

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	BRUBAKER 1-12
Doc ID	1703256

All Electric Logs Run

DIL
DUCP
MEL
BHCS



CEMENT TREATMENT REPORT

Customer:	Murfin Drilling	Well:	Brubaker #1-12	Ticket:	WP 3850
City, State:	Wheeler KS	County:	Cheyenne KS	Date:	1/18/2023
Field Rep:	Ricky Hilgers	S-T-R:	12-4S-39W	Service:	PTA

Downhole Information		Calculated Slurry - Lead		Calculated Slurry - Tail	
Hole Size:	7 7/8 in	Blend:	H-Plug A	Blend:	
Hole Depth:	5152 ft	Weight:	13.8 ppg	Weight:	ppg
Casing Size:	in	Water / Sx:	6.9 gal / sx	Water / Sx:	gal / sx
Casing Depth:	ft	Yield:	1.42 ft ³ / sx	Yield:	ft ³ / sx
Tubing / Liner:	in	Annular Bbls / Ft.:	0.0406 bbs / ft.	Annular Bbls / Ft.:	bbs / ft.
Depth:	ft	Depth:	3360 ft	Depth:	ft
Tool / Packer:		Annular Volume:	136.4 bbls	Annular Volume:	0 bbls
Tool Depth:	ft	Excess:		Excess:	
Displacement:	bbls	Total Slurry:	60.6 bbls	Total Slurry:	0.0 bbls
		Total Sacks:	240 sx	Total Sacks:	0 sx

TIME	RATE	PSI	BBLs	TOTAL BBLs	REMARKS
11:00 PM			-	-	Arrived on location
11:10 PM				-	Safety meeting
11:20 PM				-	Rigged up
12:57 AM	3.0	200.0	5.0	5.0	Water ahead
1:01 AM	5.0	370.0	12.6	17.6	Mixed 50 sacks H-Plug A cement 13.8 ppg @ 3360'
1:05 AM	4.0	100.0	5.0	22.6	Begin water displacement
1:11 AM				22.6	Begin mud displacement with rig pump for 2:45 minutes
2:10 AM	3.0	150.0	5.0	27.6	Water ahead
2:14 AM	4.0	220.0	25.2	52.8	Mixed 100 sacks H-Plug A cement 13.8 ppg @ 2400'
2:22 AM	4.0	70.0	5.0	57.8	Begin water displacement
2:27 AM					Begin mud displacement with rig pump for 1:45 minutes
3:56 AM	4.0	100.0	5.0		Water ahead
4:00 AM	5.2	220.0	12.6		Mixed 50 sacks H-Plug A cement 13.8 ppg @ 430'
4:02 AM	5.5	100.0	1.5		Begin water displacement
5:13 AM	3.0	50.0	2.5		Mixed 10 sacks H-Plug A cement with wooden plug 13.8 ppg for top 40'
5:17 AM	3.0	50.0	7.5		Mixed 30 sacks H-Plug A cement 13.8 ppg for rat hole plug
5:19 AM					Plug down
5:21 AM					Washed up and rigged down
6:00 AM					Left location

CREW		UNIT	SUMMARY		
Cementer:	John	73	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Jose V	527-520	4.0 bpm	148 psi	87 bbls
Bulk #1:	Adrian	205			
Bulk #2:					

DRILLING REPORT - LOG TOPS - BRUBAKER 1-12

MDCI Brubaker #1- 990' FNL 550' FEL Sec. 12-T4S-R39W 3529' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	3346	+183	-40	3314	+215	-18
B/Anhydrite	3379	+150	-34	3349	+180	-4
Topeka	4188	-659	-11	4183	-654	-6
Heebner	4338	-809	-7	4339	-810	-8
Lansing	4392	-863	-7	4391	-862	-6
Stark	4610	-1081	-10	4607	-1078	-7
Mound City	4658	-1129	+6	4671	-1142	-7
Ft Scott	4794	-1265	-2	4804	-1275	-12
Oakley	4867	-1338	-6	4876	-1347	-15
Celia	4872	-1343	-3	4883	-1354	-14
Mississippian	5130	-1601	-28	NDE	NDE	NDE
RTD	5150					
LTD				5121		



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Rod Anderson

Brubaker #1-12

12-4s-39w Cheyenne,KS

Start Date: 2023.01.14 @ 01:42:21

End Date: 2023.01.14 @ 10:25:51

Job Ticket #: 70282 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2023.01.23 @ 11:21:28



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co

12-4s-39w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Brubaker #1-12

Job Ticket: 70282

DST#: 1

ATTN: Rod Anderson

Test Start: 2023.01.14 @ 01:42:21

GENERAL INFORMATION:

Formation: **LKC A-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:40:51

Time Test Ended: 10:25:51

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Interval: 4328.00 ft (KB) To 4480.00 ft (KB) (TVD)

Reference Elevations: 3529.00 ft (KB)

Total Depth: 4480.00 ft (KB) (TVD)

3524.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8674 Outside

Press@RunDepth: 314.15 psig @ 4329.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2023.01.14

End Date:

2023.01.14

Last Calib.:

2023.01.14

Start Time: 01:42:26

End Time:

10:25:51

Time On Btm:

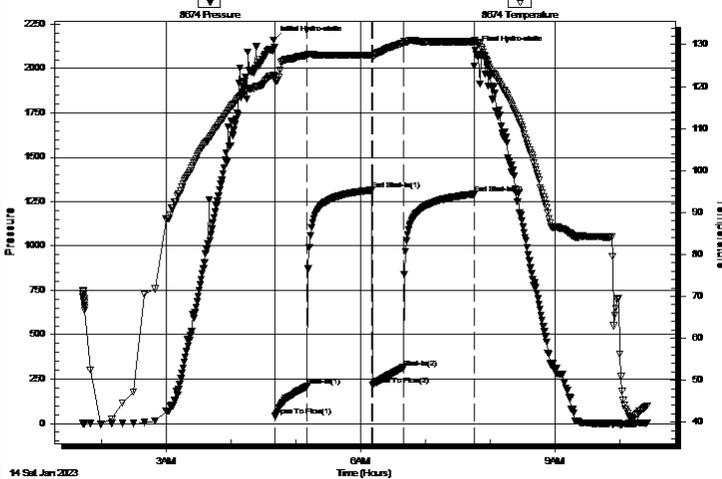
2023.01.14 @ 04:39:21

Time Off Btm:

2023.01.14 @ 07:46:21

TEST COMMENT: IF: BOB in 11 min. 24"
IS: No return.
FF: BOB in 14 min. 20"
FS: No return. 30-60-30-60

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2160.94	122.74	Initial Hydro-static
2	39.97	121.63	Open To Flow (1)
31	209.72	127.51	Shut-In(1)
91	1315.33	127.56	End Shut-In(1)
92	218.13	126.84	Open To Flow (2)
120	314.15	130.41	Shut-In(2)
186	1292.55	130.68	End Shut-In(2)
187	2104.29	130.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
315.00	w cm 30%w 70%m	2.23
252.00	w cm 10%w 90%m	3.53
146.00	mud 100%m	2.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co

