

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
--	---

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
---	---	------------------------------------

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:	
----------------	-------	---------	------------	--

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	KELLER 'B' 1-36
Doc ID	1636197

All Electric Logs Run

DIL
DUCP
MEL
BHCS

DRILLING REPORT - LOG TOPS - KELLER B 1-36

MDCI
 Keller 'B' #1-36
 1320FSL 500FEL
 Sec. 36-T2S-R39W
 3409' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	3284	+125	+17	3287	+122	+14
B/Anhydrite	3311	+98	+20	3313	+96	+18
Topeka	4103	-694	+4	4104	-695	+3
Oread	4236	-827	+8	4244	-835	Flat
Lansing	4313	-904	+3	4316	-907	Flat
Stark	4548	-1139	+8	4550	-1141	+6
Mound City	4616	-1206	+6	4616	-1207	+6
Ft Scott	4730	-1321	+19	4732	-1323	+17
Oakley	4810	-1401	+19	4812	-1403	+17
Mississippian				5090	-1681	+23
RTD	5200					
LTD				5204		



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Wes Hansen

Keller 'B' #1-36

36-2s-39w Cheyenne,KS

Start Date: 2022.01.19 @ 16:36:00

End Date: 2022.01.20 @ 00:44:21

Job Ticket #: 68609 DST #: 1

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

Printed: 2022.01.24 @ 11:32:03



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water STE 300
Wichita, KS 67202
ATTN: Wes Hansen

36-2s-39w Cheyenne,KS

Keller 'B' #1-36

Job Ticket: 68609

DST#: 1

Test Start: 2022.01.19 @ 16:36:00

GENERAL INFORMATION:

Formation: **LKC "A - D"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 19:00:51
 Tester: James Winder
 Time Test Ended: 00:44:21
 Unit No: 73
 Interval: **4270.00 ft (KB) To 4420.00 ft (KB) (TVD)**
 Reference Elevations: 3409.00 ft (KB)
 Total Depth: 4420.00 ft (KB) (TVD)
 3404.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 5.00 ft

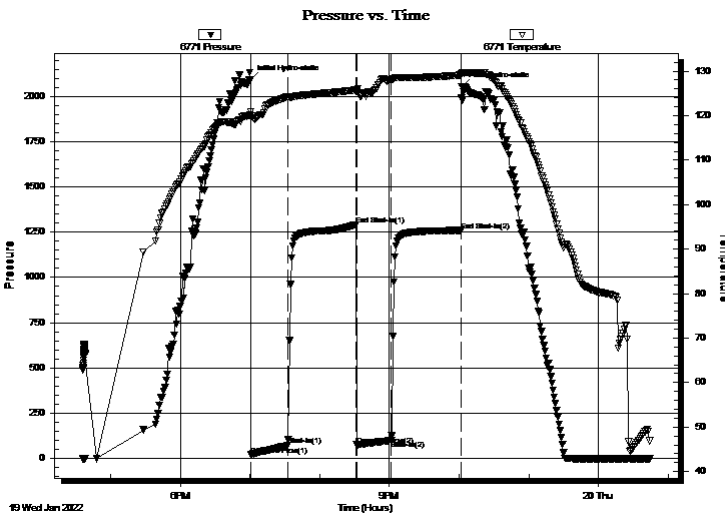
Serial #: 6771

Inside

Press@RunDepth: 100.82 psig @ 4271.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.01.19 End Date: 2022.01.20 Last Calib.: 2022.01.20
 Start Time: 16:36:01 End Time: 00:44:21 Time On Btm: 2022.01.19 @ 19:00:36
 Time Off Btm: 2022.01.19 @ 22:02:06

TEST COMMENT: 30 - IF: Blow built to 4 1/4" (Diesel in bucket)
 60 - IS: No blow back
 30 - FF: Blow built to 3 1/2"
 60 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2093.63	120.84	Initial Hydro-static
1	20.23	119.94	Open To Flow (1)
32	72.27	124.20	Shut-In(1)
91	1290.81	125.75	End Shut-In(1)
91	75.33	125.41	Open To Flow (2)
121	100.82	127.91	Shut-In(2)
181	1259.93	129.11	End Shut-In(2)
182	2053.01	129.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
170.00	Mud 100%	1.33

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water STE 300
Wichita, KS 67202
ATTN: Wes Hansen

36-2s-39w Cheyenne,KS

Keller 'B' #1-36

Job Ticket: 68609

DST#: 1

Test Start: 2022.01.19 @ 16:36:00

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:00:51

Time Test Ended: 00:44:21

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 73

Interval: 4270.00 ft (KB) To 4420.00 ft (KB) (TVD)

Total Depth: 4420.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3409.00 ft (KB)

3404.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8367

Outside

Press@RunDepth: psig @ 4271.00 ft (KB)

Start Date: 2022.01.19

End Date:

2022.01.20

Start Time: 16:36:01

End Time:

00:44:06

Capacity: 8000.00 psig

Last Calib.: 2022.01.20

Time On Btm:

Time Off Btm:

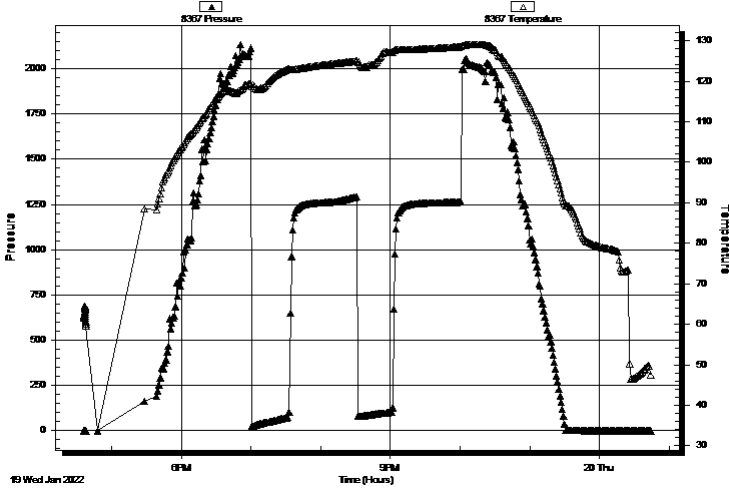
TEST COMMENT: 30 - IF: Blow built to 4 1/4" (Diesel in bucket)

60 - IS: No blow back

30 - FF: Blow built to 3 1/2"

60 - FS: No blow back

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
170.00	Mud 100%	1.33

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

36-2s-39w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Keller 'B' #1-36

Job Ticket: 68609

DST#: 1

ATTN: Wes Hansen

Test Start: 2022.01.19 @ 16:36:00

Tool Information

Drill Pipe:	Length: 4142.00 ft	Diameter: 3.80 inches	Volume: 58.10 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 116.00 ft	Diameter: 2.25 inches	Volume: 0.57 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 58.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4270.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	150.00 ft			
Tool Length:	183.00 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			4238.00	
Shut In Tool	5.00			4243.00	
Hydraulic tool	5.00			4248.00	
Jars	5.00			4253.00	
EM Tool	4.00			4257.00	
Safety Joint	3.00			4260.00	
Packer	5.00			4265.00	33.00 Bottom Of Top Packer
Packer	5.00			4270.00	
Stubb	1.00			4271.00	
Recorder	0.00	6771	Inside	4271.00	
Recorder	0.00	8367	Outside	4271.00	
Perforations	19.00			4290.00	
Blank Spacing	127.00			4417.00	
Bullnose	3.00			4420.00	150.00 Bottom Packers & Anchor

Total Tool Length: 183.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

36-2s-39w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Keller 'B' #1-36

Job Ticket: 68609

DST#: 1

ATTN: Wes Hansen

Test Start: 2022.01.19 @ 16:36:00

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: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
170.00	Mud 100%	1.328

Total Length: 170.00 ft Total Volume: 1.328 bbl

Num Fluid Samples: 0

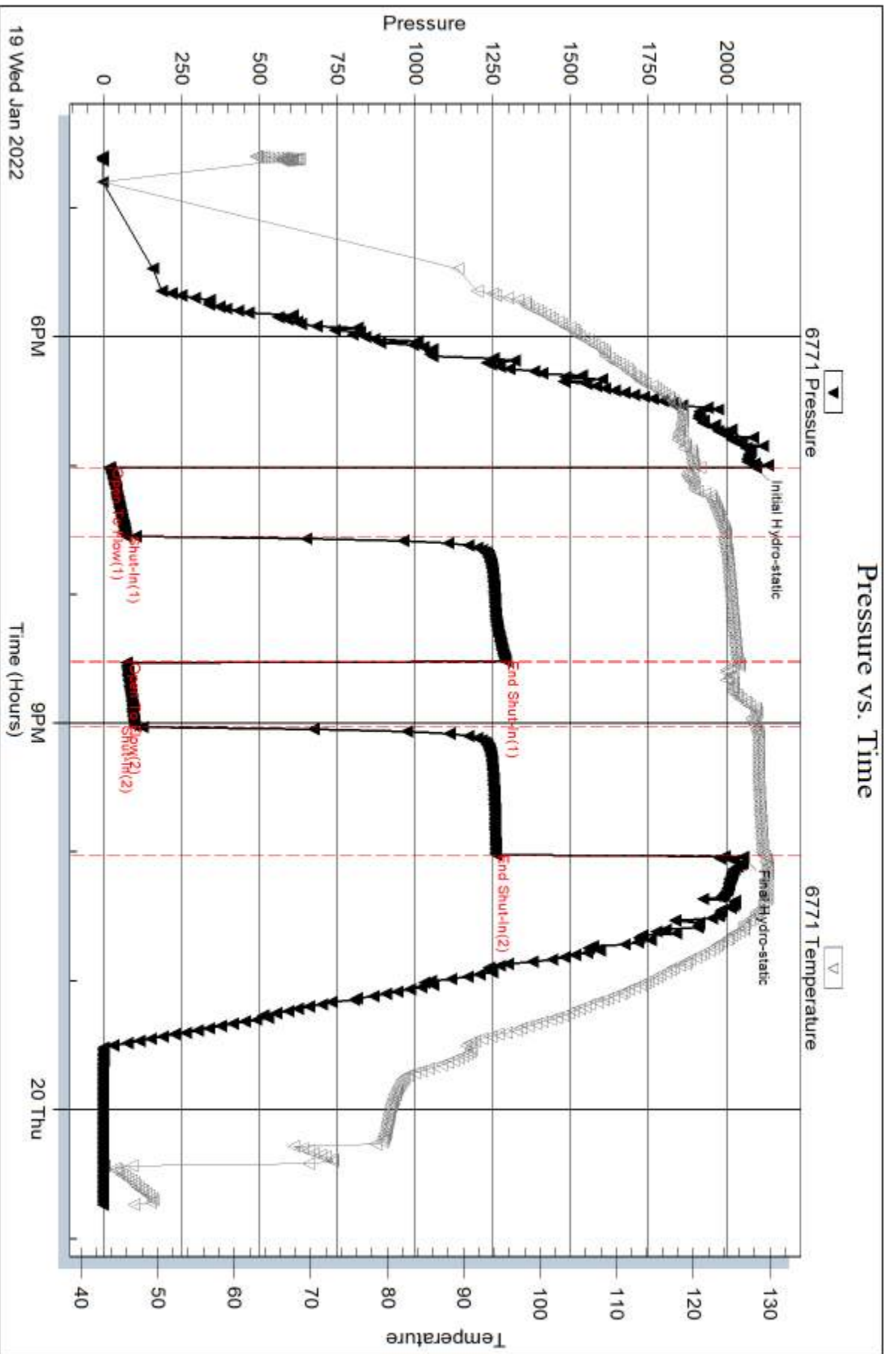
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

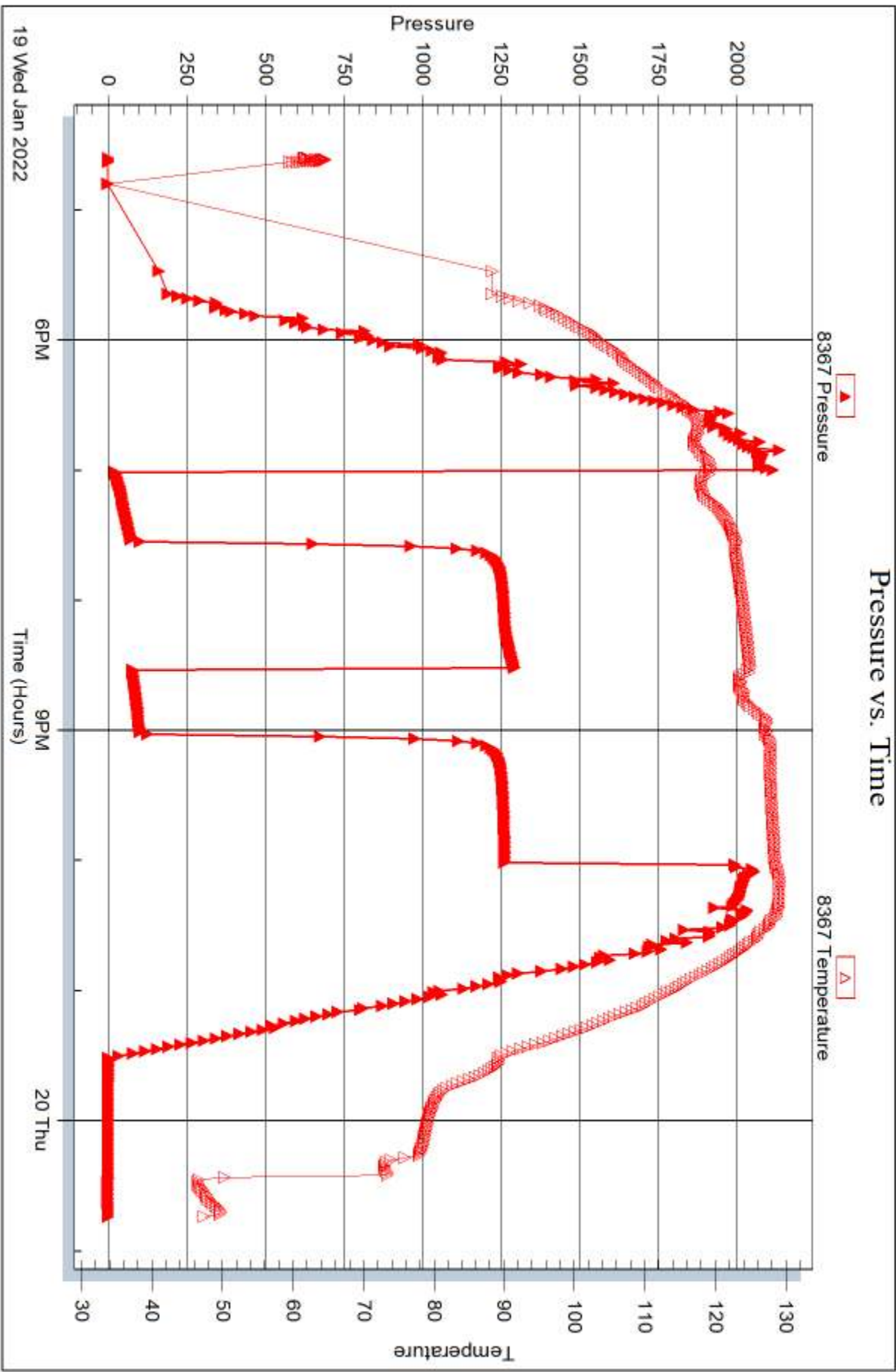


Serial #: 8367

Outside Marfin Drilling Co., Inc.

