

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
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top _____ Bottom _____
---	---	--

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
----------------	-------	---------	------------	--

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	JACOBS BROTHERS 2
Doc ID	1636201

All Electric Logs Run

DIL
DUCP
MEL
BHCS

GEOLOGISTS REPORT

OPERATOR **MURFIN DRILLING COMP. INC.**

LEASE **JACOBS BROTHERS #2**

LOCATION **1500' FNL 2060'FEL**

SEC. **27** TWSP **5S** RGE **28W**

COUNTY **DECATUR** STATE **KANSAS**

FIELD **SIX PACK**

CONTRACTOR **MURFIN DRILLING CO. INC. RIG NO. #3**

COMMENCED **FEB 9, 2022** COMPLETED **Feb 19, 2022**

MUD DISPLACED **3335** MUD TYPE **CHEMICAL**

DRILLING TIME KEPT FROM **3600** TO **4200**

SAMPLES SAVED FROM **3600** TO **4200**

SAMPLES EXAMINED FROM **3600** TO **4200**

GEOLOGICAL SUPERVISION FROM **3600** TO **4200**

GEOLOGIST ON WELL **STEPHEN J MILLER**

ELEVATIONS

KB **2757**

GL **2752**

ALL MEASUREMENTS FROM K.B.

CASING RECORD

Conductor _____

Surface **8.58" @ 289'**

Production **5.12" @ 4198'**

ELECTRICAL SURVEYS:

MIDWEST LOGGING

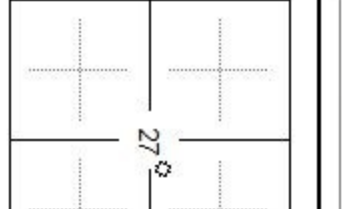
DUAL INDUCTION

COMP NEUDEN

SONIC LOG

MICRO LOG

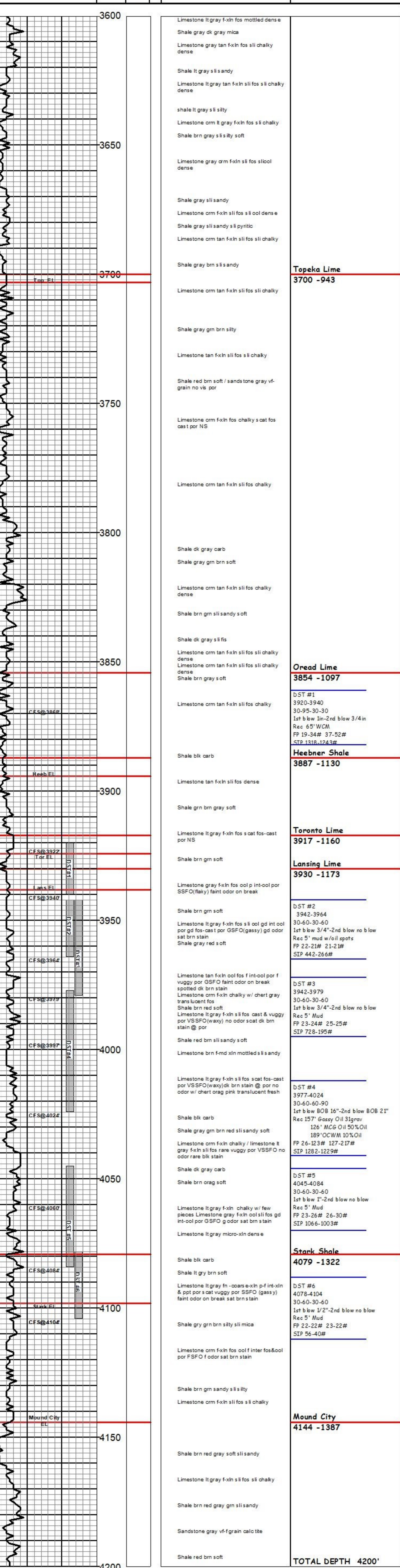
FORMATION	LOG	TOP DATUM	SAMPLE	TOP DATUM
ANHYDRITE	2538	+219	2540	+217
B/ ANHYDRITE	2571	+186	2570	+187
TOPEKA	3703	-946	3700	-943
OREAD	3854	-1097	3854	-1097
HEEBNER	3894	-1137	3887	-1130
TORONTO	3924	-1167	3917	-1160
LANSING	3938	-1181	3930	-1173
STARK SHALE	4098	-1341	4079	-1322
MOUND CITY	4143	-1386	4144	-1387
Total Depth	4200	-1492	4200	-1492



REMARKS

API 15-039-21278
 Drilling Fluids: MORGAN MUD
 Drill Stem Testing: TRILOBITE TESTERS
 Gas Trailer: NONE
 Reserve Pit Chlorides: 900 500bbl

DRILL TIME (MIN/FT)	DEPTH	LITHOLOGY	REMARKS
---------------------	-------	-----------	---------



Operator: **MURFIN DRILLING COMP. INC.**
 Lease: **JACOBS BROTHERS #2**
 Location: **1500' FNL 2060'FEL** SEC. **27** TWSP **5S** RGE **28W**
 County: **DECATUR** State: **KANSAS**



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water
Wichita, KS 67202

ATTN: Steve Miller

Jacobs Brothers #2

27-5s-28w Decator,KS

Start Date: 2022.02.13 @ 23:30:20

End Date: 2022.02.14 @ 07:22:50

Job Ticket #: 68395 DST #: 1

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

Printed: 2022.02.21 @ 10:30:24



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co
 250 N Water
 Wichita, KS 67202
 ATTN: Steve Miller

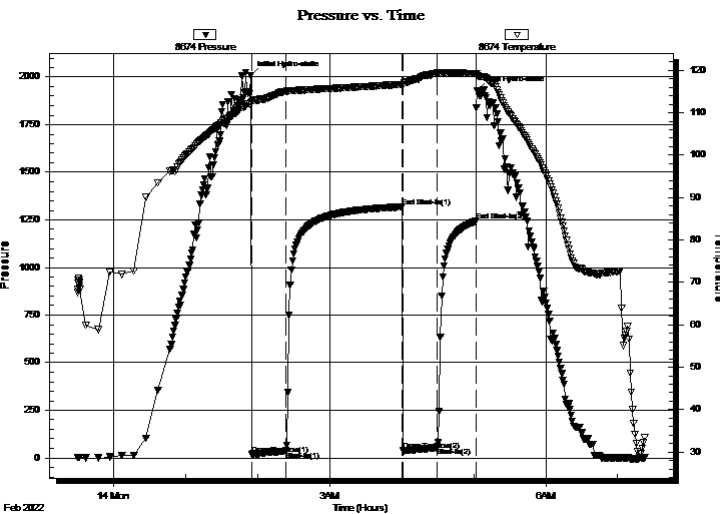
27-5s-28w Decator, KS
Jacobs Brothers #2
 Job Ticket: 68395 **DST#: 1**
 Test Start: 2022.02.13 @ 23:30:20

GENERAL INFORMATION:

Formation: **Toronto - LKC A**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:55:20
 Time Test Ended: 07:22:50
 Interval: **3920.00 ft (KB) To 3940.00 ft (KB) (TVD)**
 Total Depth: 3940.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 2759.00 ft (KB)
 2754.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8674 Outside
 Press@RunDepth: 52.97 psig @ 3921.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.02.13 End Date: 2022.02.14 Last Calib.: 2022.02.14
 Start Time: 23:30:25 End Time: 07:22:49 Time On Btm: 2022.02.14 @ 01:54:20
 Time Off Btm: 2022.02.14 @ 05:02:50

TEST COMMENT: IF: 1/4" blow built to 1"
 IS: No return.
 FF: Surface blow built to 3/4"
 FS: No return. 30-95 draw w orks w ould not start. 30-30



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2006.39	112.34	Initial Hydro-static
1	19.54	112.49	Open To Flow (1)
29	34.52	115.03	Shut-In(1)
126	1318.08	116.69	End Shut-In(1)
127	37.33	116.41	Open To Flow (2)
155	52.97	119.39	Shut-In(2)
188	1243.65	119.31	End Shut-In(2)
189	1927.51	118.73	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	w cm 30%w 70%m	0.32

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co

27-5s-28w Decator,KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

Job Ticket: 68395

DST#: 1

ATTN: Steve Miller

Test Start: 2022.02.13 @ 23:30:20

Tool Information

Drill Pipe:	Length: 3720.00 ft	Diameter: 3.80 inches	Volume: 52.18 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 53.09 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3920.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	49.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00		Fluid	3892.00	
Shut In Tool	5.00			3897.00	
Hydraulic tool	5.00			3902.00	
Jars	5.00			3907.00	
EM Tool	2.00			3909.00	
Safety Joint	2.00			3911.00	
Packer	5.00			3916.00	29.00 Bottom Of Top Packer
Packer	4.00			3920.00	
Stubb	1.00			3921.00	
Recorder	0.00	8790	Inside	3921.00	
Recorder	0.00	8674	Outside	3921.00	
Perforations	16.00			3937.00	
Bullnose	3.00			3940.00	20.00 Bottom Packers & Anchor

Total Tool Length: 49.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

27-5s-28w Decator,KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

Job Ticket: 68395

DST#: 1

ATTN: Steve Miller

Test Start: 2022.02.13 @ 23:30:20

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

34000 ppm

Viscosity: 72.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
65.00	w cm 30%w 70%m	0.320

Total Length: 65.00 ft Total Volume: 0.320 bbf

Num Fluid Samples: 0

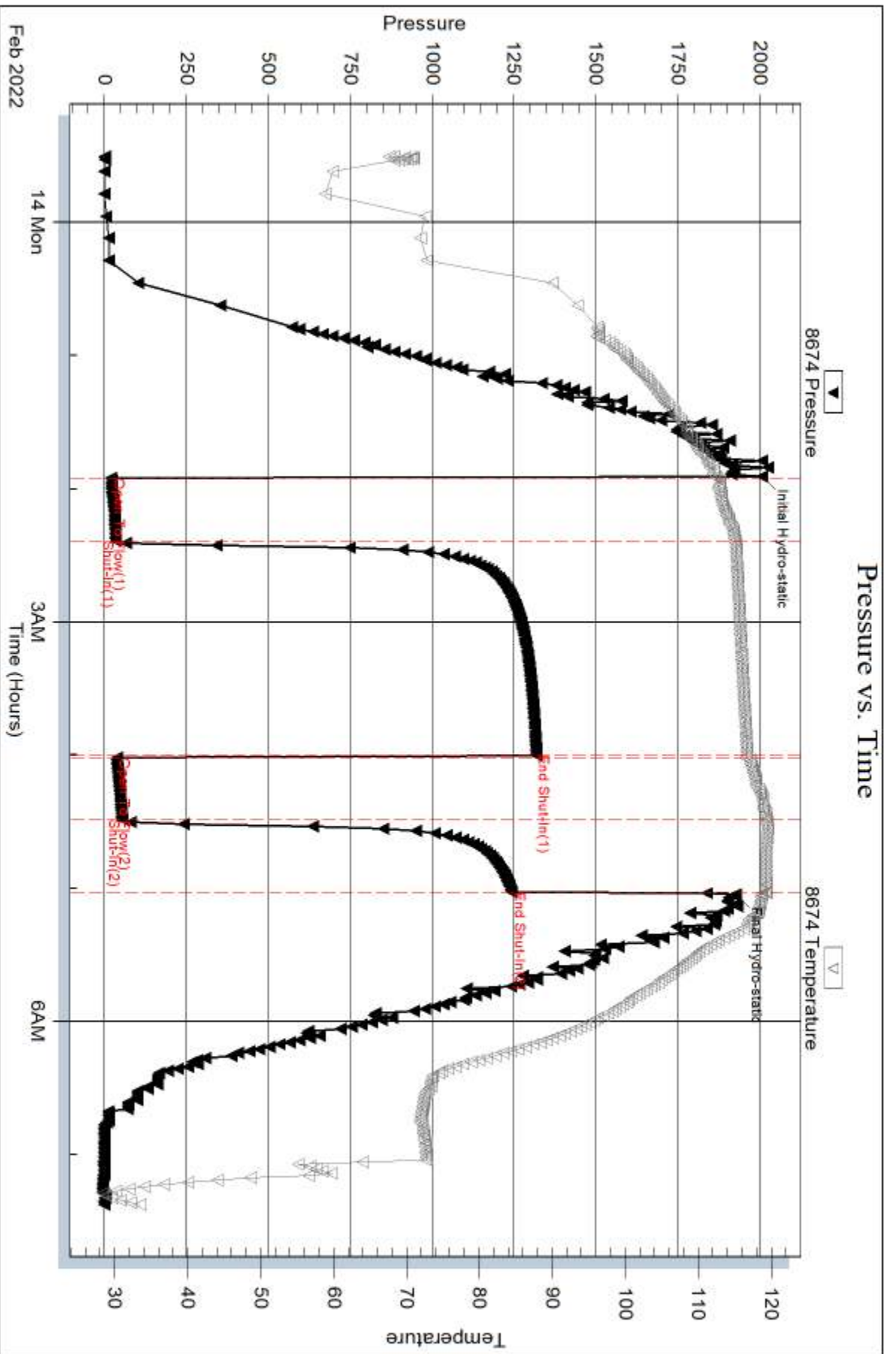
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .49@30=34000