12-4s-39w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Brubaker #1-12

Job Ticket: 70282

DST#: 1

ATTN: Rod Anderson

Test Start: 2023.01.14 @ 01:42:21

Tool Information

Drill Pipe:	Length: 4080.00 ft	Diameter: 3.80 inches	Volume: 57.23 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose:	85000.00 lb
			<u>Total Volume: 58.41 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	75000.00 lb
Depth to Top Packer:	4328.00 ft			Final	80000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	152.00 ft				
Tool Length:	181.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	4300.00	
Shut In Tool	5.00			4305.00	
Hydraulic tool	5.00			4310.00	
Jars	5.00			4315.00	
EM Tool	2.00			4317.00	
Safety Joint	2.00			4319.00	
Packer	5.00			4324.00	29.00 Bottom Of Top Packer
Packer	4.00			4328.00	
Stubb	1.00			4329.00	
Recorder	0.00	8790	Inside	4329.00	
Recorder	0.00	8674	Outside	4329.00	
Perforations	21.00			4350.00	
Change Over Sub	1.00			4351.00	
Drill Pipe	125.00			4476.00	
Change Over Sub	1.00			4477.00	
Bullnose	3.00			4480.00	152.00 Bottom Packers & Anchor
Total Tool Length:	181.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

12-4s-39w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Brubaker #1-12

Job Ticket: 70282

DST#: 1

ATTN: Rod Anderson

Test Start: 2023.01.14 @ 01:42:21

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

8000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
315.00	w cm 30%w 70%m	2.232
252.00	w cm 10%w 90%m	3.535
146.00	mud 100%m	2.048

Total Length: 713.00 ft Total Volume: 7.815 bbf

Num Fluid Samples: 0

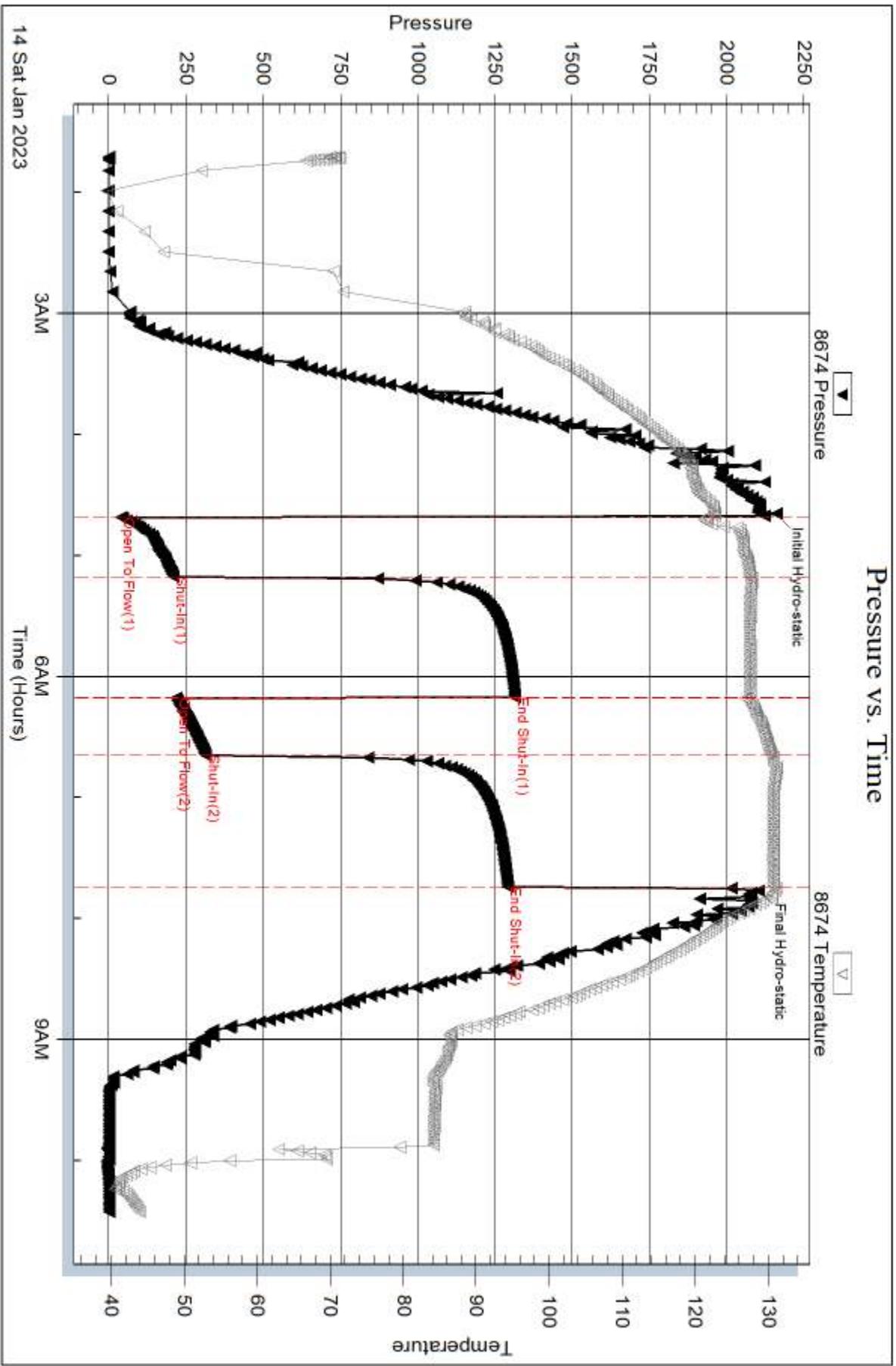
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1.6@34=8000



