

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	UNIT 1-20
Doc ID	1675325

All Electric Logs Run

DIL
DUCP
MEL
BHCS



CEMENT TREATMENT REPORT

Customer: Murfin Drilling	Well: Unit #1-20	Ticket: WP 3523
City, State: Wheeler KS	County: Cheyenne KS	Date: 10/18/2022
Field Rep: Ricky Hilgers	S-T-R: 20-2S-39W	Service: PTA

Downhole Information	
Hole Size:	7 7/8 in
Hole Depth:	4989 ft
Casing Size:	in
Casing Depth:	ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	bbls

Calculated Slurry - Lead	
Blend:	H-Plug A
Weight:	13.8 ppg
Water / Sx:	6.9 gal / sx
Yield:	1.42 ft³ / sx
Annular Bbls / Ft.:	0.0406 bbls / ft.
Depth:	3290 ft
Annular Volume:	133.6 bbls
Excess:	
Total Slurry:	60.8 bbls
Total Sacks:	240 sx

Calculated Slurry - Tail	
Blend:	
Weight:	ppg
Water / Sx:	gal / sx
Yield:	ft³ / sx
Annular Bbls / Ft.:	bbls / ft.
Depth:	ft
Annular Volume:	0 bbls
Excess:	
Total Slurry:	0.0 bbls
Total Sacks:	0 sx

TIME	RATE	PSI	BBLs	TOTAL BBLs	REMARKS
1:15 AM					Arrived on location
1:25 AM					Safety meeting
1:36 AM					Rigged up
2:38 AM	5.0	260.0	5.0	5.0	Water ahead
2:40 AM	5.0	450.0	12.6	17.6	Mixed 50 sacks H-Plug A cement 13.8 ppg @ 3290'
2:44 AM	3.3	160.0	6.0	22.6	Begin displacement
2:49 AM				22.6	Pumped mud using rig pump for 2:45 minutes
				22.6	
3:37 AM	3.0	260.0	5.0	27.6	Water ahead
3:39 AM	4.7	376.0	25.2	52.8	Mixed 100 sacks H-Plug A cement 13.8 ppg @ 2300'
3:46 AM	2.5	100.0	5.0	57.8	Begin displacement
3:51 AM					Pumped mud using rig pump for 1:45 minutes
7:37 AM	2.0	100.0	5.0		Water ahead
7:40 AM	2.0	100.0	12.6		Mixed 50 sacks H-Plug A cement 13.8 ppg @ 350'
7:46 AM	2.0	100.0	0.5		Begin displacement
8:55 AM	2.0	100.0	2.5		Mixed 10 sacks H-Plug A cement 13.8 ppg with wooden plug for top 40'
8:59 AM	2.0	100.0	7.5		Mixed 30 sacks H-Plug A cement 13.8 ppg for rat hole plug
9:02 AM					Plug down
9:04 AM					Washed up and rigged down
9:20 AM					Left location

CREW		UNIT	SUMMARY		
Cementor:	John	73	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Jose V	208	2.9 bpm	169 psi	86 bbls
Bulk #1:	Kale	180-530			
Bulk #2:					

DRILLING REPORT - LOG TOPS - UNIT 1-20

MDCI
 Unit #1-20
 990'FSL 990'FWL
 Sec. 20-T2S-R39W
 3193' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	3277	-84	+26	3082	+111	+1
B/Anhydrite	3308	-115	-40	3122	+71	-4
Topeka	3915	-722	-18	3903	-710	-6
Oread	4024	-831	-3	4025	-832	-4
Lansing	4102	-909	Flat	4106	-913	-4
Mound City	4365	-1172	+33	4400	-1207	-2
Ft. SC	4526	-1333	-2	4525	-1332	-1
Oakley	4607	-1414	+1	4607	-1414	+1
Miss	4875	-1682	+6	4874	-1681	+7
RTD	5000					
LTD				4999		

LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name: Unit #1-20

Well Id:

Location: 990 FSL & 990 FWL Sec 20 T2S-R39W

License Number: 15-023-21583-00-00

Spud Date: 10/05/2022

Region: Cheyenne Co. Ks

Drilling Completed: 10/17/2022

Surface Coordinates:

Bottom Hole

Coordinates:

Ground Elevation (ft): 3188

K.B. Elevation (ft): 3193

Logged Interval (ft): 3800 To: 5000

Total Depth (ft): 5000

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


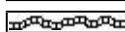
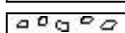
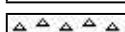
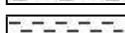
Address: 100 S. Main Suite 225
Wichita, Kansas 67202






Cores



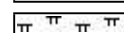

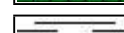
DSTs

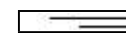
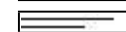

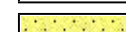
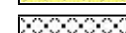
Comments

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

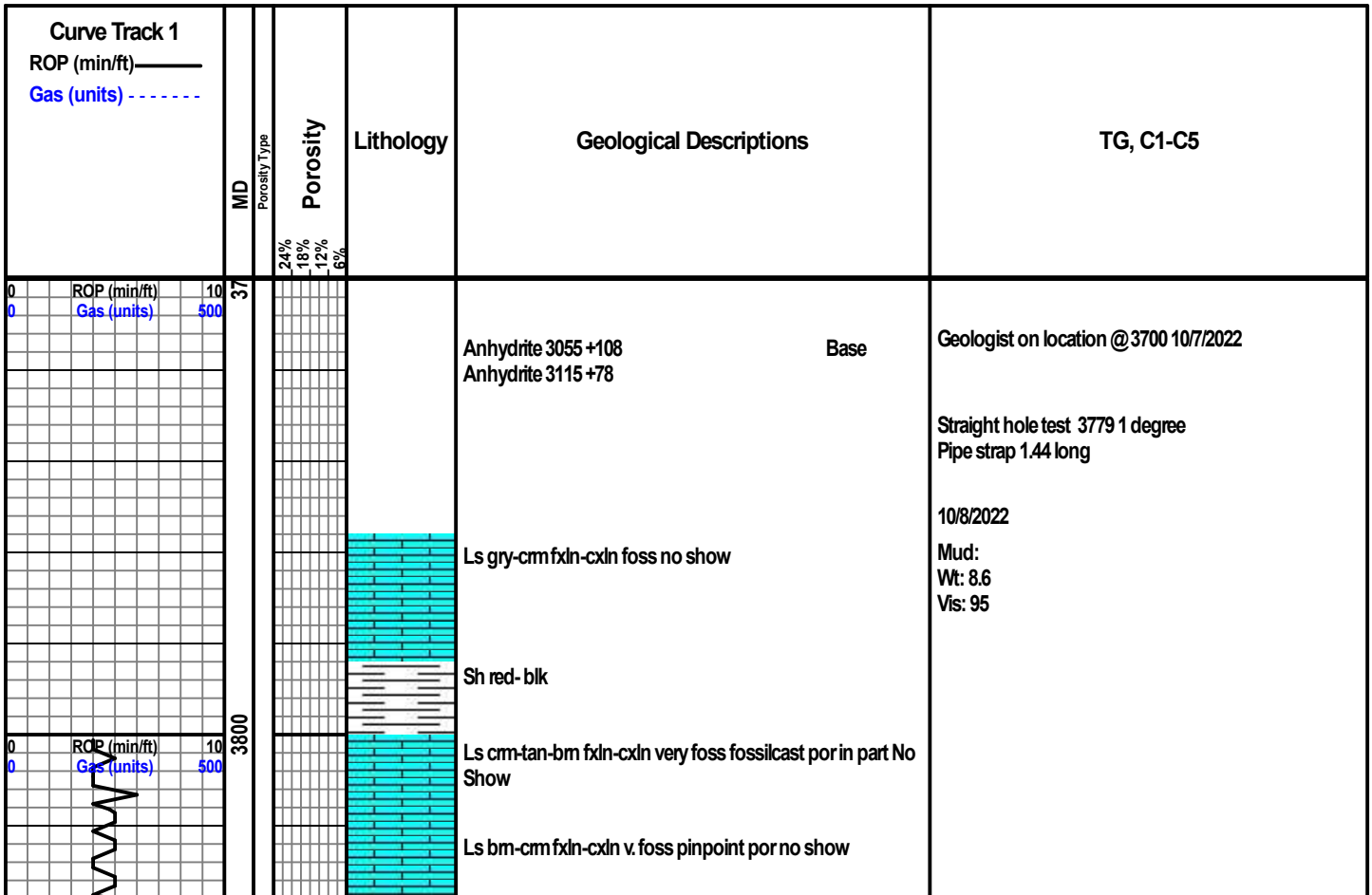
- Even
- Spotted
- Ques
- Dead

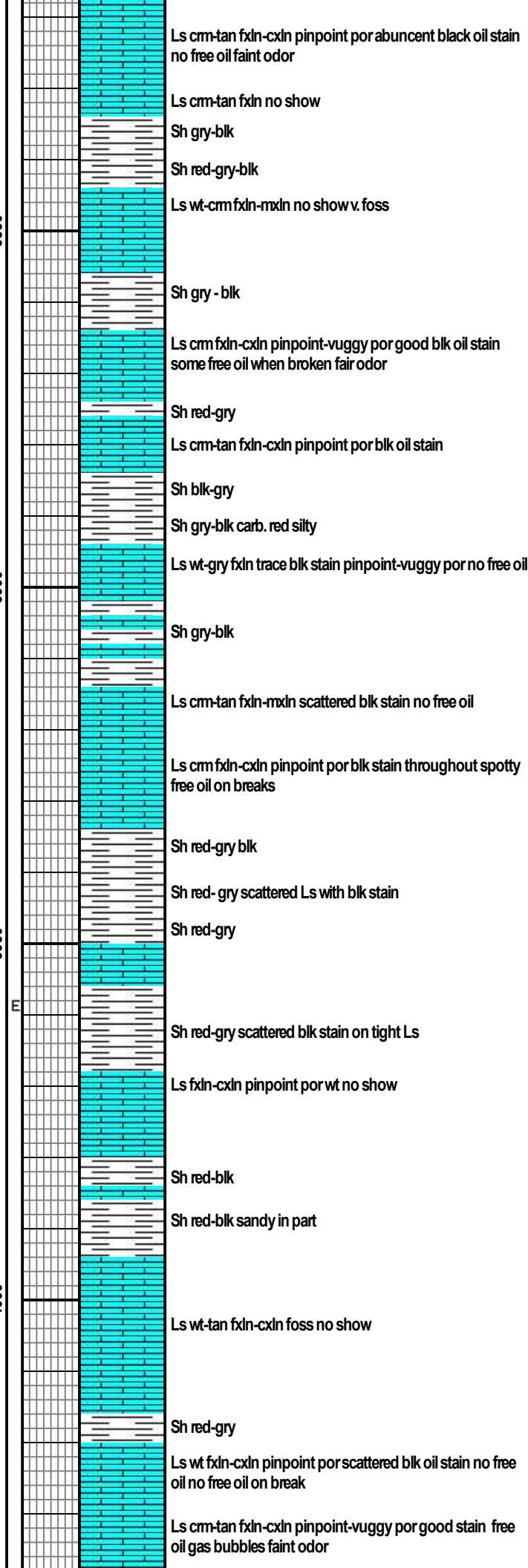
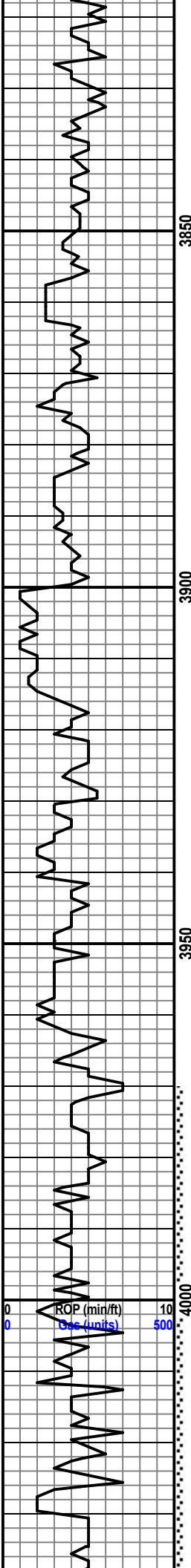
INTERVAL

- Core
- Dst

EVENT

- Rft
- Sidewall





Ls cm-tan fxln-cxln pinpoint por abuncent black oil stain
no free oil faint odor

Ls cm-tan fxln no show

Sh gry-blk

Sh red-gry-blk

Ls wt-cm fxln-mxln no show v. foss

Sh gry - blk

Ls cm fxln-cxln pinpoint-vuggy por good blk oil stain
some free oil when broken fair odor

Sh red-gry

Ls cm-tan fxln-cxln pinpoint por blk oil stain

Sh blk-gry

Sh gry-blk carb. red silty

Ls wt-gry fxln trace blk stain pinpoint-vuggy por no free oil

Sh gry-blk

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

Ls cm fxln-cxln pinpoint por blk stain throughout spotty
free oil on breaks

Sh red-gry blk

Sh red- gry scattered Ls with blk stain

Sh red-gry

Sh red-gry scattered blk stain on tight Ls

Ls fxln-cxln pinpoint por wt no show

Sh red-blk

Sh red-blk sandy in part

Ls wt-tan fxln-cxln foss no show

Sh red-gry

Ls wt fxln-cxln pinpoint por scattered blk oil stain no free
oil no free oil on break

Ls cm-tan fxln-cxln pinpoint-vuggy por good stain free
oil gas bubbles faint odor

TOPEKA 3904 -711

10/9/2022

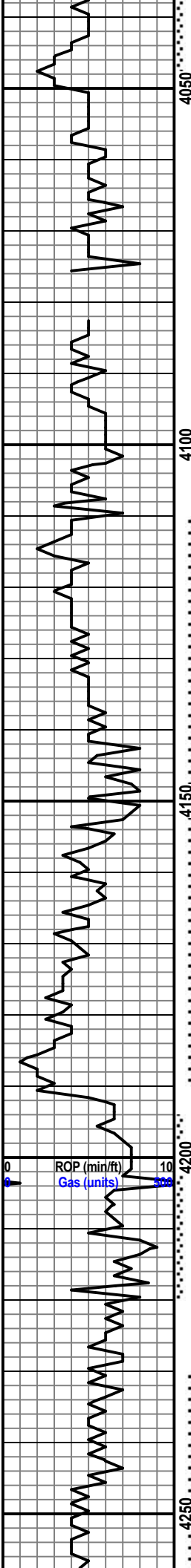
DEER CREEK 3942 -749

Mud:
Wt: 8.9
Vis: 64

LECOMPTON 3994 -801

OREAD 4024 -831

cfs 4030
DST 1: 3970-4050



Ls cm-tan fxln-mxln foss no show

Rec: 181' Gas Cut Water
2,457' Sil Muddy Gas Cut Water
FP: 225-990# 1011-1185#
SIP: 1373-1373#

csf 4050

Ls cm-tan fxln foss fxln-cxln no show

10/10/2022

Ls wt-cm fxln-cxln trace blk oil stain no free oil

Geolograph stopped

Sh red-gry-blk silty

Red-gry blk carb.