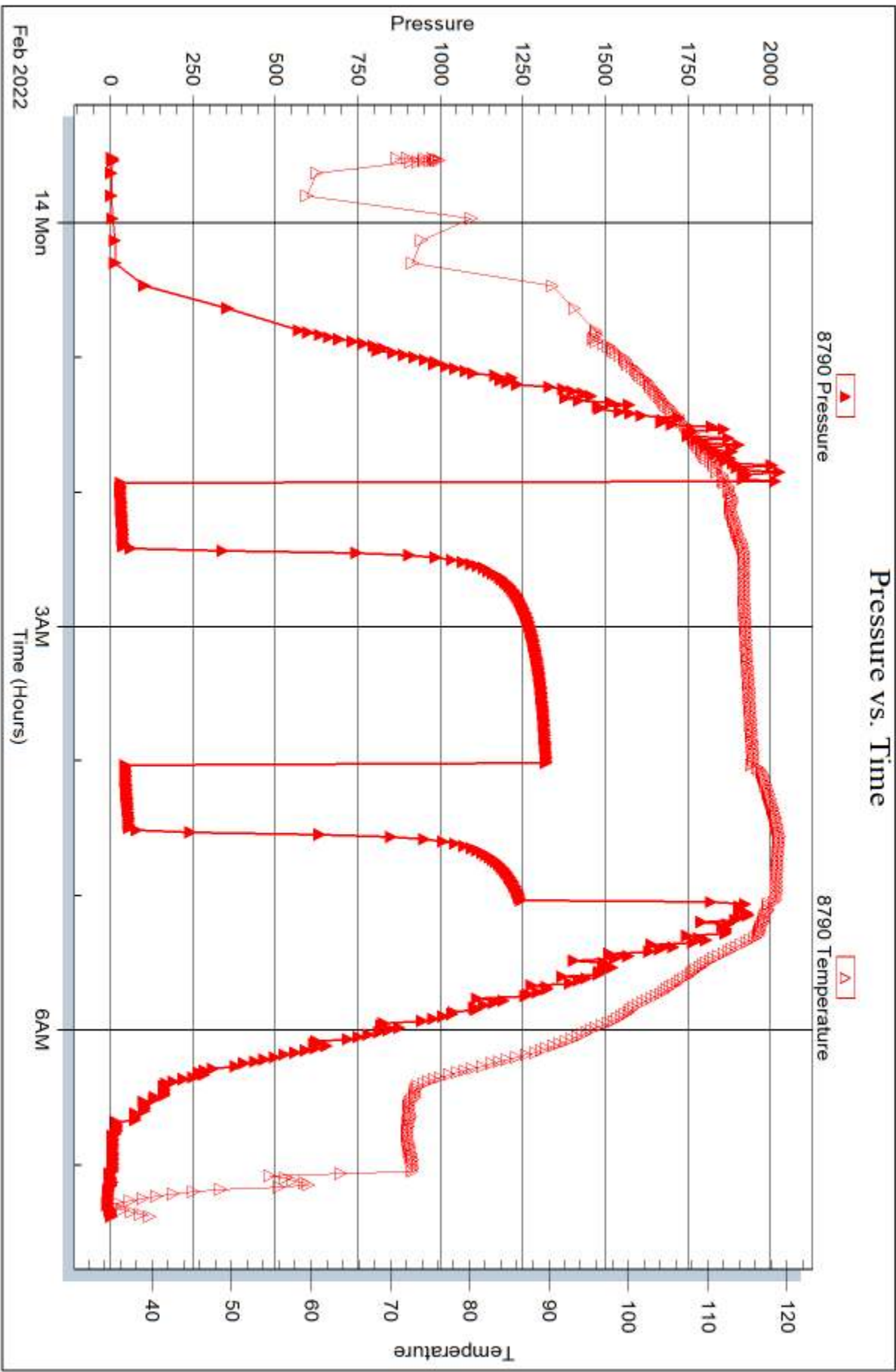
Serial #: 8790

Inside

Murfin Drilling Co

Jacobs Brothers #2

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 68395

Printed: 2022.02.21 @ 10:30:26



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water
Wichita, KS 67202

ATTN: Steve Miller

Jacobs Brothers #2

27-5s-28w Decator,KS

Start Date: 2022.02.14 @ 16:06:10

End Date: 2022.02.14 @ 23:09:40

Job Ticket #: 68396 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.02.21 @ 10:29:29



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co

27-5s-28w Decator,KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

Job Ticket: 68396

DST#: 2

ATTN: Steve Miller

Test Start: 2022.02.14 @ 16:06:10

Tool Information

Drill Pipe:	Length: 3751.00 ft	Diameter: 3.80 inches	Volume: 52.62 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 53.53 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3942.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00		Fluid	3914.00	
Shut In Tool	5.00			3919.00	
Hydraulic tool	5.00			3924.00	
Jars	5.00			3929.00	
EM Tool	2.00			3931.00	
Safety Joint	2.00			3933.00	
Packer	5.00			3938.00	29.00 Bottom Of Top Packer
Packer	4.00			3942.00	
Stubb	1.00			3943.00	
Recorder	0.00	8790	Inside	3943.00	
Recorder	0.00	8674	Outside	3943.00	
Perforations	18.00			3961.00	
Bullnose	3.00			3964.00	22.00 Bottom Packers & Anchor

Total Tool Length: 51.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

27-5s-28w Decator,KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

Job Ticket: 68396

DST#: 2

ATTN: Steve Miller

Test Start: 2022.02.14 @ 16:06:10

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud oil spots 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

