

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](mailto: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	ARMBRISTER 1-36
Doc ID	1678193

All Electric Logs Run

DIL
DUCP
MEL
BHCS



## DRILLING REPORT - LOG TOPS - ARMBRISTER 1-36

MDCI Armbrister # 1-36 330' FNL 1700' FWL Sec. 36-T11S-R21W 2301' KB
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Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	1713	+588	-2	1714	+587	-3
B/Anhydrite	1762	+539	-2	1763	+538	-3
Topeka	3335	-1034	-8	3333	-1032	-6
Heebner	3549	-1248	-15	3546	-1245	-12
Toronto	3575	-1274	-7	3571	-1270	-3
Lansing	3589	-1288	-11	3585	-1284	-7
Mound City	3826	-1525	-24	3822	-1521	-20
Marm	3848	-1547	-22	3855	-1554	-29
Arbuckle	3902	-1601	-24	3901	-1600	-23
RTD				4000		
LTD	4998					

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 3199

Date	11-10-22	Sec.	36	Twp.	11	Range	21	County	Trego	State	Ks	On Location		Finish	3:00 PM
Lease								Location							
Acmbroister								Ellis - 8.3 N to Sleepy hollow,							
Contractor				Well No.				Owner							
Murfin #16				1-36				3 1/2 w 5/1 into							
Type Job								To Quality Oilwell Cementing, Inc.							
Surface								You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.							
Hole Size				T.D.				Charge To							
12 1/4"				220+				Murfin Drilling							
Csg.				Depth				Street							
8 5/8"				220'											
Tbg. Size				Depth				City				State			
Tool				Depth				The above was done to satisfaction and supervision of owner agent or contractor.							
Cement Left in Csg.				Shoe Joint				Cement Amount Ordered							
15'				15'				150 80/20 3% cc 2% bel							
Meas Line				Displace											
				13 BLS											
<b>EQUIPMENT</b>								Common							
Pumptrk 17 No. Cementer				Nick				120							
Bulktrk 20 No. Driver				Tim				30							
Bulktrk 14 No. Driver				Rick				3							
								6							
<b>JOB SERVICES &amp; REMARKS</b>								Hulls							
Remarks: Cement did Circulate								Salt							
Rat Hole								Flowseal							
Mouse Hole								Kol-Seal							
Centralizers								Mud CLR 48							
Baskets								CFL-117 or CD110 CAF 38							
D/V or Port Collar								Sand							
								Handling 159							
								Mileage							
<b>FLOAT EQUIPMENT</b>															
								Guide Shoe							
								Centralizer							
								Baskets							
								AFU Inserts							
								Float Shoe							
								Latch Down							
								Pumptrk Charge							
								Surface							
								Mileage 29							
								Thanks							
Signature								Tax							
								Discount							
								Total Charge							







# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: Armbrister #1-36

Well Id:

Location: 330 FNL & 1700 FWL Sec 36-11S-21W

License Number: 15-195-23150-00-00

Spud Date: 11/9/2022

Region: Trego Co. Ks

Drilling Completed:

Surface Coordinates:

Bottom Hole

Coordinates:

Ground Elevation (ft): 2296

K.B. Elevation (ft): 2301

Logged Interval (ft): 3230 To: 3850

Total Depth (ft): 4000

Formation: Arbuckle

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


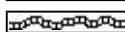
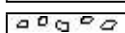
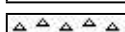
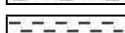
Address: 100 S. Main Suite 225  
Wichita, Kansas 67202


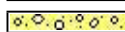



### Cores



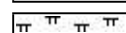

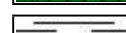
### DSTs

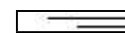
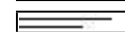

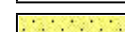
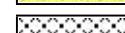
### Comments

### 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

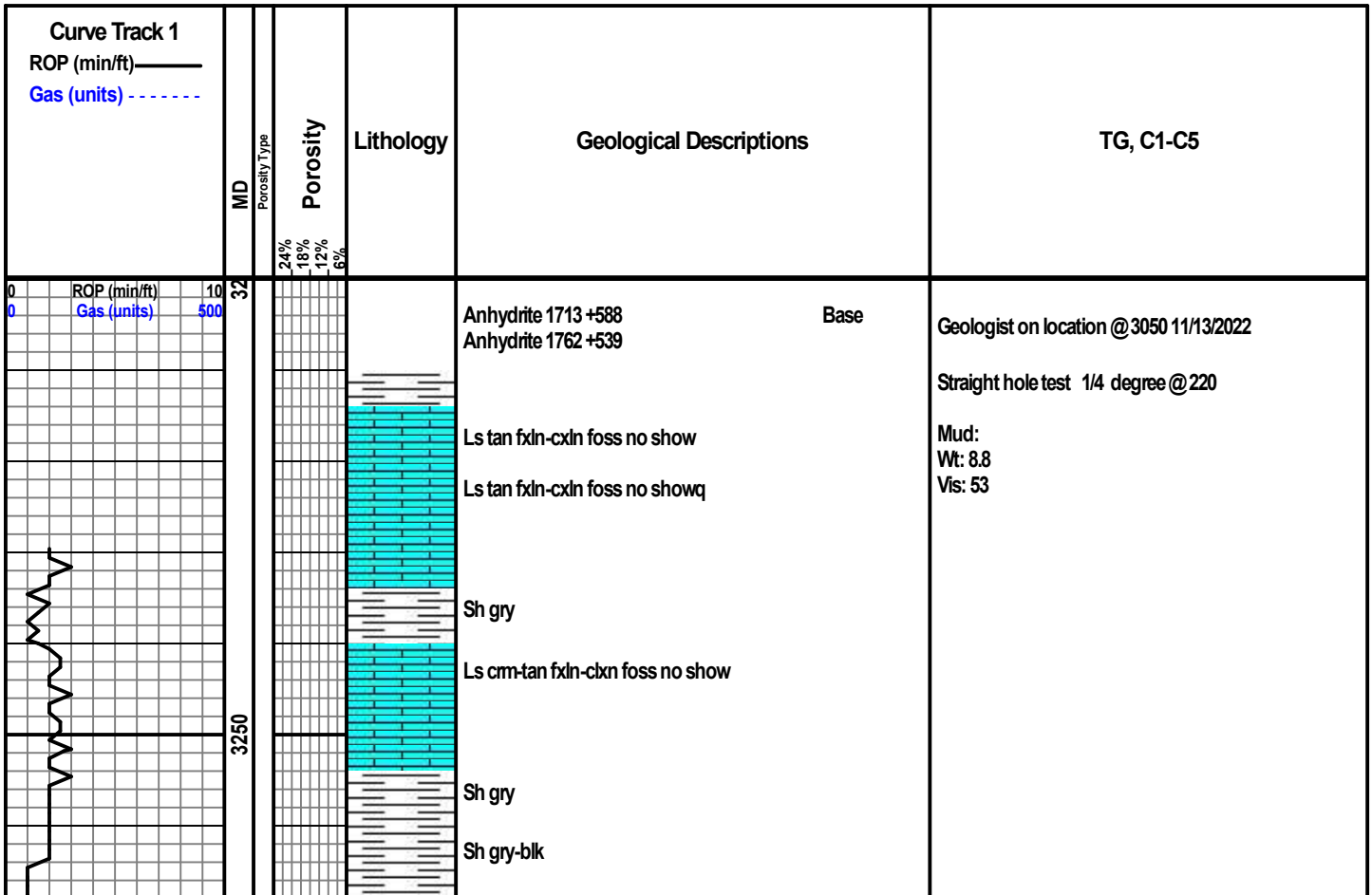
- Even
- Spotted
- Ques
- Dead

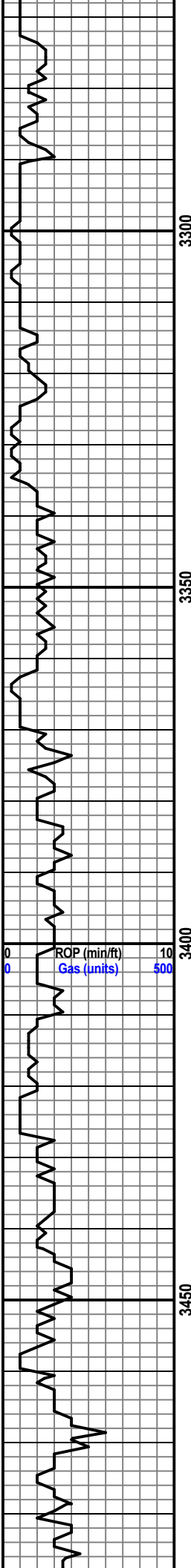
#### INTERVAL

- Core
- Dst

#### EVENT

- Rft
- Sidewall





3300

3350

3400

3450



Ls cm-tan fxln foss no show

Sh gry-blk

Ls cm-tan fxln foss no show

Sh gry-blk

Ls cm-tan fxln-cxln foss no show

Sh gry mic blk carb in part

Ls tan fxln-cxln foss no show

Ls cm-tan fxln foss no show

Sh gry-blk carb.

Ls gry-tan fxln-mxln foss no show

Sh gy

Ls cm-tan fxln-cxln foss no show

Ls cm fxln foss no show

Ls wt-cm fxln foss no show

Ls cm-tan fxln-cxln foss no show

Sh gry-blk

Ls cm-tan fxln-cxln foss no show

Sh blk-gry

Ls cm-tan fxln-cxln v. foss no show

Ls cm-tan-gry fxln-cxln v. foss no show

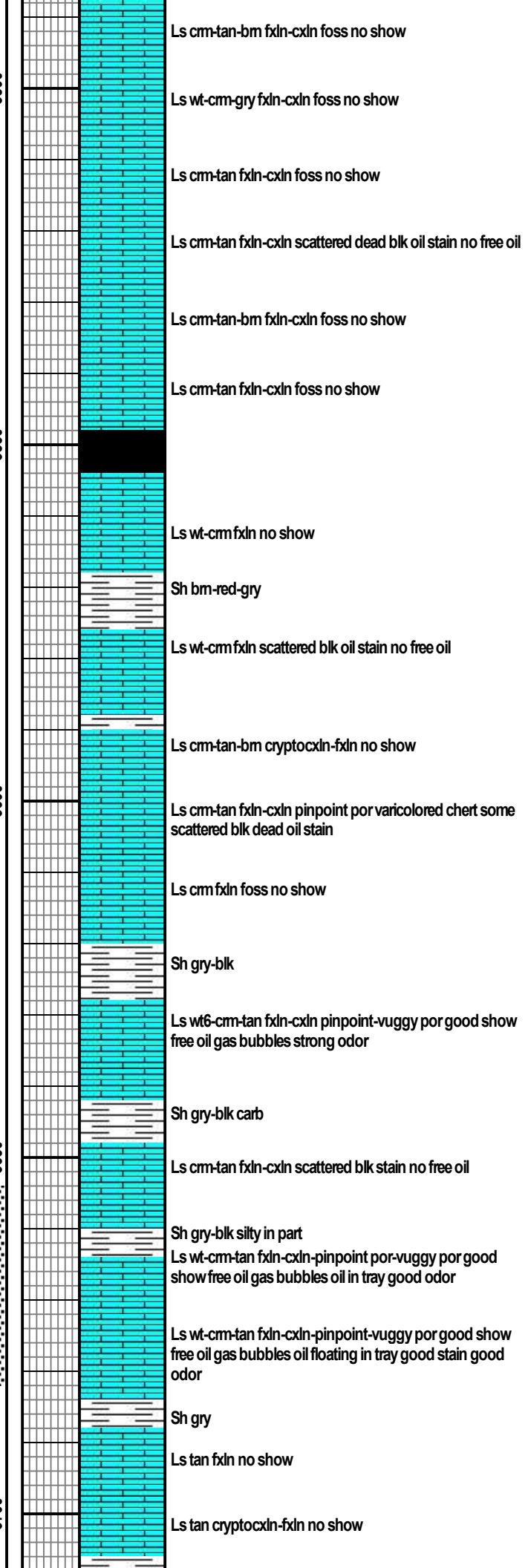
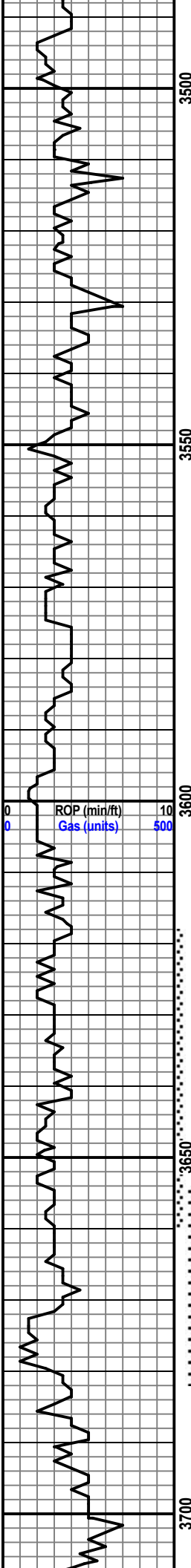
Ls cm-tan fxln-nxln foss no show