LANSING 4102 -909

Ls cm-tan fxln foss no show

Ls tan fxln-crytoxln scattered blk oil stain

Ls cm-tan crytoxln-fxln scattered blk oil stain no free oil no odor

Ls cm-tan fxln no show

cfs 4140

Sh red-gty-blk

Sh red gry silty

LANSING D 4166 -973

Ls wt-cm fxln-cxln pinpoint-vuggy por excellent free oil floating in tray gas bubbles oil breaking out of samples good odor

Dst #2: 4110-4190'
Rec: 120' muddy water
2769' slightly muddy water
FP: 868-1229# 1238-1266#
SIP: 1266-1271#

Ls cm-tan fxln-cxln pinpoint-vuggy por good stain some free oil fair odor

Ls wt crytoxln-fxln no show

cfs 4190
10/11/2022

Ls tan-bm fxln-cxln pinpoint por-vuggy por good blk stain throughout fair show free oil and gas bubbles good odor

Ls cm-tan fxln-cxln-pinpoint-vuggy por good stain fair show free oil and gas bubbles foss with some fosscast por good odor

mud:
Wt: 9
Vis: 71

Sh gry-blk

cfs 4220
10/12/2022

Ls tan-bm fxln no show

DST 3 4194-4220
Rec: 10' oil spots in tool
FP: 29-33# 31-33#
SIP: 36-51#

Ls cm-tan fxln-cxln foss no show

LANSING G 4230 -1037

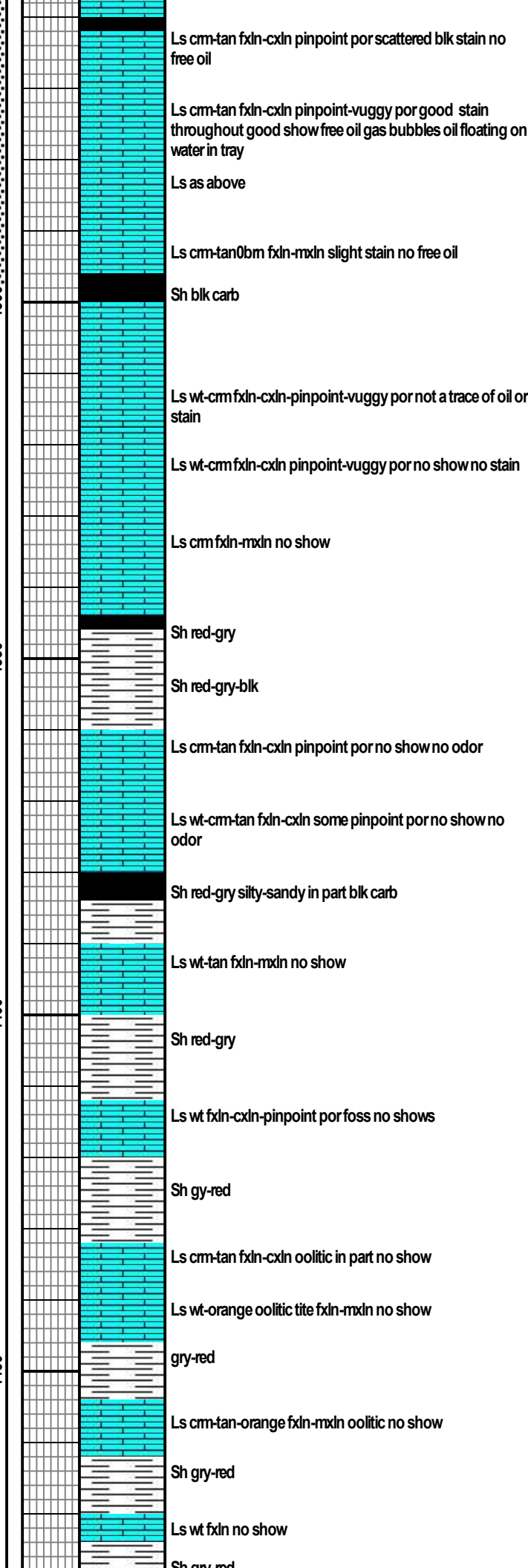
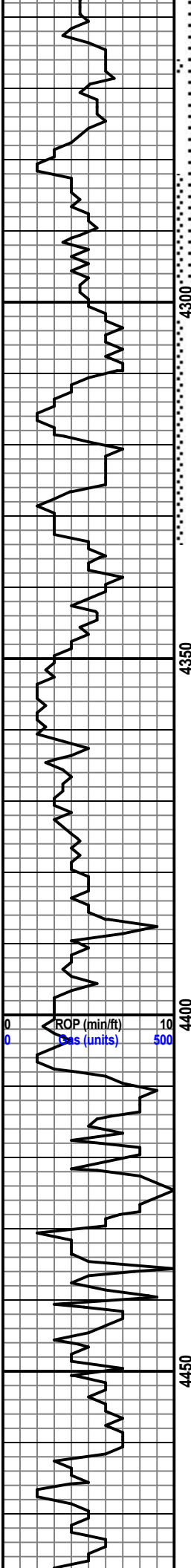
Ls gry-cm fxln no show

Sh gry-blk

cfs 3250

Ls gry-cm fxln foss no show

Mud:



Wt: 9
Vis: 57

LANSING H 4274 -1081

DST #4 4229-4308
Rec: 10' mud with spots of oil
FP: 41-45# 48-50# SIP: 1221-1204

cfs 4300
10/13/2022

LANSING J 4310 -1117

mud:
Wt: 9
Vis: 62

DST #6 4282-4334
Rec: 300' muddy water
FP 32-97# 101-156
SIP: 1359-1350#

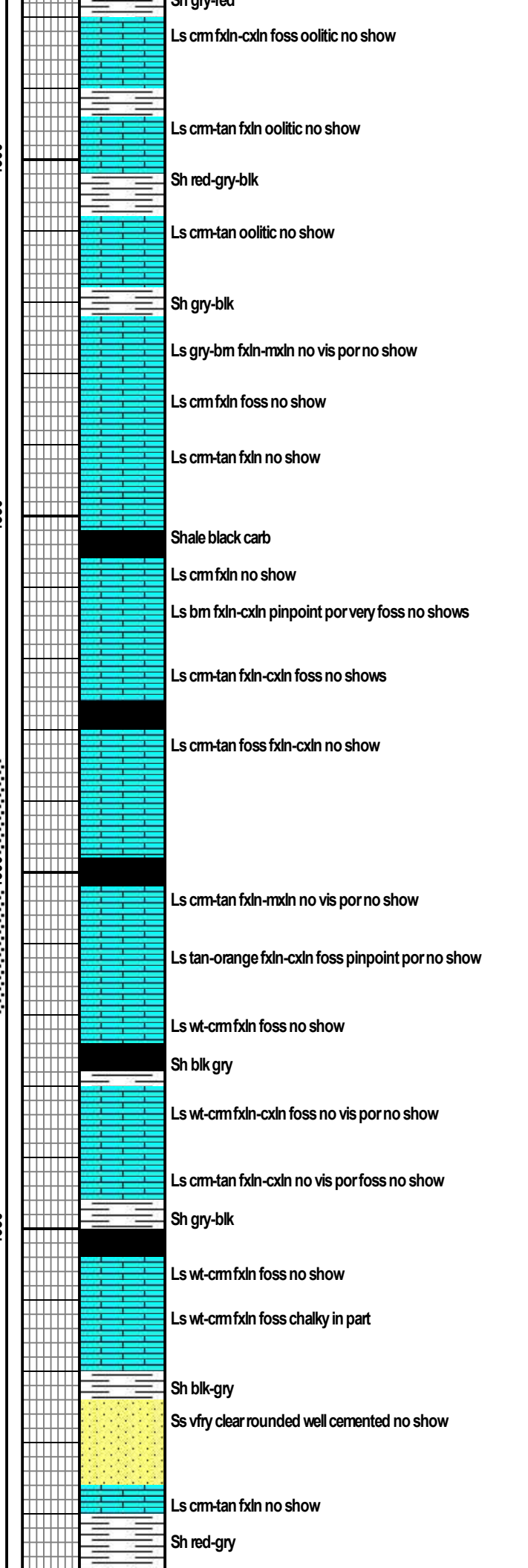
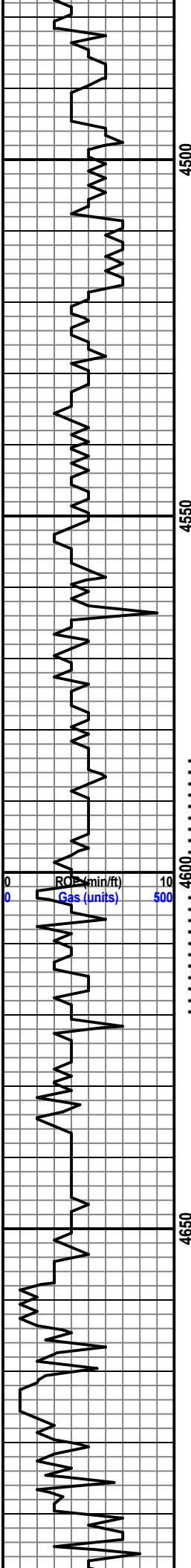
Lansing K 4368 -1175

LANSING L 4394 -1201

LENAPH 4414 -1221

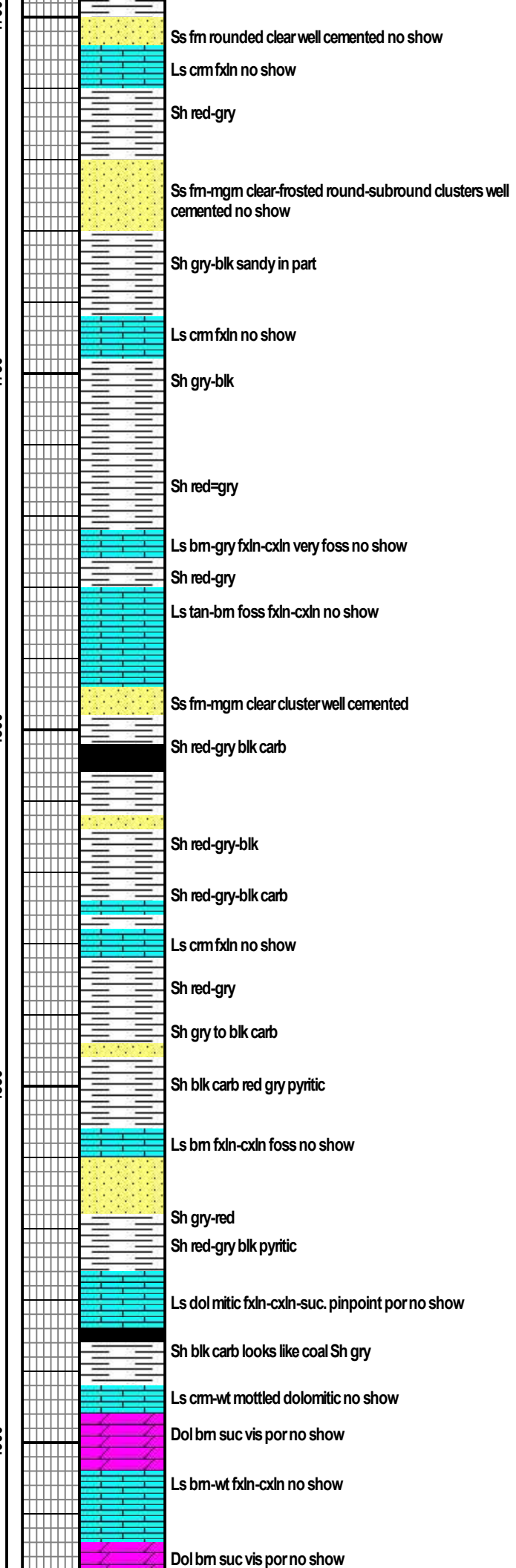
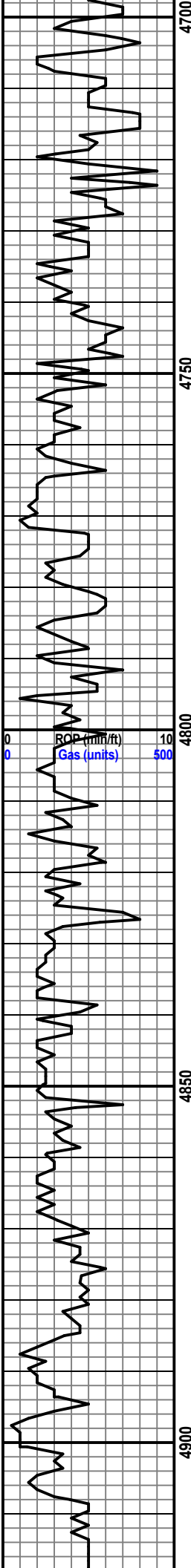
10/14/2022

mud
Wt: 9.2
Vis: 59



Sh gry-tan
 Ls cm fxln-cxln foss oolitic no show
 Ls cm-tan fxln oolitic no show
 Sh red-gry-blk
 Ls cm-tan oolitic no show
 Sh gry-blk
 Ls gry-bm fxln-mxln no vis por no show
 Ls cm fxln foss no show
 Ls cm-tan fxln no show
 Shale black carb
 Ls cm fxln no show
 Ls bm fxln-cxln pinpoint por very foss no shows
 Ls cm-tan fxln-cxln foss no shows
 Ls cm-tan foss fxln-cxln no show
 Ls cm-tan fxln-mxln no vis por no show
 Ls tan-orange fxln-cxln foss pinpoint por no show
 Ls wt-cm fxln foss no show
 Sh blk gry
 Ls wt-cm fxln-cxln foss no vis por no show
 Ls cm-tan fxln-cxln no vis por foss no show
 Sh gry-blk
 Ls wt-cm fxln foss no show
 Ls wt-cm fxln foss chalky in part
 Sh blk-gry
 Ss vtry clear rounded well cemented no show
 Ls cm-tan fxln no show
 Sh red-gry

cfs 4480
MARMATON C 4489 -1296
 CFS 4520
FT SCOTT 4526 -1333
LOWER FT SCOTT 4564 -1371
EXCELLO 4579 -1386
BREEZY HILL 4586 -1393
 cfs 4590
OAKLEY 4607 -1414
 CFS 4610
CELIA 4618 -1425
 DST #5 4585-4620
 Rec: 5' oil spotted mud
ATOKA 4706 -1513
 10/15/2022



Mud
Wt: 9.5
Vis: 67

10/16/2022

MISSISSIPPIAN 4875 -1682

CFS 4900

Ss fm rounded clear well cemented no show

Ls cm fxln no show

Sh red-gry

Ss fm-mgm clear-frosted round-subround clusters well cemented no show

Sh gry-blk sandy in part

Ls cm fxln no show

Sh gry-blk

Sh red=gry

Ls bm-gry fxln-cxln very foss no show

Sh red-gry

Ls tan-bm foss fxln-cxln no show

Ss fm-mgm clear cluster well cemented

Sh red-gry blk carb

Sh red-gry-blk

Sh red-gry-blk carb

Ls cm fxln no show

Sh red-gry

Sh gry to blk carb

Sh blk carb red gry pyritic

Ls bm fxln-cxln foss no show

Sh gry-red

Sh red-gry blk pyritic

Ls dol mitic fxln-cxln-suc. pinpoint por no show

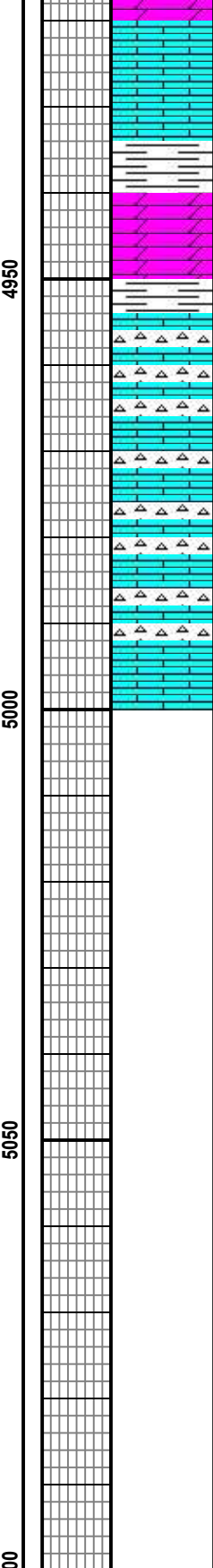
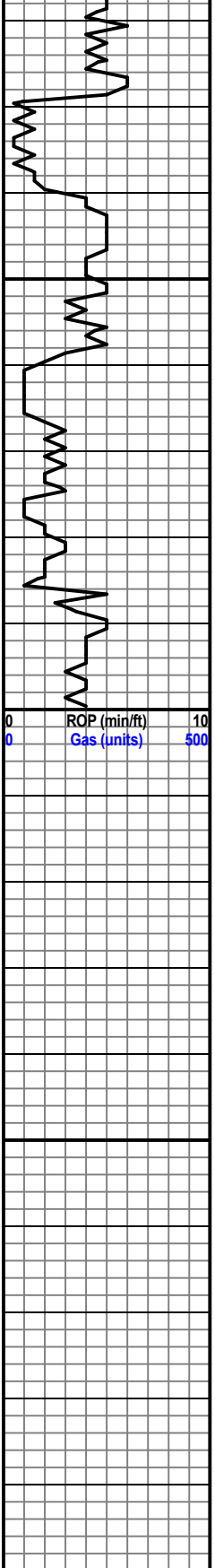
Sh blk carb looks like coal Sh gry