Keller 'B' #1-36

DST Test Number: 1





DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Wes Hansen

Keller 'B' #1-36

36-2s-39w Cheyenne,KS

Start Date: 2022.01.20 @ 11:08:00

End Date: 2022.01.20 @ 19:00:06

Job Ticket #: 68610 DST #: 2

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

Printed: 2022.01.24 @ 11:28:25



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water STE 300
Wichita, KS 67202
ATTN: Wes Hansen

36-2s-39w Cheyenne,KS

Keller 'B' #1-36

Job Ticket: 68610

DST#: 2

Test Start: 2022.01.20 @ 11:08:00

GENERAL INFORMATION:

Formation: **LKC "G"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:50:51
 Time Test Ended: 19:00:06
 Interval: **4414.00 ft (KB) To 4470.00 ft (KB) (TVD)**
 Total Depth: 4470.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 73
 Reference Elevations: 3409.00 ft (KB)
 3404.00 ft (CF)
 KB to GR/CF: 5.00 ft

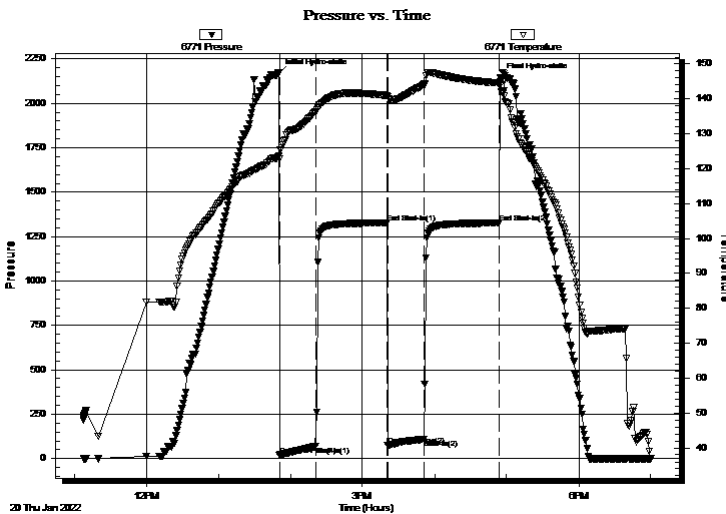
Serial #: 6771

Inside

Press@RunDepth: 109.58 psig @ 4415.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.01.20 End Date: 2022.01.20 Last Calib.: 2022.01.20
 Start Time: 11:08:01 End Time: 19:00:06 Time On Btm: 2022.01.20 @ 13:50:36
 Time Off Btm: 2022.01.20 @ 16:54:36

TEST COMMENT: 30 - IF: Blow built to 2 1/4" (Diesel in bucket)
 60 - IS: No blow back
 30 - FF: Blow built to just under 2"
 60 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2167.53	123.73	Initial Hydro-static
1	20.10	122.86	Open To Flow (1)
31	68.83	136.41	Shut-In(1)
90	1327.42	141.00	End Shut-In(1)
91	73.65	140.61	Open To Flow (2)
121	109.58	143.98	Shut-In(2)
184	1326.64	144.50	End Shut-In(2)
184	2142.38	144.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
116.00	MCW 87%w, 13%m	0.57
89.00	MCW 61%w, 39%m	0.71

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

36-2s-39w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Keller 'B' #1-36

Job Ticket: 68610

DST#: 2

ATTN: Wes Hansen

Test Start: 2022.01.20 @ 11:08:00

GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:50:51

Time Test Ended: 19:00:06

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 73

Interval: 4414.00 ft (KB) To 4470.00 ft (KB) (TVD)

Reference Elevations: 3409.00 ft (KB)

Total Depth: 4470.00 ft (KB) (TVD)

3404.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8367 Outside

Press@RunDepth: psig @ 4415.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.01.20 End Date: 2022.01.20

Last Calib.: 2022.01.20

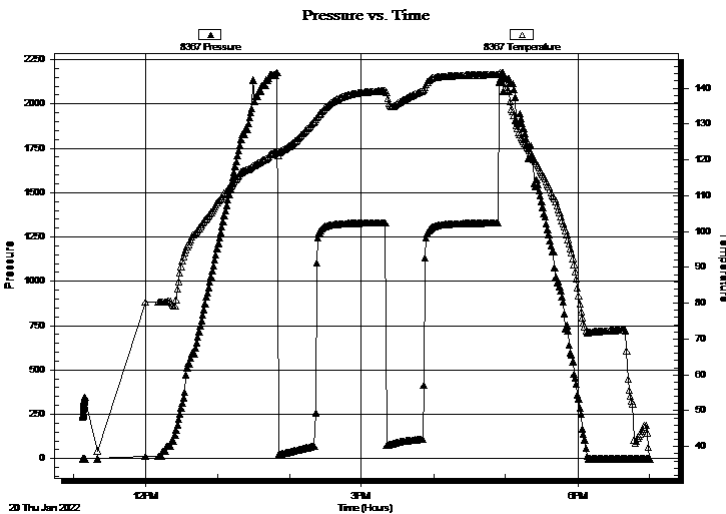
Start Time: 11:08:01 End Time: 19:00:06

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to 2 1/4" (Diesel in bucket)
60 - IS: No blow back
30 - FF: Blow built to just under 2"
60 - FS: No blow back

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
116.00	MCW 87%w, 13%m	0.57
89.00	MCW 61%w, 39%m	0.71

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.

36-2s-39w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Keller 'B' #1-36

Job Ticket: 68610

DST#: 2

ATTN: Wes Hansen

Test Start: 2022.01.20 @ 11:08:00

Tool Information

Drill Pipe:	Length: 4235.00 ft	Diameter: 3.80 inches	Volume: 59.41 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 175.00 ft	Diameter: 2.25 inches	Volume: 0.86 bbl	Weight to Pull Loose: 92000.00 lb
			<u>Total Volume: 60.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4414.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	89.00 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			4382.00	
Shut In Tool	5.00			4387.00	
Hydraulic tool	5.00			4392.00	
Jars	5.00			4397.00	
EM Tool	4.00			4401.00	
Safety Joint	3.00			4404.00	
Packer	5.00			4409.00	33.00 Bottom Of Top Packer
Packer	5.00			4414.00	
Stubb	1.00			4415.00	
Recorder	0.00	6771	Inside	4415.00	
Recorder	0.00	8367	Outside	4415.00	
Perforations	19.00			4434.00	
Blank Spacing	33.00			4467.00	
Bullnose	3.00			4470.00	56.00 Bottom Packers & Anchor

Total Tool Length: 89.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

36-2s-39w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Keller 'B' #1-36

Job Ticket: 68610

DST#: 2

ATTN: Wes Hansen

Test Start: 2022.01.20 @ 11:08:00

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:

22000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
116.00	MCW 87%w , 13%m	0.570
89.00	MCW 61%w , 39%m	0.711

Total Length: 205.00 ft Total Volume: 1.281 bbl

Num Fluid Samples: 0

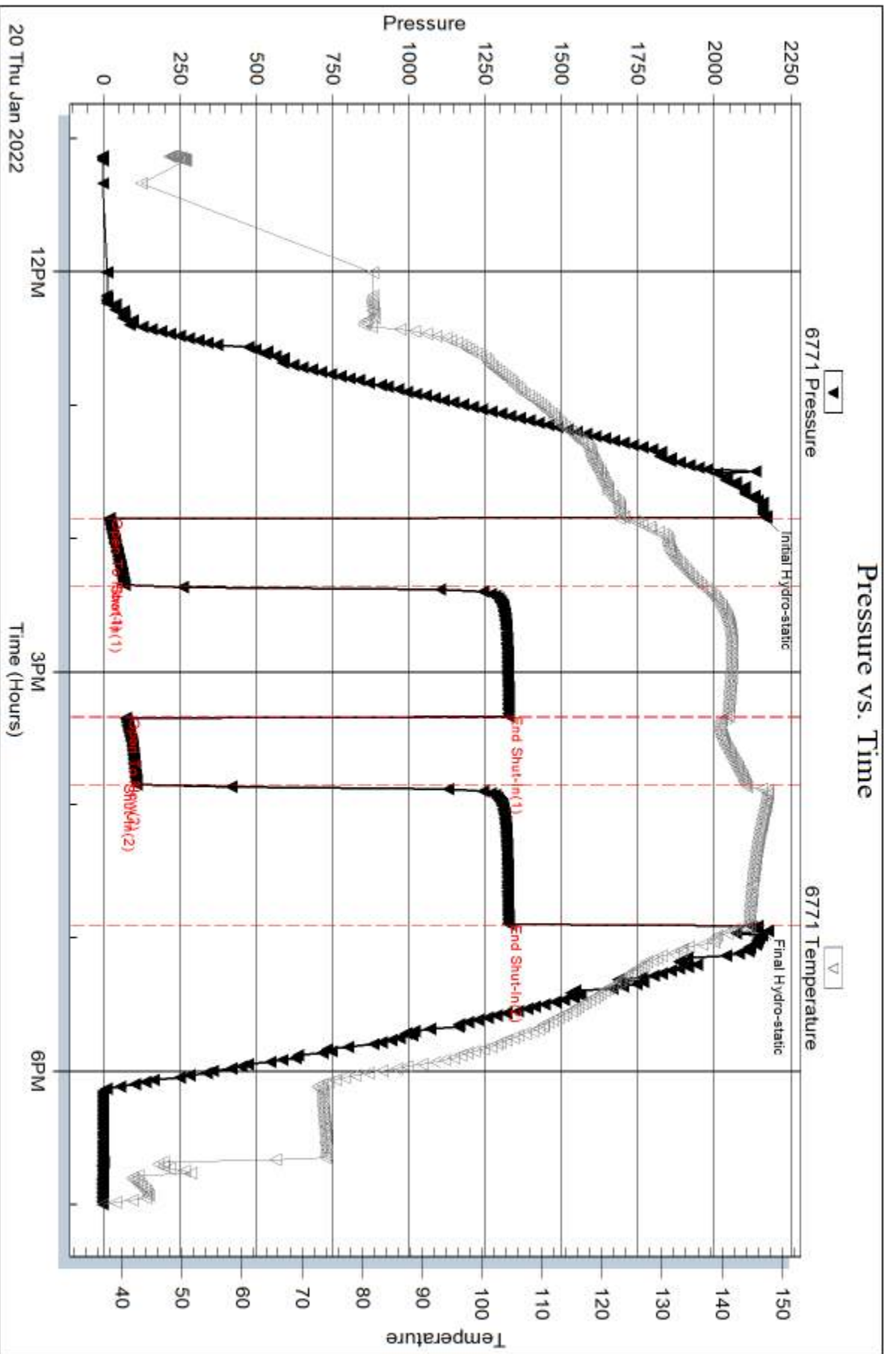
Num Gas Bombs: 0

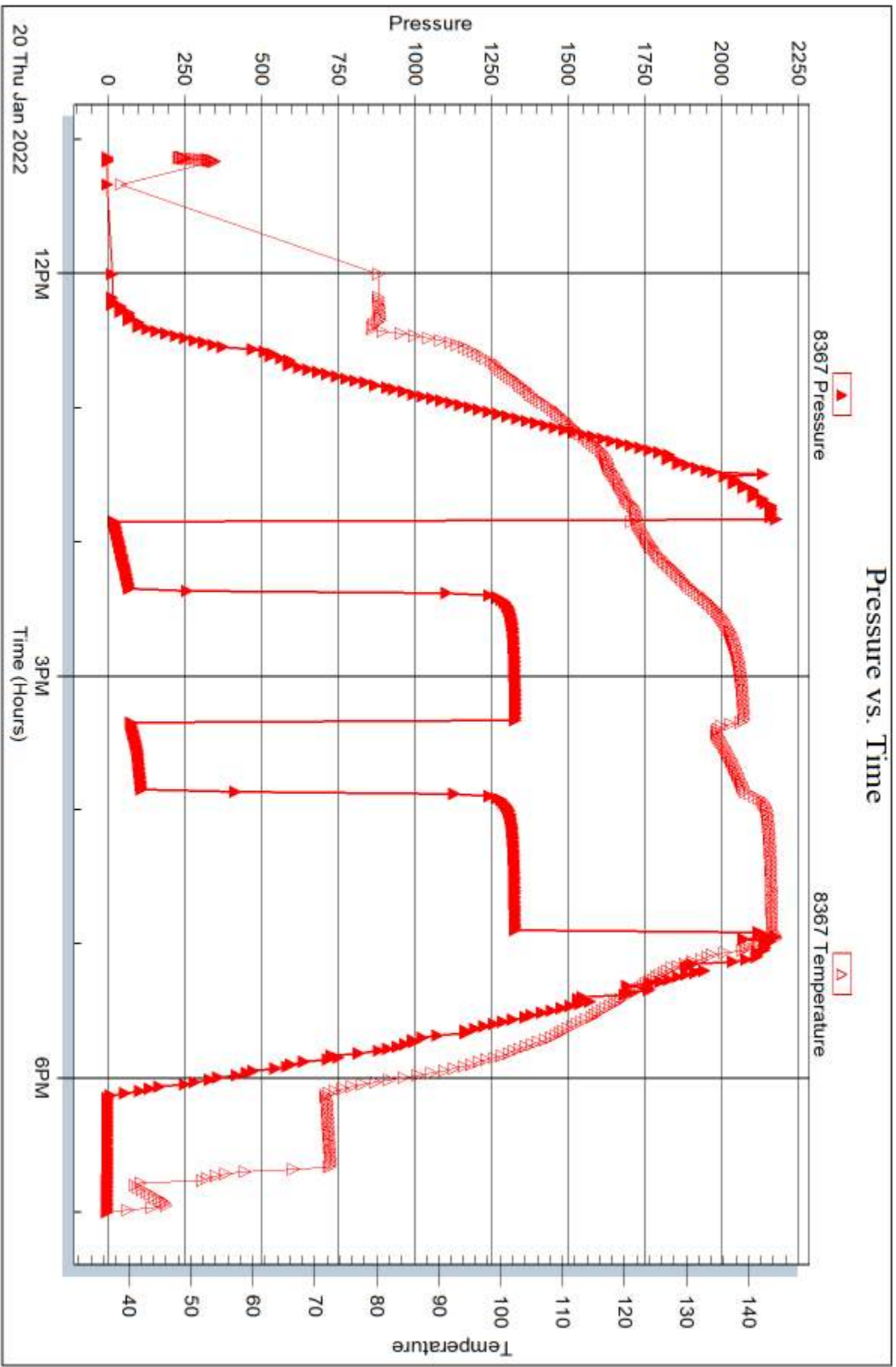
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .435 ohms @ 51 deg F Chlorides = 22,000 ppm







DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Wes Hansen

Keller 'B' #1-36

36-2s-39w Cheyenne,KS

Start Date: 2022.01.20 @ 20:38:00

End Date: 2022.01.21 @ 04:06:21

Job Ticket #: 68611 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.01.24 @ 11:25:45

Murfin Drilling Co., Inc.