Ls cm-tan fxln-cxln foss no show

TOPEKA 3335 -1034

DEER CREEK 3395 -1094

LECOMPTON 3438 -1137



**OREAD 3494 -1193**  
11/14/2022  
Mud:  
Wt: 9.1  
Vis: 53

**CFS 3548**  
**HEEBNER SHALE 3549 -1248**

**TORONTO 3575 -1274**  
cfs 3585

**LANSING 3589 -1288**

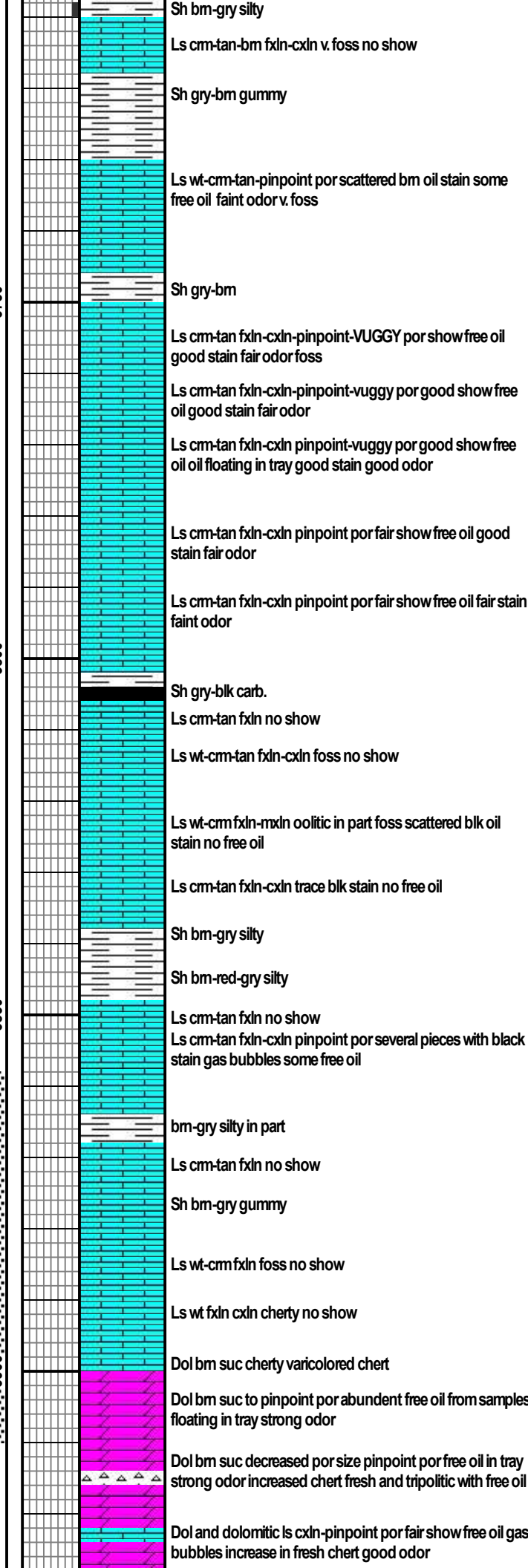
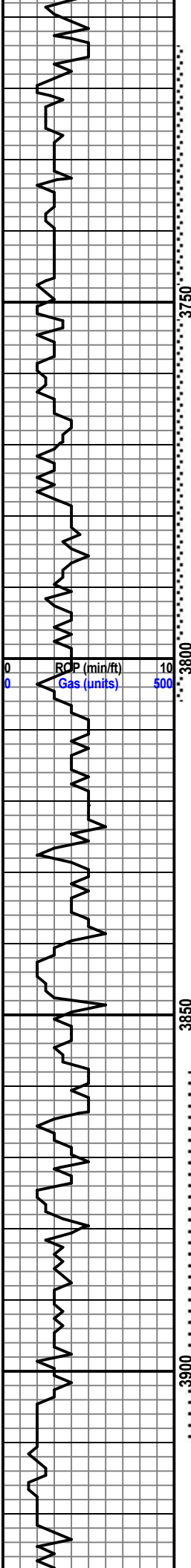
**LANSING B 3628 -1327**  
DST #1 3618-3660  
Rec: 31' OCW, 126' VSOMCW, 63' OSMCW  
FP: 21-71# 74-109#  
SIP: 78-257#  
cfs 3540

**LANSING D 3648 -1347**  
cfs 3660

**LANSING E 3665 -1364**  
11/15/2022  
cfs 3570

**LANSING F 3683 -1382**  
DST 2: 3655-3632  
Rec: 126' VSOMCW  
FP: 26-60# SIP: 246#

**LANSING G 3692 -1391**  
Mud  
Wt: 9.1  
Vis: 50  
11/16/2022



Mud:  
Wt: 9  
Vis: 55  
LCM:12  
cfs 3720

**LANSING H 3732 -1431**  
cfs 3645

**LANSING I 3752 -1451**  
cfs 3755  
cfs 3765

**LANSING J 3770 -1469**  
CFS 3778

**LANSING K 3786 -1485**  
DST #3 3715-3805  
Rec: 100' mud  
FP:47-64# 69-79#  
SIP: 603-590#  
CFS 3805  
11/17/2022

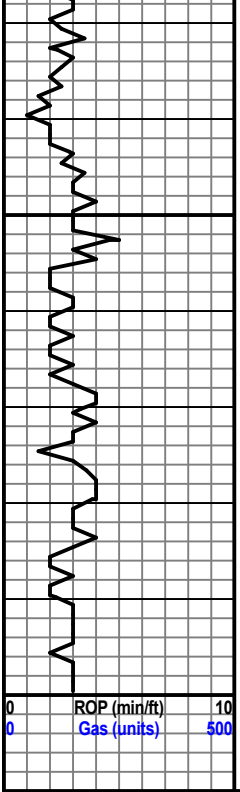
**LANSING L 3814 -1513**

**MOUND CITY 3826 -1525**  
Mud:  
Wt: 9  
Vis: 64  
LCM:10

**MARMATON 3848 -1547**

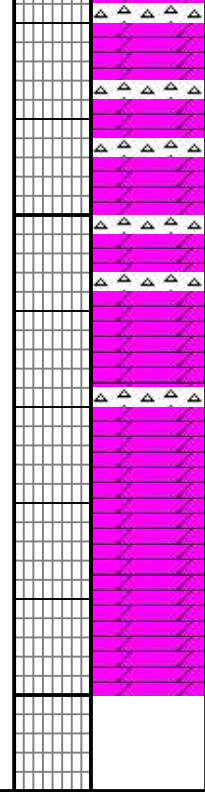
**LOWER FT SCOTT 3874 -1573**  
cfs 3880

cfs 3900  
**ARBUCKLE 3902 -1601**  
11/18/2022  
Mud:  
Wt: 9.0  
Vis: 65  
LCM: 8



3950

4000



Dol wt-bm cxln-pinpoint por good show free oil gas bubbles cherty good odor

Dol wt-bm cxln-pinpoint-vuggy por good show free oil gas bubbles better por free oil on tray good odor

Dol wt-bm fxln-cxln-pinpoint fair show free pyrite oil fair odor

Dol wt-bm fxln-cxln scattered blk oil stain fair odor no free oil

Dol wt-bm fxln-cxln pinpoint portaces of blk oil stain no free oil faint odor

Dol wt-bm fxln-cxln traces of blk oil stain no odor

Do wt-bm fxln-mxln trace of blk oil stain no free oil no odor

DST #4 3858-3910  
 Rec: 75' oil, 60' OCM 37 Gravity  
 FP: 27-59#, 64-83#  
 SIP: 1182-1176#

11/19/2022

DST #5 3910-3920  
 Rec: 1197' oil 37 Gravity  
 FP: 57-259# 267-441#  
 SIP: 1175-1151#

**TD DRILLER 4000**  
**TD LOGGER 3998**



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Rod Anderson

### **Armbrister #1-36**

### **36-11S-21W Trego,KS**

Start Date: 2022.11.14 @ 22:36:28

End Date: 2022.11.15 @ 06:47:28

Job Ticket #: 69619                      DST #: 1

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

Printed: 2022.11.22 @ 16:02:43



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

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

**36-11S-21W Trego, KS**  
**Armbrister #1-36**  
Job Ticket: 69619 **DST#: 1**  
Test Start: 2022.11.14 @ 22:36:28

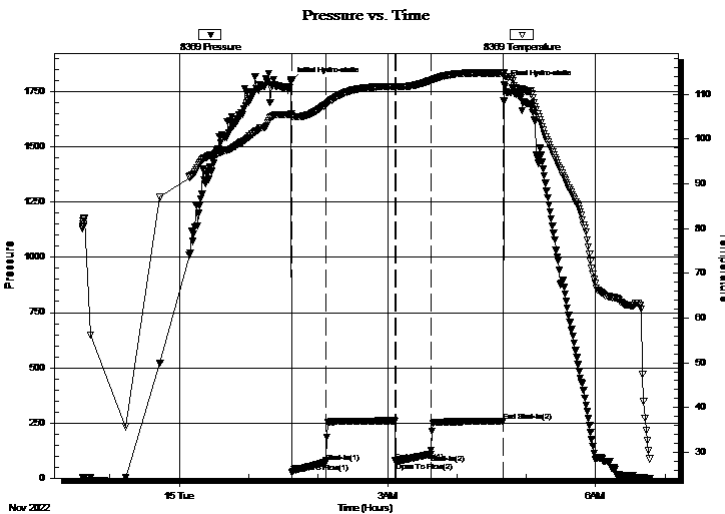
## GENERAL INFORMATION:

Formation: **Lansing B-D**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 01:37:18  
Time Test Ended: 06:47:28  
Interval: **3618.00 ft (KB) To 3660.00 ft (KB) (TVD)**  
Total Depth: 3660.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Poor  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Eric Burgess  
Unit No: 80  
Reference Elevations: 2301.00 ft (KB)  
2296.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8369 Outside**  
Press@RunDepth: 108.52 psig @ 3621.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2022.11.14 End Date: 2022.11.15 Last Calib.: 2022.11.14  
Start Time: 22:36:29 End Time: 06:47:28 Time On Btm: 2022.11.15 @ 01:36:48  
Time Off Btm: 2022.11.15 @ 04:40:48

**TEST COMMENT:** IF: Fair Building Blow built 7.25" (30)  
IS: No Blow Back. (60)  
FF: Fair Building Blow built 5.75" (30)  
FS: No Blow Back. (60)

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1794.96	105.50	Initial Hydro-static
1	24.22	105.08	Open To Flow (1)
30	70.77	107.70	Shut-In(1)
90	78.28	111.68	End Shut-In(1)
91	73.83	111.71	Open To Flow (2)
121	108.52	113.05	Shut-In(2)
183	257.30	114.64	End Shut-In(2)
184	1780.36	114.58	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	OSMCW 90%W 10%M	0.63
126.00	VSOMCW 5%O 75%W 20%M	1.84
31.00	OCW 30%O 70%W	0.45