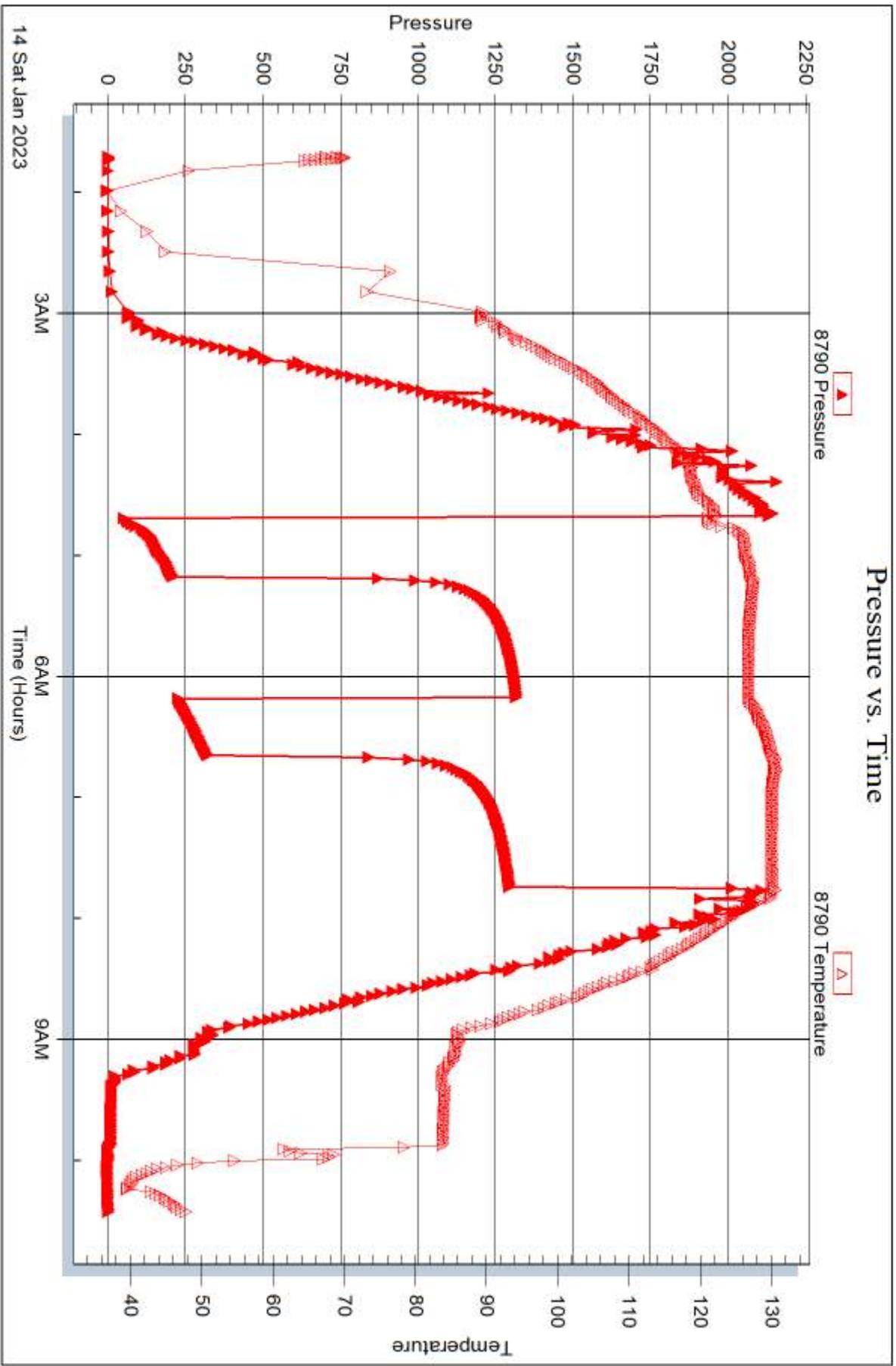
Serial #: 8790

Inside

Murfin Drilling Co

Brubaker #1-12

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Rod Anderson

Brubaker #1-12

12-4s-39w Cheyenne,KS

Start Date: 2023.01.15 @ 04:14:26

End Date: 2023.01.15 @ 12:19:26

Job Ticket #: 70283 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2023.01.23 @ 11:19:13



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co

12-4s-39w Cheyenne, KS

250 N Water Ste 300
Wichita, KS 67202

Brubaker #1-12

Job Ticket: 70283

DST#: 2

ATTN: Rod Anderson

Test Start: 2023.01.15 @ 04:14:26

GENERAL INFORMATION:

Formation: **LKC H-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:49:26

Time Test Ended: 12:19:26

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4522.00 ft (KB) To 4610.00 ft (KB) (TVD)

Reference Elevations: 3529.00 ft (KB)

Total Depth: 4610.00 ft (KB) (TVD)

3524.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8674 Outside

Press@RunDepth: 218.38 psig @ 4523.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2023.01.15

End Date:

2023.01.15

Last Calib.:

2023.01.15

Start Time: 04:14:31

End Time:

12:19:25

Time On Btm:

2023.01.15 @ 06:47:56

Time Off Btm:

2023.01.15 @ 09:50:26

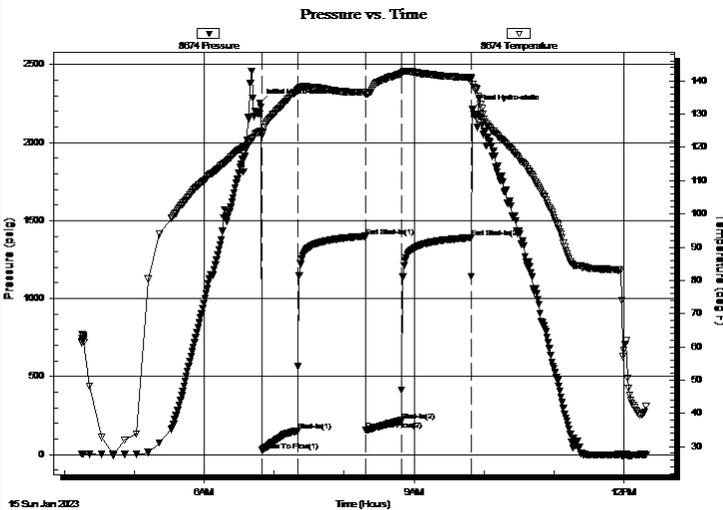
TEST COMMENT: IF: 1/2" built to 12"

IS: No return.

FF: 1/2" blow built to 10 3/4"

FS: No return. 30-60-30-60

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2253.80	124.74	Initial Hydro-static
2	25.74	123.33	Open To Flow (1)
32	152.97	137.05	Shut-In(1)
91	1400.09	136.53	End Shut-In(1)
91	156.09	135.96	Open To Flow (2)
121	218.38	142.18	Shut-In(2)
181	1389.83	140.89	End Shut-In(2)
183	2211.91	138.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
189.00	mcw 90%w 10%m	0.93
126.00	mcw 70%w 30%m	1.30
141.00	mud 100%m	1.98

* 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

12-4s-39w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Brubaker #1-12

Job Ticket: 70283

DST#: 2

ATTN: Rod Anderson

Test Start: 2023.01.15 @ 04:14:26

Tool Information

Drill Pipe:	Length: 4267.00 ft	Diameter: 3.80 inches	Volume: 59.85 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 61.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4522.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	88.00 ft			
Tool Length:	117.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	4494.00	
Shut In Tool	5.00			4499.00	
Hydraulic tool	5.00			4504.00	
Jars	5.00			4509.00	
EM Tool	2.00			4511.00	
Safety Joint	2.00			4513.00	
Packer	5.00			4518.00	29.00 Bottom Of Top Packer
Packer	4.00			4522.00	
Stubb	1.00			4523.00	
Recorder	0.00	8790	Inside	4523.00	
Recorder	0.00	8674	Outside	4523.00	
Perforations	20.00			4543.00	
Change Over Sub	1.00			4544.00	
Drill Pipe	62.00			4606.00	
Change Over Sub	1.00			4607.00	
Bullnose	3.00			4610.00	88.00 Bottom Packers & Anchor
Total Tool Length:	117.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

12-4s-39w Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Brubaker #1-12

Job Ticket: 70283

DST#: 2

ATTN: Rod Anderson

Test Start: 2023.01.15 @ 04:14:26

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

13000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
189.00	mcw 90%w 10%m	0.929
126.00	mcw 70%w 30%m	1.303
141.00	mud 100%m	1.978