36-2s-39w Cheyenne,KS

Keller 'B' #1-36

DST # 3

LKC "H - J"

2022.01.20



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water STE 300
Wichita, KS 67202
ATTN: Wes Hansen

36-2s-39w Cheyenne,KS

Keller 'B' #1-36

Job Ticket: 68611

DST#: 3

Test Start: 2022.01.20 @ 20:38:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 23:06:51
 Tester: James Winder
 Time Test Ended: 04:06:21
 Unit No: 73
 Interval: **4460.00 ft (KB) To 4550.00 ft (KB) (TVD)**
 Reference Elevations: 3409.00 ft (KB)
 Total Depth: 4550.00 ft (KB) (TVD)
 3404.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 5.00 ft

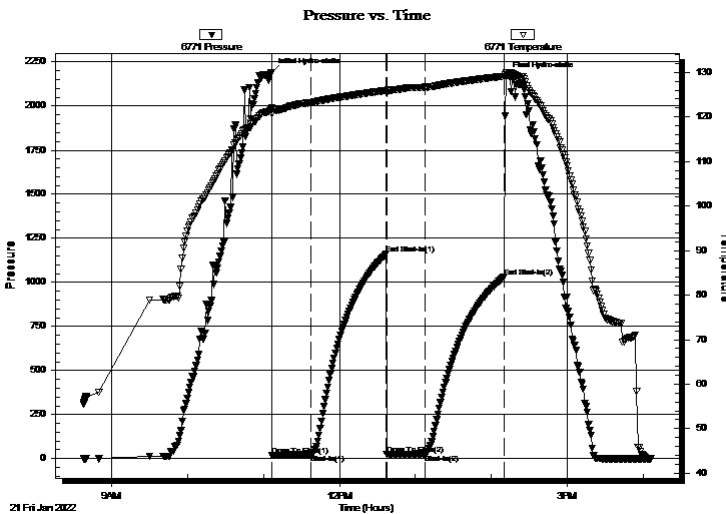
Serial #: 6771

Inside

Press@RunDepth: 26.82 psig @ 4461.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.01.21 End Date: 2022.01.21 Last Calib.: 2022.01.21
 Start Time: 08:38:01 End Time: 16:06:21 Time On Btm: 2022.01.21 @ 11:06:36
 Time Off Btm: 2022.01.21 @ 14:11:36

TEST COMMENT: 30 - IF: 1/2" Blow at open, built slightly then died back to surface blow
 60 - ISI: No blow back (Diesel in bucket)
 30 - FF: Weak surface blow for a bit then dead
 60 - FSI: No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2191.33	122.01	Initial Hydro-static
1	16.75	120.72	Open To Flow (1)
31	22.00	123.21	Shut-In(1)
91	1161.74	125.93	End Shut-In(1)
91	23.97	125.27	Open To Flow (2)
122	26.82	126.66	Shut-In(2)
184	1030.89	129.11	End Shut-In(2)
185	2164.85	129.92	Final Hydro-static

Recovery

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

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water STE 300
Wichita, KS 67202
ATTN: Wes Hansen

36-2s-39w Cheyenne,KS
Keller 'B' #1-36
Job Ticket: 68611 **DST#: 3**
Test Start: 2022.01.20 @ 20:38:00

GENERAL INFORMATION:

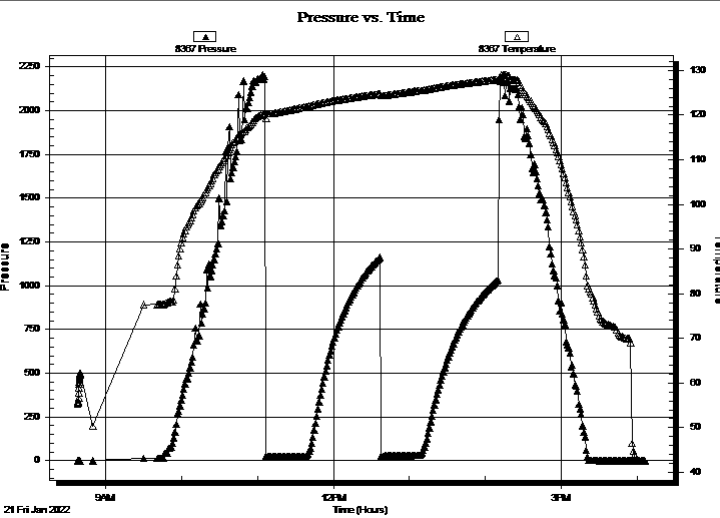
Formation: **LKC "H - J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:06:51
Time Test Ended: 04:06:21
Interval: **4460.00 ft (KB) To 4550.00 ft (KB) (TVD)**
Total Depth: 4550.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 73
Reference Elevations: 3409.00 ft (KB)
3404.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8367

Outside

Press@RunDepth: psig @ 4461.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2022.01.21 End Date: 2022.01.21 Last Calib.: 2022.01.21
Start Time: 08:38:01 End Time: 16:06:06 Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF: 1/2" Blow at open, built slightly then died back to surface blow
60 - IS: No blow back (Diesel in bucket)
30 - FF: Weak surface blow for a bit then dead
60 - FS: No blow



PRESSURE SUMMARY

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

Recovery

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

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

36-2s-39w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Keller 'B' #1-36

Job Ticket: 68611

DST#: 3

ATTN: Wes Hansen

Test Start: 2022.01.20 @ 20:38:00

Tool Information

Drill Pipe:	Length: 4327.00 ft	Diameter: 3.80 inches	Volume: 60.70 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 116.00 ft	Diameter: 2.25 inches	Volume: 0.57 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 61.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4460.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	90.00 ft			
Tool Length:	123.00 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			4428.00	
Shut In Tool	5.00			4433.00	
Hydraulic tool	5.00			4438.00	
Jars	5.00			4443.00	
EM Tool	4.00			4447.00	
Safety Joint	3.00			4450.00	
Packer	5.00			4455.00	33.00 Bottom Of Top Packer
Packer	5.00			4460.00	
Stubb	1.00			4461.00	
Recorder	0.00	6771	Inside	4461.00	
Recorder	0.00	8367	Outside	4461.00	
Perforations	19.00			4480.00	
Blank Spacing	65.00			4545.00	
Perforations	2.00			4547.00	
Bullnose	3.00			4550.00	90.00 Bottom Packers & Anchor

Total Tool Length: 123.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

36-2s-39w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Keller 'B' #1-36

Job Ticket: 68611

DST#: 3

ATTN: Wes Hansen

Test Start: 2022.01.20 @ 20:38:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Mud 100%	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6771

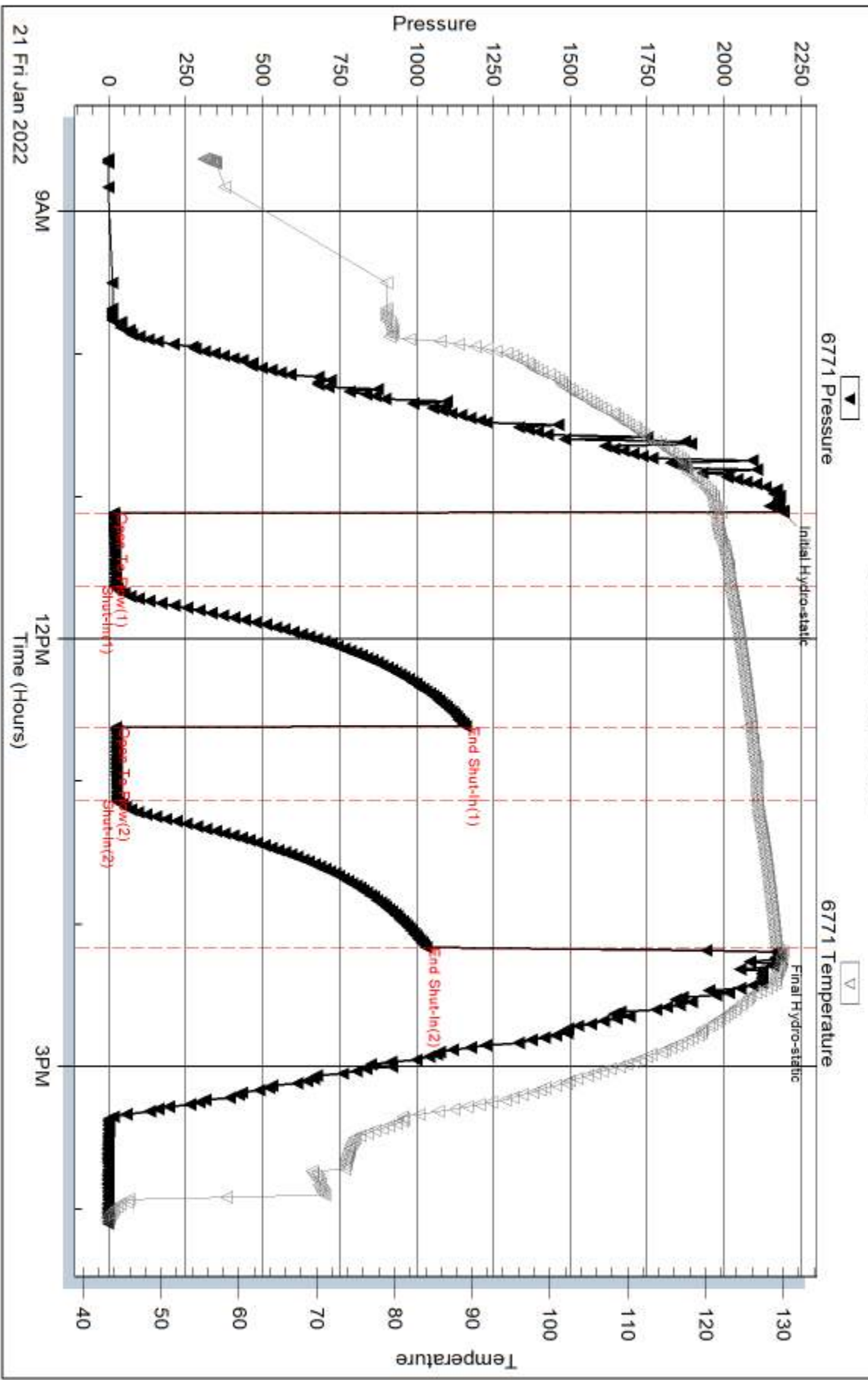
Inside

Murfin Drilling Co., Inc.

Keller 'B' #1-36

DST Test Number: 3

Pressure vs. Time

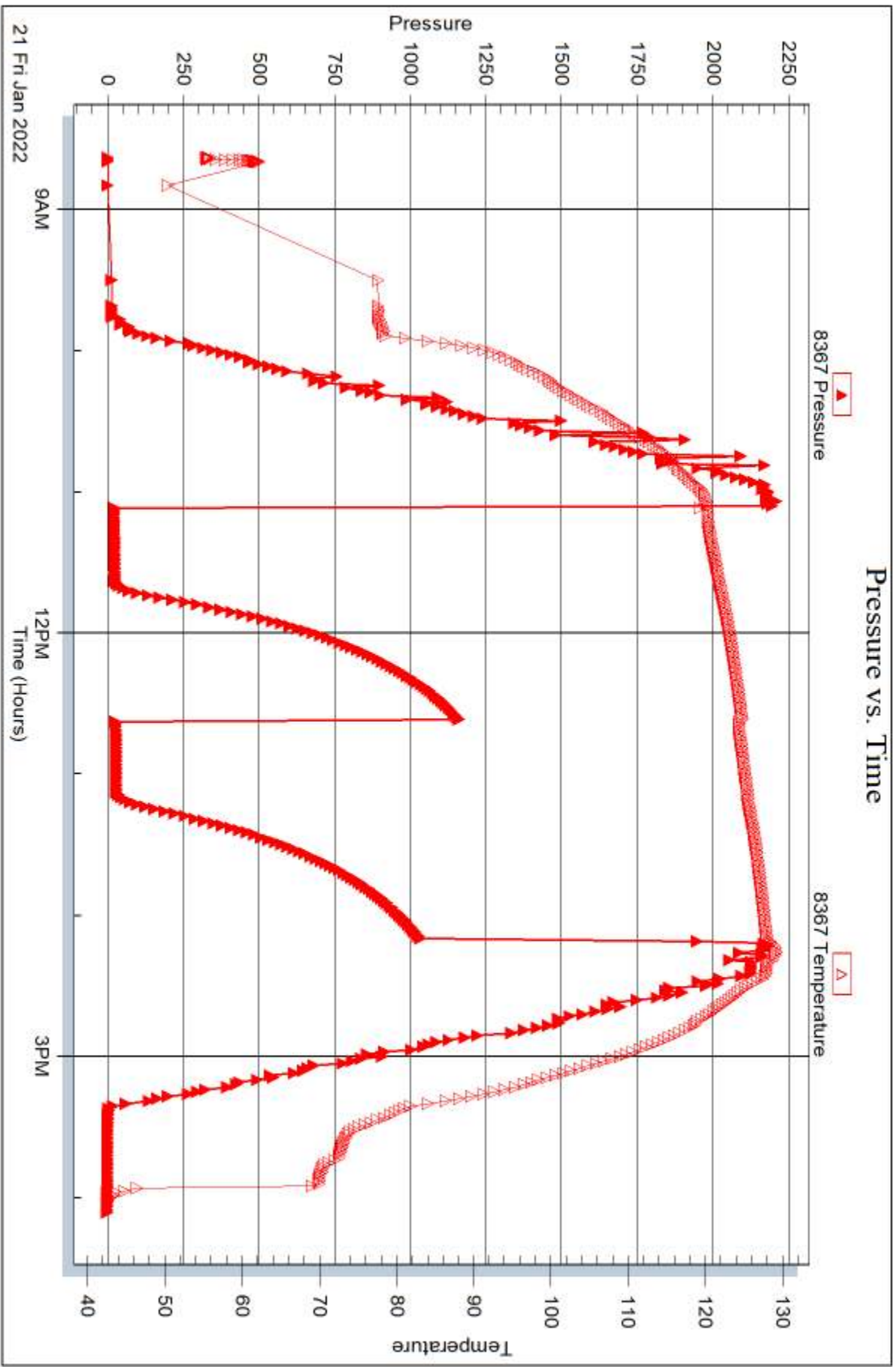


Serial #: 8367

Outside Marfin Drilling Co., Inc.