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling

**36-11S-21W Trego,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Armbrister #1-36**

Job Ticket: 69619

**DST#: 1**

ATTN: Rod Anderson

Test Start: 2022.11.14 @ 22:36:28

## Tool Information

Drill Pipe:	Length: 3585.00 ft	Diameter: 3.88 inches	Volume: 52.43 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 24000.00 lb
			<u>Total Volume: 52.58 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3618.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	73.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3588.00	
Shut In Tool	5.00			3593.00	
Hydraulic tool	5.00			3598.00	
Em Tool	3.00			3601.00	
Jars	5.00			3606.00	
Safety Joint	3.00			3609.00	
Packer	4.00			3613.00	31.00 Bottom Of Top Packer
Packer	5.00			3618.00	
Stubb	1.00			3619.00	
Perforations	1.00			3620.00	
Change Over Sub	1.00			3621.00	
Recorder	0.00	8369	Outside	3621.00	
Recorder	0.00	8846	Inside	3621.00	
Blank Spacing	32.00			3653.00	
Perforations	4.00			3657.00	
Bullnose	3.00			3660.00	42.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>73.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling

**36-11S-21W Trego,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Armbrister #1-36**

Job Ticket: 69619

**DST#: 1**

ATTN: Rod Anderson

Test Start: 2022.11.14 @ 22:36:28

## 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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3700.00 ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	OSMCW 90%W 10%M	0.630
126.00	VSOMCW 5%O 75%W 20%M	1.843
31.00	OCW 30%O 70%W	0.453

Total Length: 220.00 ft      Total Volume: 2.926 bbl

Num Fluid Samples: 0

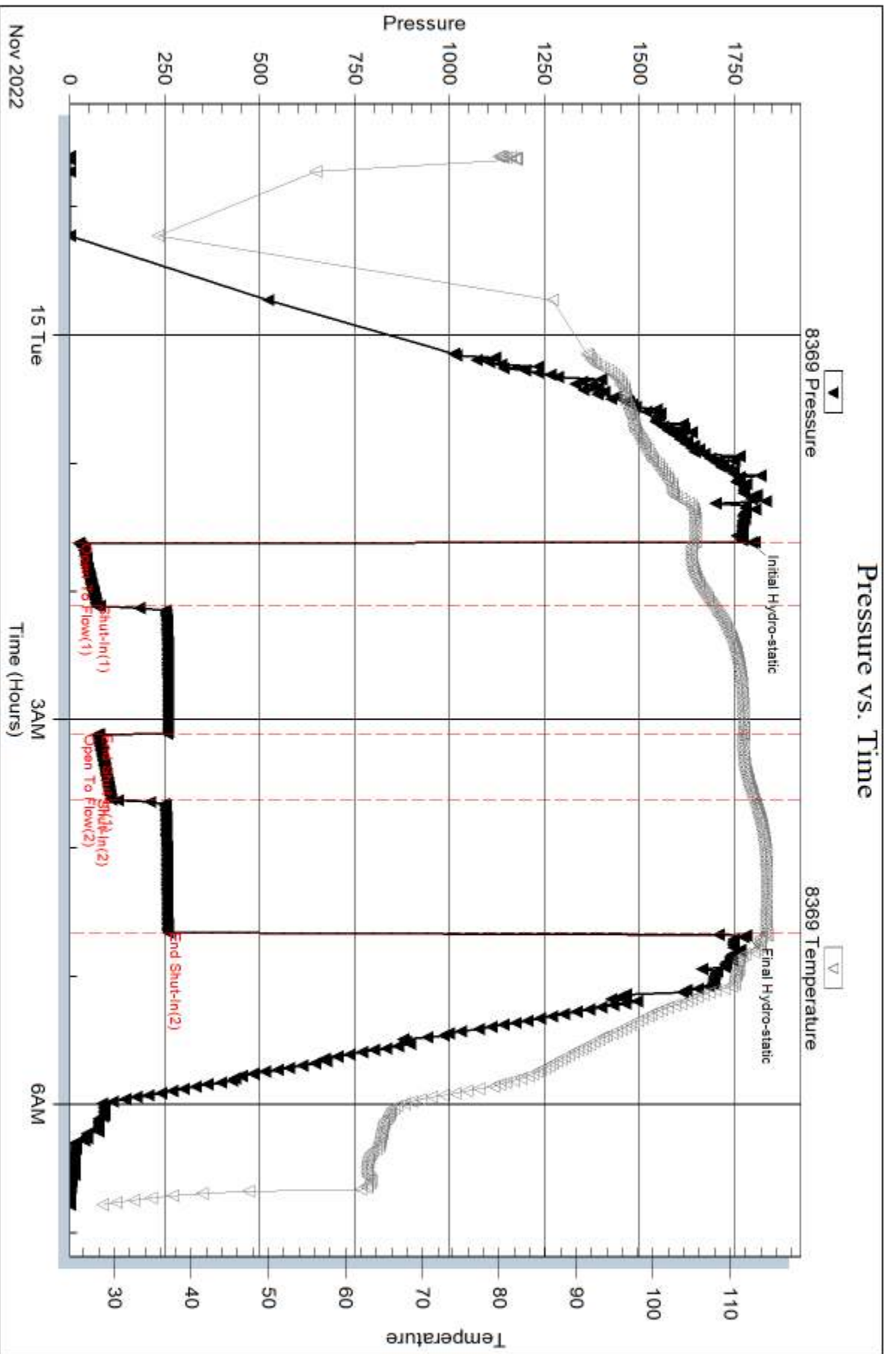
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



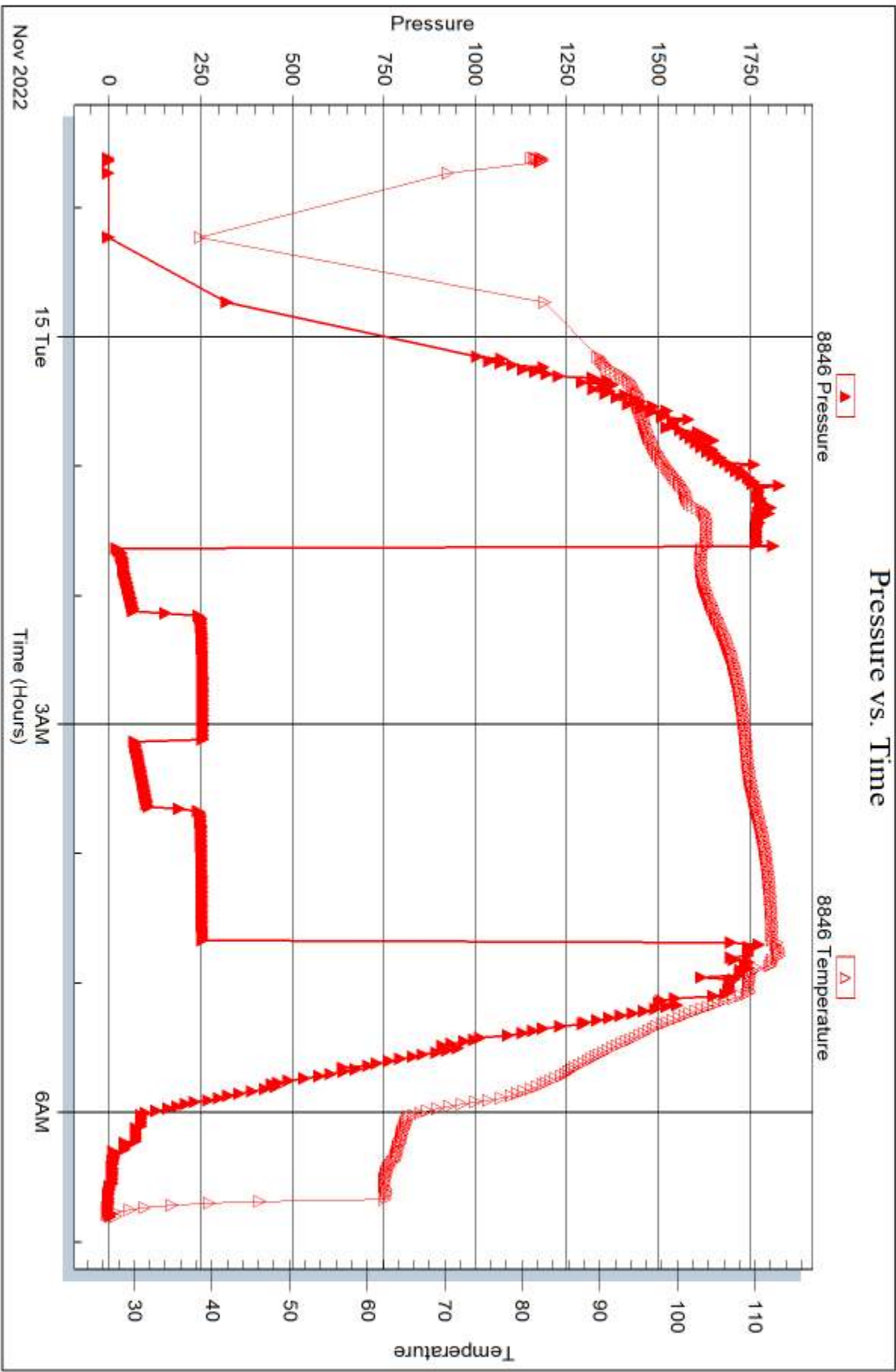
Serial #: 8846

Inside

Murfin Drilling

Armbuster #1-36

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 69619

Printed: 2022.11.22 @ 16:02:44



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Rod Anderson

### **Armbrister #1-36**

### **36-11S-21W Trego,KS**

Start Date: 2022.11.15 @ 15:06:13

End Date: 2022.11.15 @ 22:13:13

Job Ticket #: 69620                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.11.22 @ 16:01:43

Murfin Drilling

36-11S-21W Trego,KS

Armbrister #1-36

DST # 2

Lansing E-F

2022.11.15



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

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

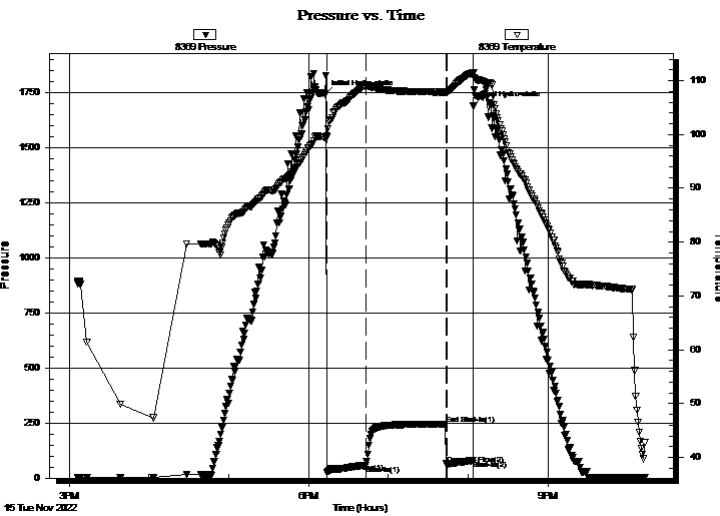
**36-11S-21W Trego, KS**  
**Armbrister #1-36**  
Job Ticket: 69620 **DST#: 2**  
Test Start: 2022.11.15 @ 15:06:13

## GENERAL INFORMATION:

Formation: **Lansing E-F**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 18:13:53  
Time Test Ended: 22:13:13  
Interval: **3655.00 ft (KB) To 3682.00 ft (KB) (TVD)**  
Total Depth: 3682.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2301.00 ft (KB)  
2296.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Eric Burgess  
Unit No: 80

**Serial #: 8369 Outside**  
Press@RunDepth: 59.87 psig @ 3656.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2022.11.15 End Date: 2022.11.15 Last Calib.: 1899.12.30  
Start Time: 15:06:14 End Time: 22:13:13 Time On Btm: 2022.11.15 @ 18:12:03  
Time Off Btm: 2022.11.15 @ 20:04:03

TEST COMMENT: IF:No Blow (30)  
IS:No Blow Back (60)  
FF:No Blow pulled tool per Geo (5)