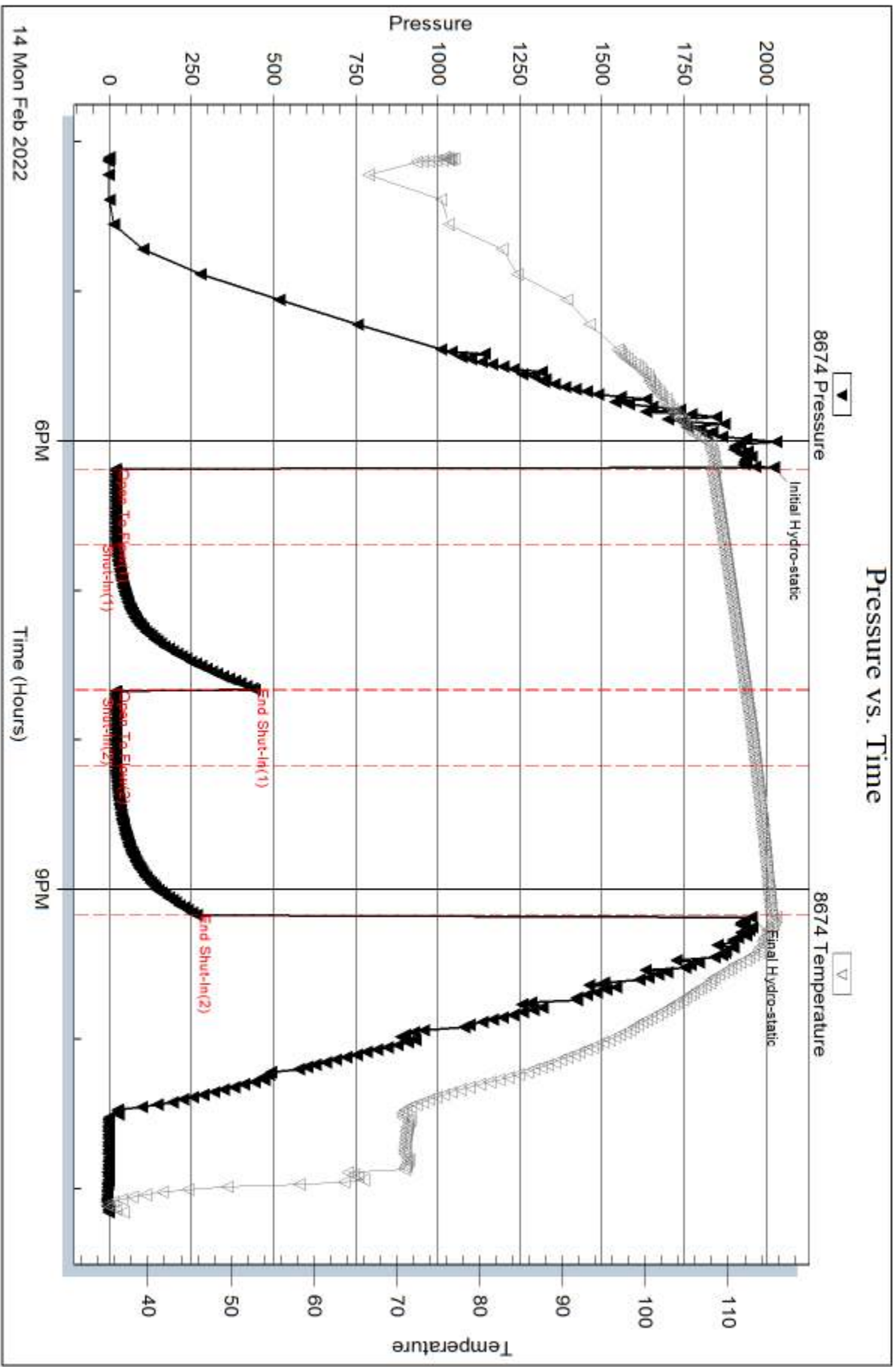
Num Gas Bombs: 0

Serial #:

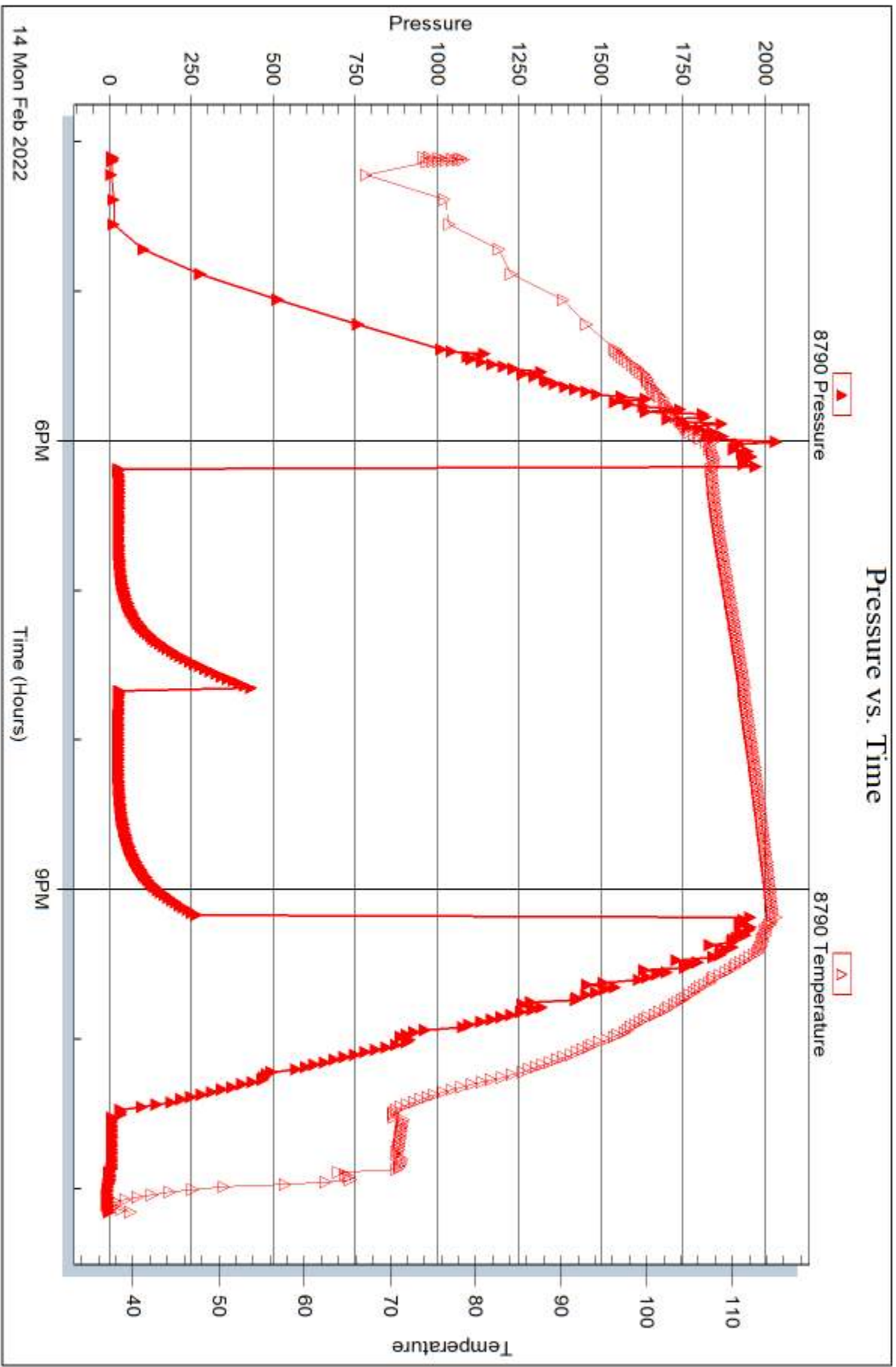
Laboratory Name:

Laboratory Location:

Recovery Comments:



14 Mon Feb 2022





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water
Wichita, KS 67202

ATTN: Steve Miller

Jacobs Brothers #2

27-5s-28w Decator,KS

Start Date: 2022.02.15 @ 06:00:33

End Date: 2022.02.15 @ 13:37:33

Job Ticket #: 68397 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.02.21 @ 10:23:22

Murfin Drilling Co
27-5s-28w Decator,KS
Jacobs Brothers #2
DST # 3
LKC B - D
2022.02.15



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co
250 N Water
Wichita, KS 67202
ATTN: Steve Miller

27-5s-28w Decator, KS

Jacobs Brothers #2

Job Ticket: 68397

DST#: 3

Test Start: 2022.02.15 @ 06:00:33

GENERAL INFORMATION:

Formation: **LKC B - D**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 08:20:33
 Tester: Brandon Turley
 Time Test Ended: 13:37:33
 Unit No: 79
 Interval: **3942.00 ft (KB) To 3979.00 ft (KB) (TVD)**
 Reference Elevations: 2759.00 ft (KB)
 Total Depth: 3979.00 ft (KB) (TVD)
 2754.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Good
 KB to GR/CF: 5.00 ft