Total Length: 456.00 ft Total Volume: 4.210 bbl

Num Fluid Samples: 0

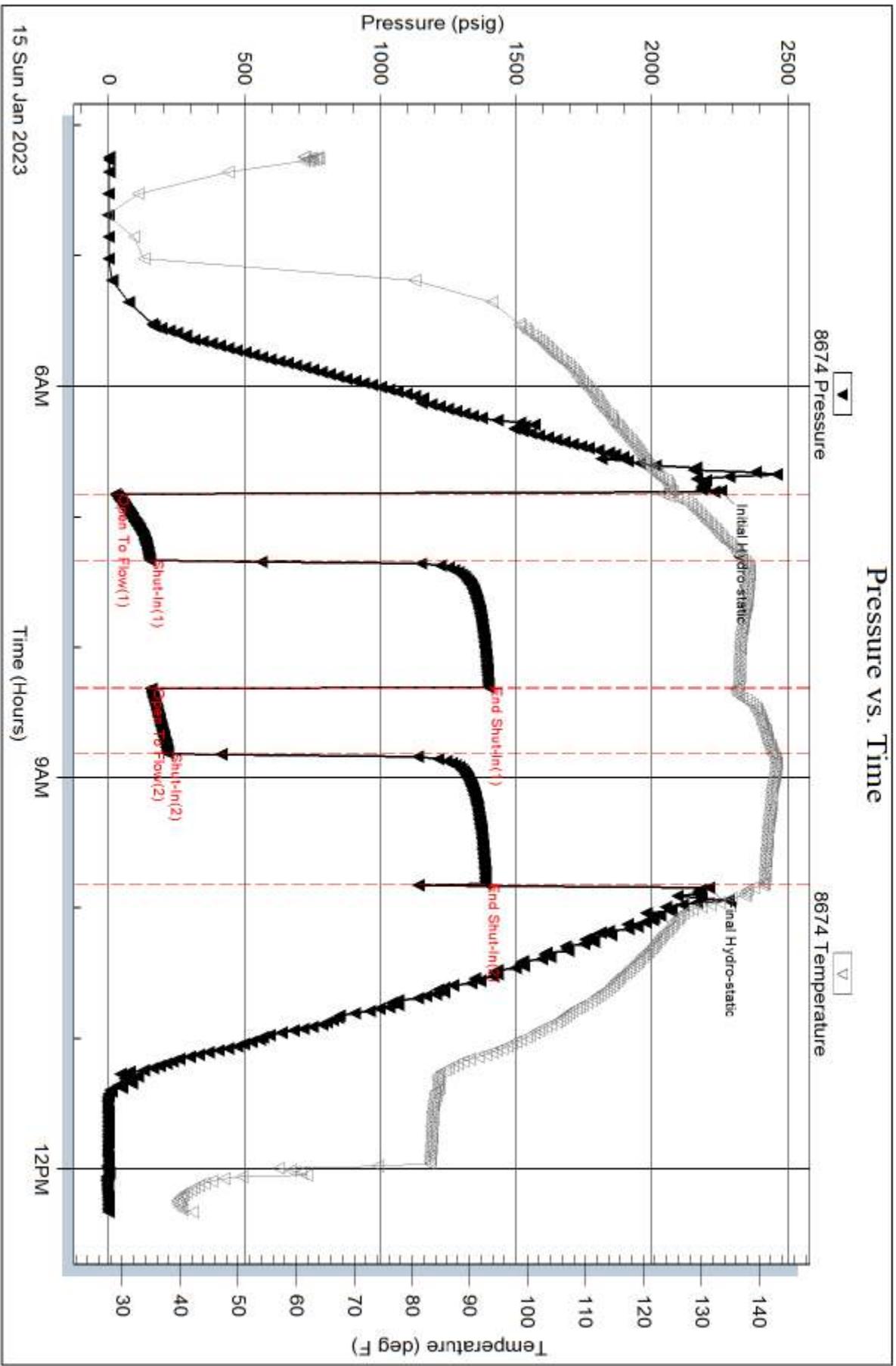
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1.03@25=13000



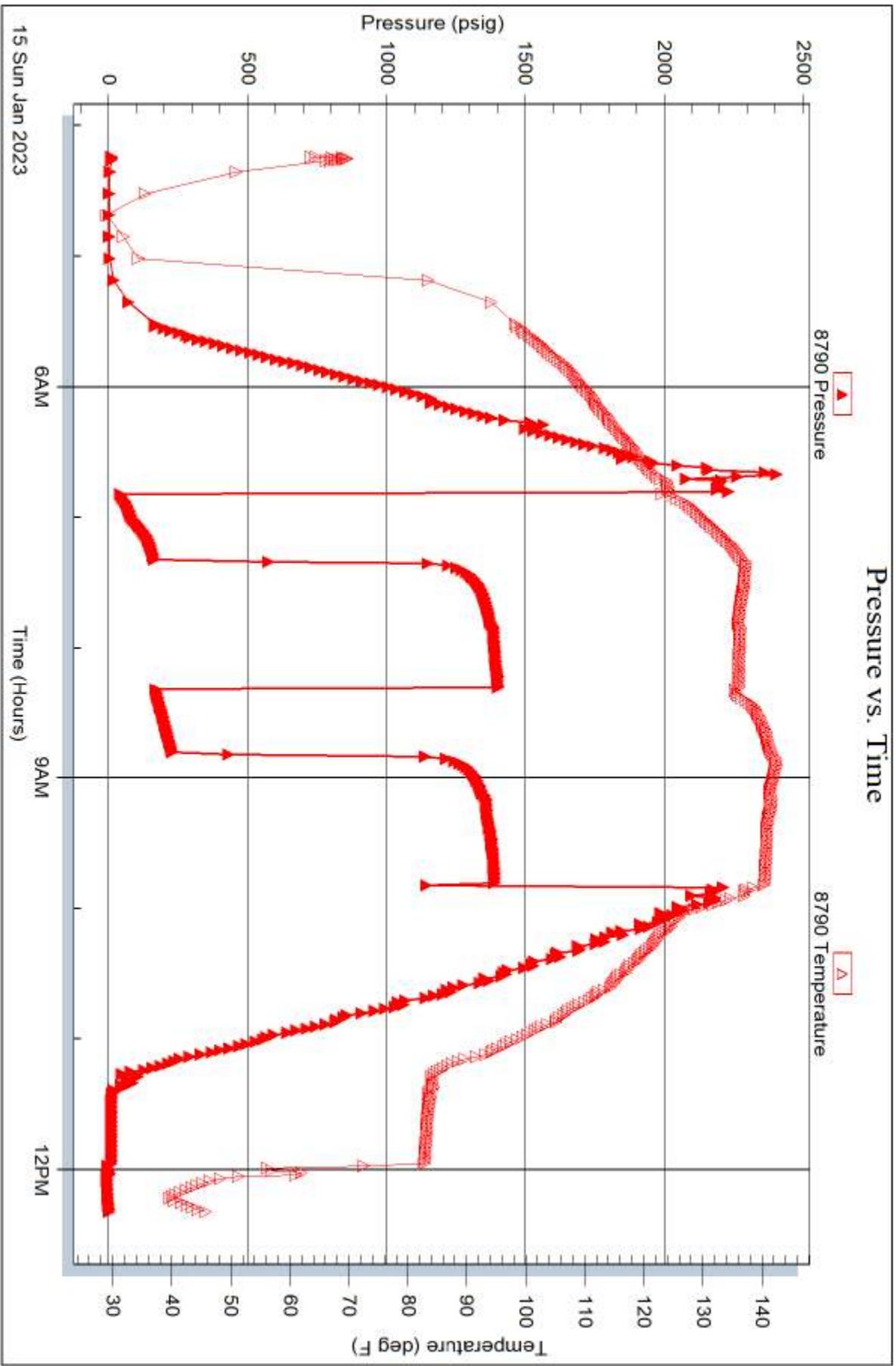
Serial #: 8790

Inside

Murfin Drilling Co

Brubaker #1-12

DST Test Number: 2





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 70282

Well Name & No. Brubaker 1-12 Test No. 1 Date 1-14-23
 Company Murfin Drilling Co Elevation 3529 KB 3524 GL
 Address Wichita
 Co. Rep / Geo. Rod Anderson Rig Murfin 110
 Location: Sec. 12 Twp 4 Rge. 39 Co. Cherokee State KS

Interval Tested 4328 4480 Zone Tested Lansing A-D
 Anchor Length 152 Drill Pipe Run 4080V Mud Wt. 8.8
 Top Packer Depth 4323 Drill Collars Run 240 Vis 57
 Bottom Packer Depth 4328 Wt. Pipe Run — WL 6.4
 Total Depth 4480 Chlorides 800 ppm System LCM 2
 Blow Description IF: BoB in 11 min. 24"
IS: NO return.
FF: BoB in 14 min, 20"
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>146</u>	<u>mud</u>			<u>100</u>	
<u>252</u>	<u>wcm</u>			<u>10</u>	<u>90</u>
<u>315</u>	<u>wcm</u>			<u>30</u>	<u>70</u>