Ls cm-wt mottled dolomitic no show

Dol bm suc vis por no show

Ls bm-wt fxln-cxln no show

Dol bm suc vis por no show



Ls cm-tan fxln-cxln very foss oolitic no show
 Sh red-gry
 Dol wt-cm fxln-cxln-suc foss no show
 Ls cm-tan fxln-cxln no show
 Chert varicolored no fresh no show
 Ls wt-cm fxln-cxln no show
 Ls wt-cm fxln no show abundant chert fresh no show
 Ls cm-tan-bm fxln foss no show
 Ls cm-tan-bm fxln-cxln cherty no show

TD DRILLER 5,000'
 TD LOGGER 4999'
 10/17/2022



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Rod Anderson

Unit #1-20

20-2S-39W Cheyenne,KS

Start Date: 2022.10.09 @ 14:05:00

End Date: 2022.10.10 @ 00:41:00

Job Ticket #: 68972 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.10.18 @ 16:38:58



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

ATTN: Rod Anderson

Job Ticket: 68972

DST#: 1

Test Start: 2022.10.09 @ 14:05:00

GENERAL INFORMATION:

Formation: **Lecompton - Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:37:15

Time Test Ended: 00:41:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Nathan Aneas

Unit No: 71

Interval: 3970.00 ft (KB) To 4050.00 ft (KB) (TVD)

Reference Elevations: 3193.00 ft (KB)

Total Depth: 4050.00 ft (KB) (TVD)

3188.00 ft (CF)

Hole Diameter: 7.87 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8353

Inside

Press@RunDepth: 1184.59 psig @ 3971.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.10.09

End Date: 2022.10.10

Last Calib.: 2022.10.10

Start Time: 14:05:01

End Time: 00:41:00

Time On Btm: 2022.10.09 @ 17:36:45

Time Off Btm: 2022.10.09 @ 20:44:45

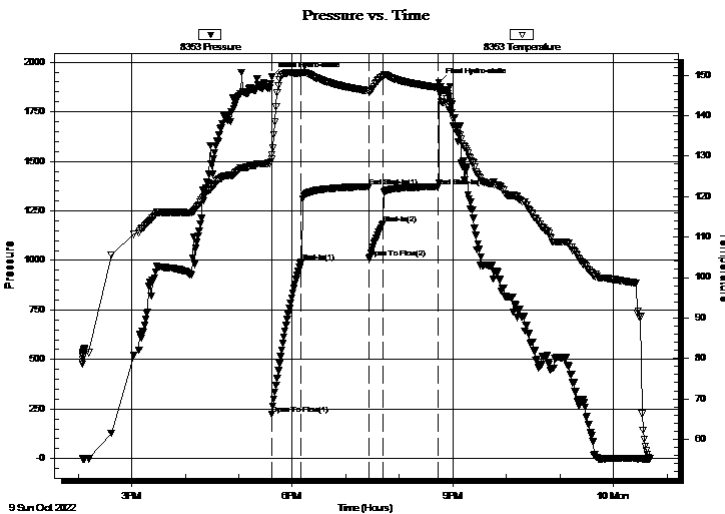
TEST COMMENT: 30:IF- Strong surface blow , built to BOB in 2 min, final is 249 inches

60:IS- No blow back

15:FF- Strong surface blow , BOB in 1 min, final is 85 1/2 inches

60:FS- No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1925.09	129.21	Initial Hydro-static
1	225.20	130.33	Open To Flow (1)
34	990.13	150.43	Shut-In(1)
109	1372.73	146.14	End Shut-In(1)
110	1010.69	145.82	Open To Flow (2)
125	1184.59	149.75	Shut-In(2)
187	1372.66	147.01	End Shut-In(2)
188	1898.68	146.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
181.00	GW 90%W 10%G	0.89
2457.00	SMGW 60%W 20%G 20%M	34.47

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 68972

DST#: 1

ATTN: Rod Anderson

Test Start: 2022.10.09 @ 14:05:00

Tool Information

Drill Pipe:	Length: 3768.00 ft	Diameter: 3.80 inches	Volume: 52.86 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 181.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	3970.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	112.00 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
Shut In Tool	5.00			3943.00	
Hydraulic tool	5.00			3948.00	
Jars	5.00			3953.00	
EM Tool	4.00			3957.00	
Safety Joint	3.00			3960.00	
Packer	5.00			3965.00	32.00 Bottom Of Top Packer
Packer	5.00			3970.00	
Stubb	1.00			3971.00	
Recorder	0.00	8353	Inside	3971.00	
Recorder	0.00	8676	Outside	3971.00	
Perforations	11.00			3982.00	
Change Over Sub	1.00			3983.00	
Blank Spacing	63.00			4046.00	
Change Over Sub	1.00			4047.00	
Bullnose	3.00			4050.00	80.00 Bottom Packers & Anchor

Total Tool Length: 112.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 68972

DST#: 1

ATTN: Rod Anderson

Test Start: 2022.10.09 @ 14:05:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

30000 ppm

Viscosity: 64.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.57 in³

Gas Cushion Type:

Resistivity: 0.28 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
181.00	GW 90%W 10%G	0.890
2457.00	SMGW 60%W 20%G 20%M	34.465

Total Length: 2638.00 ft Total Volume: 35.355 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .277@60 Degrees = 30,000 ppm

Serial #: 8353

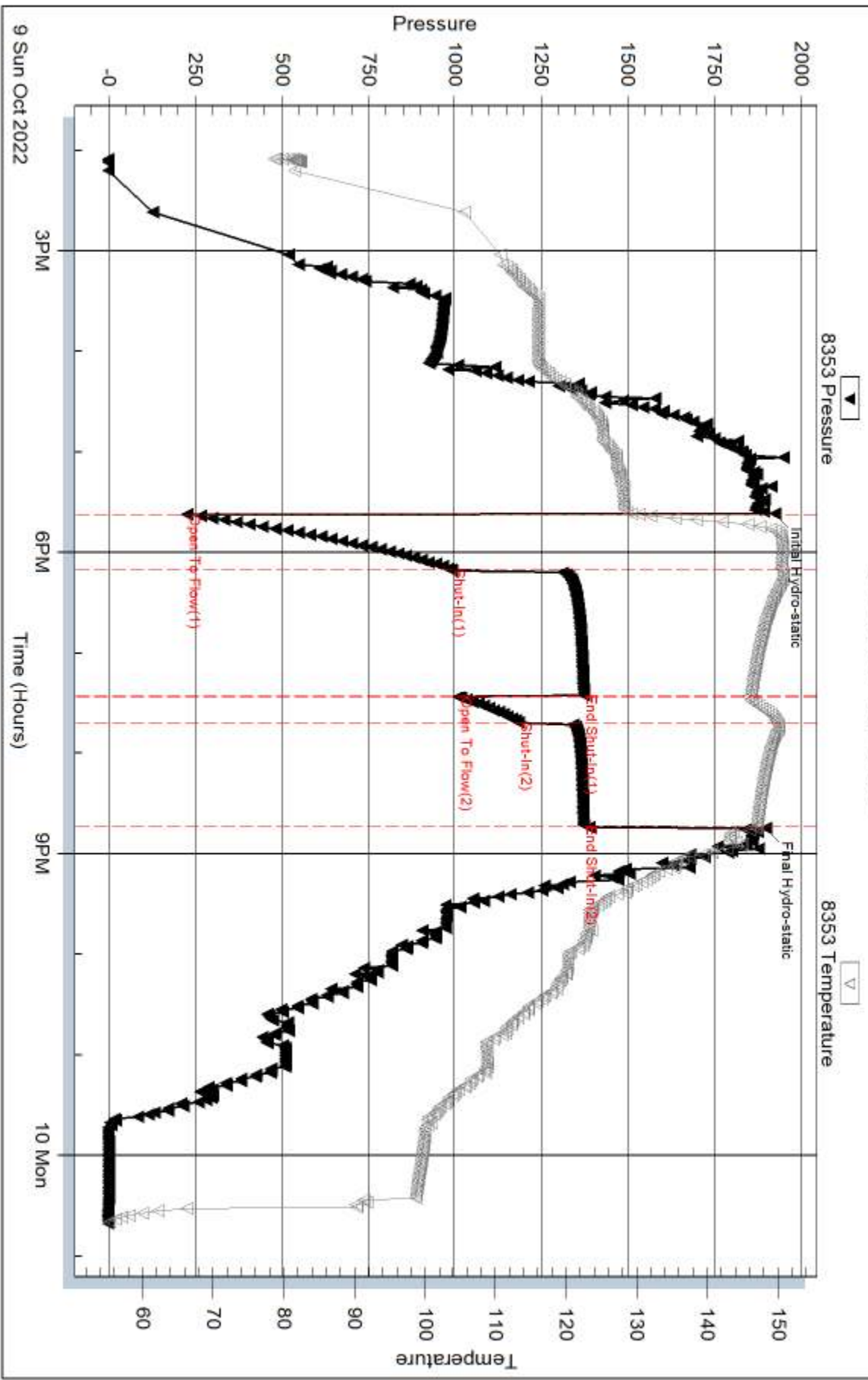
Inside

Murfin Drilling Company Inc

Unit #1-20

DST Test Number: 1

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 68972

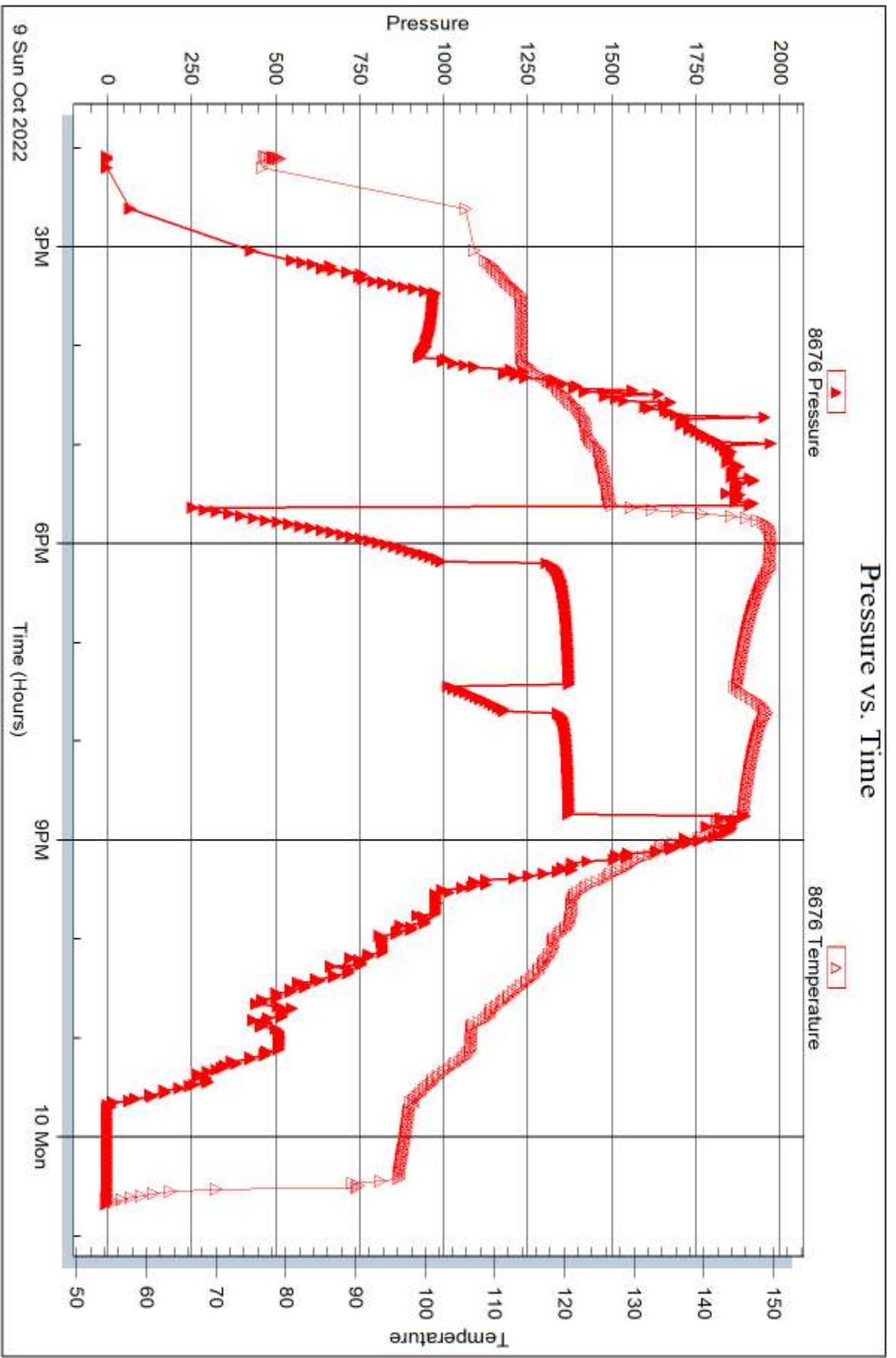
Printed: 2022.10.18 @ 16:38:59

Serial #: 8676

Outside Marfin Drilling Company Inc

Unit #1-20

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 68972

Printed: 2022.10.18 @ 16:38:59



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Rod Anderson

Unit #1-20

20-2S-39W Cheyenne,KS

Start Date: 2022.10.10 @ 21:45:00

End Date: 2022.10.11 @ 08:27:45

Job Ticket #: 68973 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.10.18 @ 16:38:30



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 68973

DST#: 2

ATTN: Rod Anderson

Test Start: 2022.10.10 @ 21:45:00

GENERAL INFORMATION:

Formation: **LKC A - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:08:45

Time Test Ended: 08:27:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Nathan Aneas

Unit No: 71

Interval: 4110.00 ft (KB) To 4190.00 ft (KB) (TVD)

Reference Elevations: 3193.00 ft (KB)

Total Depth: 4190.00 ft (KB) (TVD)

3188.00 ft (CF)

Hole Diameter: 7.87 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8353

Inside

Press@RunDepth: 1265.91 psig @ 4111.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.10.10

End Date:

2022.10.11

Last Calib.:

2022.10.11

Start Time: 21:45:01

End Time:

08:27:45

Time On Btm:

2022.10.11 @ 01:08:00

Time Off Btm:

2022.10.11 @ 03:57:00

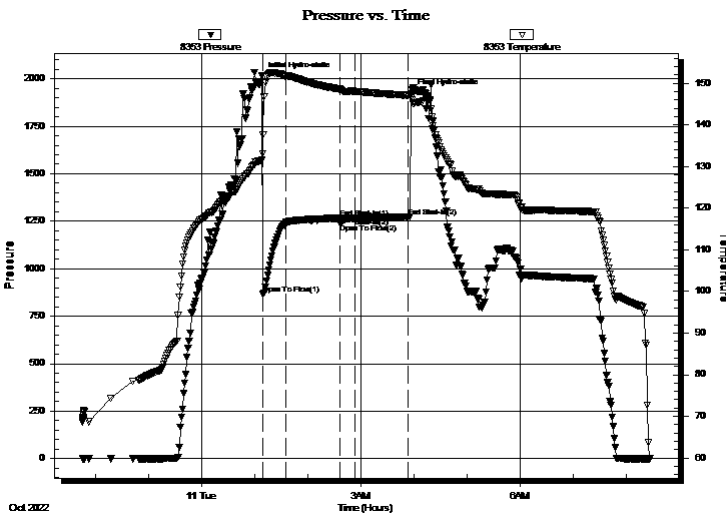
TEST COMMENT: 30:IF- Strong surface blow , BOB in 20 seconds, final is 508 inches

60:IS- No blow back

15:FF- Fair surface blow , BOB in 1 min 15 seconds, got to 19 3/4 inches then died to 16 1/4 inches

60:FS- No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2014.16	131.52	Initial Hydro-static
1	867.99	133.09	Open To Flow (1)
27	1228.60	151.67	Shut-In(1)
88	1265.78	148.58	End Shut-In(1)
89	1238.32	148.33	Open To Flow (2)
106	1265.91	148.06	Shut-In(2)
166	1271.49	147.10	End Shut-In(2)
169	1921.18	146.67	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	MW 80%W 20%M	0.59
2769.00	SMW 75%W 25%M	38.29

* 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 Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 68973

DST#: 2

ATTN: Rod Anderson

Test Start: 2022.10.10 @ 21:45:00

Tool Information

Drill Pipe:	Length: 3925.00 ft	Diameter: 3.80 inches	Volume: 55.06 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 181.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume:</u>	Tool Chased	ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	74000.00 lb
Depth to Top Packer:	4110.00 ft			Final	86000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	80.00 ft				
Tool Length:	112.00 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
Shut In Tool	5.00			4083.00	
Hydraulic tool	5.00			4088.00	
Jars	5.00			4093.00	
EM Tool	4.00			4097.00	
Safety Joint	3.00			4100.00	
Packer	5.00			4105.00	32.00 Bottom Of Top Packer
Packer	5.00			4110.00	
Stubb	1.00			4111.00	
Recorder	0.00	8353	Inside	4111.00	
Recorder	0.00	8676	Outside	4111.00	
Perforations	11.00			4122.00	
Change Over Sub	1.00			4123.00	
Blank Spacing	63.00			4186.00	
Change Over Sub	1.00			4187.00	
Bullnose	3.00			4190.00	80.00 Bottom Packers & Anchor

Total Tool Length: 112.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 68973

DST#: 2

ATTN: Rod Anderson

Test Start: 2022.10.10 @ 21:45:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

36000 ppm

Viscosity: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: 0.24 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MW 80%W 20%M	0.590
2769.00	SMW 75%W 25%M	38.286

Total Length: 2889.00 ft Total Volume: 38.876 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

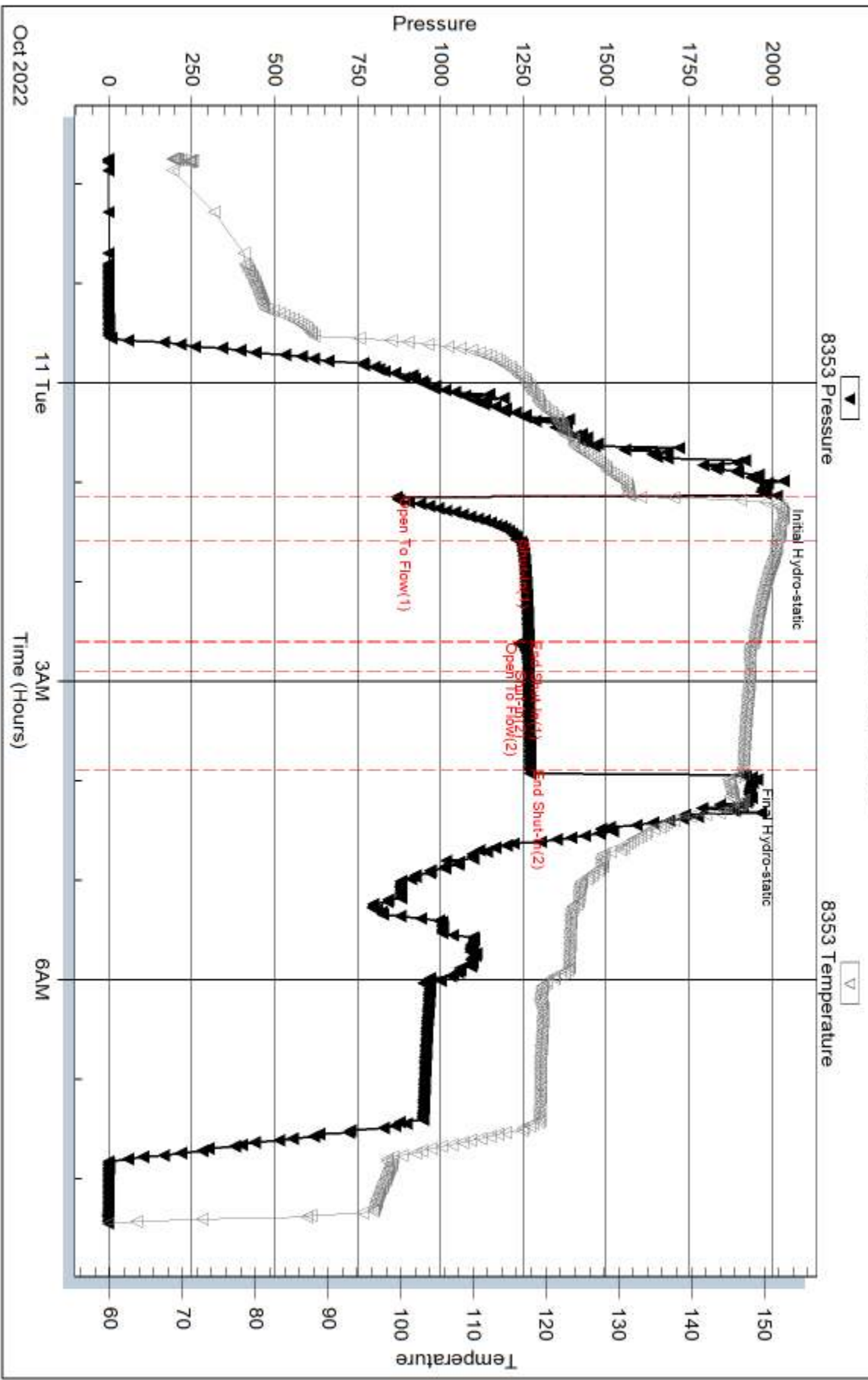
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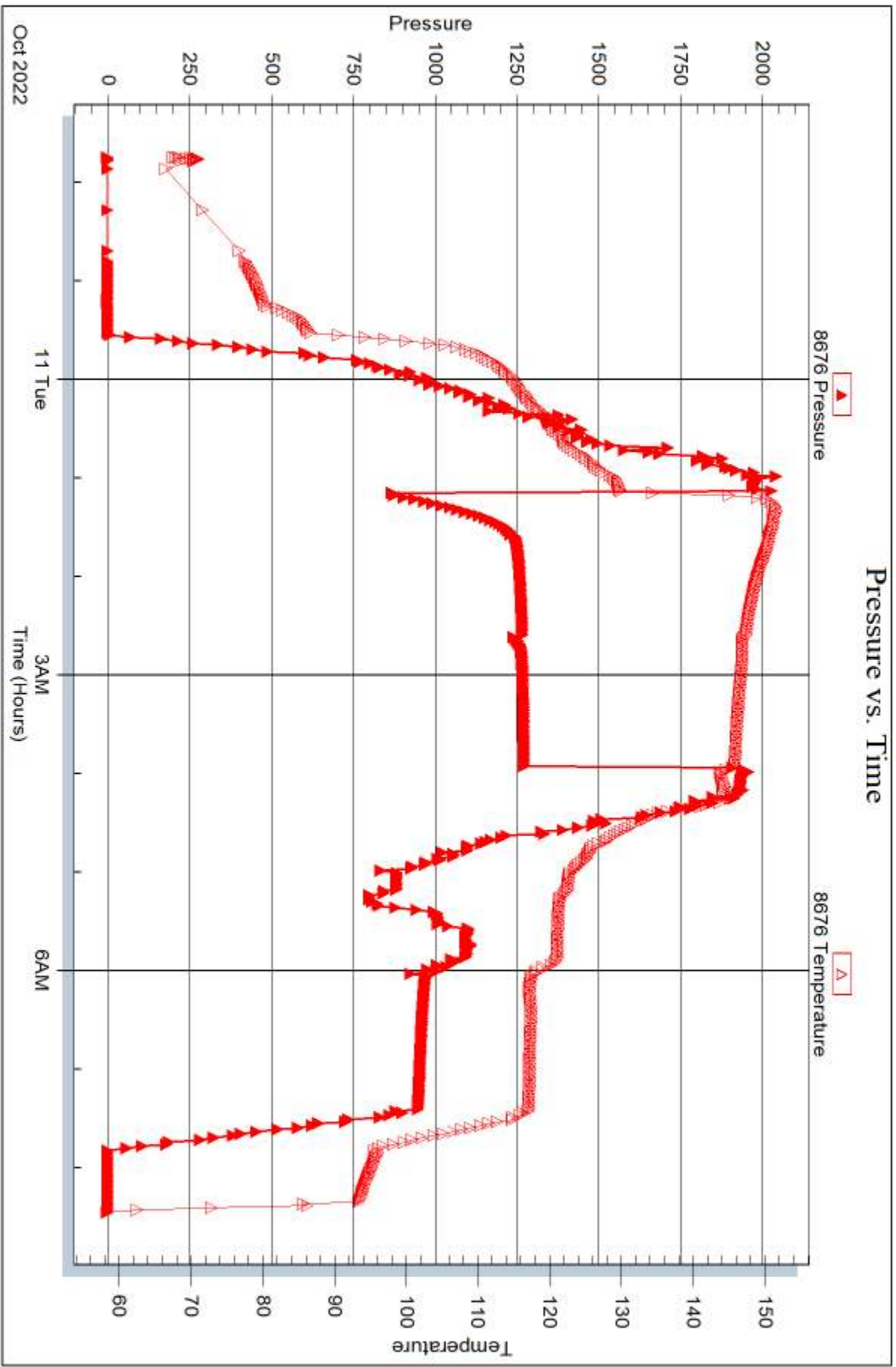
Laboratory Name:

Laboratory Location:

Recovery Comments: .243@60 Degrees = 36000 ppm

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Rod Anderson

Unit #1-20

20-2S-39W Cheyenne,KS

Start Date: 2022.10.11 @ 20:25:00

End Date: 2022.10.12 @ 04:57:15

Job Ticket #: 68974 DST #: 3

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

Printed: 2022.10.18 @ 16:29:09



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 68974

DST#: 3

ATTN: Rod Anderson

Test Start: 2022.10.11 @ 20:25:00

GENERAL INFORMATION:

Formation: **LKC D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:41:45

Time Test Ended: 04:57:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Nathan Aneas

Unit No: 71

Interval: 4194.00 ft (KB) To 4220.00 ft (KB) (TVD)

Reference Elevations: 3193.00 ft (KB)

Total Depth: 4220.00 ft (KB) (TVD)

3188.00 ft (CF)

Hole Diameter: 7.87 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8353

Inside

Press@RunDepth: 33.16 psig @ 4195.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.10.11

End Date:

2022.10.12

Last Calib.:

2022.10.12

Start Time: 20:25:01

End Time:

04:57:15

Time On Btm:

2022.10.11 @ 23:41:00

Time Off Btm:

2022.10.12 @ 02:47:00

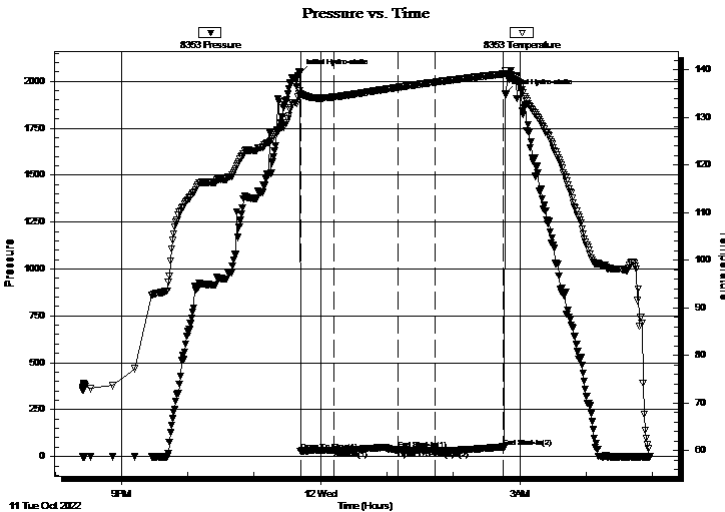
TEST COMMENT: 30:IF- Weak surface blow , built to 1 inch in 10 min, final is 3/4 inch

60:IS- No blow back

30:FF- No blow

60:FS- No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2040.56	135.60	Initial Hydro-static
1	28.93	134.99	Open To Flow (1)
31	32.78	134.26	Shut-In(1)
89	36.10	136.26	End Shut-In(1)
90	31.30	136.29	Open To Flow (2)
122	33.16	137.36	Shut-In(2)
184	51.41	139.09	End Shut-In(2)
186	1931.92	139.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100%M (Spots of oil in tool)	0.05

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 Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 68974

DST#: 3

ATTN: Rod Anderson

Test Start: 2022.10.11 @ 20:25:00

Tool Information

Drill Pipe:	Length: 3987.00 ft	Diameter: 3.80 inches	Volume: 55.93 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 181.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume:</u>	Tool Chased	ft
			- bbl	String Weight: Initial	76000.00 lb
Drill Pipe Above KB:	6.00 ft			Final	76000.00 lb
Depth to Top Packer:	4194.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	26.00 ft				
Tool Length:	58.00 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
Shut In Tool	5.00			4167.00	
Hydraulic tool	5.00			4172.00	
Jars	5.00			4177.00	
EM Tool	4.00			4181.00	
Safety Joint	3.00			4184.00	
Packer	5.00			4189.00	32.00 Bottom Of Top Packer
Packer	5.00			4194.00	
Stubb	1.00			4195.00	
Recorder	0.00	8353	Inside	4195.00	
Recorder	0.00	8676	Outside	4195.00	
Perforations	22.00			4217.00	
Bullnose	3.00			4220.00	26.00 Bottom Packers & Anchor

Total Tool Length: 58.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 68974

DST#: 3

ATTN: Rod Anderson

Test Start: 2022.10.11 @ 20:25:00

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: 71.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 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
10.00	Mud 100%M (Spots of oil in tool)	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8353