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1742.99	99.52	Initial Hydro-static
2	25.93	99.69	Open To Flow (1)
31	59.87	109.17	Shut-In(1)
92	245.48	107.89	End Shut-In(1)
92	61.19	107.74	Open To Flow (2)
112	80.09	111.54	Shut-In(2)
112	1689.58	111.43	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	V SOMCW 5% O 30% M 65% W	0.63
63.00	V SOMCW 5% O 15% M 80% W	0.92

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

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

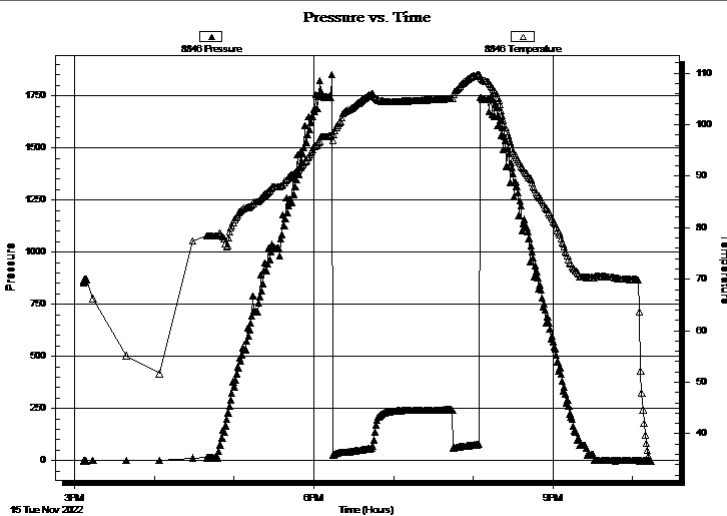
**36-11S-21W Trego, KS**  
**Armbrister #1-36**  
 Job Ticket: 69620 **DST#: 2**  
 Test Start: 2022.11.15 @ 15:06:13

**GENERAL INFORMATION:**

Formation: **Lansing E-F**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 18:13:53 Tester: Eric Burgess  
 Time Test Ended: 22:13:13 Unit No: 80  
 Interval: **3655.00 ft (KB) To 3682.00 ft (KB) (TVD)** Reference Elevations: 2301.00 ft (KB)  
 Total Depth: 3682.00 ft (KB) (TVD) 2296.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 8846 Inside**  
 Press@RunDepth: psig @ 3656.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2022.11.15 End Date: 2022.11.15 Last Calib.: 2022.11.15  
 Start Time: 15:06:48 End Time: 22:13:57 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF:No Blow (30)  
 IS:No Blow Back (60)  
 FF:No Blow pulled tool per Geo (5)



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
63.00	V SOMCW 5%O 30%M 65%W	0.63
63.00	V SOMCW 5%O 15%M 80%W	0.92

**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

**36-11S-21W Trego,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Armbrister #1-36**

Job Ticket: 69620

**DST#: 2**

ATTN: Rod Anderson

Test Start: 2022.11.15 @ 15:06:13

## Tool Information

Drill Pipe:	Length: 3619.00 ft	Diameter: 3.88 inches	Volume: 52.93 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 24000.00 lb
			<u>Total Volume: 53.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3655.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 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
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Change Over Sub	1.00			3625.00	
Shut In Tool	5.00			3630.00	
Hydraulic tool	5.00			3635.00	
Em Tool	3.00			3638.00	
Jars	5.00			3643.00	
Safety Joint	3.00			3646.00	
Packer	4.00			3650.00	31.00 Bottom Of Top Packer
Packer	5.00			3655.00	
Stubb	1.00			3656.00	
Recorder	0.00	8369	Outside	3656.00	
Recorder	0.00	8846	Inside	3656.00	
Perforations	23.00			3679.00	
Bullnose	3.00			3682.00	27.00 Bottom Packers & Anchor

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling

**36-11S-21W Trego,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Armbrister #1-36**

Job Ticket: 69620

**DST#: 2**

ATTN: Rod Anderson

Test Start: 2022.11.15 @ 15:06:13

## 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:

40000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
63.00	VSOMCW 5%O 30%M 65%W	0.630
63.00	VSOMCW 5%O 15%M 80%W	0.921

Total Length: 126.00 ft

Total Volume: 1.551 bbf

Num Fluid Samples: 0

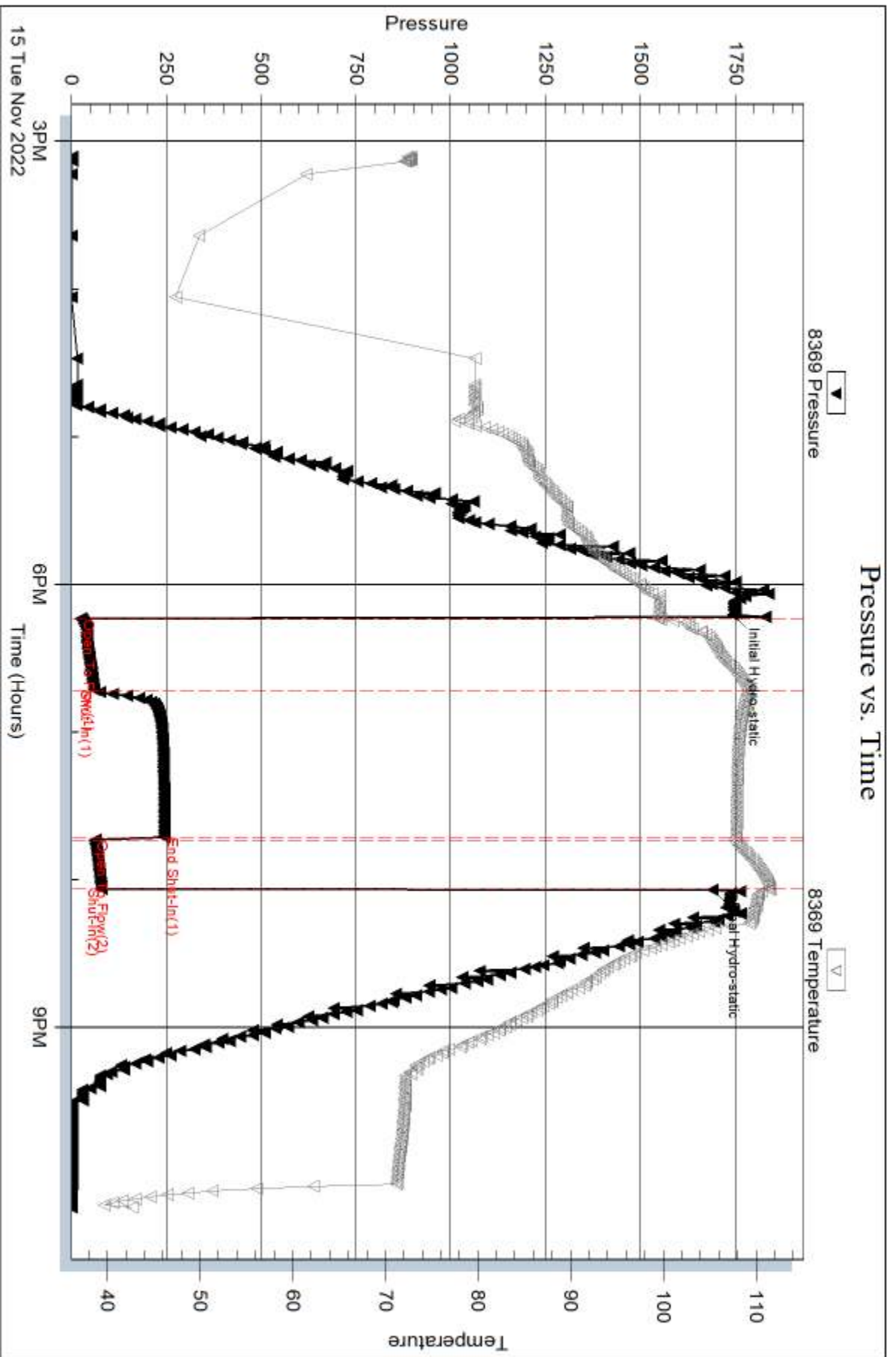
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

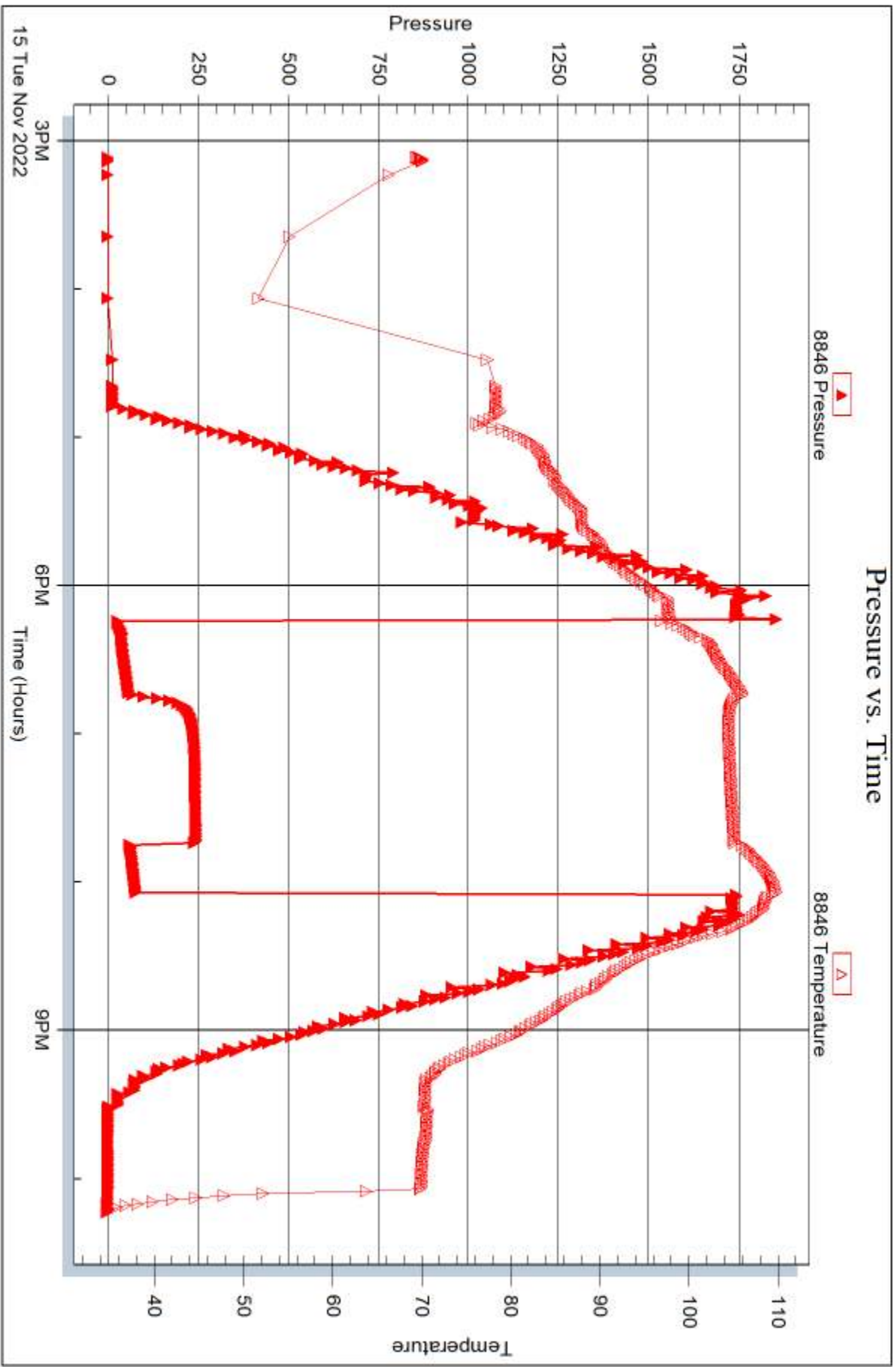


Serial #: 8846

Inside Marfin Drilling

Armbrister #1-36

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 69620

Printed: 2022.11.22 @ 16:01:44



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Rod Anderson

### **Armbrister #1-36**

### **36-11S-21W Trego,KS**

Start Date: 2022.11.16 @ 21:47:28

End Date: 2022.11.17 @ 06:28:28

Job Ticket #: 69621                      DST #: 3

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

Printed: 2022.11.22 @ 16:01:05



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

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

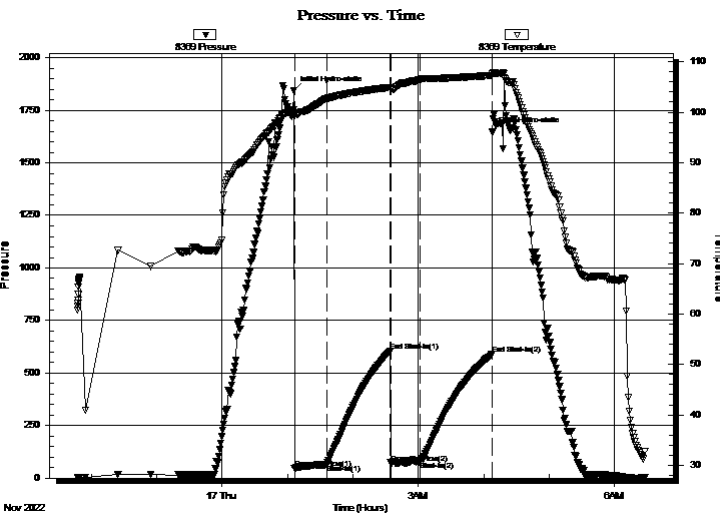
**36-11S-21W Trego, KS**  
**Armbrister #1-36**  
 Job Ticket: 69621 **DST#: 3**  
 Test Start: 2022.11.16 @ 21:47:28