Rec Total 713 BHT 131 Gravity — API RW 1.6 @ 39 °F Chlorides 8000 ppm
 Initial Hydrostatic 2160 Test 1950 Ruined Shale Packer
 Initial Flow 39 to 209 Jars 300 Ruined Packer
 Initial Shut-In 1315 Circ Sub N/C Hotel
 Final Flow 218 to 314 Hourly Standby EM Tool Successful
 Final Shut-In 1292 Mileage 282- 62 108.50 Accessibility
 Final Hydrostatic 2104 Sampler 30 52.50 Gas Sample
 T-On Location 1:00 Straddle Sub Total 0
 Initial Flow 30 T-Started 1:42 Shale Packer 250 Total 2661
 Initial Shut-In 60 T-Open 4:41 Extra Packer Tool Loaded @
 Final Flow 30 T-Pulled 7:41 Extra Recorder MP/DST Disc't
 Final Shut-In 60 T-Out 10:25 Day Standby

Comments Requested off for a funeral and was still
sent out knowing that I requested off

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **70283**

Well Name & No. Brubaker 1-12 Test No. 2 Date 1-15-23
 Company Murfin Elevation 3529 KB 3524 GL
 Address _____
 Co. Rep / Geo Rod Anderson Rig 110
 Location: Sec. 12 Twp 4 Rge. 39 Co. Cherokee State KS

Interval Tested 4522 4610 Zone Tested Lansing H-J
 Anchor Length 88 Drill Pipe Run 4267 Mud Wt. 8.9
 Top Packer Depth 4517 Drill Collars Run 240 Vis 57
 Bottom Packer Depth 4522 Wt. Pipe Run _____ WL 6.4
 Total Depth 4610 Chlorides 800 ppm System LCM 2

Blow Description IF: 1/2 built to 12.
IS: No return.
FF: 1/2 blow built to 10 3/4.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>141</u>	<u>Mud</u>			<u>100</u>	
<u>126</u>	<u>MLW</u>		<u>70</u>	<u>30</u>	
<u>189</u>	<u>MLW</u>		<u>90</u>	<u>10</u>	
____	____	____	____	____	____
____	____	____	____	____	____
____	____	____	____	____	____
____	____	____	____	____	____

Rec Total 456 BHT 140 Gravity _____ API RW 1.03 @ 25 °F Chlorides 13,000 ppm
 Initial Hydrostatic 2253 Test 1950 Ruined Shale Packer _____
 Initial Flow 25 to 152 Jars 300 Ruined Packer _____
 Initial Shut-In 1400 Circ Sub NIL Hotel _____
 Final Flow 156 to 218 Hourly Standby _____ EM Tool Successful _____
 Final Shut-In 1389 Mileage 282- 60 105 Accessibility _____
 Final Hydrostatic 2211 Sampler _____ Gas Sample _____
 T-On Location 330 Straddle _____ Sub Total 800
 Initial Flow 30 T-Started 4:14 Shale Packer 250 Total 3566
 Initial Shut-In 60 T-Open 6:49 Extra Packer _____ Tool Loaded 1-16 @ 20:00
 Final Flow 30 T-Pulled 9:49 Extra Recorder _____ MP/DST Disc't _____
 Final Shut-In 60 T-Out 12:26 Day Standby 1d 7.75h

Comments _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 70282

Well Name & No. Brubaker 1-12 Test No. 1 Date 1-14-23
 Company Murfin Drilling Co Elevation 3529 KB 3524 GL
 Address Wichita
 Co. Rep / Geo. Rod Anderson Rig Murfin 110
 Location: Sec. 12 Twp 4 Rge. 39 Co. Cherokee State KS

Interval Tested 4328 4480 Zone Tested Lansing A-D
 Anchor Length 152 Drill Pipe Run 4080V Mud Wt. 8.8
 Top Packer Depth 4323 Drill Collars Run 240 Vis 57
 Bottom Packer Depth 4328 Wt. Pipe Run — WL 6.4
 Total Depth 4480 Chlorides 800 ppm System LCM 2

Blow Description IF: BoB in 11 min. 24"
IS: NO return.
FF: BoB in 14 min, 20"
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>146</u>	<u>mud</u>			<u>100</u>	
<u>252</u>	<u>wcm</u>		<u>10</u>	<u>90</u>	
<u>315</u>	<u>wcm</u>		<u>30</u>	<u>70</u>	

Rec Total 713 BHT 131 Gravity — API RW 1.6 @ 39 °F Chlorides 8000 ppm

Initial Hydrostatic 2160 Test 1950 Ruined Shale Packer
 Initial Flow 39 to 209 Jars 300 Ruined Packer
 Initial Shut-In 1315 Circ Sub N/C Hotel
 Final Flow 218 to 314 Hourly Standby EM Tool Successful
 Final Shut-In 1292 Mileage 282- 62 108.50 Accessibility
 Final Hydrostatic 2104 Sampler 30 52.50 Gas Sample
 T-On Location 1:00 Straddle Sub Total 0
 Initial Flow 30 T-Started 1:42 Shale Packer 250 Total 2661
 Initial Shut-In 60 T-Open 4:41 Extra Packer Tool Loaded @
 Final Flow 30 T-Pulled 7:41 Extra Recorder MP/DST Disc't
 Final Shut-In 60 T-Out 10:25 Day Standby

Comments Requested off for a funeral and was still
sent out knowing that I requested off

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **70283**

Well Name & No. Brubaker 1-12 Test No. 2 Date 1-15-23
 Company Murfin Elevation 3529 KB 3524 GL
 Address _____
 Co. Rep / Geo Rod Anderson Rig 110
 Location: Sec. 12 Twp 4 Rge. 39 Co. Cherokee State KS

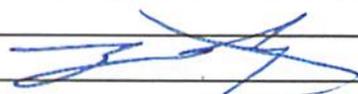
Interval Tested 4522 4610 Zone Tested Lansing H-J
 Anchor Length _____ Drill Pipe Run 4267 Mud Wt. 8.9
 Top Packer Depth _____ Drill Collars Run 240 Vis 57
 Bottom Packer Depth _____ Wt. Pipe Run _____ WL 6.4
 Total Depth 4610 Chlorides 800 ppm System LCM 2

Blow Description IF: 1/2 built to 12.
IS: No return.
FF: 1/2 blow built to 10 3/4.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>141</u>	<u>Mud</u>			<u>100</u>	
<u>126</u>	<u>MLW</u>		<u>70</u>	<u>30</u>	
<u>189</u>	<u>MLW</u>		<u>90</u>	<u>10</u>	
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Rec Total 456 BHT 140 Gravity _____ API RW 1.03 @ 25 °F Chlorides 13,000 ppm
 Initial Hydrostatic 2253 Test 1950 Ruined Shale Packer _____
 Initial Flow 25 to 152 Jars 300 Ruined Packer _____
 Initial Shut-In 1400 Circ Sub NIL Hotel _____
 Final Flow 156 to 218 Hourly Standby _____ EM Tool Successful _____
 Final Shut-In 1389 Mileage 282- 60 105 Accessibility _____
 Final Hydrostatic 2211 Sampler _____ Gas Sample _____
 T-On Location 330 Straddle _____ Sub Total 800
 Initial Flow 30 T-Started 4:14 Shale Packer 250 Total 3566
 Initial Shut-In 60 T-Open 6:49 Extra Packer _____ Tool Loaded 1-16 @ 20:00
 Final Flow 30 T-Pulled 9:49 Extra Recorder _____ MP/DST Disc't _____
 Final Shut-In 60 T-Out 12:26 Day Standby 1d 7.75h