Keller 'B' #1-36

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 68611

Printed: 2022.01.24 @ 11:25:45



DRILL STEM TEST REPORT

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

250 N. Water STE 300
Wichita, KS 67202

ATTN: Wes Hansen

Keller 'B' #1-36

36-2s-39w Cheyenne KS

Start Date: 2022.01.23 @ 02:11:00

End Date: 2022.01.23 @ 10:48:50

Job Ticket #: 68612 DST #: 4

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

Printed: 2022.01.24 @ 11:06:29



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

36-2s-39w Cheyenne KS

250 N. Water STE 300
Wichita, KS 67202

Keller 'B' #1-36

Job Ticket: 68612

DST#: 4

ATTN: Wes Hansen

Test Start: 2022.01.23 @ 02:11:00

GENERAL INFORMATION:

Formation: **Ft. Scott - Celia**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:15:06

Time Test Ended: 10:48:50

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 73

Interval: 4704.00 ft (KB) To 4850.00 ft (KB) (TVD)

Reference Elevations: 3409.00 ft (KB)

Total Depth: 4850.00 ft (KB) (TVD)

3404.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6771 Inside

Press@RunDepth: 80.06 psig @ 4705.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.01.23

End Date: 2022.01.23

Last Calib.: 2022.01.23

Start Time: 02:11:01

End Time: 10:48:50

Time On Btm: 2022.01.23 @ 04:14:51

Time Off Btm: 2022.01.23 @ 08:15:51

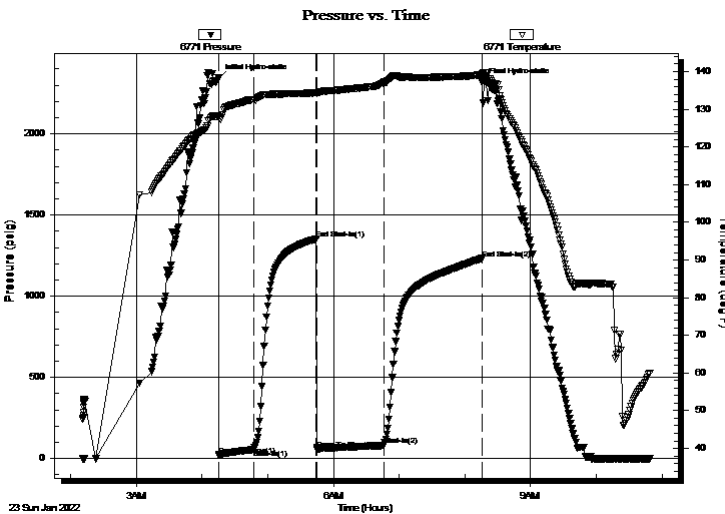
TEST COMMENT: 30 - IF: 3/4" Blow at open, built to 4 1/2" (Diesel in bucket)

60 - IS: Surface blow back

60 - FF: 1/2" Blow at open, built to 4 1/4"

90 - FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2343.15	128.11	Initial Hydro-static
1	22.20	127.71	Open To Flow (1)
32	54.82	132.48	Shut-In(1)
90	1354.36	134.36	End Shut-In(1)
91	57.19	134.37	Open To Flow (2)
151	80.06	137.01	Shut-In(2)
241	1232.92	139.11	End Shut-In(2)
241	2315.53	139.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
116.00	GHMCO 47%o, 32%m, 21%g	0.57
36.00	HOCM 52%m, 45%o, 3%g	0.50
0.00	GIP = 150'	0.00

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.

36-2s-39w Cheyenne KS

250 N. Water STE 300
Wichita, KS 67202

Keller 'B' #1-36

Job Ticket: 68612

DST#: 4

ATTN: Wes Hansen

Test Start: 2022.01.23 @ 02:11:00

Tool Information

Drill Pipe:	Length: 4580.00 ft	Diameter: 3.80 inches	Volume: 64.25 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 116.00 ft	Diameter: 2.25 inches	Volume: 0.57 bbl	Weight to Pull Loose:	95000.00 lb
			<u>Total Volume: 64.82 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	72000.00 lb
Depth to Top Packer:	4704.00 ft			Final	73000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	146.00 ft				
Tool Length:	179.00 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			4672.00	
Shut In Tool	5.00			4677.00	
Hydraulic tool	5.00			4682.00	
Jars	5.00			4687.00	
EM Tool	4.00			4691.00	
Safety Joint	3.00			4694.00	
Packer	5.00			4699.00	33.00 Bottom Of Top Packer
Packer	5.00			4704.00	
Stubb	1.00			4705.00	
Recorder	0.00	6771	Inside	4705.00	
Recorder	0.00	8367	Outside	4705.00	
Perforations	15.00			4720.00	
Blank Spacing	127.00			4847.00	
Bullnose	3.00			4850.00	146.00 Bottom Packers & Anchor

Total Tool Length: 179.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

36-2s-39w Cheyenne KS

250 N. Water STE 300
Wichita, KS 67202

Keller 'B' #1-36

Job Ticket: 68612

DST#: 4

ATTN: Wes Hansen

Test Start: 2022.01.23 @ 02:11:00

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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
116.00	GHMCO 47%o, 32%m, 21%g	0.570
36.00	HOCM 52%m, 45%o, 3%g	0.505
0.00	GIP = 150'	0.000

Total Length: 152.00 ft

Total Volume: 1.075 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

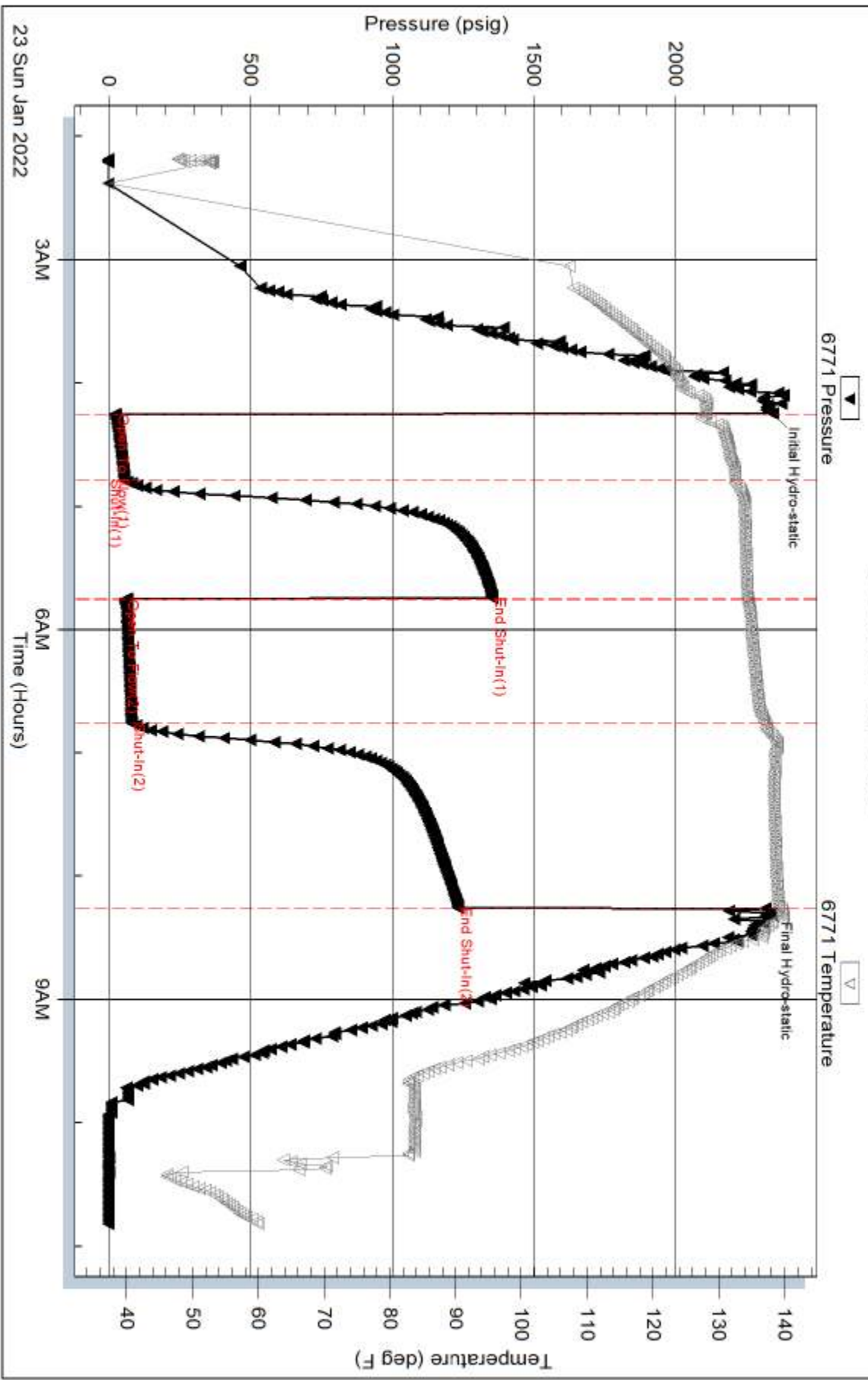
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

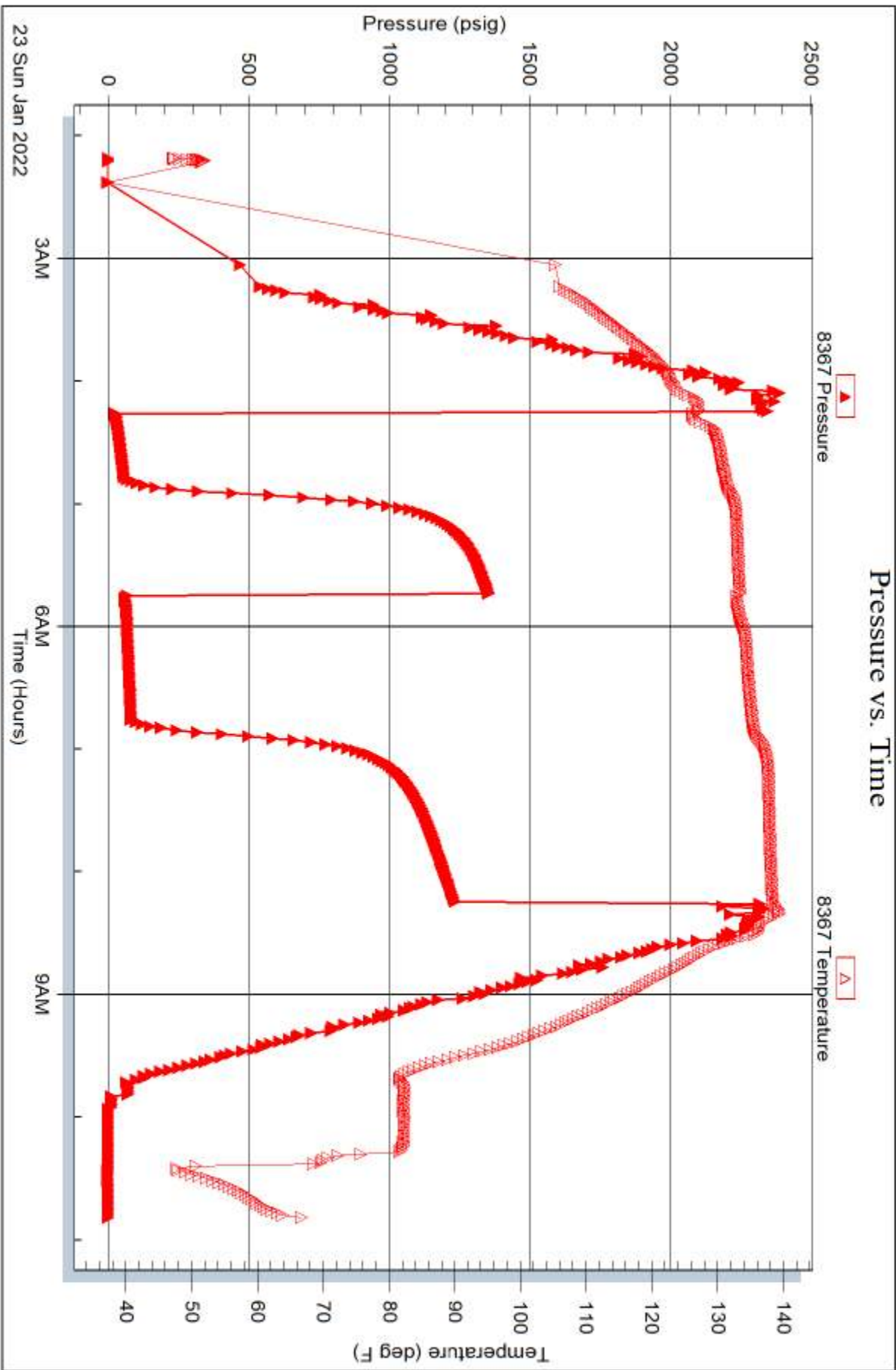


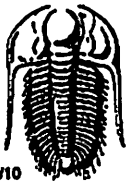
Serial #: 8367

Outside Marfin Drilling Co., Inc.

Keller 'B' #1-36

DST Test Number: 4





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68609

Well Name & No. Keller 'B' # 1-36 Test No. 1 Date 1-19-22
 Company Murfin Drilling Co, Inc Elevation 3409 KB 3404 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin #110
 Location: Sec. 36 Twp 2s Rge. 39w Co. Cheyenne State KS

Interval Tested 4270 - 4420 Zone Tested Lans. "A-D"
 Anchor Length 150 Drill Pipe Run 4142 Mud Wt. 8.9
 Top Packer Depth 4265 Drill Collars Run 116 Vis 58
 Bottom Packer Depth 4270 Wt. Pipe Run - WL 6.4
 Total Depth 4420 Chlorides 1000 ppm System LCM 2

Blow Description IF: Blow built to 4 1/4" (diesel in bucket)
ISI: No blowback
FF: Blow built to 3 1/2"
Fsi: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>170</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 170 BHT 129 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2094
 (B) First Initial Flow 20
 (C) First Final Flow 72
 (D) Initial Shut-In 1291
 (E) Second Initial Flow 25
 (F) Second Final Flow 101
 (G) Final Shut-In 1260
 (H) Final Hydrostatic 2053

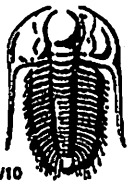
Test 1450
 Jars 250
 Safety Joint 75
 Circ Sub _____
 Hourly Standby _____
 Mileage 132 RT 165
 Sampler _____
 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1940

T-On Location 15:15
 T-Started 16:36
 T-Open 19:00
 T-Pulled 22:01
 T-Out 06:40
 Comments _____
 EM Tool 350
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 350
 Total 2290
 MP/DST Disc't _____

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

Approved By Wesley Hansen Our Representative James W. ...