## GENERAL INFORMATION:

Formation: **Lansing H-K**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 01:06:18  
 Time Test Ended: 06:28:28  
 Interval: **3715.00 ft (KB) To 3805.00 ft (KB) (TVD)**  
 Total Depth: 3805.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Eric Burgess  
 Unit No: 80  
 Reference Elevations: 2301.00 ft (KB)  
 2296.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8369 Outside**  
 Press@RunDepth: 78.56 psig @ 3718.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2022.11.16 End Date: 2022.11.17 Last Calib.: 1899.12.30  
 Start Time: 21:47:29 End Time: 06:28:28 Time On Btm: 2022.11.17 @ 01:05:38  
 Time Off Btm: 2022.11.17 @ 04:08:08

**TEST COMMENT:** IF:Fair Building Blow built to 1.22" but died. (30)  
 IS:No Blow Back. (60)  
 FF:Weak Building Blow built to .48" but died. (30)  
 FS:No Blow Back. (60)



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1842.70	100.57	Initial Hydro-static
1	47.03	99.85	Open To Flow (1)
31	64.05	102.71	Shut-In(1)
89	602.61	104.92	End Shut-In(1)
90	69.15	104.72	Open To Flow (2)
117	78.56	106.53	Shut-In(2)
182	589.55	107.29	End Shut-In(2)
183	1645.85	107.66	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
100.00	Mud 100%M	1.17

\* 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

**36-11S-21W Trego,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Armbrister #1-36**

Job Ticket: 69621

**DST#: 3**

ATTN: Rod Anderson

Test Start: 2022.11.16 @ 21:47:28

## Tool Information

Drill Pipe:	Length: 3682.00 ft	Diameter: 3.88 inches	Volume: 53.85 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 24000.00 lb
			<u>Total Volume: 54.00 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3715.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	90.00 ft			
Tool Length:	121.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3685.00	
Shut In Tool	5.00			3690.00	
Hydraulic tool	5.00			3695.00	
Em Tool	3.00			3698.00	
Jars	5.00			3703.00	
Safety Joint	3.00			3706.00	
Packer	4.00			3710.00	31.00 Bottom Of Top Packer
Packer	5.00			3715.00	
Stubb	1.00			3716.00	
Perforations	1.00			3717.00	
Change Over Sub	1.00			3718.00	
Recorder	0.00	8369	Outside	3718.00	
Recorder	0.00	8846	Inside	3718.00	
Blank Spacing	64.00			3782.00	
Perforations	20.00			3802.00	
Bullnose	3.00			3805.00	90.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>121.00</b>				





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling

**36-11S-21W Trego,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Armbrister #1-36**

Job Ticket: 69621

**DST#: 3**

ATTN: Rod Anderson

Test Start: 2022.11.16 @ 21:47:28

## 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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
100.00	Mud 100%M	1.171

Total Length: 100.00 ft      Total Volume: 1.171 bbl

Num Fluid Samples: 0

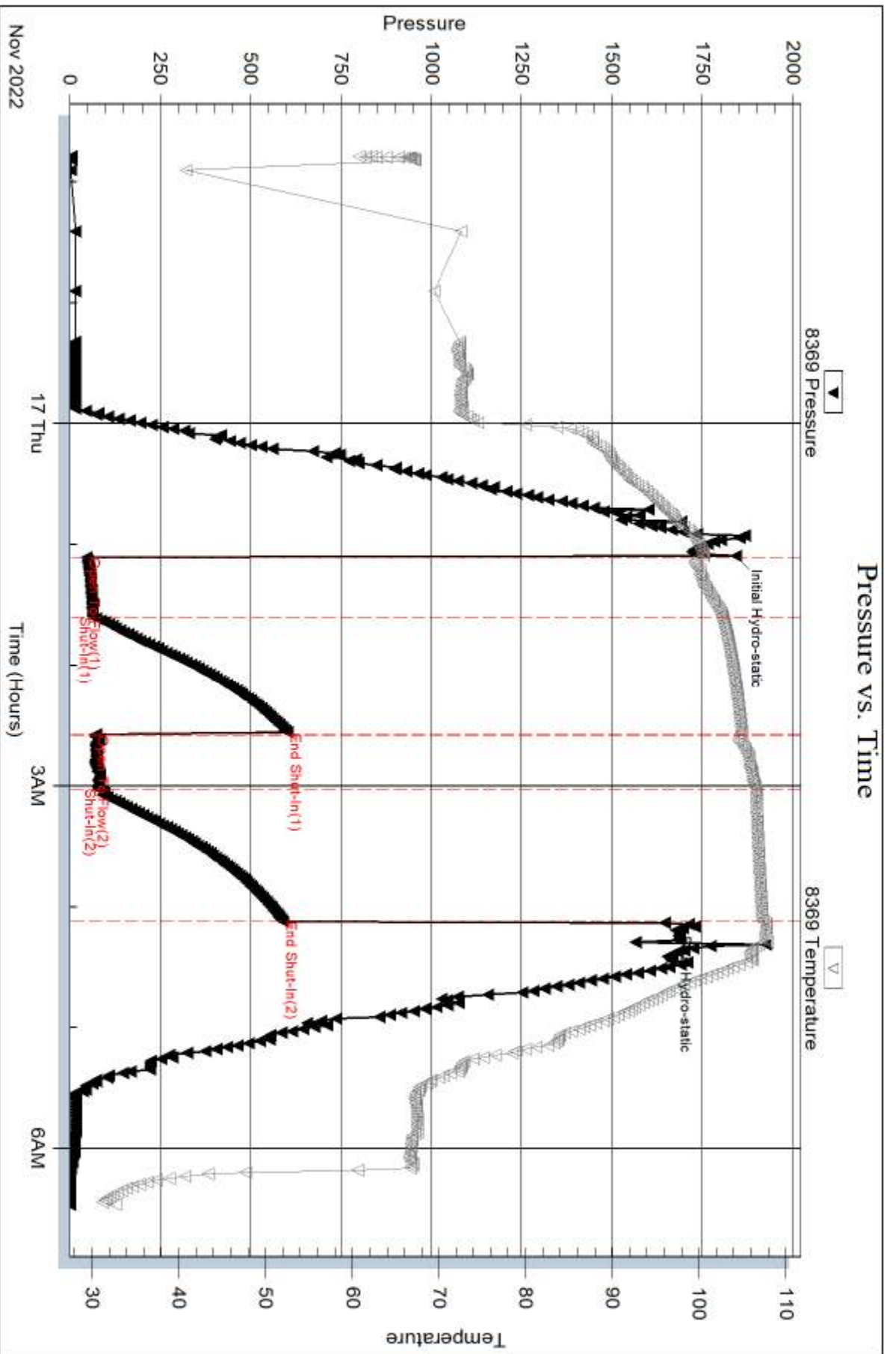
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



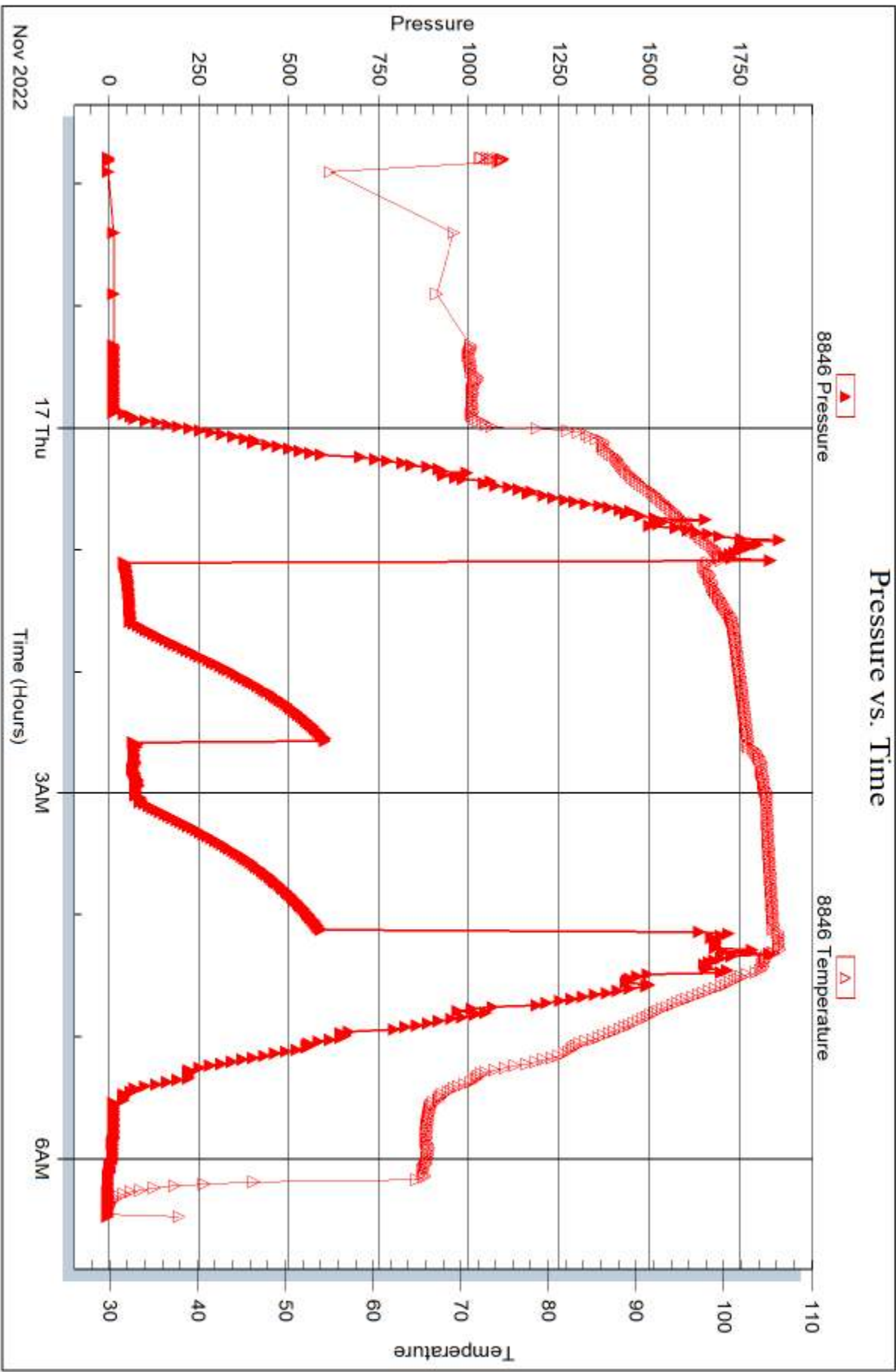
Serial #: 8846

Inside

Murfin Drilling

Armbuster #1-36

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Rod Anderson

### **Armbrister #1-36**

### **36-11S-21W Trego,KS**

Start Date: 2022.11.17 @ 21:47:59

End Date: 2022.11.18 @ 05:13:29

Job Ticket #: 69622                      DST #: 4

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

Printed: 2022.11.22 @ 16:00:15







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling

**36-11S-21W Trego,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Armbrister #1-36**

Job Ticket: 69622

**DST#: 4**

ATTN: Rod Anderson

Test Start: 2022.11.17 @ 21:47:59

## Tool Information

Drill Pipe:	Length: 3807.00 ft	Diameter: 3.88 inches	Volume: 55.67 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 24000.00 lb
			<u>Total Volume: 55.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3858.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	83.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3828.00	
Shut In Tool	5.00			3833.00	
Hydraulic tool	5.00			3838.00	
Em Tool	3.00			3841.00	
Jars	5.00			3846.00	
Safety Joint	3.00			3849.00	
Packer	4.00			3853.00	31.00 Bottom Of Top Packer
Packer	5.00			3858.00	
Stubb	1.00			3859.00	
Perforations	1.00			3860.00	
Change Over Sub	1.00			3861.00	
Recorder	0.00	8369	Outside	3861.00	
Recorder	0.00	8846	Inside	3861.00	
Blank Spacing	32.00			3893.00	
Perforations	14.00			3907.00	
Bullnose	3.00			3910.00	52.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>83.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling

**36-11S-21W Trego,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Armbrister #1-36**

Job Ticket: 69622

**DST#: 4**

ATTN: Rod Anderson

Test Start: 2022.11.17 @ 21:47:59

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 64.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3900.00 ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	OCM 40%O 60%M	0.586
75.00	Oil 100%O	1.097

Total Length: 135.00 ft

Total Volume: 1.683 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

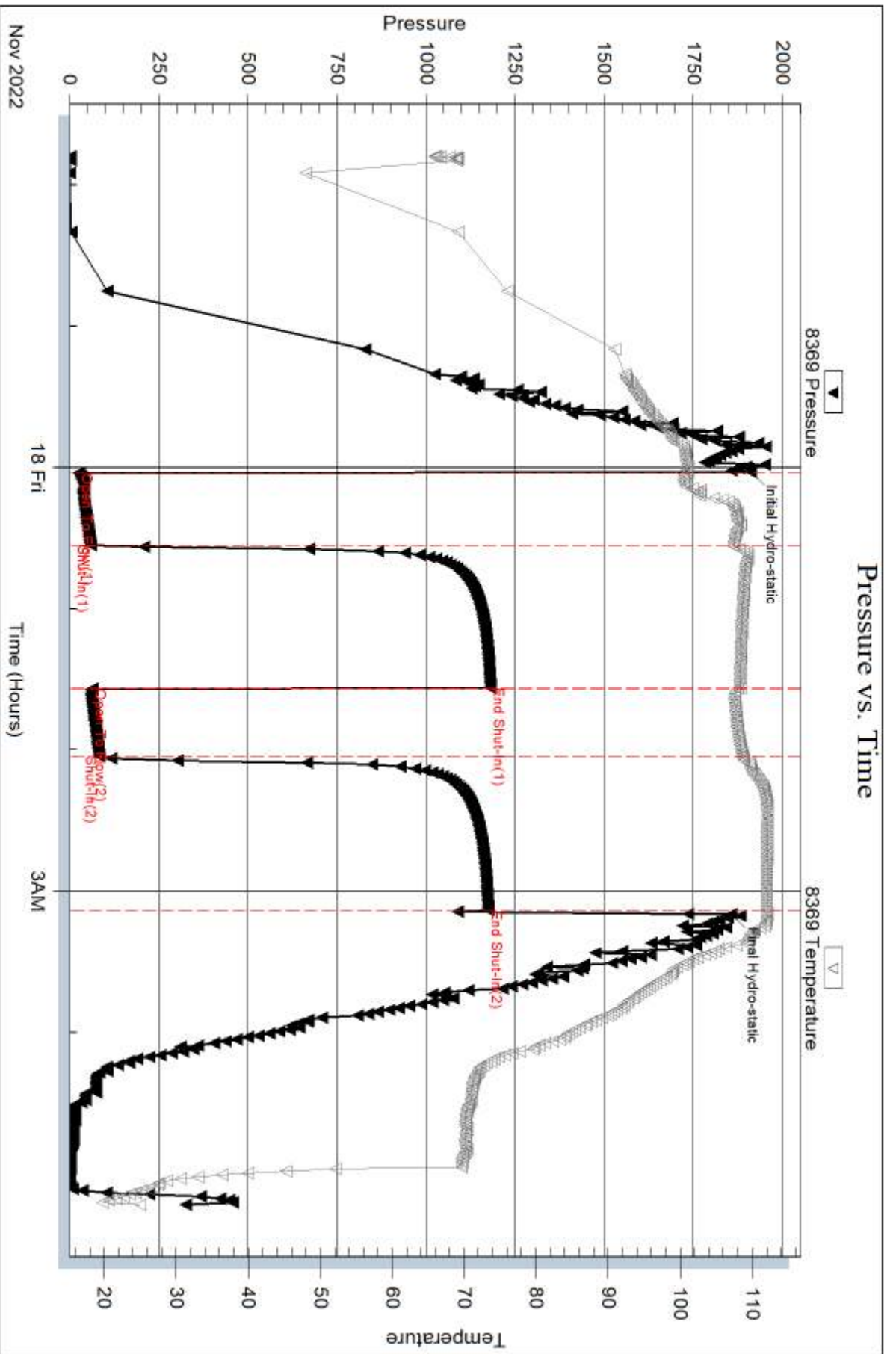
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





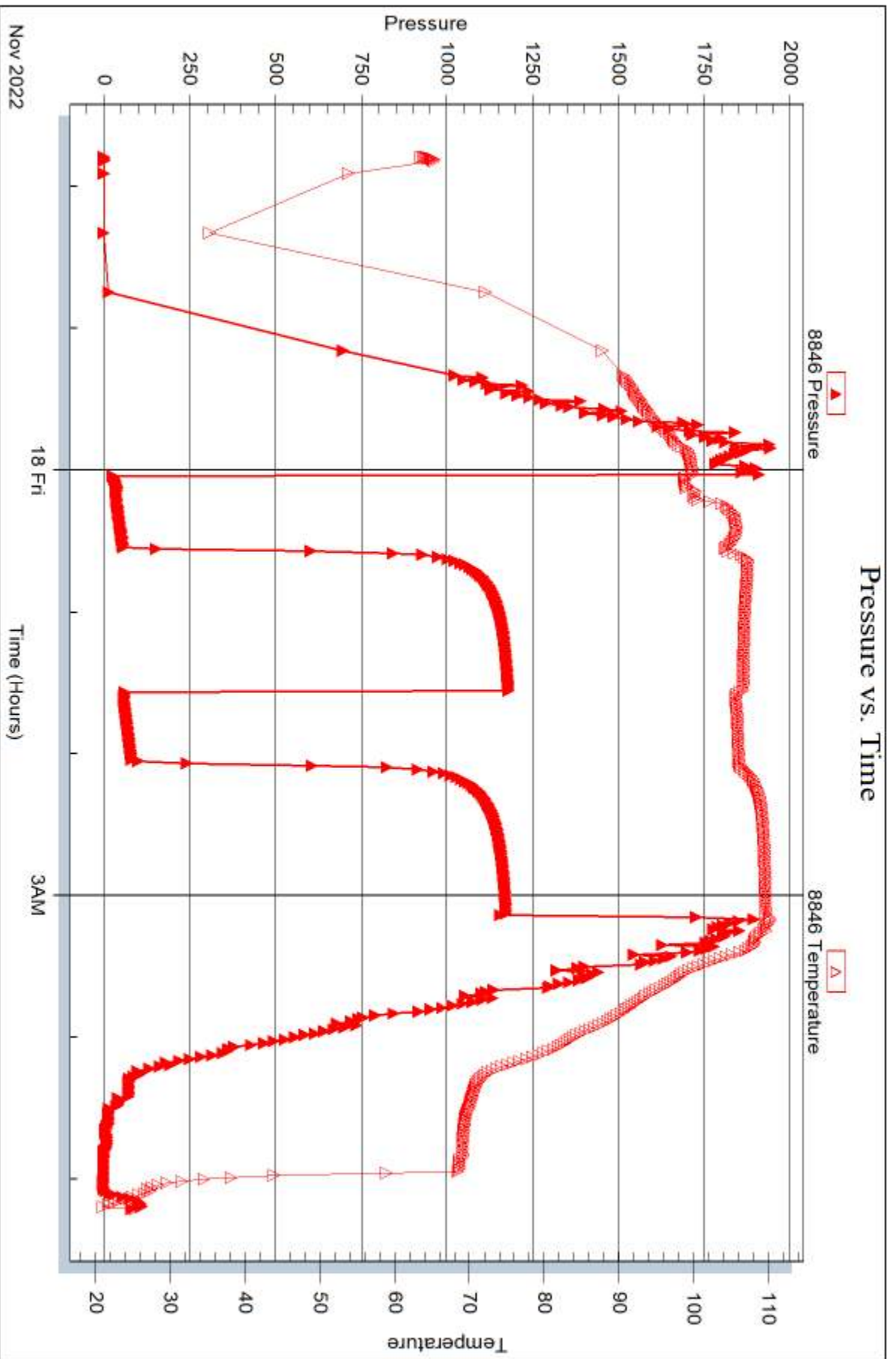
Serial #: 8846

Inside

Murfin Drilling

Armbrister #1-36

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 69622

Printed: 2022.11.22 @ 16:00:16



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling**

250 N Water Ste 300  
Wichita, KS 67202

ATTN: Rod Anderson

### **Armbrister #1-36**

### **36-11S-21W Trego,KS**

Start Date: 2022.11.18 @ 14:37:41

End Date: 2022.11.19 @ 03:07:51

Job Ticket #: 69623                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.11.22 @ 15:58:28



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

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

**36-11S-21W Trego, KS**  
**Armbrister #1-36**  
Job Ticket: 69623 **DST#: 5**  
Test Start: 2022.11.18 @ 14:37:41

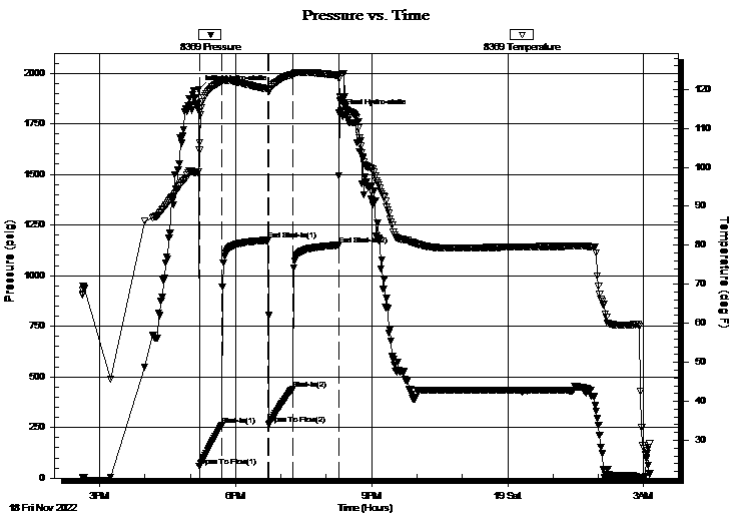
## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 17:12:11  
Time Test Ended: 03:07:51  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Eric Burgess  
Unit No: 80  
Interval: **3910.00 ft (KB) To 3920.00 ft (KB) (TVD)**  
Reference Elevations: 2301.00 ft (KB)  
Total Depth: 3920.00 ft (KB) (TVD) 2296.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 8369 Outside**  
Press@RunDepth: 440.94 psig @ 3912.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2022.11.18 End Date: 2022.11.19 Last Calib.: 2022.11.18  
Start Time: 14:37:42 End Time: 03:07:51 Time On Btm: 2022.11.18 @ 17:10:51  
Time Off Btm: 2022.11.18 @ 20:16:41