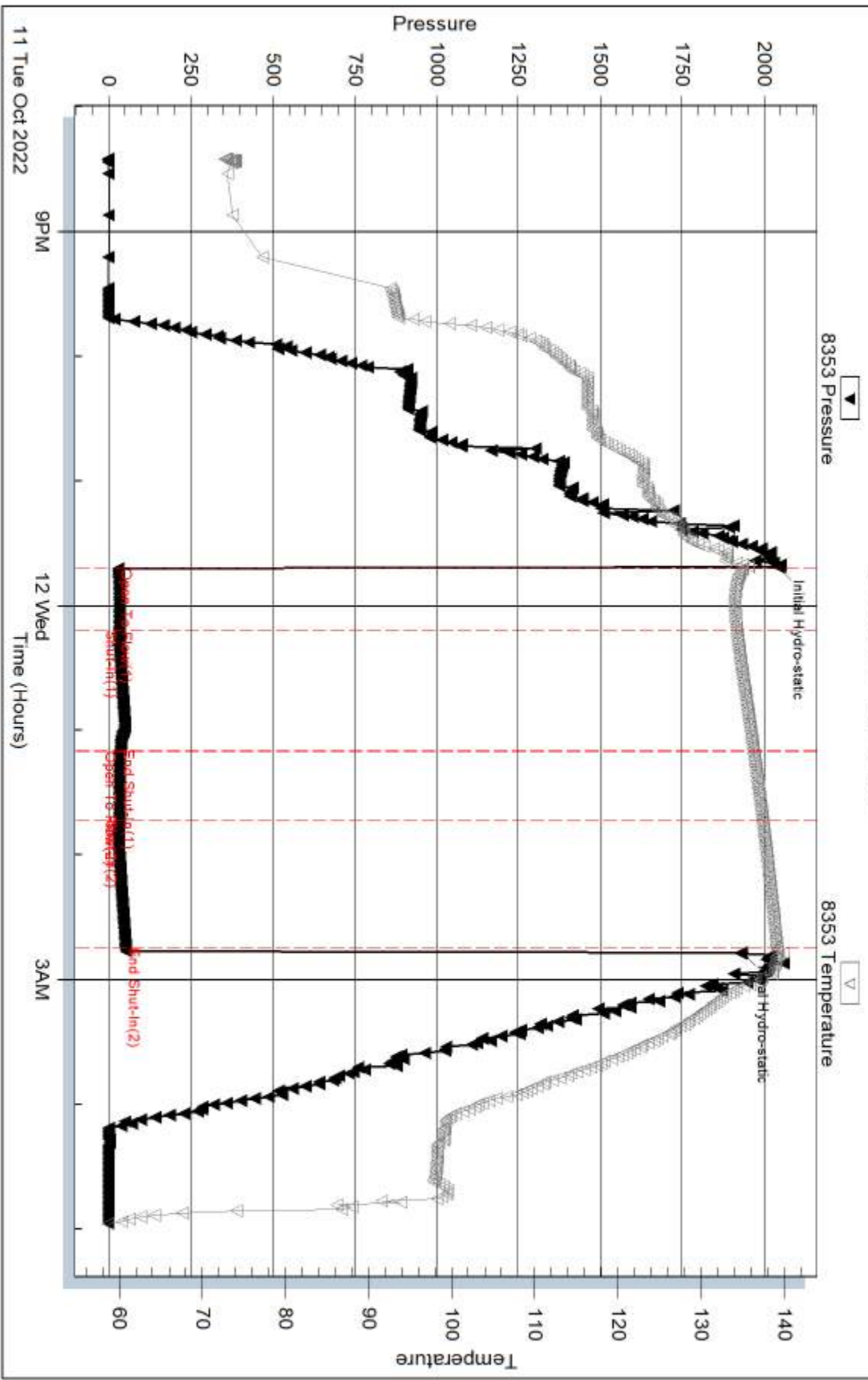
Inside

Murfin Drilling Company Inc

Unit #1-20

DST Test Number: 3

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 68974

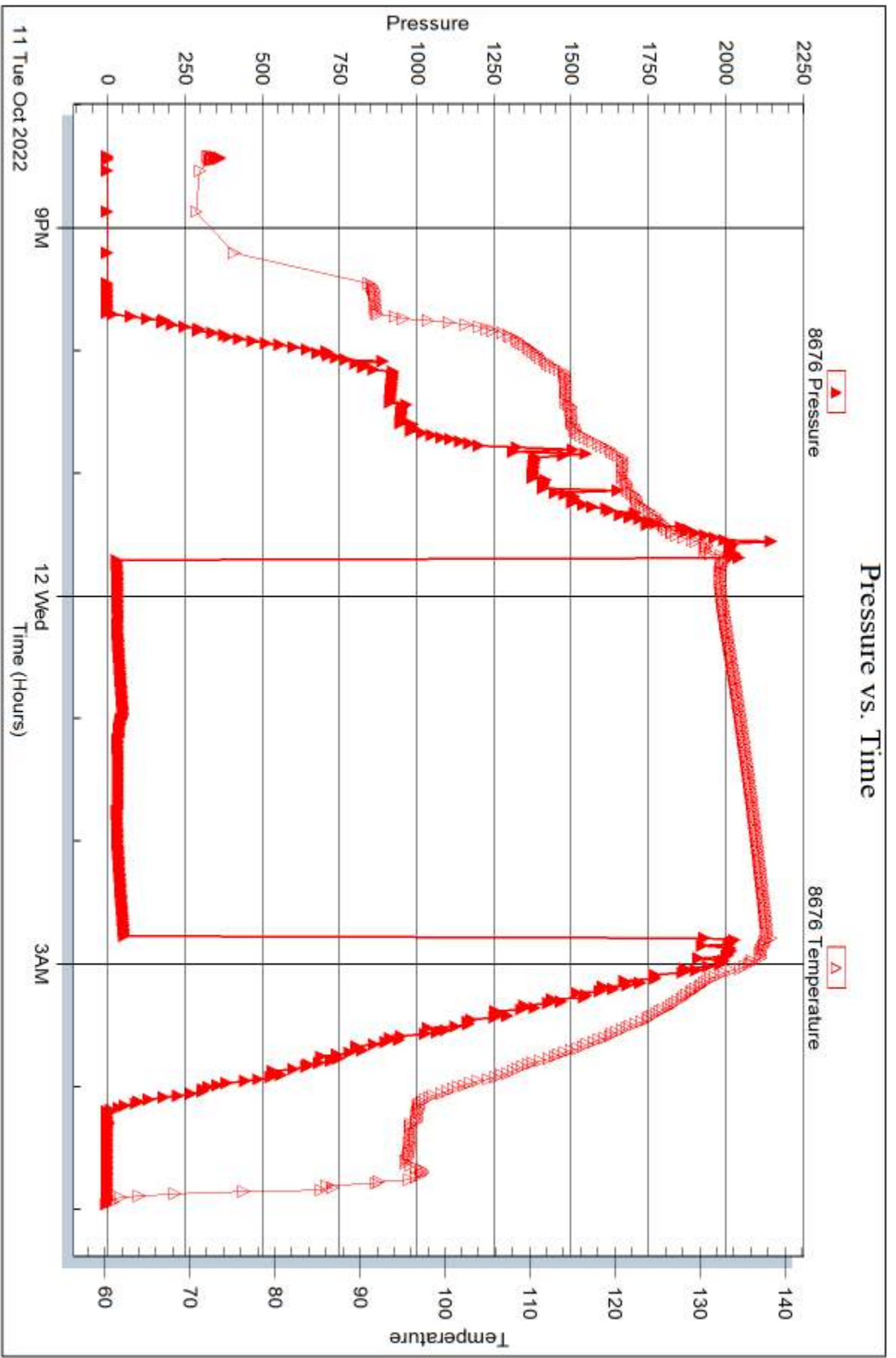
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Serial #: 8676

Outside Marfin Drilling Company Inc

Unit #1-20

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 68974

Printed: 2022.10.18 @ 16:29:10



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Rod Anderson

Unit #1-20

20-2S-39W Cheyenne,KS

Start Date: 2022.10.12 @ 21:20:00

End Date: 2022.10.13 @ 05:47:00

Job Ticket #: 68975 DST #: 4

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

Printed: 2022.10.18 @ 16:23:13



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 68975

DST#: 4

ATTN: Rod Anderson

Test Start: 2022.10.12 @ 21:20:00

GENERAL INFORMATION:

Formation: **LKC G-H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:39:15

Time Test Ended: 05:47:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Nathan Aneas

Unit No: 71

Interval: 4229.00 ft (KB) To 4300.00 ft (KB) (TVD)

Reference Elevations: 3193.00 ft (KB)

Total Depth: 4300.00 ft (KB) (TVD)

3188.00 ft (CF)

Hole Diameter: 7.87 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8353

Inside

Press@RunDepth: 49.93 psig @ 4230.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.10.12

End Date:

2022.10.13

Last Calib.: 2022.10.13

Start Time: 21:20:01

End Time:

05:47:00

Time On Btm: 2022.10.13 @ 00:38:30

Time Off Btm: 2022.10.13 @ 03:46:15

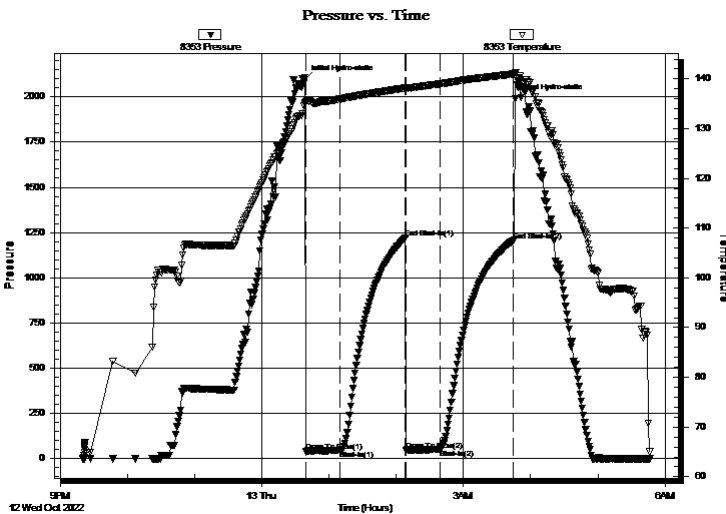
TEST COMMENT: 30:IF- Fair surface blow , built to 1 1/4 inch in 10 min, final is 1 1/4 inch

60:IS- No blow back

30:FF- No blow

60:FS- No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2096.40	135.19	Initial Hydro-static
1	41.28	135.32	Open To Flow (1)
31	44.52	135.94	Shut-In(1)
90	1220.57	138.18	End Shut-In(1)
91	47.57	137.99	Open To Flow (2)
121	49.93	139.02	Shut-In(2)
186	1203.58	140.96	End Shut-In(2)
188	1988.33	141.32	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100%M (Spots of oil)	0.05

* 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 Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 68975

DST#: 4

ATTN: Rod Anderson

Test Start: 2022.10.12 @ 21:20:00

Tool Information

Drill Pipe:	Length: 4020.00 ft	Diameter: 3.80 inches	Volume: 56.39 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 181.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4229.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	71.00 ft			
Tool Length:	103.00 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
Shut In Tool	5.00			4202.00	
Hydraulic tool	5.00			4207.00	
Jars	5.00			4212.00	
EM Tool	4.00			4216.00	
Safety Joint	3.00			4219.00	
Packer	5.00			4224.00	32.00 Bottom Of Top Packer
Packer	5.00			4229.00	
Stubb	1.00			4230.00	
Recorder	0.00	8353	Inside	4230.00	
Recorder	0.00	8676	Outside	4230.00	
Perforations	34.00			4264.00	
Change Over Sub	1.00			4265.00	
Blank Spacing	31.00			4296.00	
Change Over Sub	1.00			4297.00	
Bullnose	3.00			4300.00	71.00 Bottom Packers & Anchor

Total Tool Length: 103.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 68975

DST#: 4

ATTN: Rod Anderson

Test Start: 2022.10.12 @ 21:20:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 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
10.00	Mud 100%M (Spots of oil)	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