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. 68610

Well Name & No. Keller 'B' #1-36 Test No. 2 Date 1-20-22
 Company Murfin Drilling Co. Inc Elevation 3409 KB 3404 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin #110
 Location: Sec. 36 Twp 2s Rge. 39w Co. Cheyenne State KS

Interval Tested 4414-4470 Zone Tested Lans. "6"
 Anchor Length 56 Drill Pipe Run ~~4235~~ 4235 Mud Wt. 9.1
 Top Packer Depth 4409 Drill Collars Run ~~600~~ 175 Vis 55
 Bottom Packer Depth 4414 Wt. Pipe Run - WL 6.4
 Total Depth 4470 Chlorides 900 ppm System LCM 3

Blow Description IF: Blow built to 2 1/4" (diesel in bucket)
ISI: No blowback
FF: Blow built to just under 2"
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>89</u>	<u>mcw</u>		<u>61</u>	<u>39</u>	
<u>116</u>	<u>mcw</u>		<u>87</u>	<u>13</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 205 BHT 145 Gravity API RW 435 @ 51 °F Chlorides 22,000 ppm
 (A) Initial Hydrostatic 2168 Test 1450 T-On Location 9:45
 (B) First Initial Flow 20 Jars 250 T-Started 11:08
 (C) First Final Flow 69 Safety Joint 75 T-Open 13:50
 (D) Initial Shut-In 1327 Circ Sub _____ T-Pulled 16:54
 (E) Second Initial Flow 74 Hourly Standby _____ T-Out 19:00
 (F) Second Final Flow 110 Mileage 132RT 165 Comments _____
 (G) Final Shut-In 1327 Sampler _____
 (H) Final Hydrostatic 2142 Straddle _____ EM Tool 350
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60
 Sub Total 1940 MP/DST Disc't _____
 Sub Total 350
 Total 2290

Approved By [Signature] 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. 68611

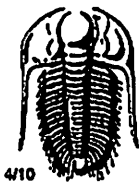
Well Name & No. Keller 'B' #1-36 Test No. 3 Date 1-21-22
 Company Murfin Drilling Co. Inc Elevation 3409 KB 3404 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin #110
 Location: Sec. 36 Twp 2s Rge. 39w Co. Cheyenne State KS

Interval Tested 4460 - 4550 Zone Tested Lans. "H-J"
 Anchor Length 90 Drill Pipe Run 4327 Mud Wt. 9.1
 Top Packer Depth 4455 Drill Collars Run 116 Vls 60
 Bottom Packer Depth 4460 Wt. Pipe Run - WL 6.0
 Total Depth 4550 Chlorides 800 ppm System LCM 3
 Blow Description IF: 1/2" Blow at open, built slightly then died back to surface
ISI: No blowback (diesel in bucket)
FF: Weak surface blow for a bit then dead
FSI: No blow

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

Rec Total 30 BHT 129 Gravity 1450 API RW @ F Chlorides ppm
 (A) Initial Hydrostatic 2191 Test 1450 T-On Location 7:15
 (B) First Initial Flow 17 Jars 250 T-Started 8:38
 (C) First Final Flow 22 Safety Joint 75 T-Open 11:06
 (D) Initial Shut-In 1162 Circ Sub _____ T-Pulled 14:10
 (E) Second Initial Flow 24 Hourly Standby _____ T-Out 16:00
 (F) Second Final Flow 27 Mileage 132 RT 165 Comments _____
 (G) Final Shut-In 1031 Sampler _____
 (H) Final Hydrostatic 2165 Straddle _____ EM Tool 350
 Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 60 Extra Packer _____ Ruined Packer _____
 Final Flow 30 Extra Recorder _____ Extra Copies _____
 Final Shut-In 60 Day Standby _____ Sub Total 350
 Sub Total 1940 Accessibility _____ Total 2290
 MP/DST Disc't _____

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68612

Well Name & No. Keller B #1-36 Test No. 4 Date 1-23-22
 Company Murfin Drilling Co. Inc Elevation 3409 KB 3404 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Wes Hansen Rig Murfin #110
 Location: Sec. 36 Twp 2s Rge. 39w Co. Cheyenne State KS

Interval Tested 4204-4850 Zone Tested Ft Scott - Celia
 Anchor Length 146 Drill Pipe Run 4580 Mud Wt. 9.1
 Top Packer Depth 4699 Drill Collars Run 116 Vis 51
 Bottom Packer Depth 4704 (Shale) Wt. Pipe Run - WL 6.8
 Total Depth 4850 Chlorides 700 ppm System LCM 2
 Blow Description IF: 3/4" Blow at open, built to 4 1/2" (diesel in bucket)
ISI: Surface blowback
FF: 1/2" Blow at open, built to 4 1/4"
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>36</u>	<u>HOcm</u>	<u>3</u>	<u>45</u>	<u>52</u>	
<u>116</u>	<u>6HMCO</u>	<u>21</u>	<u>47</u>	<u>32</u>	
<u>Rec</u>	<u>Feet of GIP = 150'</u>				
<u>Rec</u>	<u>Feet of</u>				
<u>Rec</u>	<u>Feet of</u>				

Rec Total 152 BHT 139 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2343 Test 1450 T-On Location 1:35
 (B) First Initial Flow 22 Jars 250 T-Started 2:11
 (C) First Final Flow 55 Safety Joint 75 T-Open 4:15
 (D) Initial Shut-In 1354 Circ Sub _____ T-Pulled 8:15
 (E) Second Initial Flow 57 Hourly Standby _____ T-Out 10:40
 (F) Second Final Flow 80 Mileage 132 RT 165 Comments _____
 (G) Final Shut-In 1233 Sampler _____
 (H) Final Hydrostatic 2316 Straddle _____ EM Tool 350
 Shale Packer 250 Ruined Shale Packer 365
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby 1d 9.5h Sub Total 715 +316.67
 Accessibility _____ Total 3221.67
 Sub Total 2190 MP/DST Disc't _____

Approved By _____ Our Representative James W. ...
 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.



WESLEY D. HANSEN Consulting Petroleum Geologist

212 N. Market, Suite 257, Wichita, KS 67202

Cellular 316.772.6188

whansen4651@sbcglobal.net

KGS

AAPG #799479

Kansas License #418



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

Well Name: Murfin Drilling Company, Inc. #1-36 Keller "B"

API: 15-023-21564

Location: 1320' FSL, 500' FEL of 36-T2S-R39W

License Number: 30606

Spud Date: 1-15-2022

Surface Coordinates: 1320' FSL, 500' FEL of 36-T2S-R39W

Region: Cheyenne County, KS

Drilling Completed: 1-25-2022

Bottom Hole Vertical hole

Coordinates:

Ground Elevation (ft): 3404'

K.B. Elevation (ft): 3409'

Logged Interval (ft): 4010'

To: RTD

Total Depth (ft): 5200'

Formation: Mississippian at RTD

Type of Drilling Fluid: Chemical - displaced at 3585'-3606'

Printed by MudLog from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Murfin Drilling Co., Inc.

Address: 250 N. Water

Suite 300

Wichita, KS 67202

GEOLOGIST

Name: Wesley D. Hansen

Company: Wesley D. Hansen - Consulting Petroleum Geologist

Address: 212 N. Market, Suite 257

Wichita, KS 67202

Cellular: 316-772-6188

COMMENTS

Contractor: Murfin Drilling Co., Inc. Rig #110
Pusher: Ricky Hilgers

Surface Casing: 8 5/8" set at 322' w/300sx
Production Casing: 5 1/2" set at 5198' w/620 sx

Mud by: Morgan Mud - Cade and Dave Lines were the engineers.

DST's by: Trilobite - James Winder was the tester.

Logs by: Midwest Wireline: DIL, CNL/CDL, MEL, BHCS; Dan Schmidt was the engineer

Deviation Surveys: 1/4 deg. @322'; 1/2 deg. @2298'; 1/2 deg. @ 3935'; 3/4 deg. @ 4420'; 1 deg. @ 5200'

BIT RECORD

Bit #	Size	MFG	Type	Depth Out	Footage Cut	Hours on Bit
1	12 1/4"	Smith	tooth	322'	322'	2 3/4
2	7 7/8"	Smith	Mi616	3899'	3577'	34 3/4
3	7 7/8"	Smith	F-27	5200'	1301'	80

FORMATION TOPS AND STRUCTURAL COMPARISON

FORMATION	SAMPLE TOPS Depth Datum 3409' KB		LOG TOPS Depth Datum 3409' KB		COMPARISON WELL MDCI Laing #1-19 330' FSL, 990' FWL Sec. 19-2S-38W 3389' KB
Anhydrite	3284'	+125	3287'	+122	+108
B/Anhydrite	3311'	+98	3313'	+96	+78
Topeka	4103'	-694	4104'	-695	-698
Oread	4244'	-835	4244'	-835	-835
Lansing	4313'	-904	4316'	-907	-907
Stark Shale	4548'	-1139	4550'	-1141	-1147
Mound City	4616'	-1207	4616'	-1207	-1213
Fort Scott	4730'	-1321	4732'	-1323	-1340
Oakley	4810'	-1401	4812'	-1403	-1420
Mississippian	5094'	-1685	5090'	-1681	-1704
RTD	5200'	-1791)			-1789
LTD			5204'	-1795	-1791

DRILL STEM TESTS

DST No. 1 Lansing "A" - "D"
Interval: 4270'-4420'
Times: 30-60-30-60
Recovery: 170' mud
FP: 20-72/75-101 SIP: 1291-1260
HP: 2094-2053 BHT: 129 deg. F

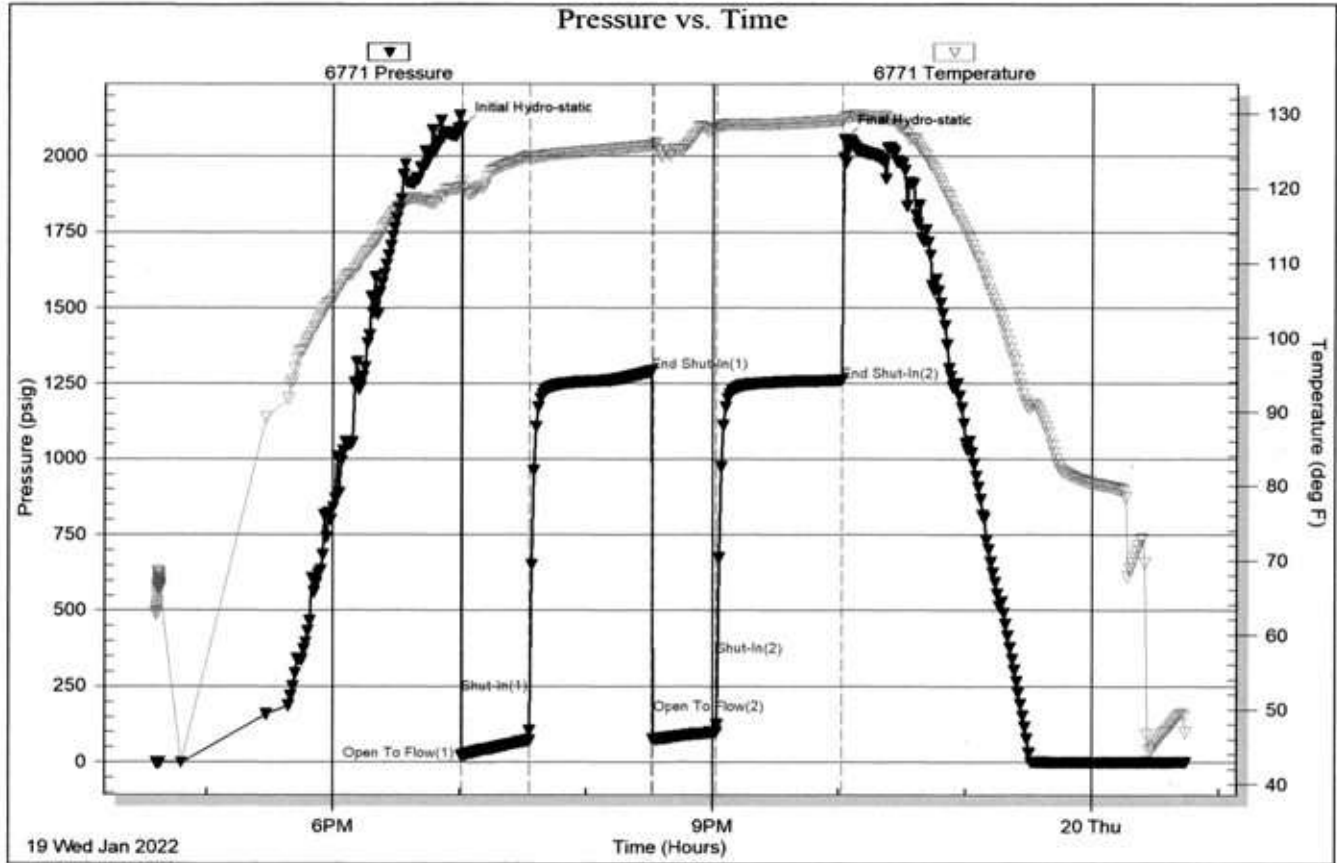
IFP: blow built to 4.25"
ISIP: no return blow
FFP: blow built to 3.5"
FSIP: no return blow

Serial #: 6771

Inside Murfin Drilling Co., Inc.