**TEST COMMENT:** IF: Strong Building Blow built 50.42" (30)  
IS: No Blow Back. (60)  
FF: Strong Building Blow built 39.44" (30)  
FS: No Blow Back. (60)

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1920.17	98.82	Initial Hydro-static
2	56.60	104.39	Open To Flow (1)
31	259.37	122.01	Shut-In(1)
93	1174.88	120.07	End Shut-In(1)
94	266.73	119.69	Open To Flow (2)
125	440.94	123.71	Shut-In(2)
186	1150.63	123.56	End Shut-In(2)
186	1802.01	123.61	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1197.00	Oil 100%O	17.21
0.00	1260' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

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

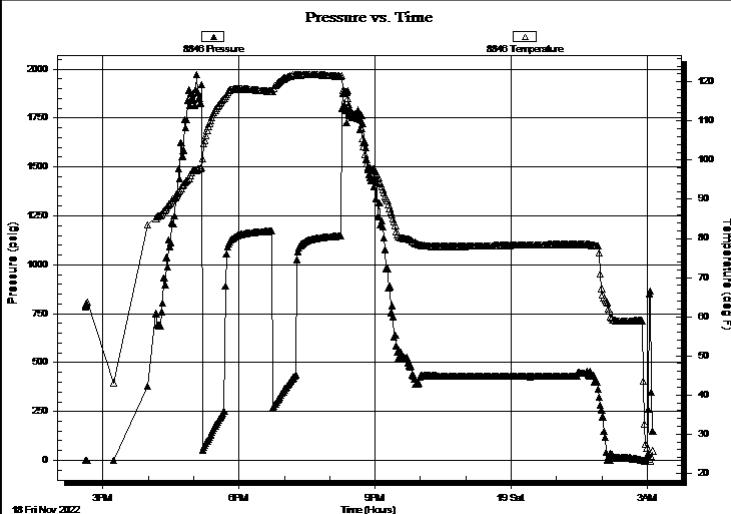
**36-11S-21W Trego, KS**  
**Armbrister #1-36**  
Job Ticket: 69623 **DST#: 5**  
Test Start: 2022.11.18 @ 14:37:41

### GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 17:12:11  
Time Test Ended: 03:07:51  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Eric Burgess  
Unit No: 80  
Interval: **3910.00 ft (KB) To 3920.00 ft (KB) (TVD)**  
Reference Elevations: 2301.00 ft (KB)  
2296.00 ft (CF)  
Total Depth: 3920.00 ft (KB) (TVD)  
KB to GR/CF: 5.00 ft  
Hole Diameter: 7.88 inches Hole Condition: Fair

**Serial #: 8846** Inside  
Press@RunDepth: psig @ 3912.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2022.11.18 End Date: 2022.11.19 Last Calib.: 2022.11.19  
Start Time: 14:37:09 End Time: 03:07:27 Time On Btm:  
Time Off Btm:

**TEST COMMENT:** IF:Strong Building Blow built 50.42" (30)  
IS:No Blow Back. (60)  
FF:Strong Building Blow built 39.44" (30)  
FS:No Blow Back. (60)



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
1197.00	Oil 100%O	17.21
0.00	1260' GIP	0.00

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling

**36-11S-21W Trego,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Armbrister #1-36**

Job Ticket: 69623

**DST#: 5**

ATTN: Rod Anderson

Test Start: 2022.11.18 @ 14:37:41

## Tool Information

Drill Pipe:	Length: 3870.00 ft	Diameter: 3.88 inches	Volume: 56.60 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 24000.00 lb
			<u>Total Volume: 56.75 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3910.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	41.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3880.00	
Shut In Tool	5.00			3885.00	
Hydraulic tool	5.00			3890.00	
Em Tool	3.00			3893.00	
Jars	5.00			3898.00	
Safety Joint	3.00			3901.00	
Packer	4.00			3905.00	31.00 Bottom Of Top Packer
Packer	5.00			3910.00	
Stubb	1.00			3911.00	
Perforations	1.00			3912.00	
Recorder	0.00	8369	Outside	3912.00	
Recorder	0.00	8846	Inside	3912.00	
Perforations	5.00			3917.00	
Bullnose	3.00			3920.00	10.00 Bottom Packers & Anchor

**Total Tool Length: 41.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling

**36-11S-21W Trego,KS**

250 N Water Ste 300  
Wichita, KS 67202

**Armbrister #1-36**

Job Ticket: 69623

**DST#: 5**

ATTN: Rod Anderson

Test Start: 2022.11.18 @ 14:37:41

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1197.00	Oil 100%O	17.214
0.00	1260' GIP	0.000

Total Length: 1197.00 ft      Total Volume: 17.214 bbl

Num Fluid Samples: 0

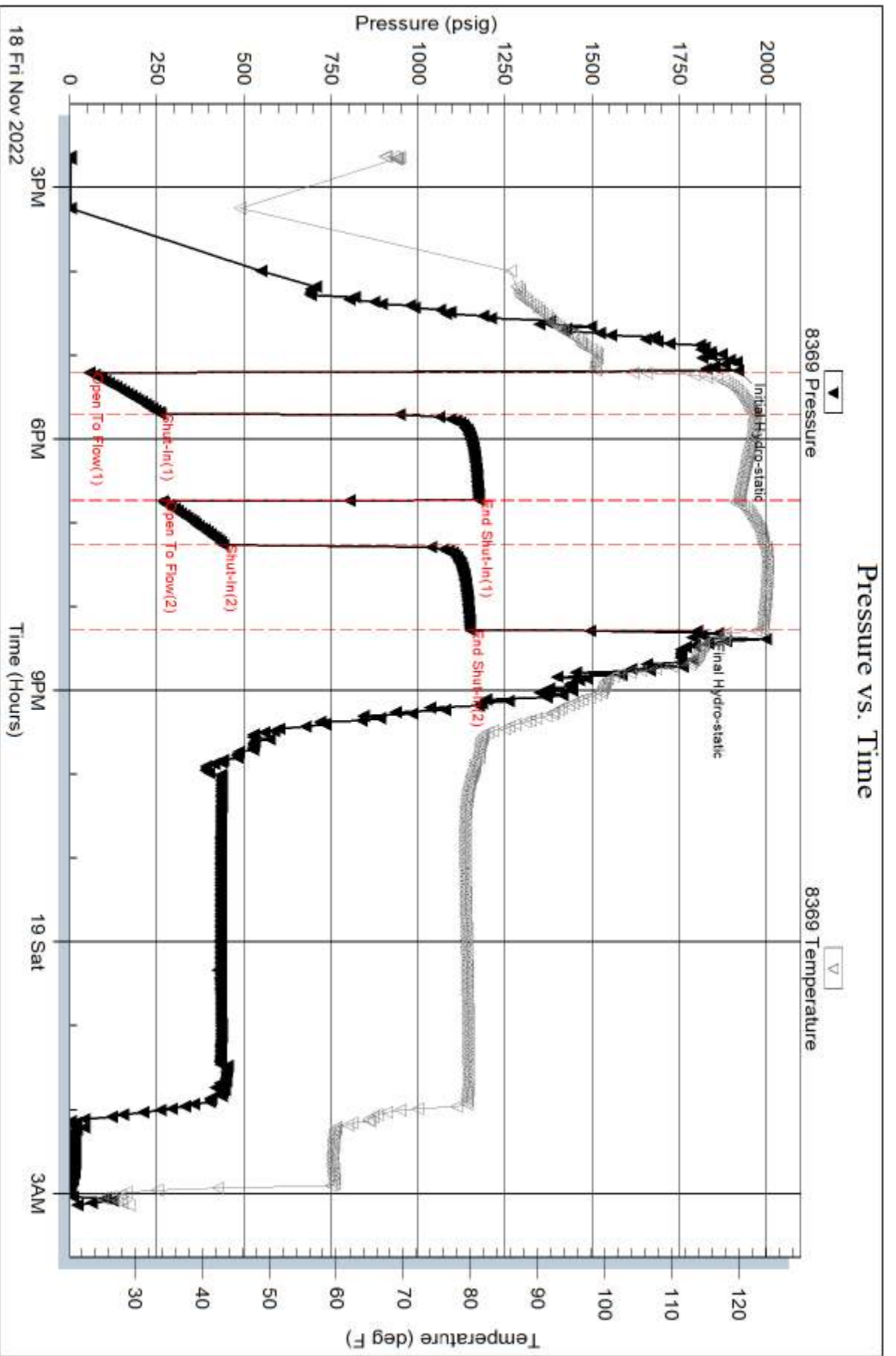
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





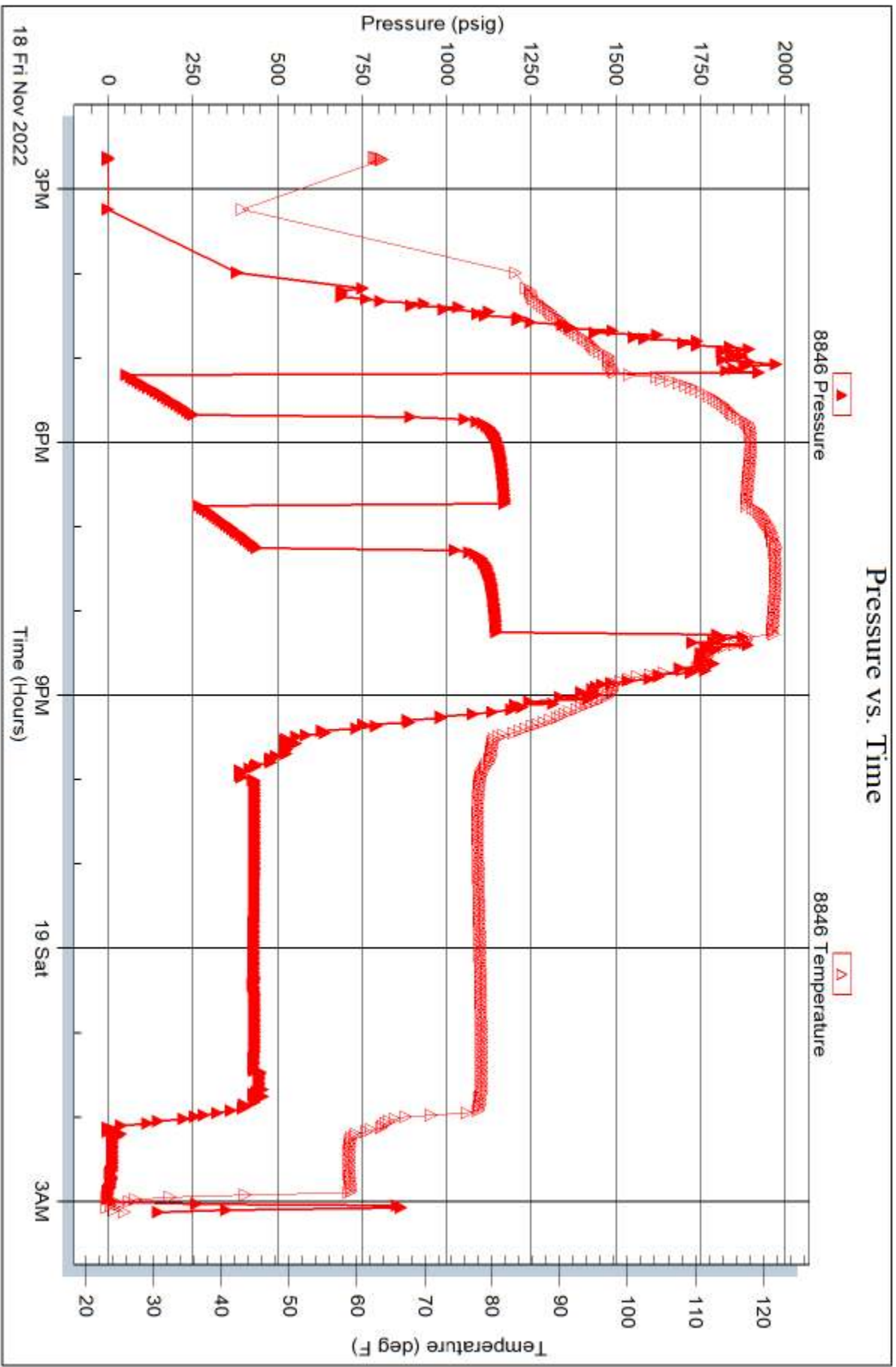
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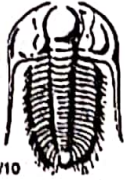
Inside