Comments _____

Approved By _____ Our Representative 

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LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name: Brubaker #1-12

Well Id:

Location: 990' FNL & 550' FEL Sec. 12 T4S-R39W

License Number: 15-023-21589-00-00

Spud Date: 1/9/2023

Region: Cheyenne County

Drilling Completed: 1/17/2023

Surface Coordinates:

Bottom Hole

Coordinates:

Ground Elevation (ft): 3524

K.B. Elevation (ft): 3529

Logged Interval (ft): 4080 To: 5100

Total Depth (ft): 5150

Formation: Mississippian

Type of Drilling Fluid: Chemical mud

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

OPERATOR

Company: Murfin Drilling Company, Inc

Address: 250 N Water Suite 300
Wichita, Kansas 67202

GEOLOGIST

Name: Rod Andersen

Company: Rod Andersen Consulting

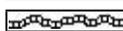
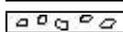
Address: 100 S. Main Suite 225
Wichita, Kansas 67202

Cores

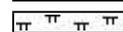
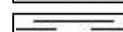
DSTs

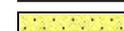
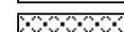
Comments

ROCK TYPES

 Anhy
 Bent
 Brec
 Cht
 Clyst

 Coal
 Congl
 Dol
 Gyp
 Igne

 Lmst
 Meta
 Mrlst
 Salt
 Shale

 Shcol
 Shgy
 Sltst
 Ss
 Till

ACCESSORIES

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

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral

- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol

- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg

TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

POROSITY

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

SORTING

- Well
- Moderate
- Poor

ROUNDING

- Rounded
- Subrnd
- Subang

- Angular

OIL SHOW

- Even
- Spotted
- Ques
- Dead

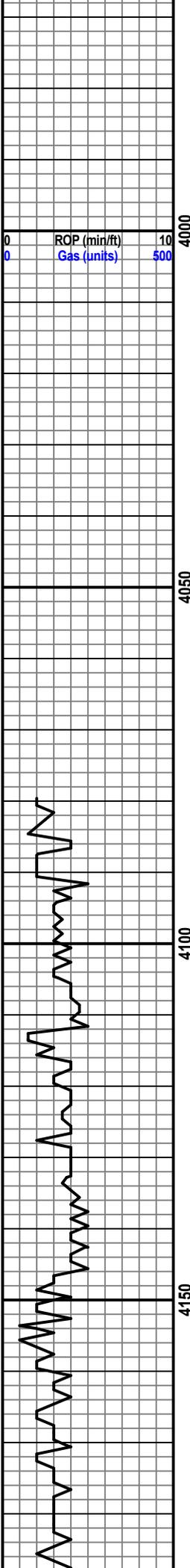
INTERVAL

- Core
- Dst

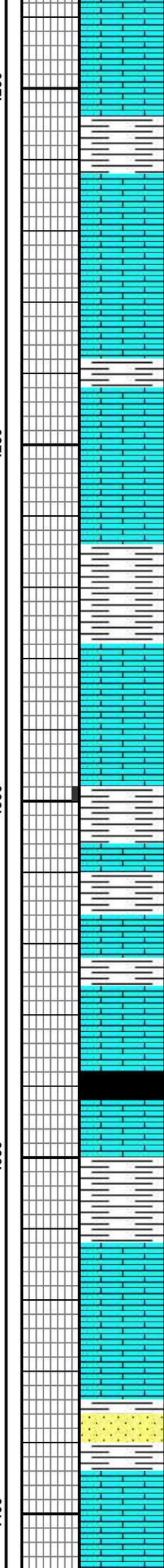
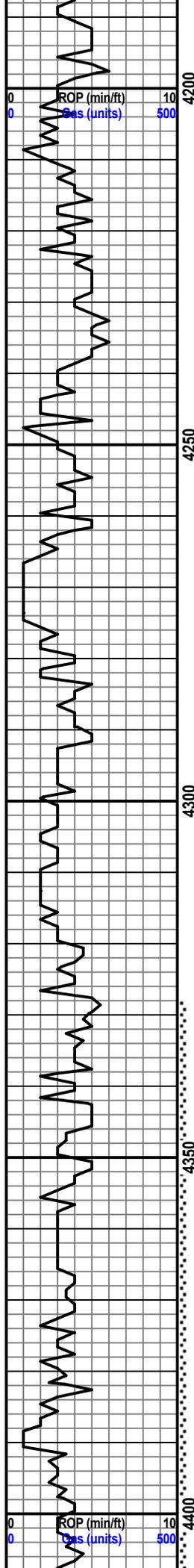
EVENT

- Rft
- Sidewall

Curve Track 1 ROP (min/ft) ——— Gas (units) - - - - -	MD	Porosity Type	Porosity	Lithology	Geological Descriptions	TG, C1-C5
<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> <p>ROP (min/ft) 10</p> <p>Gas (units) 500</p> </div> <div style="text-align: center;"> <p>39</p> </div> </div>			<p>24%</p> <p>18%</p> <p>12%</p> <p>8%</p>		<p>Anhydrite 3346 -183</p> <p>Base Anhydrite 3379 -150</p>	<p>Geologist on location 3800 1/11/2023</p> <p>1/12/2023</p> <p>Mud: Wt: 8.6 Vis:48</p>
	3950					



- Sh red silty-gry
- Ls wt-cm fxln-cxln dol in part no show very foss
- Sh red silty
- Sh red-gry
- Ls cm-tan fxln foss no show
- Ls cm-tan fxln foss no shows
- Sh gry silty in part
- Ls cm-tan fxln-mxln foss no show
- Sh gry silty in part
- Ls cm-tan v. foss fxln-cxln pinpoint por no shows
- Ls wt-cm-tan fxln-cxln pinpoint por no show v. foss
- Ls cm-tan fxln-mxln in part mostly wht chalky no shows
- Sh gry chalky
- Ls cm-tan-gry fxln-cxln good pinpoint point por no show v. foss
- Ls wt-cm fxln-cxln good pinpoint por v. foss no shows
- Ls wt-cm fxln-cxln pinpont por v. foss no show



Ls cm-tan fxln-cxln no vis por good blk oil stain on 90% of sample no free oil no gas bubbles

Sh gry-red-blk carb

Ls wt-cm-tan fxln-mxln cherty no vis por no shows

Ls cm-tan fxln foss no vis por no shows

Ls wt-cm fxln-cxln v. foss no vis por no show

Sh gry

Ls wt fxln-cxln pinpoint por no show foss

Ls wt-cm fxln-cxln no vis por scattered black oil stain no free oil slight odor

Sh red-cry-blk carb

Ls wt-cm fxln-cxln pinpoint por good intercxln por foss no shows no odor

Ls cm-tan fxln-cxln-pinpoint por-vuggy por small amount of black oil stain no odor foss

Sh gry-blk-red silty

Ls cm-tan fxln-cxln foss no show

Ls gry fxln no vis por no shows

Sh blk carb

Ls gry fxln no vis por no show

Sh blk carb

Ls gry fxln no vis por trace of black oil stain no free oil no odor

Sh gry-blk

Ls cm-tan fxln-cxln pinpoint por traces of blk oil stain no free oil no odor

Ls cm-tan fxln-cxln no vis por trace of blk oil stain no free oil faint odor

Ls cm-tan fxln-cxln pinpoint por-vuggy por good odor free oil oil from broken pieces good odor