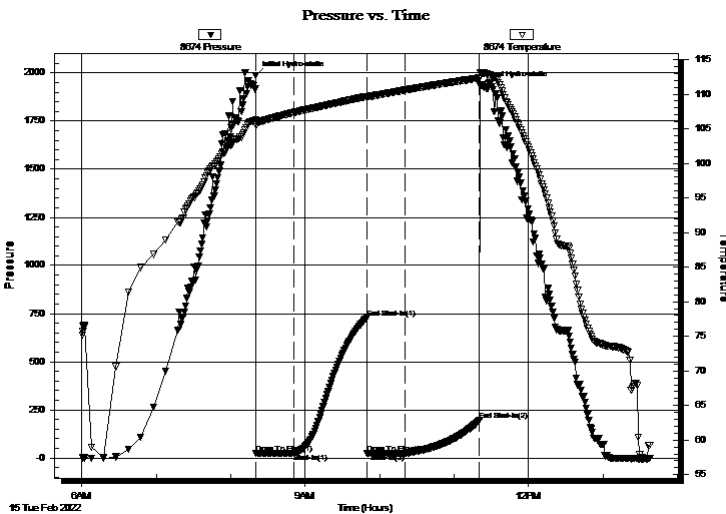
Serial #: 8674

Outside

Press@RunDepth: 25.43 psig @ 3943.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.02.15 End Date: 2022.02.15 Last Calib.: 2022.02.15
 Start Time: 06:00:38 End Time: 13:37:32 Time On Btm: 2022.02.15 @ 08:20:03
 Time Off Btm: 2022.02.15 @ 11:21:03

TEST COMMENT: IF: 1/4" blow built to 3/4"
 IS: No return.
 FF: No blow.
 FS: No return. 30-60-30-60

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1987.27	106.24	Initial Hydro-static
1	23.12	105.52	Open To Flow (1)
31	24.98	107.37	Shut-In(1)
90	728.36	109.67	End Shut-In(1)
90	25.29	109.55	Open To Flow (2)
120	25.43	110.58	Shut-In(2)
181	195.36	112.34	End Shut-In(2)
181	1932.26	113.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%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 Co

27-5s-28w Decator,KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

Job Ticket: 68397

DST#: 3

ATTN: Steve Miller

Test Start: 2022.02.15 @ 06:00:33

Tool Information

Drill Pipe:	Length: 3748.00 ft	Diameter: 3.80 inches	Volume: 52.57 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 53.48 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	3942.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	66.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00		Fluid	3914.00	
Shut In Tool	5.00			3919.00	
Hydraulic tool	5.00			3924.00	
Jars	5.00			3929.00	
EM Tool	2.00			3931.00	
Safety Joint	2.00			3933.00	
Packer	5.00			3938.00	29.00 Bottom Of Top Packer
Packer	4.00			3942.00	
Stubb	1.00			3943.00	
Recorder	0.00	8790	Inside	3943.00	
Recorder	0.00	8674	Outside	3943.00	
Perforations	33.00			3976.00	
Bullnose	3.00			3979.00	37.00 Bottom Packers & Anchor

Total Tool Length: 66.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

27-5s-28w Decator,KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

Job Ticket: 68397

DST#: 3

ATTN: Steve Miller

Test Start: 2022.02.15 @ 06:00:33

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

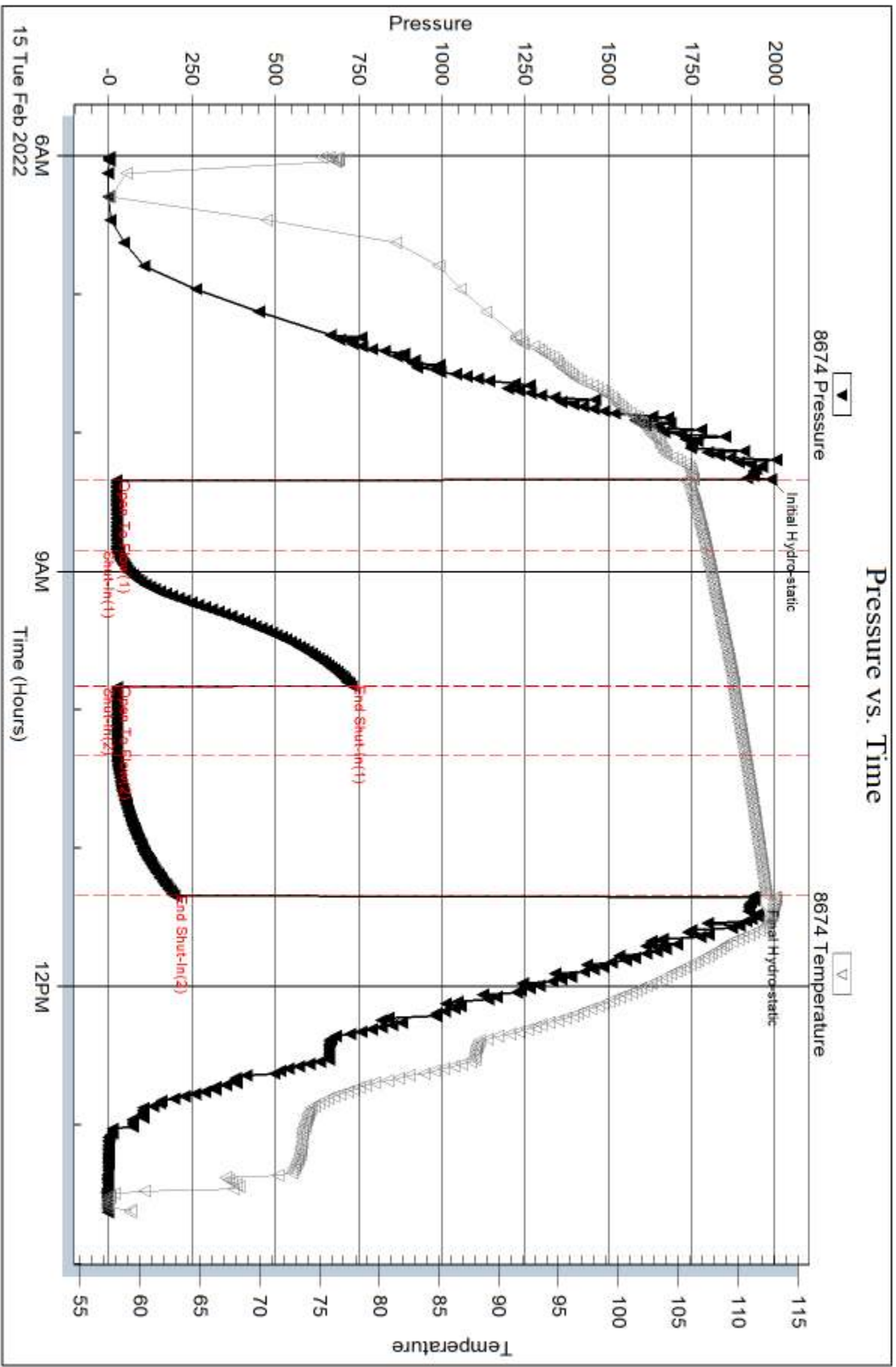
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