Murfin Drilling

Armbuster #1-36

DST Test Number: 5





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **69619**

Well Name & No. Armbrister 1-36 Test No. 1 Date 11/14/22  
 Company Murfin Elevation 2301 KB 2296 GL  
 Address 250 N Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Rod Malerson Rig Murfin 16  
 Location: Sec. 36 Twp 11S Rge. 21W Co. Trego State KS

Interval Tested 3618' - 3660' Zone Tested Lensing B-0  
 Anchor Length 42' Drill Pipe Run 3585 Mud Wt. 9.1  
 Top Packer Depth 3610 Drill Collars Run 30 Vls 53  
 Bottom Packer Depth 3614' Wt. Pipe Run 0 WL 6.8  
 Total Depth 3660' Chlorides 3,700 ppm System LCM 1  
 Blow Description IF: Fair Building Blow built 7.25" (30)  
ISI: NO Blow Back. (60)  
FF: Fair Building Blow built 5.75" (30)  
FBI: NO Blow Back. (60)

Rec	Feet of	%gas	%oil	%water	%mud
<u>31</u>	<u>Feet of OCW</u>	<u>30</u>	<u>20</u>	<u>20</u>	<u>20</u>
<u>126</u>	<u>Feet of VSO MCW</u>	<u>5</u>	<u>75</u>	<u>20</u>	<u>20</u>
<u>63</u>	<u>Feet of OS MCW</u>		<u>90</u>	<u>10</u>	<u>10</u>
<u>    </u>	<u>Feet of</u>	<u>%gas</u>	<u>%oil</u>	<u>%water</u>	<u>%mud</u>
<u>    </u>	<u>Feet of</u>	<u>%gas</u>	<u>%oil</u>	<u>%water</u>	<u>%mud</u>

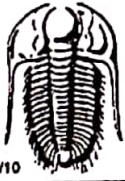
Rec Total 220 BHT 114 Gravity API RW 1.2 @ 32 °F Chlorides 12,000 ppm

(A) Initial Hydrostatic 1795  Test 1800 T-On Location 2040  
 (B) First Initial Flow 24  Jars 300 T-Started 2236  
 (C) First Final Flow 71  Safety Joint      T-Open 0141  
 (D) Initial Shut-In 78  Circ Sub      T-Pulled 0447  
 (E) Second Initial Flow 74  Hourly Standby      T-Out 0648  
 (F) Second Final Flow 109  Mileage 68 105 Comments       
 (G) Final Shut-In 257  Sampler       
 (H) Final Hydrostatic 1780  Straddle       EM Tool       
 Ruined Shale Packer       
 Ruined Packer       
 Extra Copies       
 Initial Open 30  Extra Packer       
 Initial Shut-In 60  Extra Recorder       
 Final Flow 30  Day Standby      Sub Total 0  
 Final Shut-In 60  Accessibility      Total 2455  
 Sub Total 2455 MP/DST Disc't     

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

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. **69620**

Well Name & No. ARMBrister 1-36 Test No. 2 Date 11/15/22  
 Company Murkin Elevation 2301 KB 2296 GL  
 Address 250 N Water STE 300 Wichita, KS. 67202  
 Co. Rep / Geo. Rod Anderson Rig MURKIN 16  
 Location: Sec. 36 Twp 11S Rge. 21W Co. Trego State KS

Interval Tested 3655-3682 Zone Tested Longing E-F  
 Anchor Length 27' Drill Pipe Run 369 Mud Wt. 9.1  
 Top Packer Depth 3647 Drill Collars Run 30 Vis 50  
 Bottom Packer Depth 3651 Wt. Pipe Run Ø WL 6.8  
 Total Depth 3682 Chlorides 3800 ppm System LCM 1  
 Blow Description IF: NO Flow. (30)  
ISL: NO Blow Back. (60)  
FF: NO Blow Pulled tool for Geo. (5)

Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>Feet of VSO MCW</u>	<u>5</u>	<u>65</u>	<u>30</u>	
<u>63</u>	<u>Feet of VSO MCW</u>	<u>5</u>	<u>80</u>	<u>15</u>	

Rec Total 126 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW .25 @ 51 °F Chlorides 40,000 ppm

(A) Initial Hydrostatic <u>1742</u>	<input checked="" type="checkbox"/> Test <u>1800</u>	T-On Location <u>0240</u>
(B) First Initial Flow <u>26</u>	<input checked="" type="checkbox"/> Jars <u>300</u>	T-Started <u>1506</u>
(C) First Final Flow <u>60</u>	<input checked="" type="checkbox"/> Safety Joint _____	T-Open <u>1847</u>
(D) Initial Shut-In <u>246</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>2000</u>
(E) Second Initial Flow <u>61</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>2213</u>
(F) Second Final Flow <u>80</u>	<input checked="" type="checkbox"/> Mileage <u>60</u> 105	Comments _____
(G) Final Shut-In _____	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1690</u>	<input type="checkbox"/> Straddle _____	<input checked="" type="checkbox"/> EM Tool <u>-350</u>
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>5</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In _____	<input type="checkbox"/> Day Standby _____	Sub Total <u>-350</u>
	<input type="checkbox"/> Accessibility _____	Total <u>2105</u>
	Sub Total <u>2455</u>	MP/DST Disc't _____

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



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **69621**

Well Name & No. Armbrister 1-36 Test No. 3 Date 11/17/22  
 Company Murfin Elevation 2301 KB 2296 GL  
 Address 250 W Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Red Anderson Rig MURFIN 16  
 Location: Sec. 36 Twp 11S Rge. 21W Co. Preso State KS

Interval Tested 3715 - 3805 Zone Tested Consing H-K  
 Anchor Length 90' Drill Pipe Run 3682' Mud Wt. 9  
 Top Packer Depth 3707' Drill Collars Run 30 Vls 55  
 Bottom Packer Depth 3711 Wt. Pipe Run Ø WL 6.8  
 Total Depth 3805' Chlorides 3500 ppm System LCM 12

Blow Description FF: Fair Building Blow built to 1.22" but died. (30)  
ISI: no Blow Back. (60)  
FF: Weak Building Blow built to .45" but died. (30)  
ISI: no Blow Back. (60)

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

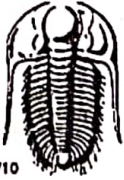
Rec Total 100 BHT 107 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1843  Test 1800 T-On Location 2045  
 (B) First Initial Flow 47  Jars 300 T-Started 0947 2147  
 (C) First Final Flow 64  Safety Joint \_\_\_\_\_ T-Open 0104  
 (D) Initial Shut-In 603  Circ Sub \_\_\_\_\_ T-Pulled 0404  
 (E) Second Initial Flow 69  Hourly Standby \_\_\_\_\_ T-Out 0628  
 (F) Second Final Flow 79  Mileage 60 105 Comments \_\_\_\_\_  
 (G) Final Shut-In 590  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1646  Straddle \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Initial Open 30  Shale Packer 250  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Shut-In 60  Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 2455  
 Sub Total 2455 MP/DST Disc't \_\_\_\_\_

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

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





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **69622**

Well Name & No. Arm Brister 1-36 Test No. 4 Date 11/17/22  
 Company MURFIN Elevation 2301 KB 2296 GL  
 Address 250 N. Water St SE 300 Wichita, KS 67202  
 Co. Rep / Geo. Rod Anderson Rig MURFIN 16  
 Location: Sec. 36 Twp 11S Rge. 21W Co. Trego State KS

Interval Tested 3858'-3910' Zone Tested Arbuckle  
 Anchor Length 52' Drill Pipe Run 3807' Mud Wt. 9  
 Top Packer Depth 3850' Drill Collars Run 30 Vls 64  
 Bottom Packer Depth 3854' Wt. Pipe Run Ø WL 6.0  
 Total Depth 3910' Chlorides 3900 ppm System LCM 10

Blow Description IF: fair building blow built 6" in bucket. (30)  
ISF: surface blow back that died. (60)  
FF: fair building blow built 4" (30)  
FSF: no blow back. (60)

Rec	Feet of	%gas	%oil	%water	%mud
<u>75</u>	<u>oil</u>	<u>100</u>			
<u>60</u>	<u>OCM</u>	<u>40</u>		<u>60</u>	

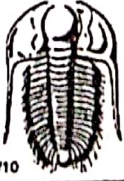
Rec Total 135 BHT 112 Gravity 37@60 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1911</u>	<input checked="" type="checkbox"/> Test <u>1800</u>	T-On Location <u>2100</u>
(B) First Initial Flow <u>27</u>	<input checked="" type="checkbox"/> Jars <u>300</u>	T-Started <u>2147</u>
(C) First Final Flow <u>59</u>	<input checked="" type="checkbox"/> Safety Joint _____	T-Open <u>0007</u>
(D) Initial Shut-In <u>1182</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>0308</u>
(E) Second Initial Flow <u>64</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>0513</u>
(F) Second Final Flow <u>83</u>	<input checked="" type="checkbox"/> Mileage <u>60</u> 105	Comments _____
(G) Final Shut-In <u>1176</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1857</u>	<input type="checkbox"/> Straddle _____	

Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input checked="" type="checkbox"/> EM Tool <u>-175</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Ruined Packer _____
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	<input type="checkbox"/> Extra Copies _____
	<input type="checkbox"/> Accessibility _____	Sub Total <u>0</u>
	Sub Total <u>2455</u>	Total <u>2280</u>
		MP/DST Disc't _____

Approved By \_\_\_\_\_ Our Representative RB

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **69623**

Well Name & No. Armbrister 1-36 Test No. 5 Date 11/18/22  
 Company Murkin Elevation 2301 KB 2296 GL  
 Address 250 N Water STE 300 Wichita, KS, 67202  
 Co. Rep / Geo. Bob Anderson Rig Murkin 16  
 Location: Sec. 36 Twp 11S Rge. 21W Co. Trego State KS

Interval Tested 3910' - 3920' Zone Tested Arbuckle  
 Anchor Length 10' Drill Pipe Run 3870' Mud Wt. 9  
 Top Packer Depth 3902' Drill Collars Run 30 Vis 65  
 Bottom Packer Depth 3906' Wt. Pipe Run Ø WL 7.2  
 Total Depth 3920' Chlorides 3800 ppm System LCM 8

Blow Description IF: Strong Building Blow built 50.42" (30)  
ISD: no Blow Back. (60)  
FF: Strong Building Blow built 39.44" (30)  
FSD: no Blow Back. (60)

Rec	Feet of	%gas	%oil	%water	%mud
<u>D</u>	<u>1260' GIP</u>				
<u>1197</u>	<u>oil</u>		<u>100</u>		

Rec Total 1197 BHT 123 Gravity 37@60 API RW @          °F Chlorides          ppm

(A) Initial Hydrostatic 1920  Test 1800 T-On Location 1230  
 (B) First Initial Flow 57  Jars 300 T-Started 1437  
 (C) First Final Flow 259  Safety Joint          T-Open 1705  
 (D) Initial Shut-In 1175  Circ Sub Dropped Bar 50 T-Pulled 2010  
 (E) Second Initial Flow 267  Hourly Standby 2.5 250 T-Out 0307  
 (F) Second Final Flow 441  Mileage 60 105  
 (G) Final Shut-In 1151  Sampler           
 (H) Final Hydrostatic 1802  Straddle           EM Tool -350  
 Ruined Shale Packer           
 Ruined Packer           
 Extra Copies         

Initial Open 30  Extra Packer           
 Initial Shut-In 60  Extra Recorder           
 Final Flow 30  Day Standby           
 Final Shut-In 60  Accessibility           
 Sub Total 2755 Sub Total -350  
 Total 2405 MP/DST Disc't         

Approved By          Our Representative         

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.