Ss vfgm-mgfm clear rounded friable good blk oil stain no free oil in samples

Ls cm-tan fxln-cxln-pinpoint point por fair show free oil bleeding good odor

Ls cm-tan fxln-cxln pinpoint por scattered free oil good blk stain throughout good odor

cfs 4200

DEER CREEK 4211 -682

cfs 4240

1/13/2023

LECOMPTON 4250 -721

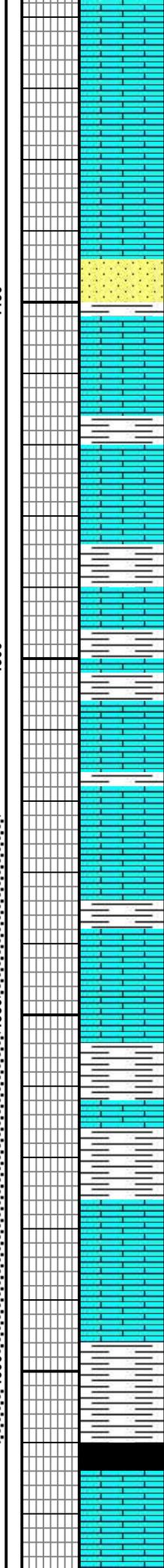
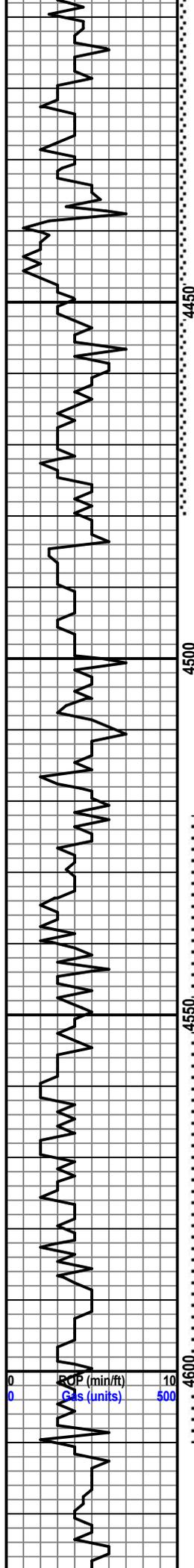
Mud:
Wt: 8.8
Vis: 57

cfs 4320

OREAD 4327 -798

HEEBNER 4338 -809

LANSING 4392 -863



Ls cm-tan fxln-cxln pinpoint por good blk stain some free oil on broken samples
 Ls wt-cm-tan fxln-cxln pinpoint-vuggy por good show free oil good odor pyritic gas bubbles

Ls cm-tan fxln-cxln good pinpoint-vuggy por samples bleeding oil free oil in tray good odor gas bubbles

Ls cm-tan fxln-mxln scattered pinpoint por scattered bleeding oil less por than above less free oil good odor

Ls cm fxln-mxln scattered blk oil stain no free oil

Ss vfrh gry sorted rounded friable no show

Sh gry-blk

Ls cm-tan fxln-cxln pinpoint-vuggy por good show bleeding oil free oil in tray good odor

Sh gry-blk

Ls cm-tan fxln-cxln pinpoint por good stain throughout scattered pieces bleeding oil good odor

Ls wt-cm fxln no vis por no show

Sh gry-blk

Ls wt fxln no vis por no shows

Sh blk-gry

Ls wt fxln no vis por no show

Sh blk

Ls wt-cm fxln-cxln-pinpoint-some vuggy por trace blk oil stain stain no free oil no odor

Ls wt-cm fxln-mxln foss pinpoint por no show chalky

Ls gry fxln no vis por no show

Sh gry chalky limestone

Ls fxln no vis por no show chalky in part

Sh gry silty

Sh red gry Ls chalky

Ls cm-tan fxln-cxln-pinpoint por good stain free oil in tray oil from broken pieces good odor

Ls cm-tan fxln-cxln pinpoint por fair stain some free oil oil from broken pieces good odor

Sh red-gry

Sh red-gry-blk

Sh blk carb

Ls wt fxln no vis por no show

Ls wt-gry fxln-cxln no vis por no show

cfs 4420

LANSING D 4452 -923

DST #1 4328-4480
 Rec: 146' mud + 567' water cut mud
 FP: 39-209# 218-314#
 SIP: 1315-1292#

cfs 4480

1/14/2023

Mud:
 Wt: 8.9
 Vis: 57

LANSING G 4500 -971

cfs 4530

CFS 4540

LANSING H 4541 - 1012

CFS 4570

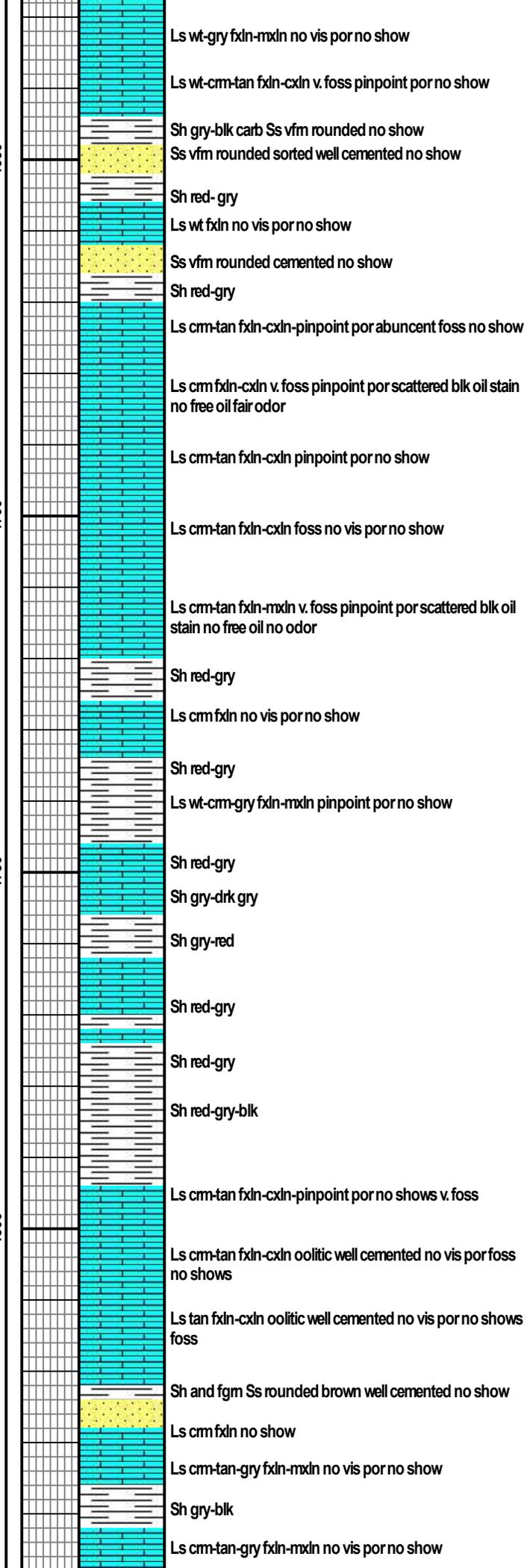
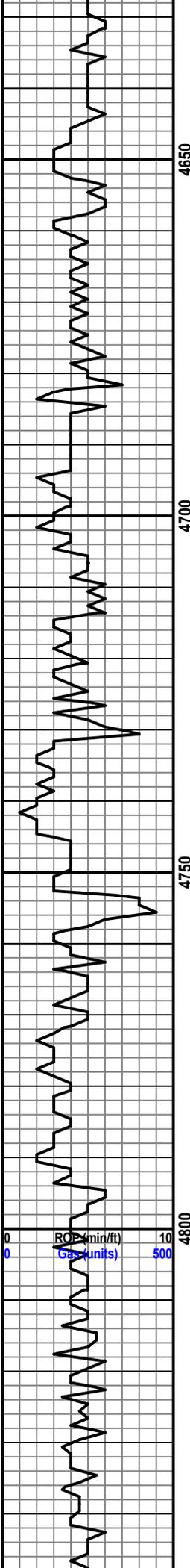
LANSING J 4576 - 1047