Keller B' #1-36

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 68609

Printed: 2022.01.20 @ 01:00:10

DRILL STEM TESTS

DST No. 2 Lansing "G"
Interval: 4414'-4470'
Times: 30-60-30-60
Recovery: 89' MCW (61w, 39m); 116' MCW (87w, 13m) chlorides 22,000
FP: 20-69/74-110 SIP: 1327-1327
HP: 2168-2142 BHT: 145 deg. F

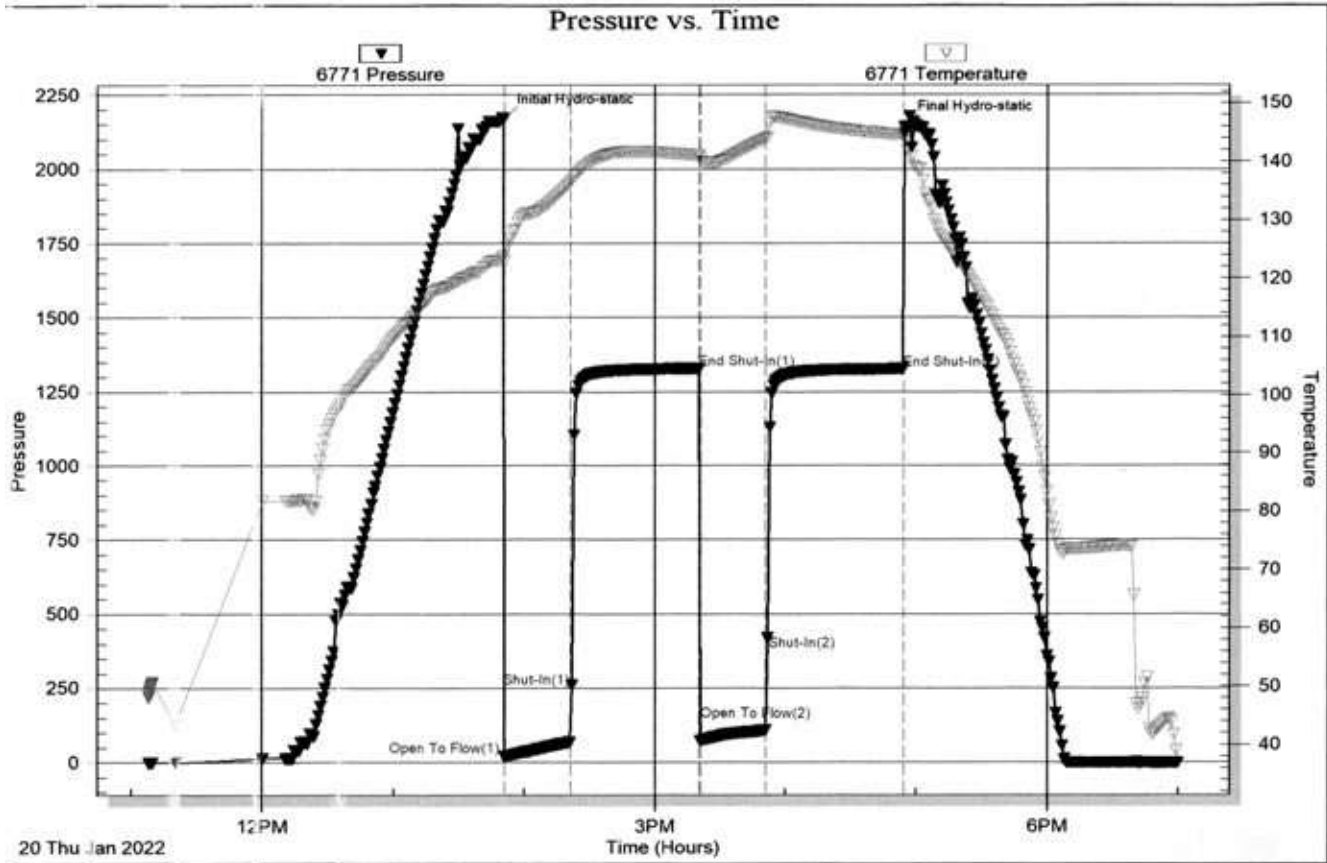
IFP: blow built to 2 1/4"
ISIP: no return blow
FFP: blow built to about 2"
FSIP: no return blow

Serial #: 6771

Inside Murfin Drilling Co., Inc.

Keller 'B' #1-36

DST Test Number: 2



Mobile Testing, Inc.

Ref. No: 68609

Printed: 2022.01.20 @ 19:23:56

DRILL STEM TESTS

DST No. 3 Lansing "H" - "J"
Interval: 4072'-4180'
Times: 30-60-30-60
Recovery: 30' mud
FP: 17-22/24-27 SIP: 1162-1031
HP: 2191-2165 BHT: 129 deg. F

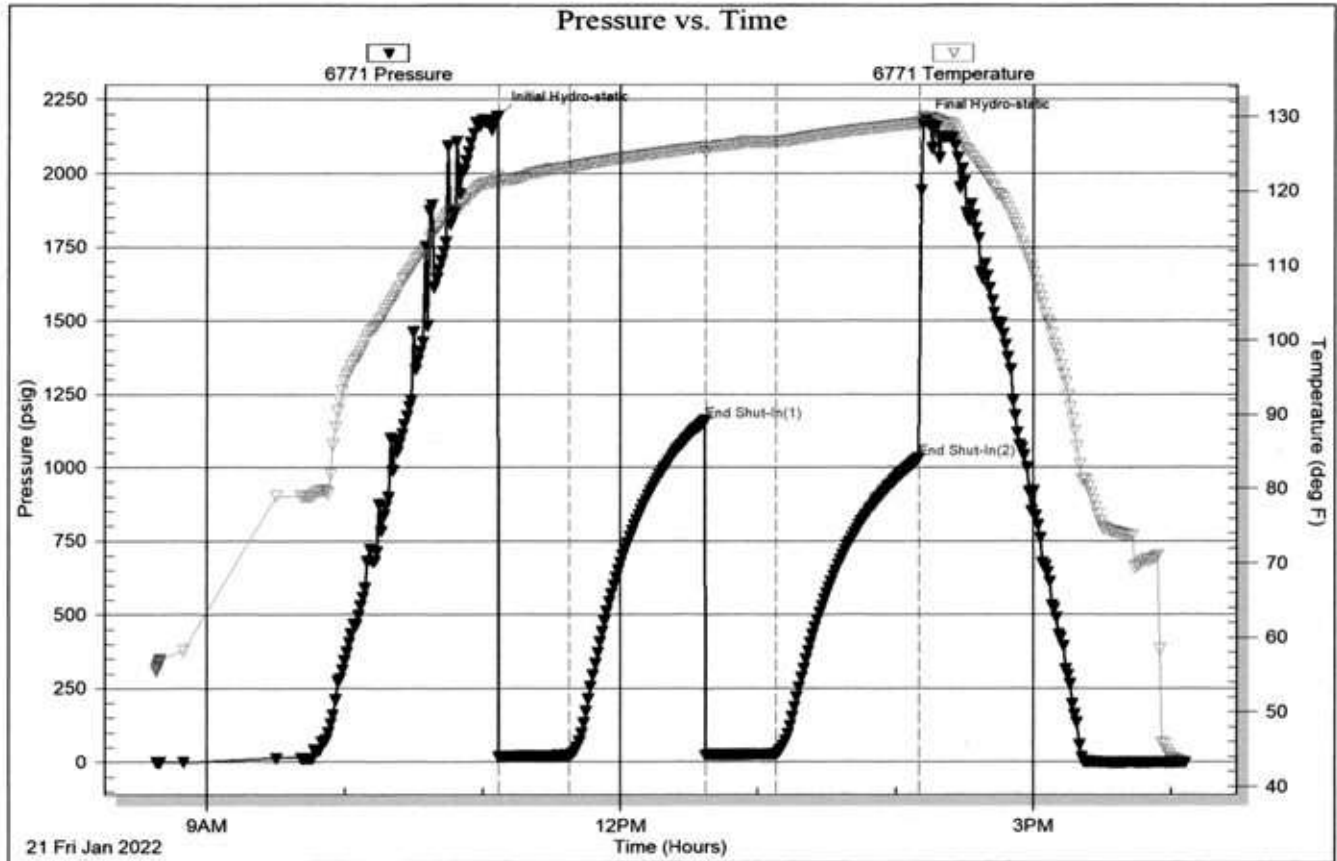
IFP: 1/2" blow, died back to surface
blow
ISIP: no return blow
FFP: no blow
FSIP: no return blow

Serial #: 6771

Inside Murfin Drilling Co., Inc.

Keller 'B' #1-36

DST Test Number: 3



Tribolite Testing, Inc

Ref. No: 68611

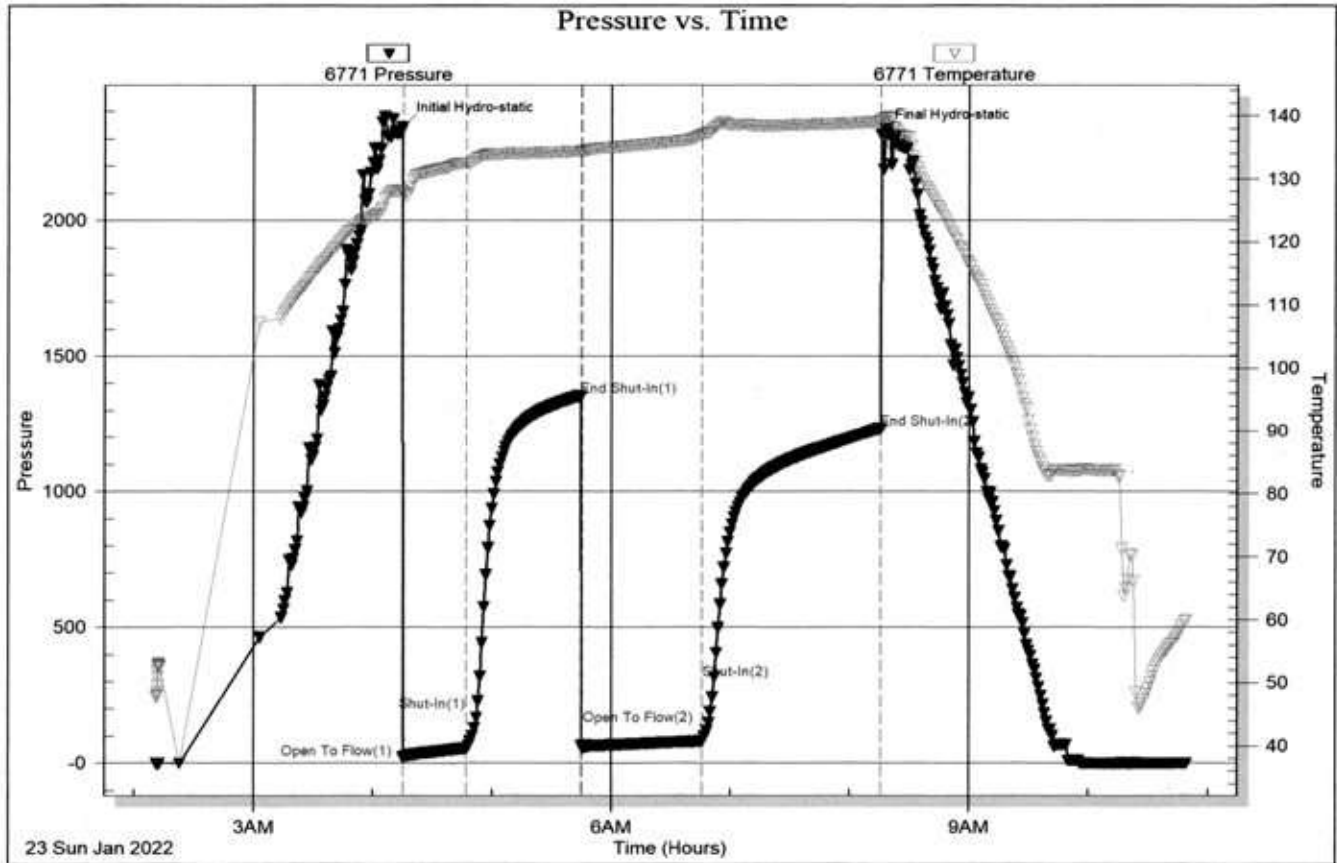
Printed: 2022.01.21 @ 16:30:47

DRILL STEM TESTS

DST No. 4 Fort Scott - Celia
 Interval: 4704'-4850'
 Times: 30-60-60-90
 Recovery: 150' GIP; 36' HOCM (3g,45o,52m); 116'
 G&HOCM (21g,47o,32m); total fluid 152'
 FP: 22-55/57-80 SIP: 1354-1233
 HP: 2343-2316 BHT: 139 deg. F

IFP: blow built to 4.5" in diesel
 ISIP: surface return
 FFP: blow built to 4.25"
 FSIP: no return

Serial #: 6771 Inside Murfin Drilling Co., Inc. Keller 'B' #1-36 DST Test Number: 4



Triobite Testing, Inc

Ref. No: 68612

Printed: 2022.01.23 @ 11:09:12

ROCK TYPES

- Congl
- Igne
- Anhy
- Cht
- Coal
- Congl
- Gyp

- Lmst
- Salt
- Shale
- Shcol
- Siltstone
- red sst
- Sst

- Carb sh
- Dol
- Dtd
- Grayshale
- Sandylms
- Redshale
- Greenshale

- Siltstn
- Shlyslts
- Sndy/siltyshale
- Silty dolo
- Shy dolo
- Shaly ls
- Dolomite

ACCESSORIES

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant

- Strom
- Fuss
- Oomold

MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breclfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp

- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Sltly

- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- red shale
- green shale
- Sltstn

STRINGER

- Anhy
- Arg

OTHER SYMBOLS

INTERVALS

- Core
- Dst
- Dst

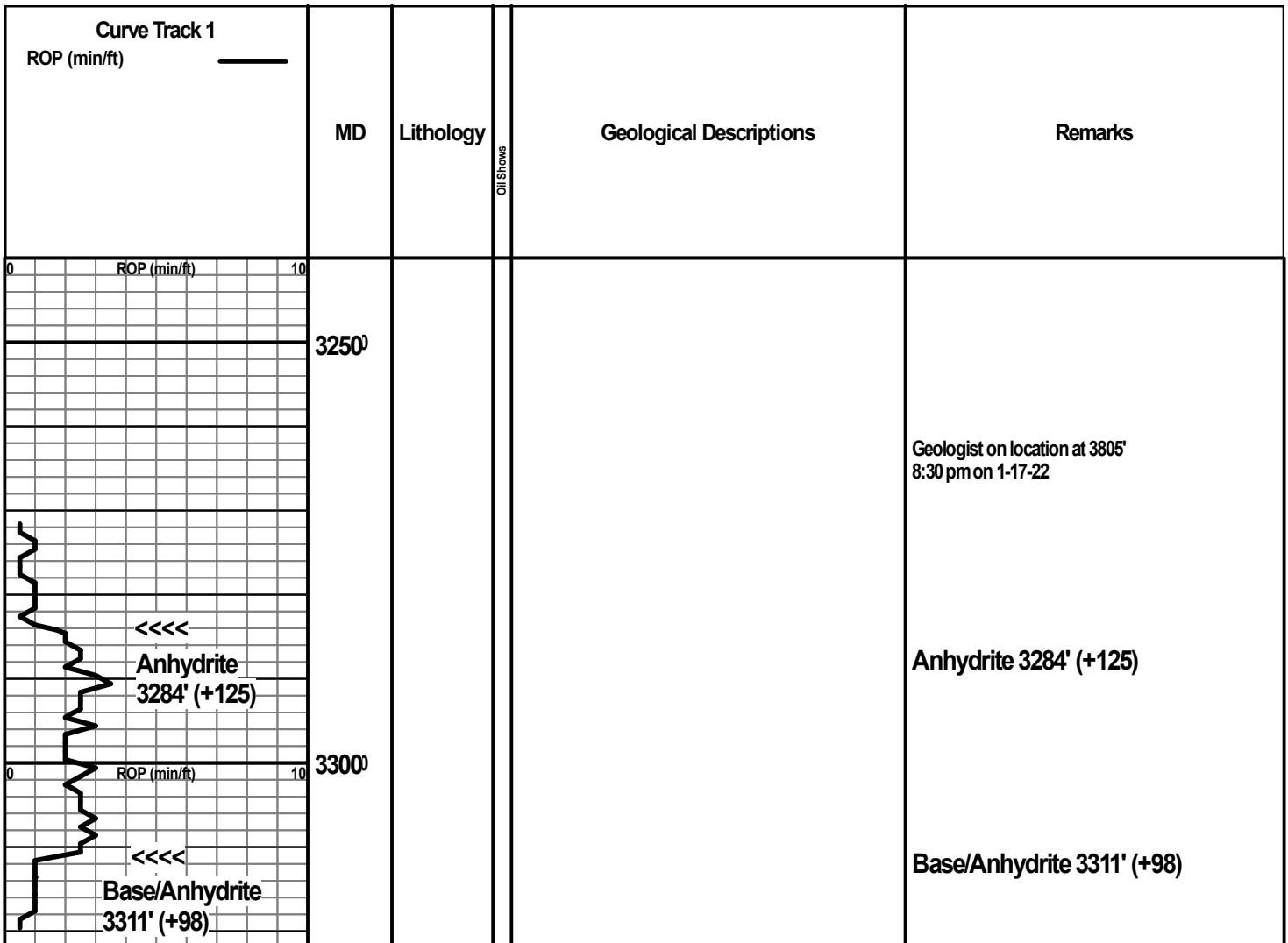
EVENTS

- Rft
- Dst top & bottom

OIL SHOWS

- Even
- Spotted
- Quest.