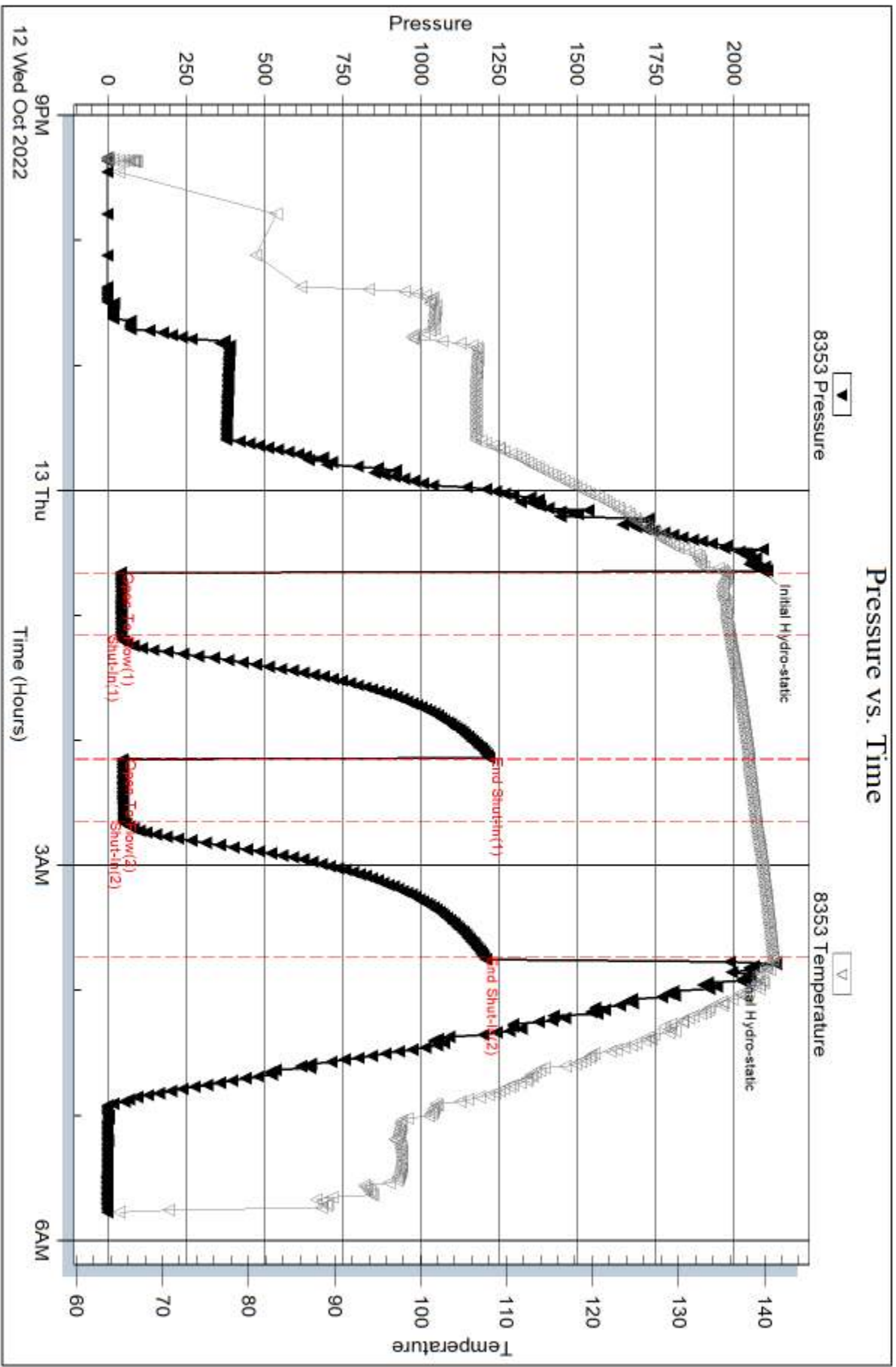
Num Gas Bombs: 0

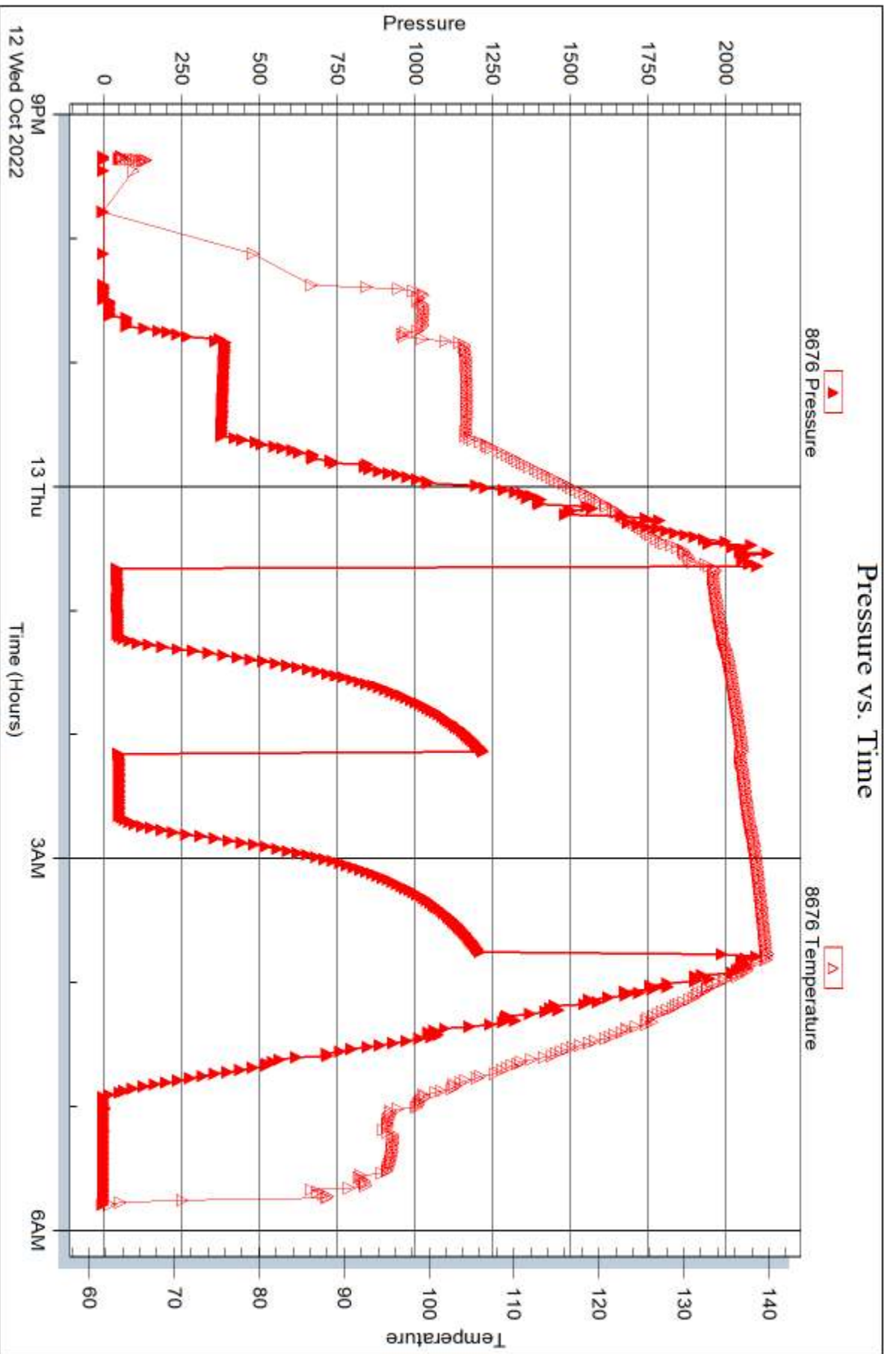
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Rod Anderson

Unit #1-20

20-2S-39W Cheyenne,KS

Start Date: 2022.10.16 @ 20:30:00

End Date: 2022.10.17 @ 06:56:15

Job Ticket #: 69870 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.10.18 @ 16:19:11



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 69870

DST#: 5

ATTN: Rod Anderson

Test Start: 2022.10.16 @ 20:30:00

GENERAL INFORMATION:

Formation: **Breezy Hill**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:57:45

Time Test Ended: 06:56:15

Test Type: Conventional Straddle (Reset)

Tester: Terrance

Unit No: 75

Interval: 4585.00 ft (KB) To 4620.00 ft (KB) (TVD)

Reference Elevations: 3193.00 ft (KB)

Total Depth: 5000.00 ft (KB) (TVD)

3188.00 ft (CF)

Hole Diameter: 7.87 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8320 Outside

Press@RunDepth: 40.93 psig @ 4586.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.10.16

End Date:

2022.10.17

Last Calib.: 2022.10.17

Start Time: 20:30:05

End Time:

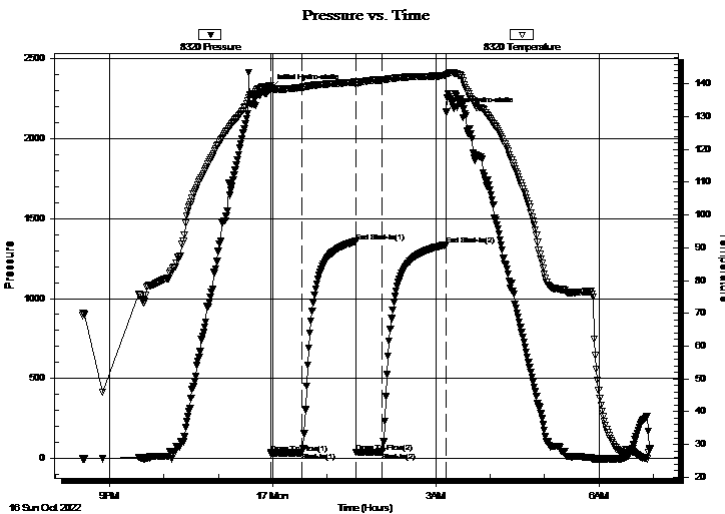
06:56:15

Time On Btm: 2022.10.16 @ 23:57:30

Time Off Btm: 2022.10.17 @ 03:11:45

TEST COMMENT: IF-30-1 Inch
IS-60-No return
FF-30-No blow
FS-60-No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2309.83	139.45	Initial Hydro-static
1	29.60	138.65	Open To Flow (1)
35	36.79	138.93	Shut-In(1)
94	1356.15	140.52	End Shut-In(1)
95	38.62	139.85	Open To Flow (2)
123	40.93	141.18	Shut-In(2)
194	1336.22	142.51	End Shut-In(2)
195	2165.60	142.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM 1%O 99%M	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 69870

DST#: 5

ATTN: Rod Anderson

Test Start: 2022.10.16 @ 20:30:00

Tool Information

Drill Pipe:	Length: 4396.00 ft	Diameter: 3.79 inches	Volume: 61.34 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4585.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	5000.00 ft			
Interval between Packers:	415.00 ft			
Tool Length:	446.00 ft			
Number of Packers:	3	Diameter: 6.88 inches		

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4555.00	
Shut In Tool	5.00			4560.00	
Hydraulic tool	5.00			4565.00	
Jars	5.00			4570.00	
EM Tool	3.00			4573.00	
Safety Joint	3.00			4576.00	
Packer	5.00			4581.00	31.00 Bottom Of Top Packer
Packer	4.00			4585.00	
Stubb	1.00			4586.00	
Recorder	0.00	8368	Inside	4586.00	
Recorder	0.00	8320	Outside	4586.00	
Perforations	29.00			4615.00	
Blank Off Sub	1.00			4616.00	
Packer - Shale	4.00			4620.00	
Stubb	1.00			4621.00	
Perforations	2.00			4623.00	
Change Over Sub	1.00			4624.00	
Recorder	0.00	8957	Below	4624.00	
Drill Pipe	376.00			5000.00	415.00 Bottom Packers & Anchor

Total Tool Length: 446.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 69870

DST#: 5

ATTN: Rod Anderson

Test Start: 2022.10.16 @ 20:30:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	OSM 1%O 99%M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbf

Num Fluid Samples: 0

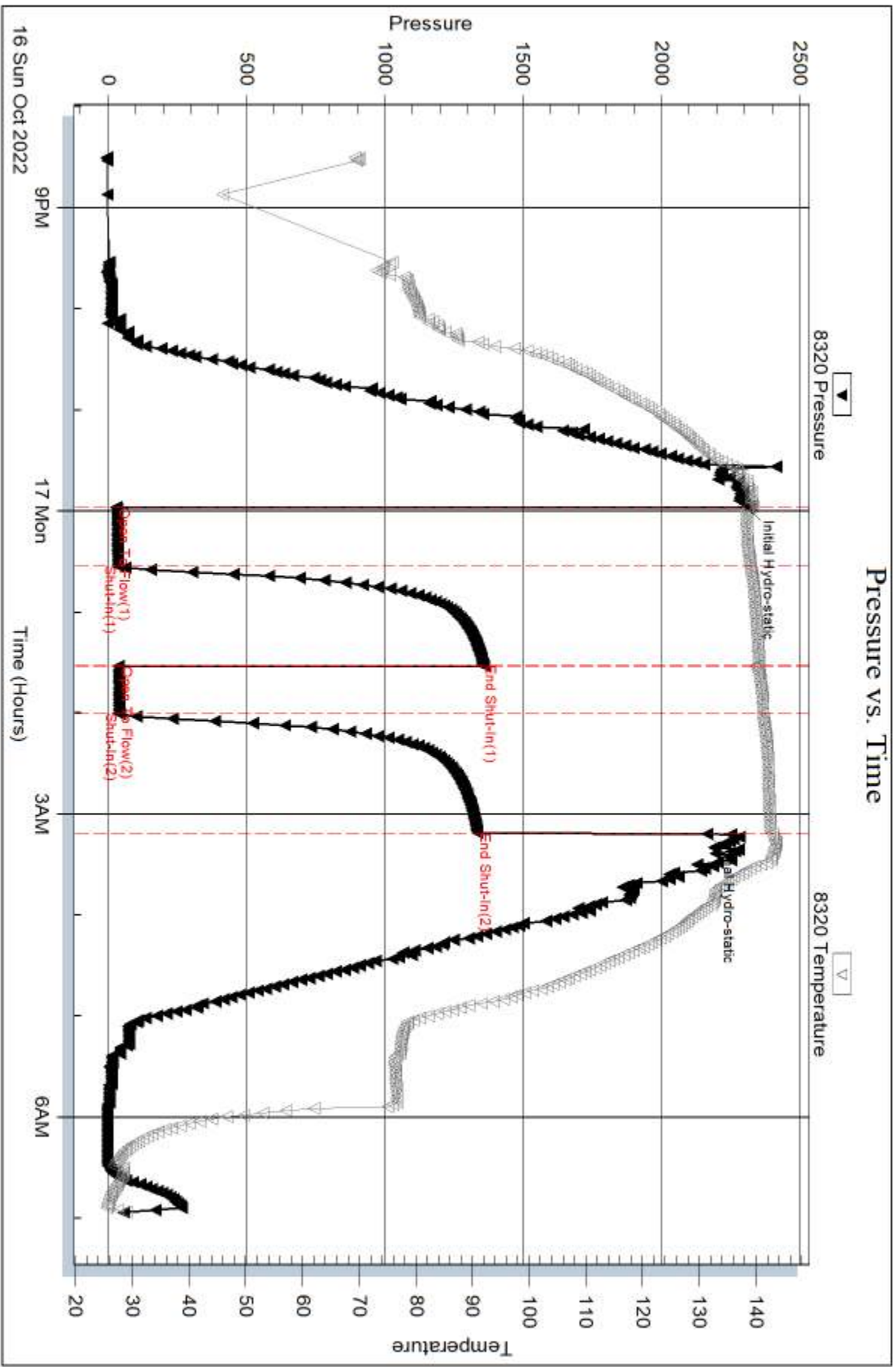
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