DST #2 4522-4610
 Rec 141' mud + 315' water cut mud
 FP : 25-152# 156-218#
 SIP: 1400-1389#

CFS 4610

1/15/2023

LANSING K 4612 - 1086



Mud
Wt: 9.1
Vis: 53

cfs 4650

LANSING L 4654 -1125
MOUND CITY 4658 -1129

LENEPAH 4682 -1153

1/16/2023

MARMATON 4626 -1197

Mud:
Wt: 9.4
Vis: 51

MARMATON B 4746 -1217

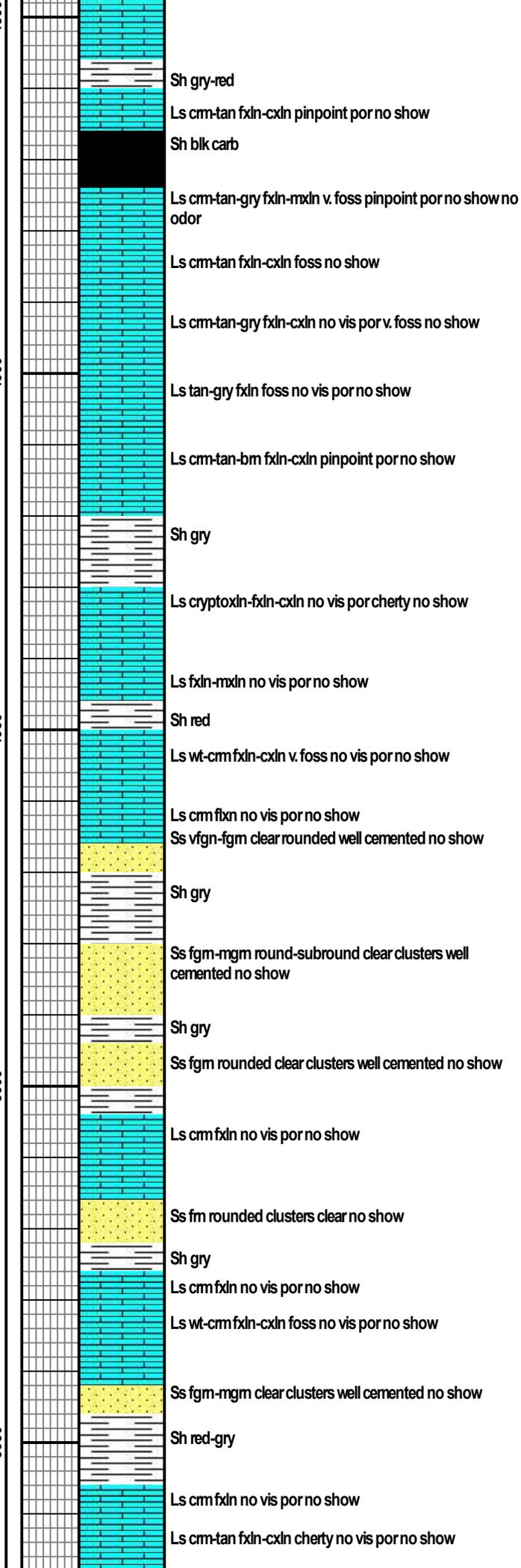
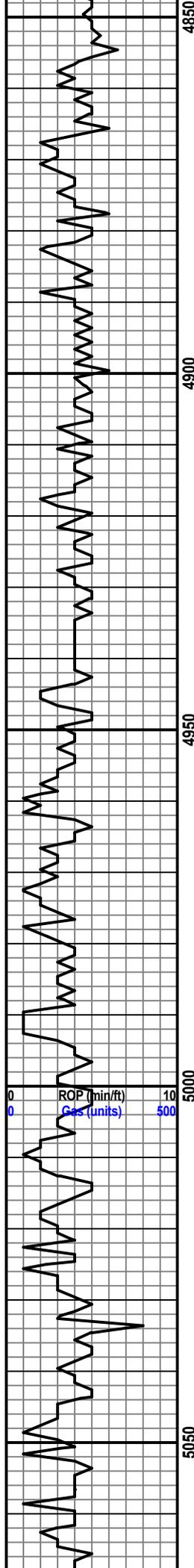
MARMATON C 4763 - 1234

FT SCOTT 4794 -1265

LOWER FT. SCOTT 4818 -1289
cfs 4820

EXCELLO 4836 -1307

BREEZY HILL 4842 - 1313



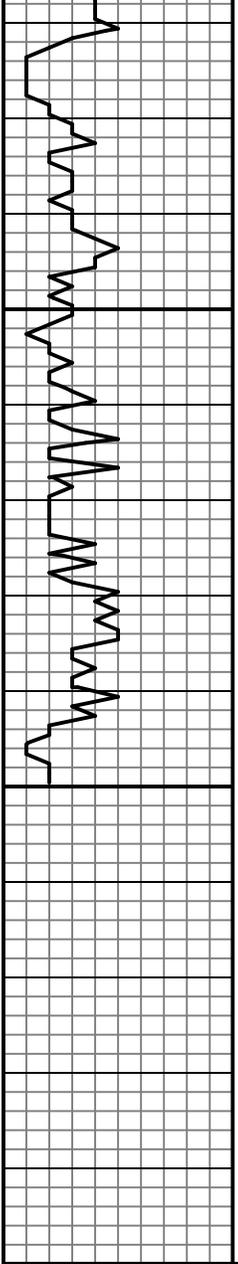
cfs 4850

OAKLEY 4867 -1338

CELIA 4872 -1343

ATOKA 4962 -1433

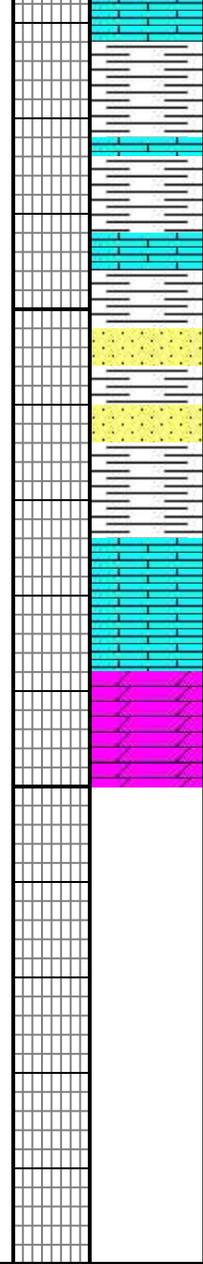
MORROW 5033 -1504



5100

5150

00



Sh gry-blk

Sh red-gry-blk sandy in part

Ls crm-bm fxln foss no show

Sh red-gry

Sd clear fgm-mgm clusters well cemented no show

Ss clear frgn clusters well cemented no show

Sh gry-blk pyritic

Ls crm-tan fxln-cxln foss dolomitic cherty no vis por no show

Dol bm suc with dolomitic limestone no shows

Dol bm suc no show

1/17/2023

Mud:
Wt: 9.3
Vis: 62

MISSISSIPPIAN 5130 -1601

cfs 5150

DRILLER TD 5150 -1621

TD LOGGER 5121 -1592