- Trace
- Dead
- Gas show



NOTE: Depth Change

3850

CN

3900

CN

3950

CN

CN

4000

ROP (min/ft)

CN

Morning Depth & Activity

- 1-13-22 MIRT
- 1-14 Drilling water well
- 1-15 Spud at 12:30 PM
- 1-16 Drig. @ 730'
- 1-17 Drig. @ 3208'
- 1-18 Drig. @ 3935'
- 1-19 Drig. @ 4345'
- 1-20 Drig. @ 4460' Post DST #1
- 1-21 prepare for DST #3 @ 4550'
- 1-22 Drig. @ 4683'
- 1-23 DST #4 @ 4850'
- 1-24 Drig. @ 5085'
- 1-25

bit trip at 3899'
strap was 3.1' short to the board

start 1' drilling time at 3900'

wet brakes ??

7:00 AM at 3935' on 1-18-22

wet brakes ??

Ls: mottled brn/gray/offwhite dense; Siltst: gray; Sh: lt to med gray, lesser lt-med red, red-brn, orange

shaly mix AA; Ls: some new tan granular and med brn shaly dense

Sh: influx lt red mushy; Ls: tan mic-vfdn dense

Ls: influx tan/offwhite fn granular, foss. IP with scatt. patchy black gilsonianic dead stain; Sh: gray, red-brn, red

predom. Ls: tan, offwhite fn-vfdn foss. IP with some poor pnpt por. with streaks and pnpt dead stain; some gray, brn pmtex. MVDALS

Start 10' samples

cryptoxln, NVP, N.S.

4050

CN

very predom.Ls: tan mic-fn-vfxln dense, poor-NVP, N.S.

Ls's AA, rare black gilsonitic stain; Sh: influx red, firm to soft, mushy

Ls: tan, offwhite fnxn, foss. IP with pnpt black stain, sl sfo on break, not live, looks tight; some black gilsonitic stain; Sh: abund. reds AA

F

Ls: good influx AA, decr. shows; Sh: red AA with gray

CN

Sh: red firm to soft, mushy; fairly minor Ls: tan, lt brn dense, offwhite subchalky, N.S.

very pred. soft red shale; some med gray; lesser Ls: tan, offwhite dense

4100

=====
Topeka
4103' (-694)

CN

Ls: flood 20' spl - tan, lt gray vf-cryptoxln, NVP, N.S.; offwhite, cream micxn, subchalky with patchy gilsonite stain, pnpt black dead stain

Ls: pred. offwhite, tan mic-vfxln dense, subchalky; lesser lt gray, tan cryptoxln AA; fairly minor shale %

Ls: mix AA, decr. %; Sh: influx red-brn firm and lt red soft, mushy; lesser gray, lt green

Sh: med red, red-brn firm, silty; lesser Ls: tan, lt gray cryptoxln, NVP

flood Ls (60' spl): offwhite mic-fxn, subchalky to chalky; other tan fnxn with fair-good pnpt and interxn por., N.S.

CN

4150

Ls: predom. tan, gray cryptoxln, sl granular IP, NVP, N.S.

Ls: gray, tan cryptoxln to granular AA; Siltst: red, gray; some Sst: vfg gray, brittle, calcar. to dolomitic; Sh: sl incr. red-brn, red silty

flood Sh: med to dark red, red-brn firm to soft; minor Ls

CN

Sst: flood red, red-brn vfg, shaly to vfg sandy shale; lesser med-dark gray and lt green shale

Sh: red, red-brn silty IP; minor Ls: lt gray, tan vfxln dense

pen stuck on chart

4200

ROP (min/ft)

CN

Ls: good influx lt gray, tan cryptoxln, NVP, N.S.

poor sample, Sh: red, red-brn, gray with Ls: mix AA; abund. lcn in sample

Oread
4244' (-835)

4250

=====
Oread 4244' (-835)

CN

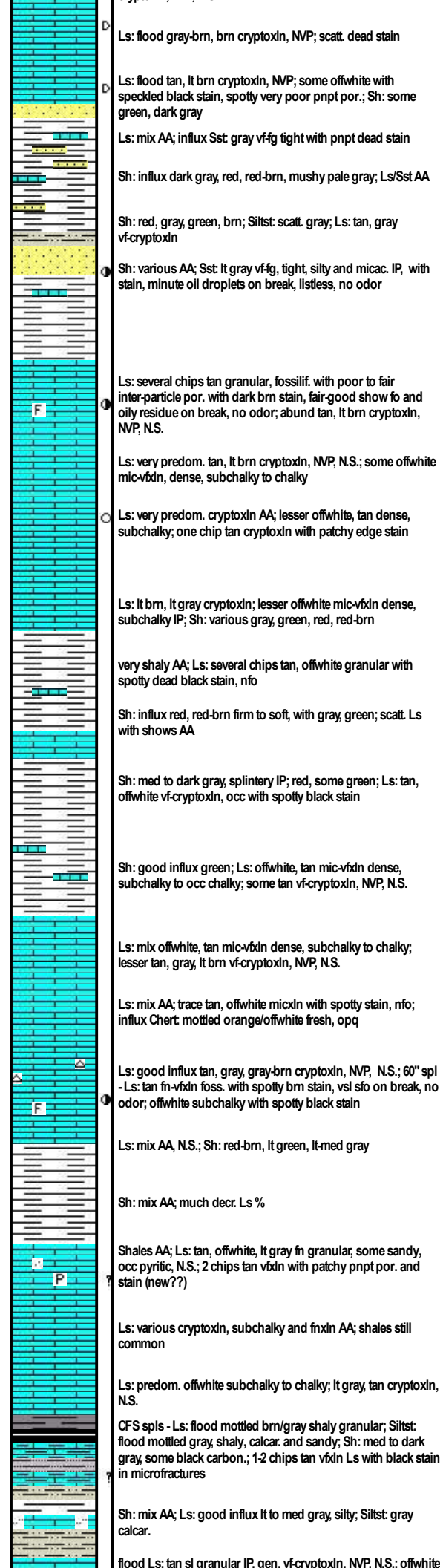
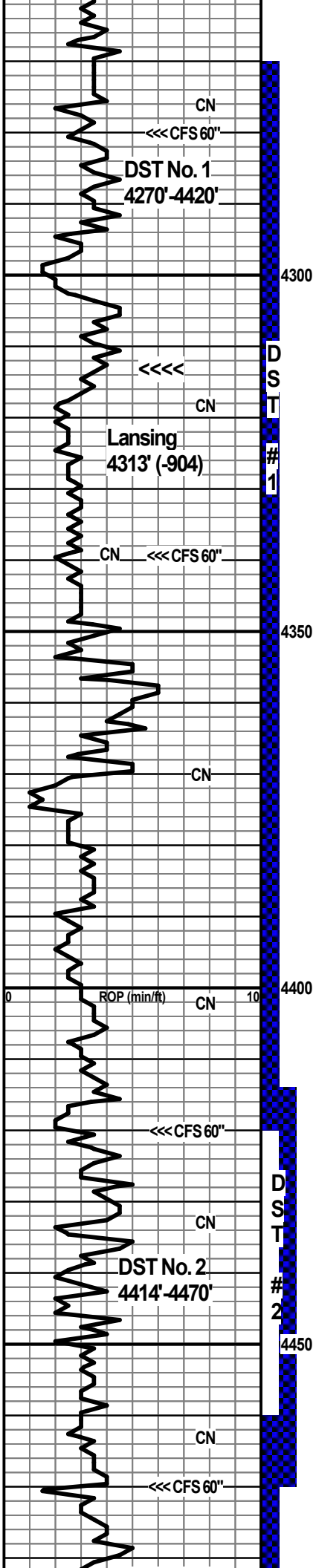
Ls: tan, offwhite fn-vfxln, granular and oolitic IP, poor-NVP with speckled brn stain, sl sfo on break, no discernible odor; influx tan, brn, gray more cryptoxln, NVP, N.S.

Ls: some offwhite fnxn with dark brn oily residue and offwhite, tan with speckled dark stain; New lt brn, lt gray, gray-brn cryptoxln. NVP, N.S.

Morgan Mud Check at 4078'
2:05 PM on 1-18-22
wt vis wl pH chl
8.7 60 6.4 11.0 1000
PV YP GeIS lcn solids
21 21 10/32 3# 2.9%

Topeka 4103' (-694)

Oread 4244' (-835)



Lansing 4313' (-904)

7:00 AM at 4345' on 1-19-22

DST No. 1 Lansing "A" - "D"
Interval: 4270'-4420'
Times: 30-60-30-60
IFP: blow built to 4.25"
ISIP: no return blow
FFP: blow built to 3.5"
FSIP: no return blow
Recovery: 170' mud
FP: 20-72/75-101 SIP: 1291-1260
HP: 2094-2053 BHT: 129 deg. F

Morgan Mud Check at 4413'
10:45 AM on 1-19-22
wt vis wl pH chl
8.9 58 6.4 11.0 1000
PV YP GeIS lcn solids
18 20 11/26 2# 4.3%

DST No. 2 Lansing "G"
Interval: 4414'-4470'
Times: 30-60-30-60
IFP: blow built to 2 1/4"
ISIP: no return blow
FFP: blow built to about 2"
FSIP: no return blow
Recovery: 89' MCW (61w, 39m); 116' MCW (87w, 13m) chlorides 22,000
FP: 20-69/74-110 SIP: 1327-1327
HP: 2168-2142 BHT: 145 deg. F

7:00 AM at 4460' on 1-20-22

Morgan Mud Check at 4470'
10:50 AM on 1-20-22
wt vis wl pH chl

DST No. 3
4460' -4550'

D
S
T

3

CN

<<< CFS 60"

4500

CN

Stark
4548' (-1139)

<<<<<
CFS 60"

4550

CN

<<< CFS 60"

4600

Mound City
4616' (-1207)

<<<<<
CN

4650

CN

4700

CN



mic-fxnln subchalky, N.S.; one chip offwhite fxnln with speckled dead stain (caving??)

CFS spls - Ls: predom. offwhite mic-vfxln subchalky to occ chalky; lesser tan, lt gray cryptoxln to sl granular, NVP, N.S.; 2 chips tan vfxln with speckled dead black stain; sl influx Sh: dark red-brn

flood Sh: lt-med red mushy and silty firm red-brn

Sh: abund. AA with red and gray silty; Ls: tan, lt brn v-cryptoxln and offwhite, tan mic-vfxln dense; one chip tan granular with black dead stain

Ls: tan, lt gray v-cryptoxln; lesser offwhite, tan mic-vfxln dense, NVP, N.S.; Sh: 20% AA

Ls: flood lt gray v-cryptoxln, NVP, N.S.; offwhite, tan subchalky, N.S.

CFS spls - Ls: lt gray, tan, lt brn v-cryptoxln, NVP, N.S.; offwhite dense AA; Sh: occ black carbon., dark gray, red-brn

Sh: med to dark gray, red-brn; Siltst: med to dark gray vfg sandy and shaly; some lt gray

Shales and Siltst AA; some Sst: offwhite, tan vfg, friable, N.S.

Sh: predom. red-brn silty, firm, some soft mushy; grays, lt green; abund Siltst AA with vfg silty Sst

CFS spls - flood Ls: tan oolitic with spar matrix, some with poor inter-oolitic por., most NVP; tan v-cryptoxln, NVP; mottled brn granular/oolitic IP, NVP, N.S.

Ls: predom. tan, offwhite vfxln; other offwhite mic-vfxln dense, subchalky; Sh: 15% dark red-brn, occ red-maroon, gray

Ls: tan, lt-med gray cryptoxln, sl granular IP, NVP; Sh: mix AA

Ls: various AA; some dark brn cryptoxln; Sh: dark red-brn, brn, dark gray to almost black

Sh: influx med to dark gray, with red-brn, red-maroon; Ls: tan, gray cryptoxln

shales AA; Ls: tan, lt-med gray predom. cryptoxln; lesser offwhite dense, subchalky

Ls: more gray cryptoxln; offwhite subchalky to chalky

Ls: gray, tan, some med brn cryptoxln; shale streaks

Ls: mix AA with streaks shale: gray, red-brn

Sh: influx med to dark gray, with red-brn, brn, occ lt green and gray-maroon; Ls: gray, tan, lt brn predom. cryptoxln, NVP

Sh: mix AA with red-brn silty; decr. Ls % AA

predom. Sh: gray, red-brn silty IP; with Siltst: lt gray; Ls: common tan vfxln with occ tan oolitic and offwhite dense subchalky, N.S.

mix shales/Ls's/Siltst AA

Ls: tan oolitic, NVP, N.S.; mottled tan oolitic/granular fossilif. IP, poor-NVP, N.S.; Siltst: red; Sh: some new red-maroon and purplish-gray

9.1 55 6.4 11.0 900
PV YP Ge/S lcm solids
21 18 9/28 3# 5.7%

DST No. 3 Lansing "H" - "J"
Interval: 4072'-4180'
Times: 30-60-30-60
IFP: 12" blow, died back to surface blow
ISIP: no return blow
FFP: no blow
FSIP: no return blow
Recovery: 30' mud
FP: 17-22/24-27 SIP: 1162-1031
HP: 2191-2165 BHT: 129 deg. F

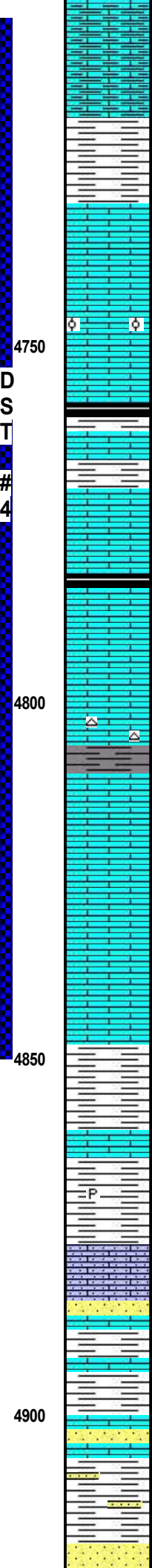
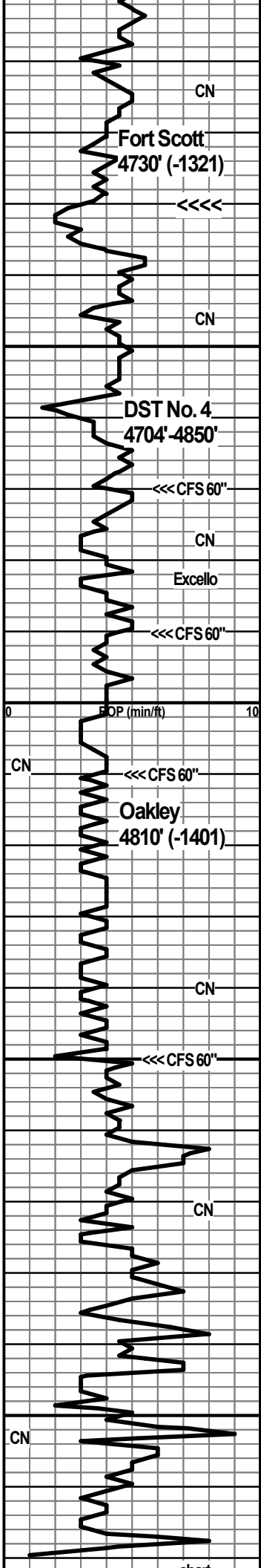
Stark 4548' (-1139)
7:00 AM at 4550' on 1-21-22