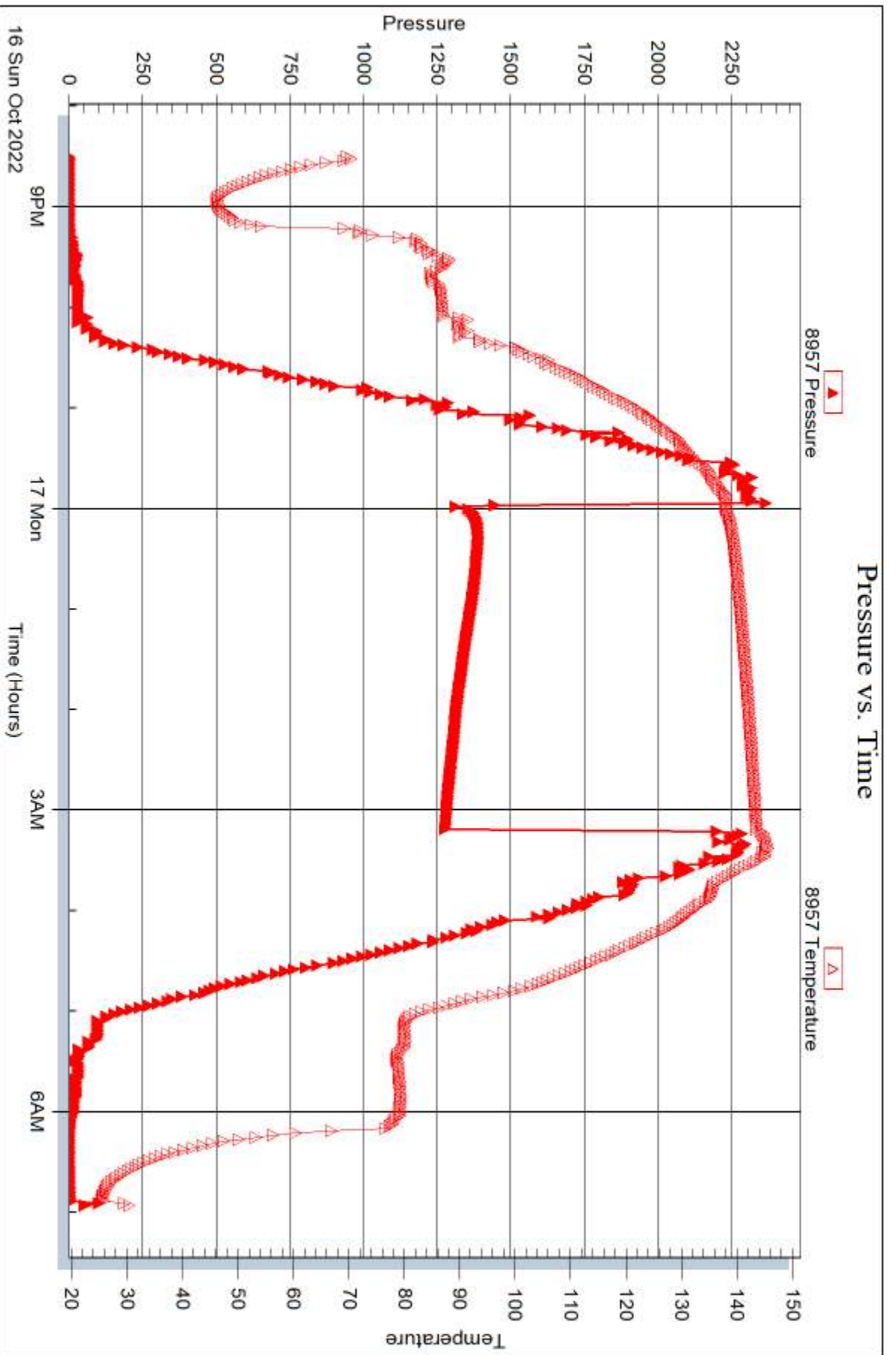


Serial #: 8957

Below (Straddler) Drilling Company Inc

Unit #1-20

DST Test Number: 5



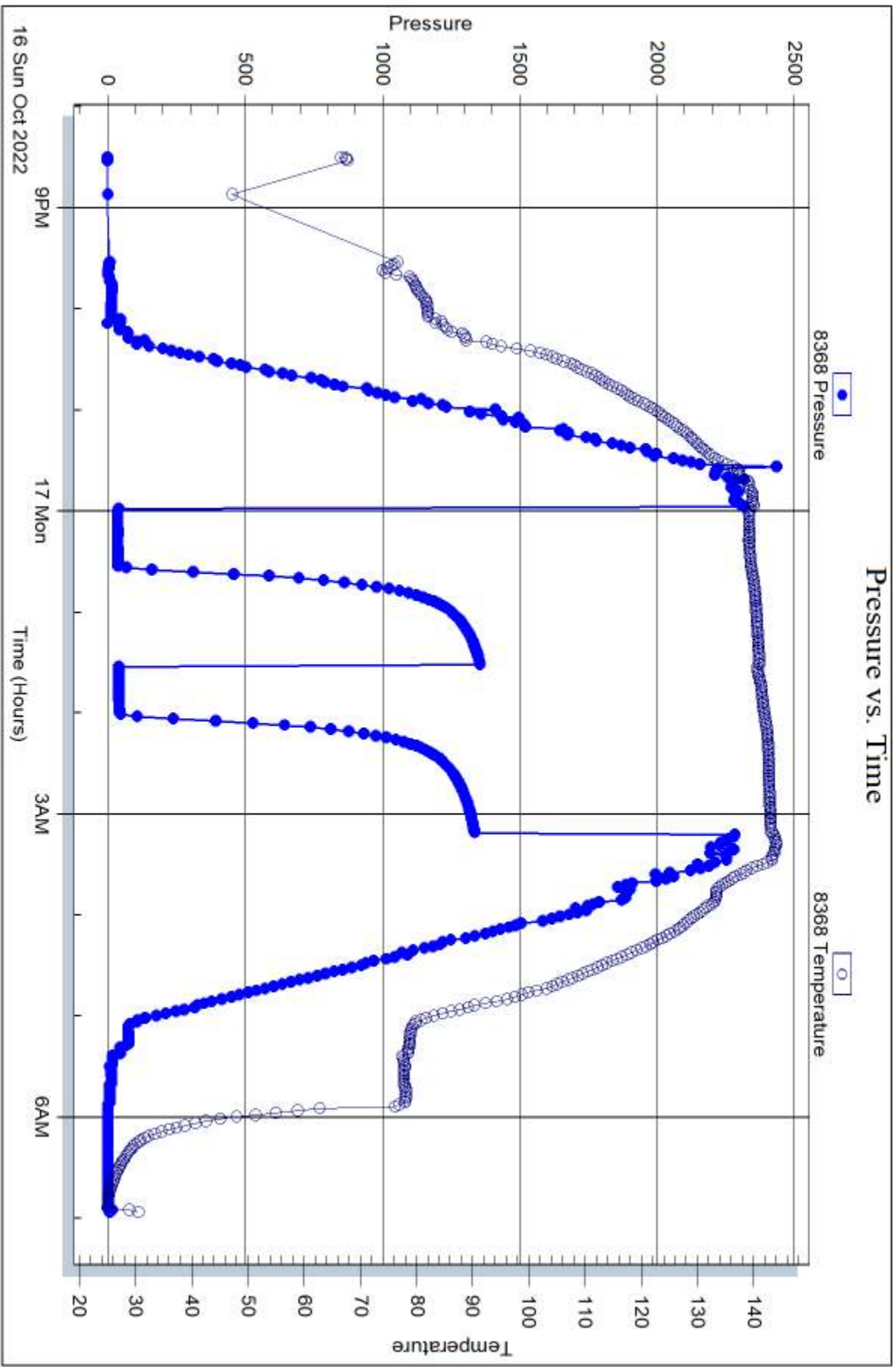
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Inside

Murfin Drilling Company Inc

Unit #1-20

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 69870

Printed: 2022.10.18 @ 16:19:12



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company Inc**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Rod Anderson

Unit #1-20

20-2S-39W Cheyenne,KS

Start Date: 2022.10.17 @ 08:30:00

End Date: 2022.10.17 @ 18:35:45

Job Ticket #: 69871 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.10.18 @ 16:16:09



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company Inc
 250 N Water Ste 300
 Wichita, KS 67202
 ATTN: Rod Anderson

20-2S-39W Cheyenne,KS

Unit #1-20

Job Ticket: 69871

DST#: 6

Test Start: 2022.10.17 @ 08:30:00

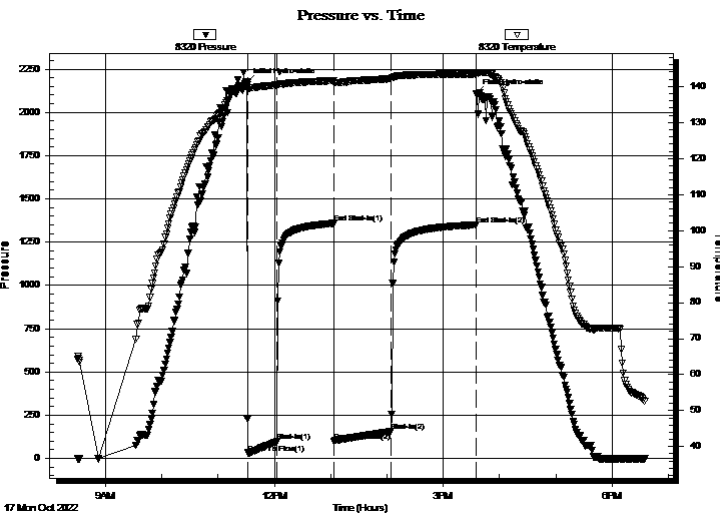
GENERAL INFORMATION:

Formation: **LKC J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:31:15
 Time Test Ended: 18:35:45
 Interval: **4282.00 ft (KB) To 4334.00 ft (KB) (TVD)**
 Total Depth: 5000.00 ft (KB) (TVD)
 Hole Diameter: 7.87 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Terrance
 Unit No: 75
 Reference Elevations: 3193.00 ft (KB)
 3188.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8320 Outside

Press@RunDepth: 155.53 psig @ 5001.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.10.17 End Date: 2022.10.17 Last Calib.: 2022.10.17
 Start Time: 08:30:05 End Time: 18:35:45 Time On Btm: 2022.10.17 @ 11:30:45
 Time Off Btm: 2022.10.17 @ 15:35:30

TEST COMMENT: IF-30-6 Inches
 IS-60-No return
 FF-60-4 Inches
 FS-90-No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2173.89	140.37	Initial Hydro-static
1	31.37	139.67	Open To Flow (1)
32	97.37	140.36	Shut-In(1)
93	1359.06	141.62	End Shut-In(1)
93	100.72	141.10	Open To Flow (2)
154	155.53	142.16	Shut-In(2)
245	1349.79	143.47	End Shut-In(2)
245	2109.79	143.82	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	MW 50 %WATER 50% MUD	2.57

* 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 Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 69871

DST#: 6

ATTN: Rod Anderson

Test Start: 2022.10.17 @ 08:30:00

Tool Information

Drill Pipe:	Length: 4796.00 ft	Diameter: 3.80 inches	Volume: 67.28 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: - bbl</u>	Tool Chased ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	5000.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	718.00 ft			
Tool Length:	749.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

Change Over Sub	1.00			4970.00	
Shut In Tool	5.00			4975.00	
Hydraulic tool	5.00			4980.00	
Jars	5.00			4985.00	
EM Tool	3.00			4988.00	
Safety Joint	3.00			4991.00	
Packer	5.00			4996.00	31.00 Bottom Of Top Packer
Packer	4.00			5000.00	
Stubb	1.00			5001.00	
Recorder	0.00	8368	Inside	5001.00	
Recorder	0.00	8320	Outside	5001.00	
Perforations	5.00			5006.00	
Change Over Sub	1.00			5007.00	
Recorder	0.00	8957	Below	5007.00	
Drill Pipe	32.00			5039.00	
Change Over Sub	1.00			5040.00	
Perforations	7.00			5047.00	
Blank Off Sub	1.00			5048.00	
Packer - Shale	4.00			5052.00	
Stubb	1.00			5053.00	
Perforations	6.00			5059.00	
Change Over Sub	1.00			5060.00	
Drill Pipe	658.00			5718.00	718.00 Bottom Packers & Anchor
Total Tool Length:	749.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company Inc

20-2S-39W Cheyenne,KS

250 N Water Ste 300
Wichita, KS 67202

Unit #1-20

Job Ticket: 69871

DST#: 6

ATTN: Rod Anderson

Test Start: 2022.10.17 @ 08:30:00

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:

4000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: 2.30 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	MW 50 %WATER 50% MUD	2.568

Total Length: 300.00 ft

Total Volume: 2.568 bbl

Num Fluid Samples: 0

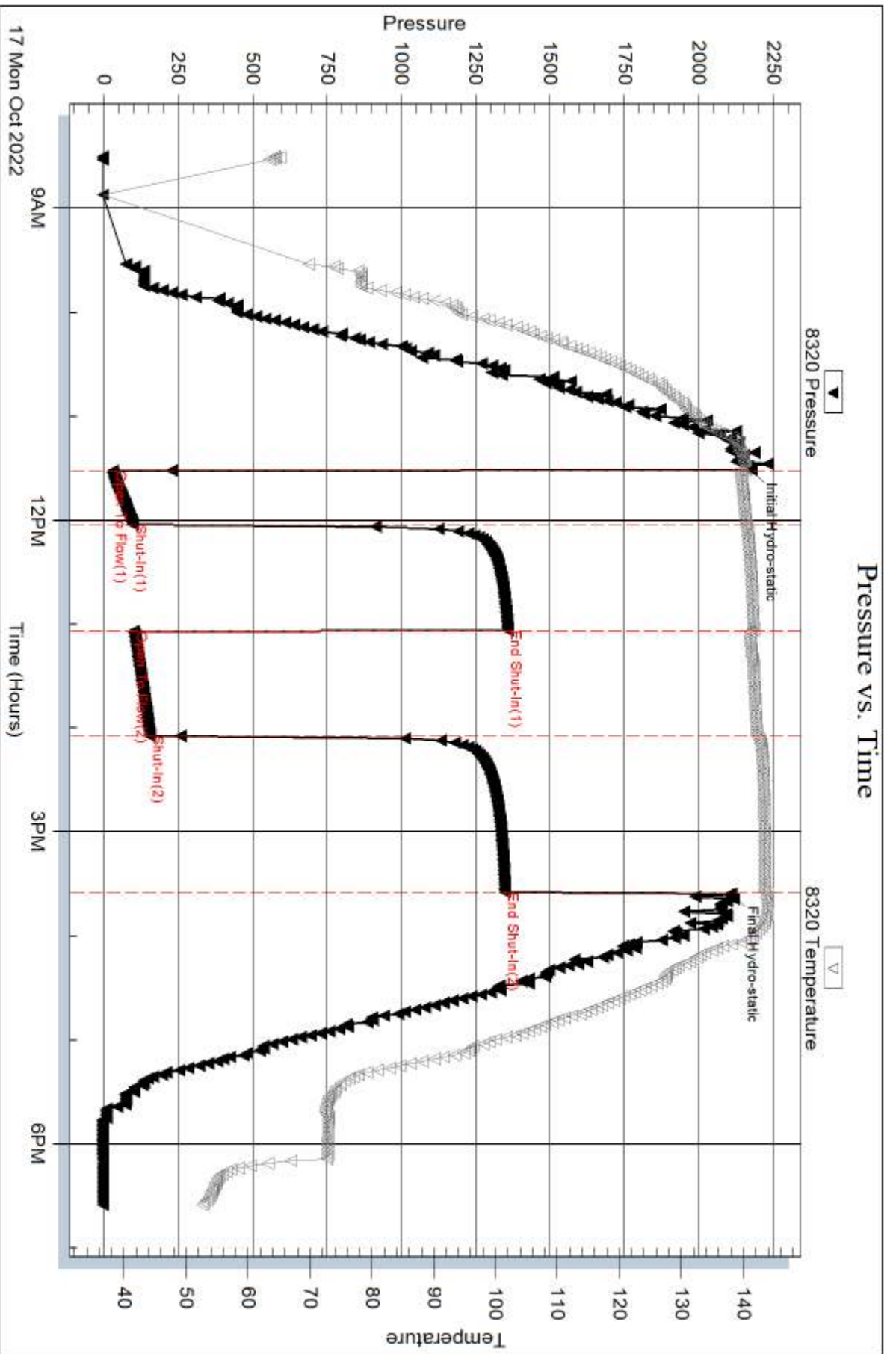
Num Gas Bombs: 0

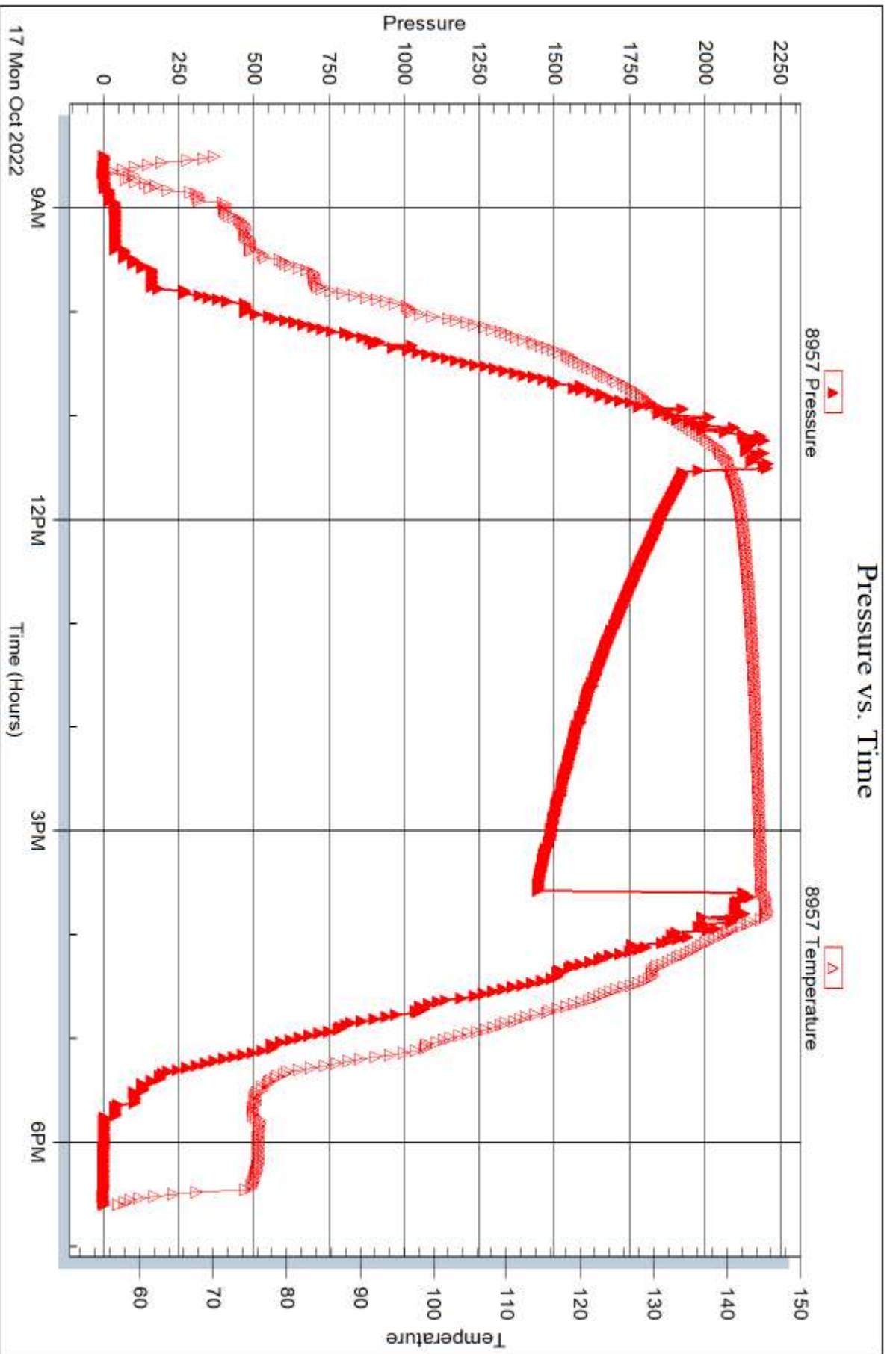
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