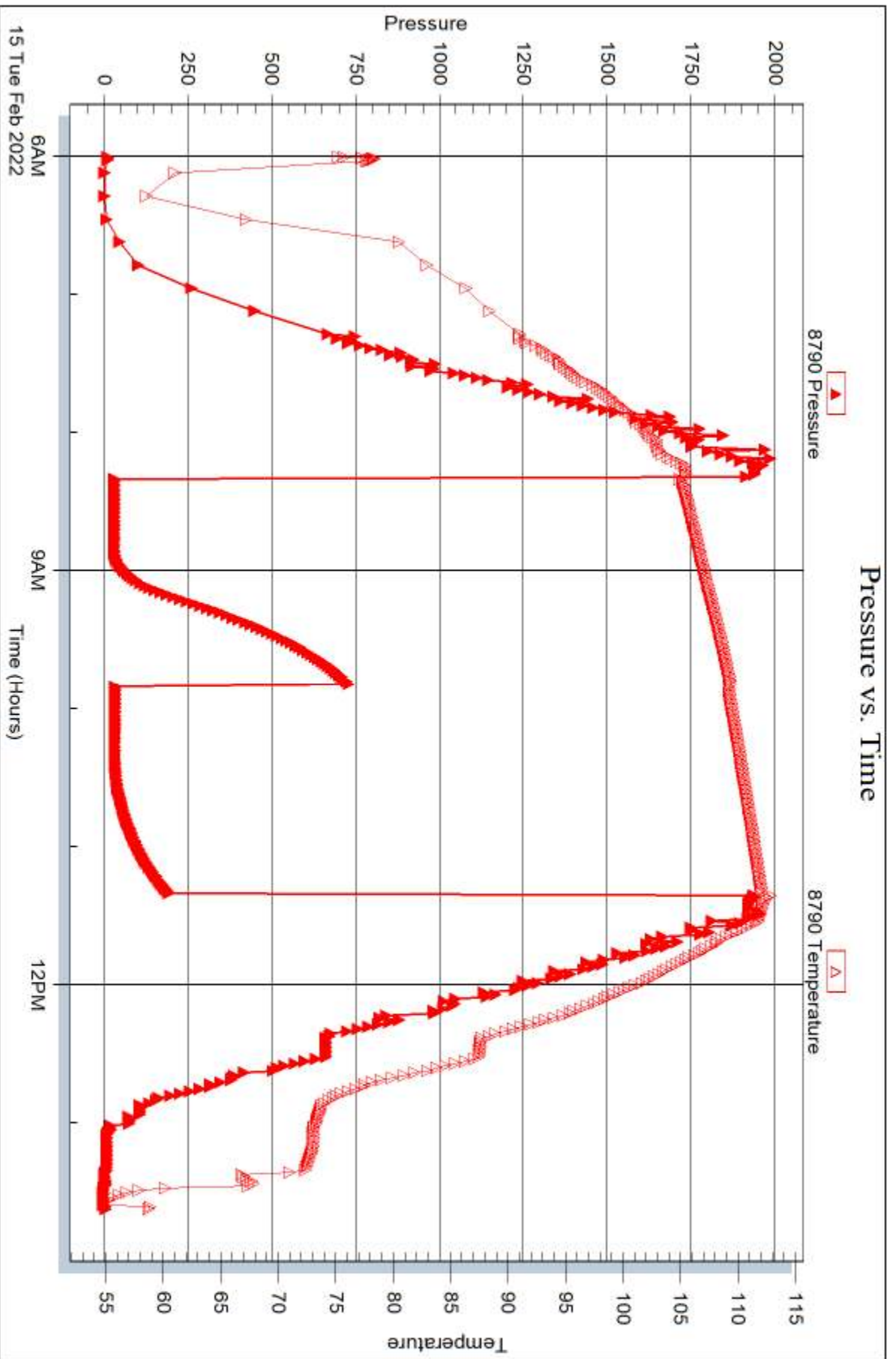
Serial #: 8790

Inside

Murfin Drilling Co

Jacobs Brothers #2

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 68397

Printed: 2022.02.21 @ 10:23:22



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water
Wichita, KS 67202

ATTN: Steve Miller

Jacobs Brothers #2

27-5-28 Decator,KS

Start Date: 2022.02.15 @ 22:54:48

End Date: 2022.02.16 @ 08:06:48

Job Ticket #: 68398 DST #: 4

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

Printed: 2022.02.21 @ 10:18:53



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co
 250 N Water
 Wichita, KS 67202
 ATTN: Steve Miller

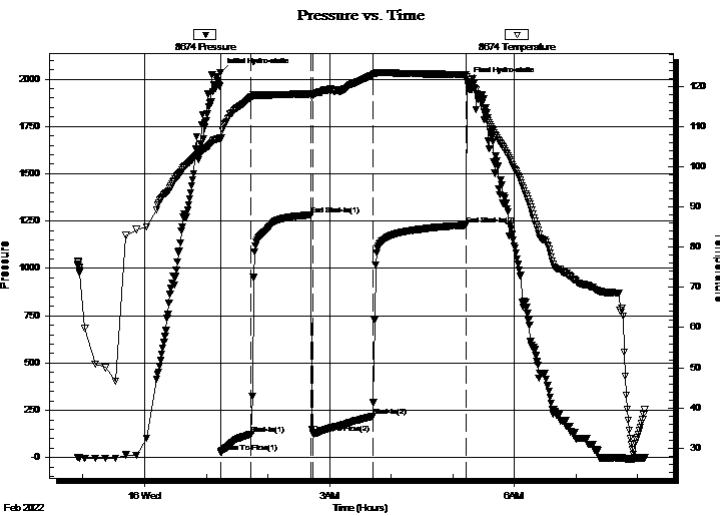
27-5-28 Decator, KS
Jacobs Brothers #2
 Job Ticket: 68398 **DST#: 4**
 Test Start: 2022.02.15 @ 22:54:48

GENERAL INFORMATION:

Formation: **LKC D-G**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:14:18
 Time Test Ended: 08:06:48
 Interval: **3977.00 ft (KB) To 4024.00 ft (KB) (TVD)**
 Total Depth: 4024.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 2759.00 ft (KB)
 2754.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8674 Outside
 Press@RunDepth: 217.62 psig @ 3978.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.02.15 End Date: 2022.02.16 Last Calib.: 2022.02.16
 Start Time: 22:54:53 End Time: 08:06:48 Time On Btm: 2022.02.16 @ 01:13:48
 Time Off Btm: 2022.02.16 @ 05:13:48

TEST COMMENT: IF: BOB in 16 mins. 18"
 IS: Surface blow built to 3/4"
 FF: BOB in 21 mins 27"
 FS: Surface blow built to 1 1/2" 30-60-60-90



