Total Depth 3664 Chlorides 4500 ppm System LCM 1#  
 Blow Description FS - 30 min - 2 1/2 inches  
ISI - 60 min - No Return  
FT - 45 min - 2 inches  
FSI - 60 min - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>MCO</u>	<u>95</u>		<u>5</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 \_\_\_\_\_ BHT \_\_\_\_\_ Gravity 28 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1812  Test 1300 T-On Location 5:10  
 (B) First Initial Flow 21  Jars 250 T-Started 5:20  
 (C) First Final Flow 31  Safety Joint 75 T-Open 8:10  
 (D) Initial Shut-In 1040  Circ Sub \_\_\_\_\_ T-Pulled 11:25  
 (E) Second Initial Flow 38  Hourly Standby \_\_\_\_\_ T-Out 6:35  
 (F) Second Final Flow 42  Mileage 40 50 Comments \_\_\_\_\_  
 (G) Final Shut-In 934  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1713  Straddle \_\_\_\_\_ EM 350 NS  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Packer \_\_\_\_\_  
 Final Flow 45  Extra Recorder \_\_\_\_\_  
 Final Shut-In 60  Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1675 Total 1675 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Terry  
 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.