Morgan Mud Check at 4550'
11:20 AM on 1-21-22
wt vis wl pH chl
9.1 60 6.0 10.5 800
PV YP Ge/S lcm solids
22 20 10/27 3# 5.7%

Mound City 4616' (-1207)

7:00 AM at 4683' on 1-22-22

DST No. 4 Fort Scott - Celia
Interval: 4704'-4850'
Times: 30-60-60-90
IFP: blow built to 4.5" in diesel



Ls: good influx lt gray dense, shaly and silty

Ls: abund. lt gray shaly and silty AA; Sh: gray, red-maroon

Sh: lt-med gray, lesser red-brn; Ls: gray, tan, lt brn vf-cryptoxln

50' spl- Ls: mix tan, offwhite, lt gray predom. vfxln; some dark brn, gray cryptoxln; 2 chips tan fn granular with patchy pnpt stain, vsl show listless fo on break

60' spl - Ls: mix AA, more gray, brn cryptoxln and mottled brn granular, NVP; several chips tan granular/oolitic IP with fair inter-particle and inter-oolitic por., sl-fair sfo on break, patchy to sat. stain dry

Ls: very predom. various gray vfxln, dense and gray, dark brn, tan cryptoxln

CFS spls -Sh: influx black carbon. and gray, red-brn; Ls: gray cryptoxln AA; new brn, gray-brn cryptoxln

Ls: influx tan cryptoxln, NVP; abund. shale mix AA

flood Ls: tan, lt gray, lt brn vf-cryptoxln; lesser offwhite mic-vfxln dense

CFS spls - Sh: dark gray to black carbon., med to dark gray; Ls: good influx tan, lt gray cryptoxln and mottled brn/gray granular, NVP, N.S.

Ls: gray, tan, lt brn cryptoxln; lt gray silty; and offwhite subchalky, N.S.

CFS spls - flood Ls: offwhite, tan mic-vfxln dense; various cryptoxln AA; sl influx lt to med gray fresh, opq chert

Sh: dark gray; Ls: med to dark gray cryptoxln and lt gray, offwhite vfxln dense

Ls: new mottled lt brn sl granular; influx offwhite mic-vfxln dense, subchalky; minor shale %

Ls: offwhite mic-vfxln dense; tan, lt brn, some gray cryptoxln, NVP, N.S.; scatt. gray, red-brn shales

Ls: mix AA with offwhite chalky; some maroon, lt green and purplish-gray shales; trace lt gray fg Sst and siltst

CFS spls - Ls: tan, lt brn, lt gray vf-cryptoxln and offwhite mic-vfxln dense, subchalky; Sh: influx red-brn, brn, lesser lt to med gray

Sh: flood various gray, other red-brn

Sh: AA; Ls: sl influx tan, lt gray cryptoxln and tan granular, NVP, N.S.

Sh: AA some maroon, occ pyritic gray; Ls: tan, gray cryptoxln and offwhite mic-vfxln fense

Ls: tan, lt brn ffxln sandy; other tan, offwhite mic-vfxln dense and lt brn ffxln; Sst: lt gray with chalky matrix, some very hard to quartzitic

Ls: tan, lt gray vf-cryptoxln; lt brn and gray cryptoxln; decr. Sst; Sh: interbedded gray, green, red-maroon

Sh: influx multi-colored (maroon, various gray, brn, red-brn, lt green); Sst: gray, offwhite, tan shaly, friable, vf-fg submd-md, N.S.

Shales AA; influx Sst: offwhite tan, tight calcar.; minor various cryptoxln Ls's

Sh: influx various gray, red-brn, red-maroon; decr. % Sst AA, scatt. very coarse siltstons

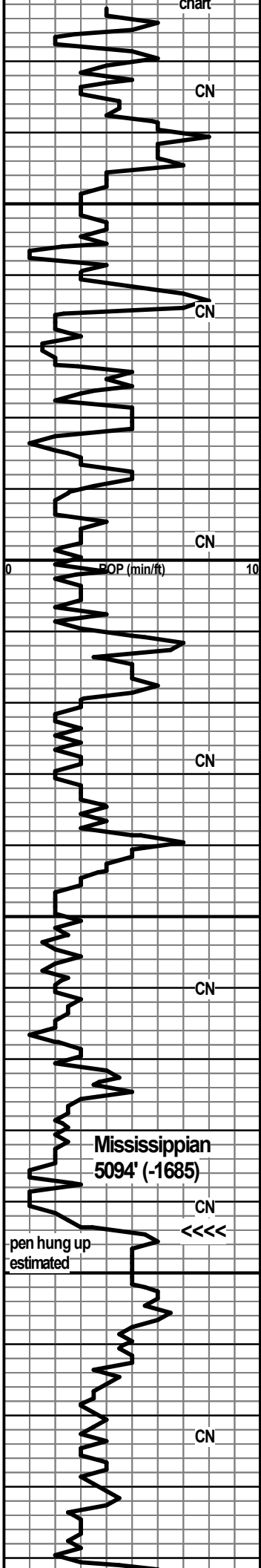
ISIP: surface return
 FFP: blow built to 4.25"
 FSIP: no return
 Recovery: 150' GIP; 36' HOCM (3g,45o,52m); 116' G&HOCM (21g,47o,32m); total fluid 152'
 FP: 22-55/57-80 SIP: 1354-1233
 HP: 2343-2316 BHT: 139 deg. F

Fort Scott 4730' (-1321)

Morgan Mud Check at 4753'
 12:00 PM on 1-22-22
 wt vis wl pH chl
 9.1 51 6.8 11.0 700
 PV YP GeIS lcm solids
 19 18 9/25 2# 5.7%

Oakley 4810' (-1401)

7:00 AM at 4850' on 1-23-22
Morgan Mud Check at 4850'
 10:45 AM on 1-23-22
 wt vis wl pH chl
 9.2 50 6.8 10.0 1100
 PV YP GeIS lcm solids
 16 19 8/20 2# 6.4%



4950

5000

5050

5100

Sh: very predom. multi-colored AA; Sst: tan, offwhite, lt gray vfg, tight to quartzitic; incr. caoarse to very coarse singletons

influx Ls: brn sandy and red-brn shaly Sst; singletons AA; incr. % Ls: lt brn, lt gray cryptoxln and tan, offwhite mic-vfxln dense

Ls: lt gray, lt-med brn cryptoxln; lesser mottled tan/brn frxn sandy; much decr. shale %

Sh: predom. red-maroon with various Ls's and sandy Ls AA; scatt. singletons

common Ls's and sandy Ls AA; influx Sh: red-maroon and lt to med gray

Ls: influx med to dark gray and med brn cryptoxln; offwhite dense; sandy Ls and interbedded shales

Ls: various gray, tan, brn cryptoxln and offwhite, tan mic-vfxln dense, subchalky to occ chalky; Sh: fairly minor % vc gray and red-maroon

Ls: various cryptoxln and mic-vfxln dense AA; incr. Sh: various gray, red-maroon, red-brn; scatt. singletons AA and sandy Ls

Sh: multi-colored, gray, black green, yellow, red-brn; Ls's AA; Sst: influx dark green vfg glauc.

Sh: mix AA, some gray pyritic; incr. Ls: med-dark gray, med brn cryptoxln; fairly common gray, tan coarse singletons

Sh: multi-colored AA with common qtz grains AA

Sh: mix AA with qtz grains AA; Ls: various cryptoxln and tan, brn sandy

flood Sh: various gray; scatt. Sst clusters and loose grains

Sh: AA, black carbon, fissile, some red-maroon; Sst: offwhite vfg friable, good por. N.S.; scatt. Ls: gray, brn cryptoxln

Sh: abund. AA; Sst: offwhite, tan fg, sl glauc., calcar.; scatt. coarse to very coarse singletons; Ls: sl influx dark gray cryptoxln

Ls: lt gray, tan cryptoxln and offwhite, tan mic-vfxln dense; mottled lt brn fr granular, sandy; Sst: offwhite clusters of vfg and med gmd, calcar.; common loose grains

Sh: influx dark gray, red-maroon, brn, lt green, yellow; Chert: offwhite, lt gray fresh, opq; Sst: various tan fg, offwhite med gmd, some sandy pyrite

Ls: tan, gray granular and offwhite mic-vfxln subchalky, with Chert: common offwhite, tan fresh, opq; Sh: predom. dark gray to black

Ls: tan, offwhite granular, subchalky IP; with Chert: AA, new mottled tan/offwhite opq

30' spl - cherty Ls's AA; sl influx Dolo: lt gray, offwhite vfxln; incr. Sh: multi-colored

Dolo: predom. lt gray, offwhite vfxln, N.S.; common Ls's; Sh: AA, occ dark green, purplish-gray

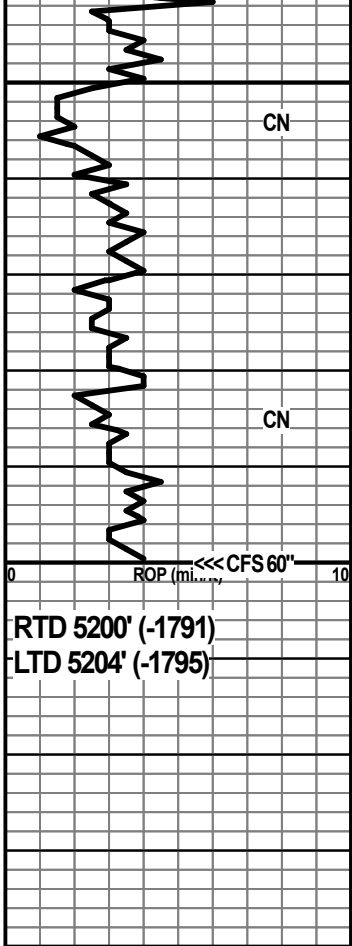
flood Sh: med to dark gray, with red-brn, purple, mottled green/yellow; Dolo: AA, some tan. lt gray nearly cryptoxln

7:00 AM at 5085' on 1-24-22

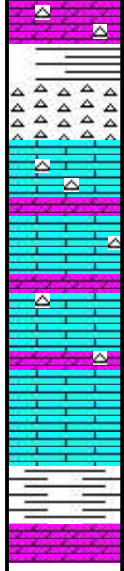
Mississippian 5094' (-1685)

Morgan Mud Check at 5136' 10:40 AM on 1-24-22

wt vs w pr - cm
 9.2 56 6.8 11.0 900
 PV YP GelS lcn solids
 20 22 10/30 3# 6.4%



5150
 5200



very shaly mix with various Ls's and Dolomite AA, cherty

very shaly AA; Dolo: tan vfxn with specks of glauc.; Chert: good influx lt gray subtranc., tan, mottled gray

very shaly AA; influx Ls: tan, brn cryptoxin and tan mic-vfxn dense; scatt. Dolomite and chert

CFS spls - flood Sh: various gray, red-brn, red-maroon, green, yellow, purple, mixed and mottled IP; some Dolo: dark brn, finxn sl sucrosic; persistant dense Ls's

After review of samples, DST results and elog evalation, the decision was made to run 5 1/2" casing for production testing.

Respectfully submitted,

Wesley D. Hansen
 Petroleum Geologist
 Kansas License #418

RTD of 5200 reached at 2:00 PM on
 1-24-22 CFS - short trip - CTCH - drop survey - TOFL

RTD 5200' (-1791)
 LTD 5204' (-1795)



CEMENT TREATMENT REPORT

Customer:	Murfin Drilling	Well:	Keller B # 1-36	Ticket:	WP-2346
City, State:	Oakley KS	County:	Cheyenne KS	Date:	1/25/2022
Field Rep:	Ben	S-T-R:	36-2S-39W	Service:	Longstring

Downhole Information

Hole Size:	7 7/8 in
Hole Depth:	5300 ft
Casing Size:	5 1/2 in
Casing Depth:	5198 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	123.2 bbbs

Calculated Slurry - Lead

Blend:	H-Con
Weight:	12.0 ppg
Water / Sk:	15.5 gal / sx
Yield:	2.56 ft ³ / sx
Annular Bbbs / Ft.:	0.0309 bbs / ft.
Depth:	5198 ft
Annular Volume:	160.6 bbbs
Excess:	
Total Slurry:	186.9 bbbs
Total Sacks:	410 sx

Calculated Slurry - Tail

Blend:	H-LD
Weight:	14.8 ppg
Water / Sk:	6.5 gal / sx
Yield:	1.51 ft ³ / sx
Annular Bbbs / Ft.:	0.0309 bbs / ft.
Depth:	5198 ft
Annular Volume:	160.6182 bbbs
Excess:	
Total Slurry:	56.4 bbbs
Total Sacks:	210 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
3:30p			-	-	Arrival
3:35p					Safety meeting
3:40p					Rig up
6:20p					Run float equipment
8:51p					Drop ball
9:00p					Circulate hole for 1 hour
10:02p	5.2	330.0	5.0	5.0	H2O ahead
10:04p	5.0	400.0	12.0	17.0	Super flush
10:07p	5.0	380.0	5.0	22.0	H2O behide
10:11p	6.4	570.0	186.9	208.9	Mixed 390 sks of H-Con @ 12 ppg @ 5196'
10:16p	5.0	250.0	9.0	217.9	Mixed 20 sks of H-Con @ 12 ppg @ Rat hole
10:45p	5.0	250.0	56.4		Mixed 210 sks of H-LD @ 14.8 ppg @ 5196'
11:04p					Wash up pump and lines
11:06p					Drop plug
11:10p	6.6	280.0	123.2		Displace H2O
11:30p					Land plug at 1950 psi
11:35p					Wash up pump and lines
11:46p					Rig down
12:15a					Depart locatlon
					Circulated 20 sks back to pit

CREW			UNIT			SUMMARY		
Cementer:	Jesse J		78			Average Rate	Average Pressure	Total Fluid
Pump Operator:	Michael R		230			5.5 bpm	351 psi	398 bbbs
Bulk #1:	Jose V		194/235					
Bulk #2:	Christian		242					