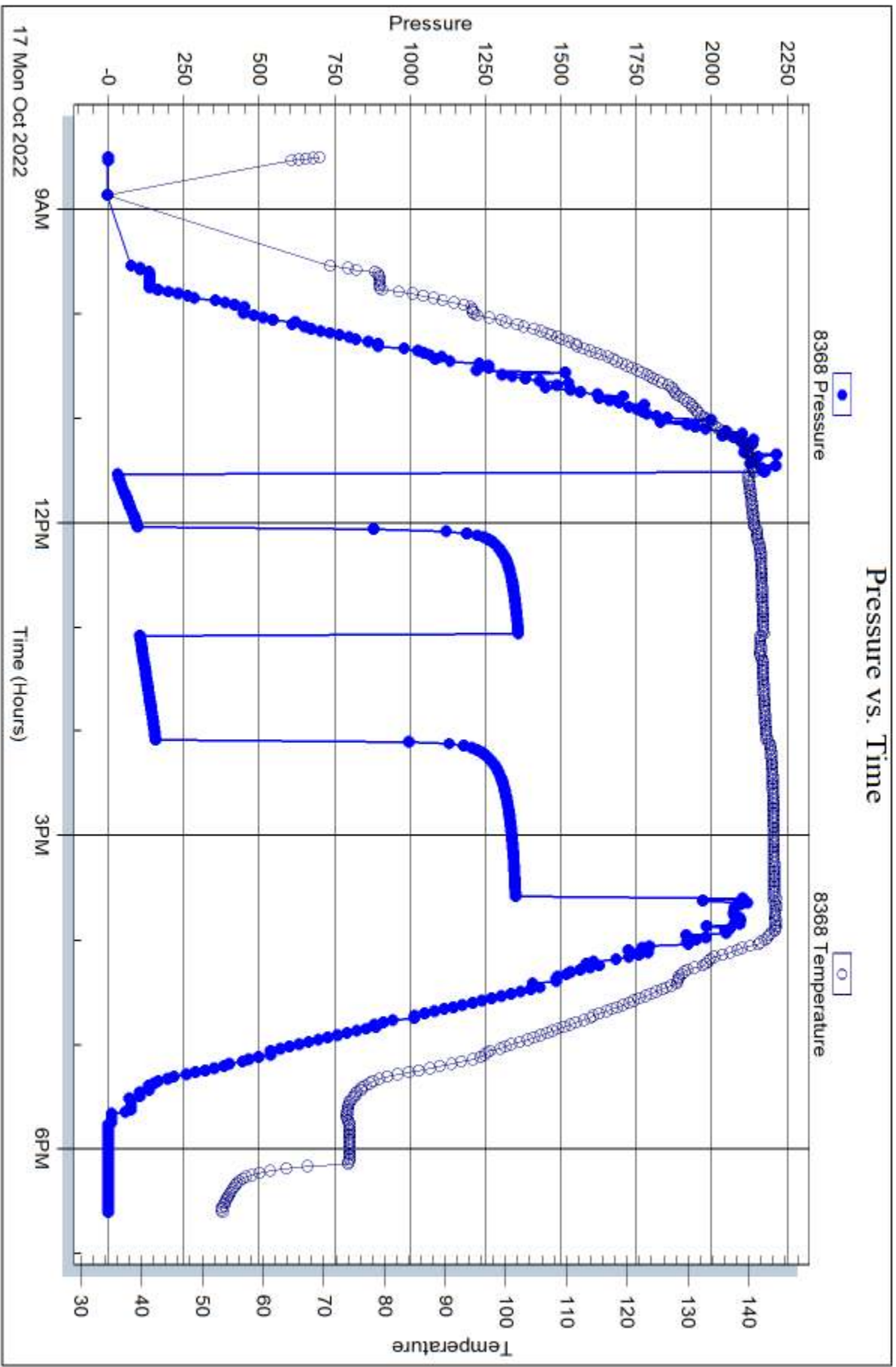
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Inside

Murfin Drilling Company Inc

Unit #1-20

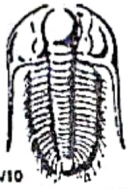
DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 69871

Printed: 2022.10.18 @ 16:16:10



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68972

Well Name & No. Unit #1-20 Test No. 1 Date 10/09/22
 Company Murfin Drilling Company Inc Elevation 3193 KB 3188 GL
 Address 250 N Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Rod Anderson Rig Murfin #110
 Location: Sec. 20 Twp 25 Rge. 39W Co. Cheyenne State KS

Interval Tested 3970 - 4050 Zone Tested Oread
 Anchor Length 80' Drill Pipe Run 3768 Mud Wt. 8.8
 Top Packer Depth 3965 Drill Collars Run ~~2000~~ 181 Vis 64
 Bottom Packer Depth 3970 Wt. Pipe Run _____ WL 5.6
 Total Depth 4050 Chlorides 600 ppm System LCM 3#

Blow Description IF- Strong surface blow, built to BOB in 2 min, Final is 249 inches
ISI- No blow back
EF- Strong blow, BOB in 1 min, Final is 85 1/2 inches
FSI- No blow back

Rec	Feet of	%gas	%oil	%water	%mud
181	GW	10	90		
2457	SMGW	20	60	30	

Rec Total 2638 BHT 147 Gravity _____ API RW 277 @ 60 ° F Chlorides 30,000 ppm
 (A) Initial Hydrostatic 1925 Test 1950 T-On Location 13:30
 (B) First Initial Flow 225 Jars 300 T-Started 14:05
 (C) First Final Flow 990 Safety Joint _____ T-Open 17:57
 (D) Initial Shut-In 1373 Circ Sub _____ T-Pulled 20:41
 (E) Second Initial Flow 1011 Hourly Standby _____ T-Out 00:25
 (F) Second Final Flow 1185 Mileage 144 RT 216 Comments _____
 (G) Final Shut-In 1373 Sampler _____
 (H) Final Hydrostatic _____ Straddle _____ EM Tool -350
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 15
 Final Shut-In 60

Sub Total 2716 Sub Total -350 Total 2366
 MP/DST Disc't _____
 Approved By _____ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged or any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of 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. 68973

Well Name & No. Unit #1-20 Test No. 2 Date 10/10/22
 Company Murfin Drilling Company Inc Elevation 3193 KB 3188 GL
 Address 250 N Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Reed Anderson Rig Murfin #110
 Location: Sec. 20 Twp 2S Rge. 39W Co. Cheyenne State KS

Interval Tested 4110-4190 Zone Tested LKC A-D
 Anchor Length 80 Drill Pipe Run 3925 Mud Wt. 8.9
 Top Packer Depth 4105 Drill Collars Run 181 Vls 64
 Bottom Packer Depth 4110 Wt. Pipe Run _____ WL 5.6
 Total Depth 4190 Chlorides 600 ppm System LCM 3#

Blow Description FF-Strong surface blow, BOB in 20 seconds, Final is 508 inches
ISI- No blow back

FF-Fair surface blow, BOB in 1 min 15 sec, ~~Final is~~ 19 3/4 inches the died to 16 1/4

ISI- No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>120</u>	<u>MW</u>		<u>80</u>	<u>20</u>	
<u>2769</u>	<u>SIMW Dumped 6 stands</u>		<u>75</u>	<u>25</u>	
	<u>till water. Tried reversing</u>				
	<u>out didn't work</u>				

Rec Total 2889 BHT 146 Gravity — API RW 24B @ 60 °F Chlorides 36,000 ppm

- (A) Initial Hydrostatic 2014
- (B) First Initial Flow 868
- (C) First Final Flow 1229
- (D) Initial Shut-In 1266
- (E) Second Initial Flow 1238
- (F) Second Final Flow 1266
- (G) Final Shut-In 1271
- (H) Final Hydrostatic 1921

- Test 1950
- Jars 300
- Safety Joint
- Circ Sub Dropped Bar⁵⁰
- Hourly Standby
- Mileage 144RT²¹⁶
- Sampler
- Straddle
- Shale Packer 250
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 2766

T-On Location 21:30
 T-Started 21:45
 T-Open 01:08
 T-Pulled 03:53
 T-Out 08:30

Comments _____
 EM Tool -350
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total -350
 Total 2416

Initial Open 25
 Initial Shut-In 60
 Final Flow 15
 Final Shut-In 60

Approved By _____ Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68974

Well Name & No. Unit #1-20 Test No. 3 Date 10/11/22
 Company Murfin Drilling Company Inc Elevation 3193 KB 3183 GL
 Address 250 N Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Rod Anderson Rig Murfin #110
 Location: Sec. 20 Twp 2S Rge. 39W Co. Cheyenne State KS

Interval Tested 4194-4220 Zone Tested LKC G
 Anchor Length 26' Drill Pipe Run 3987 Mud Wt. 9.0
 Top Packer Depth 4189 Drill Collars Run 181 Vis 71
 Bottom Packer Depth 4194- Wt. Pipe Run _____ WL 6.0
 Total Depth 4220 Chlorides 900 ppm System LCM 3#

Blow Description IF - Weak surface blow, built to lynch in 10min, Final is 3/4 inch

ISI - No blow back

FF - No blow

FSI No blow back

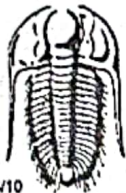
Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud (spots of oil in tool)</u>			<u>100</u>	
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 10 BHT 139 Gravity _____ API RW _____ @ _____ F Chlorides _____ ppm

(A) Initial Hydrostatic 2041 Test 1950 T-On Location 19:20
 (B) First Initial Flow 29 Jars 300 T-Started 20:25
 (C) First Final Flow 33 Safety Joint _____ T-Open 23:41
 (D) Initial Shut-In 36 Circ Sub _____ T-Pulled 02:44
 (E) Second Initial Flow 31 Hourly Standby _____ T-Out 04:50
 (F) Second Final Flow 33 Mileage 144RT 216 Comments _____
 (G) Final Shut-In 51 Sampler _____
 (H) Final Hydrostatic 1932 Straddle _____ EM Tool -350
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 2716 Sub Total -350
 Total 2364 MP/DST Disc'l _____

Approved By _____ Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68975

Well Name & No. Unit #1-20 Test No. 4 Date 10/12/22
 Company Murfin Drilling Company Inc Elevation 3193 KB 3188 GL
 Address 250 N Water Ste 300 Wichita, KS 67202
 Co. Rep / Geo. Rod Anderson Rig Murfin #110
 Location: Sec. 20 Twp 2S Rge. 39W Co. Cheyenne State KS

Interval Tested 4229-4300 Zone Tested LKC H-J
 Anchor Length 71' Drill Pipe Run 4020 Mud Wt. 9.0
 Top Packer Depth 4224 Drill Collars Run 181 Vls 57
 Bottom Packer Depth 4229 Wt. Pipe Run _____ WL 6.0
 Total Depth 4300 Chlorides 1000 ppm System LCM 3#

Blow Description IF - Fair surface blow, built to 1/4 inch in 10 min, Final is 1/4

IST - No blow back

EF - No blow

ESI - No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud (spots of oil)</u>			<u>100</u>	
____	____	____	____	____	____
____	____	____	____	____	____
____	____	____	____	____	____
____	____	____	____	____	____

Rec Total 10 BHT 141 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

- (A) Initial Hydrostatic 2096
- (B) First Initial Flow 41
- (C) First Final Flow 45
- (D) Initial Shut-In 1221
- (E) Second Initial Flow 48
- (F) Second Final Flow 50
- (G) Final Shut-In 1204
- (H) Final Hydrostatic 1988

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

- Test 1950
- Jars 300
- Safety Joint
- Circ Sub
- Hourly Standby
- Mileage 144 RT 216+216
- Sampler
- Straddle
- Shale Packer 250
- Extra Packer
- Extra Recorder
- Day Standby 1d 14.25h
- Accessibility
- Sub Total 2932

T-On Location 18:50
 T-Started 21:20
 T-Open 00:39
 T-Pulled 03:35
 T-Out 05:40

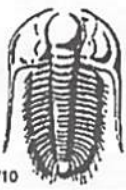
Comments Picked up tool @ 20.00 on 10/14/22

- EM Tool -350
- Ruined Shale Packer
- Ruined Packer
- Extra Copies
- Sub Total 800 - 350
- Total 3382

Approved By _____

Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **69870**

Well Name & No. Unit # 1-20 Test No. 5 Date 10-16-22
 Company Morton Drilling Co. Elevation 3193 KB 3188 GL
 Address 250 N Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Anderson, Rod Rig Rig 110
 Location: Sec. 20 Twp 2 Rge. 39 W Co. Cheyenne State KS

Interval Tested 4585-4620 Zone Tested Breezy Hill
 Anchor Length 35 Drill Pipe Run 4772 Mud Wt. 9.5
 Top Packer Depth 4580 Drill Collars Run 180 Vis 60
 Bottom Packer Depth 4585 Wt. Pipe Run 1800 WL 6.8
 Total Depth 5000 Chlorides 1400 ppm System LCM 2#

Blow Description FF - 30 inch
ISI - 60 - No Return
FF - 30 - No Blow
FBI - 60 - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>05 M</u>			<u>99</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total _____ BHT 143 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2310 Test 1950 T-On Location 5:30 17:30
 (B) First Initial Flow 30 Jars 300 T-Started 20:30
 (C) First Final Flow 37 Safety Joint _____ T-Open 24:00
 (D) Initial Shut-In 1354 Circ Sub _____ T-Pulled 03:00
 (E) Second Initial Flow 39 Hourly Standby _____ T-Out 07:00
 (F) Second Final Flow 41 Mileage 71x2 216 Comments _____
 (G) Final Shut-In 1334 Sampler _____
 (H) Final Hydrostatic 2166 Straddle 800 EM Tool -350
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 3516 MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60
 Sub Total _____ Total 3166

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 69871

Well Name & No. Unit # 1-20 Test No. 6 Date 10-17-22
 Company Murfin Drilling Co. Elevation 3193 KB 3188 GL
 Address 250 N Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Rod Anderson Rig Rig 110
 Location: Sec. 20 Twp 2 Rge. 39W Co. Cheyenne State KS

Interval Tested 4282-4334 Zone Tested J
 Anchor Length 52 Drill Pipe Run 4772 Mud Wt. 9.5
 Top Packer Depth 4277 Drill Collars Run 180 Vls 60
 Bottom Packer Depth 4282 Wt. Pipe Run 130 WL 60.8
 Total Depth 5000 Chlorides 1400 ppm System LCM 2^{FF}

Blow Description IF - 30 - 6 inches Blow
ISF - 10 - No Return
FF - 60 - 4 inches
FISF - 90 - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>300</u>	<u>MW</u>			<u>50%</u>	<u>50%</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 300 BHT 144 Gravity _____ API RW 2.3 @ 54° F Chlorides 4000 ppm

(A) Initial Hydrostatic 2174 Test 1950 T-On Location _____
 (B) First Initial Flow 32 Jars 300 T-Started 8:30
 (C) First Final Flow 97 Safety Joint _____ T-Open 11:49
 (D) Initial Shut-In 1359 Circ Sub _____ T-Pulled 15:49
 (E) Second Initial Flow 101 Hourly Standby _____ T-Out 18:55
 (F) Second Final Flow 156 Mileage 71 X 2 Comments _____
 (G) Final Shut-In 1350 Sampler _____
 (H) Final Hydrostatic 2110 Straddle 800 EM Tool -350
 Ruined Shale Packer _____

Initial Open 30 Extra Packer _____ Ruined Packer _____
 Initial Shut-In 60 Extra Recorder _____ Extra Copies _____
 Final Flow 60 Day Standby _____ Sub Total -350
 Final Shut-In 90 Accessibility _____ Total 2950
 Sub Total 3300 MP/DST Disc't _____

Approved By _____ Our Representative Terrance Wickham

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