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2035.26	107.24	Initial Hydro-static
1	26.90	106.77	Open To Flow (1)
30	123.97	117.38	Shut-In(1)
89	1282.95	118.17	End Shut-In(1)
90	127.40	117.87	Open To Flow (2)
149	217.62	122.86	Shut-In(2)
239	1229.90	122.94	End Shut-In(2)
240	1988.46	122.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
189.00	ocw m 10%o 30%w 60%m	0.97
126.00	mco 10%g 50%o 40%m	1.77
157.00	go 10%g 90%o	2.20

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co

27-5-28 Decator, KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

Job Ticket: 68398

DST#: 4

ATTN: Steve Miller

Test Start: 2022.02.15 @ 22:54:48

Tool Information

Drill Pipe:	Length: 3782.00 ft	Diameter: 3.80 inches	Volume: 53.05 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 53.96 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3977.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	76.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	3949.00	
Shut In Tool	5.00			3954.00	
Hydraulic tool	5.00			3959.00	
Jars	5.00			3964.00	
EM Tool	2.00			3966.00	
Safety Joint	2.00			3968.00	
Packer	5.00			3973.00	29.00 Bottom Of Top Packer
Packer	4.00			3977.00	
Stubb	1.00			3978.00	
Recorder	0.00	8790	Inside	3978.00	
Recorder	0.00	8674	Outside	3978.00	
Perforations	10.00			3988.00	
Change Over Sub	1.00			3989.00	
Drill Pipe	31.00			4020.00	
Change Over Sub	1.00			4021.00	
Bullnose	3.00			4024.00	47.00 Bottom Packers & Anchor
Total Tool Length:	76.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

27-5-28 Decator, KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

Job Ticket: 68398

DST#: 4

ATTN: Steve Miller

Test Start: 2022.02.15 @ 22:54:48

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

55000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
189.00	ocw m 10%o 30%w 60%m	0.966
126.00	mcgo 10%g 50%o 40%m	1.767
157.00	go 10%g 90%o	2.202

Total Length: 472.00 ft Total Volume: 4.935 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

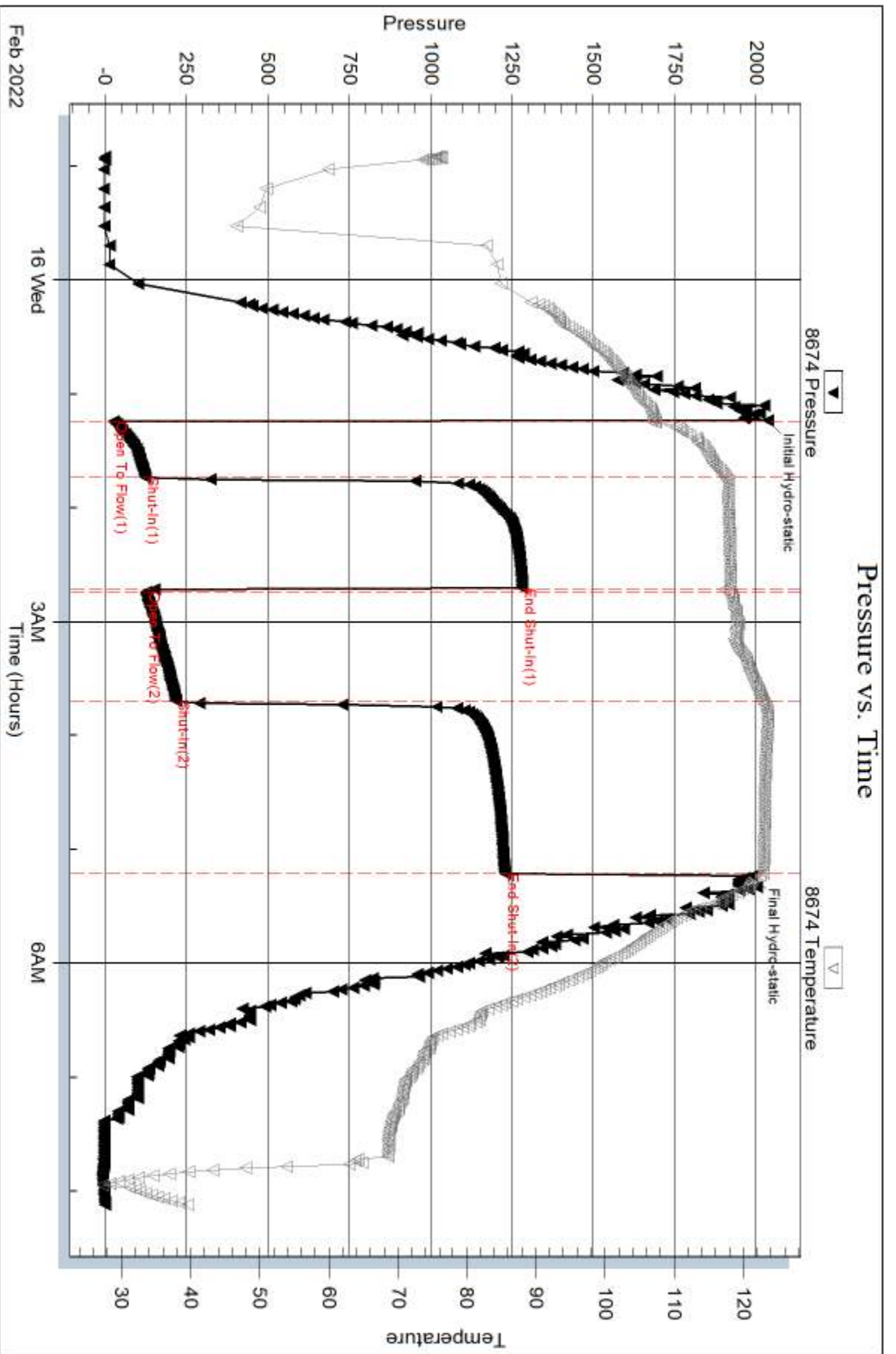
Serial #:

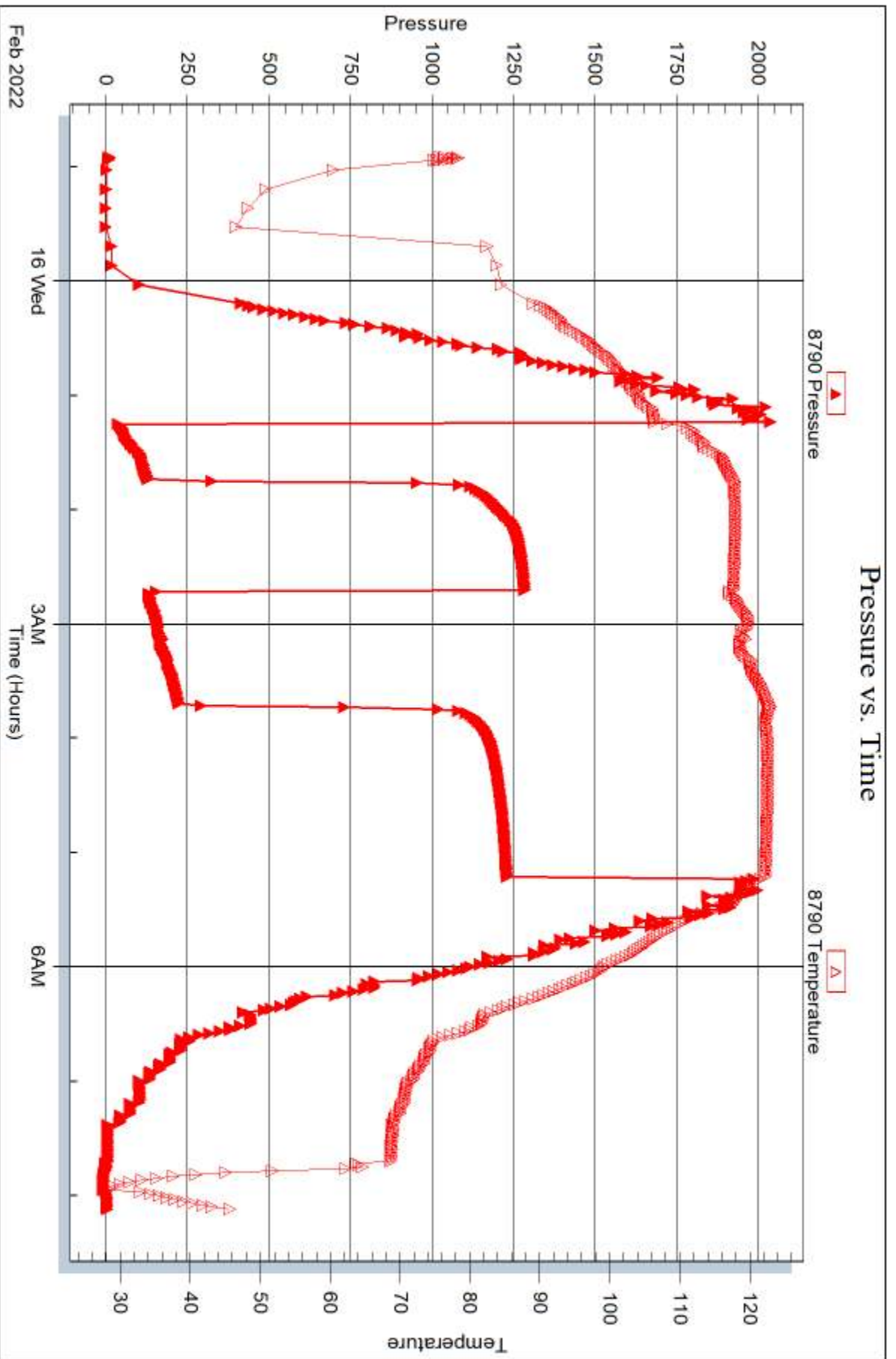
Laboratory Name:

Laboratory Location:

Recovery Comments: 28@30=31

.44@22=55000







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water
Wichita, KS 67202

ATTN: Steve Miller

Jacobs Brothers #2

27-5-28 Decator,KS

Start Date: 2022.02.16 @ 19:44:30

End Date: 2022.02.17 @ 03:21:00

Job Ticket #: 68399 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.02.21 @ 10:18:27



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co

27-5-28 Decator, KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

ATTN: Steve Miller

Job Ticket: 68399

DST#: 5

Test Start: 2022.02.16 @ 19:44:30

GENERAL INFORMATION:

Formation: **LKC H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:04:30

Time Test Ended: 03:21:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4045.00 ft (KB) To 4084.00 ft (KB) (TVD)

Reference Elevations: 2759.00 ft (KB)

Total Depth: 4084.00 ft (KB) (TVD)

2754.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8674 Outside

Press@RunDepth: 30.77 psig @ 4046.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.02.16

End Date:

2022.02.17

Last Calib.:

2022.02.17

Start Time: 19:44:35

End Time:

03:20:59

Time On Btm:

2022.02.16 @ 22:03:00

Time Off Btm:

2022.02.17 @ 01:05:00

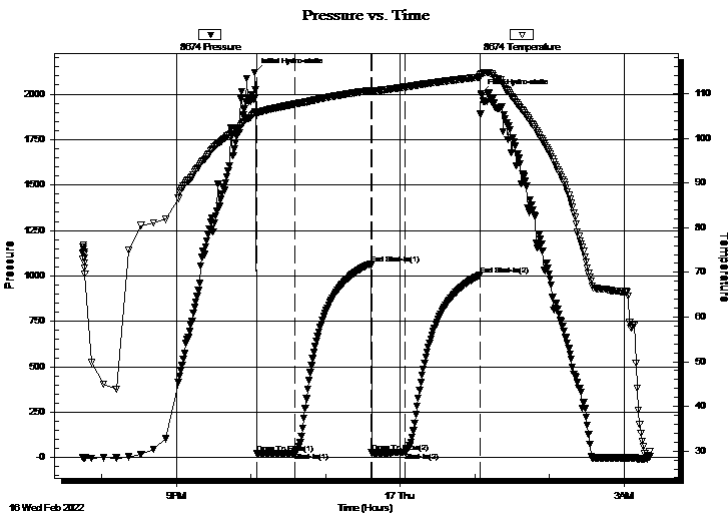
TEST COMMENT: IF: 1/4" blow built to 1."

IS: No return.

FF: No blow.

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

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2119.53	105.74	Initial Hydro-static
2	23.73	105.58	Open To Flow (1)
32	26.60	107.65	Shut-In(1)
93	1066.94	110.70	End Shut-In(1)
94	26.93	110.47	Open To Flow (2)
121	30.77	111.47	Shut-In(2)
181	1003.91	113.71	End Shut-In(2)
182	2004.06	114.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%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 Co

27-5-28 Decator, KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

Job Ticket: 68399

DST#: 5

ATTN: Steve Miller

Test Start: 2022.02.16 @ 19:44:30

Tool Information

Drill Pipe:	Length: 3851.00 ft	Diameter: 3.80 inches	Volume: 54.02 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 54.93 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4045.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	39.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	4017.00	
Shut In Tool	5.00			4022.00	
Hydraulic tool	5.00			4027.00	
Jars	5.00			4032.00	
EM Tool	2.00			4034.00	
Safety Joint	2.00			4036.00	
Packer	5.00			4041.00	29.00 Bottom Of Top Packer
Packer	4.00			4045.00	
Stubb	1.00			4046.00	
Recorder	0.00	8790	Inside	4046.00	
Recorder	0.00	8674	Outside	4046.00	
Perforations	2.00			4048.00	
Change Over Sub	1.00			4049.00	
Perforations	31.00			4080.00	
Change Over Sub	1.00			4081.00	
Bullnose	3.00			4084.00	39.00 Bottom Packers & Anchor
Total Tool Length:	68.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

27-5-28 Decator,KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

Job Ticket: 68399

DST#: 5

ATTN: Steve Miller

Test Start: 2022.02.16 @ 19:44:30

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

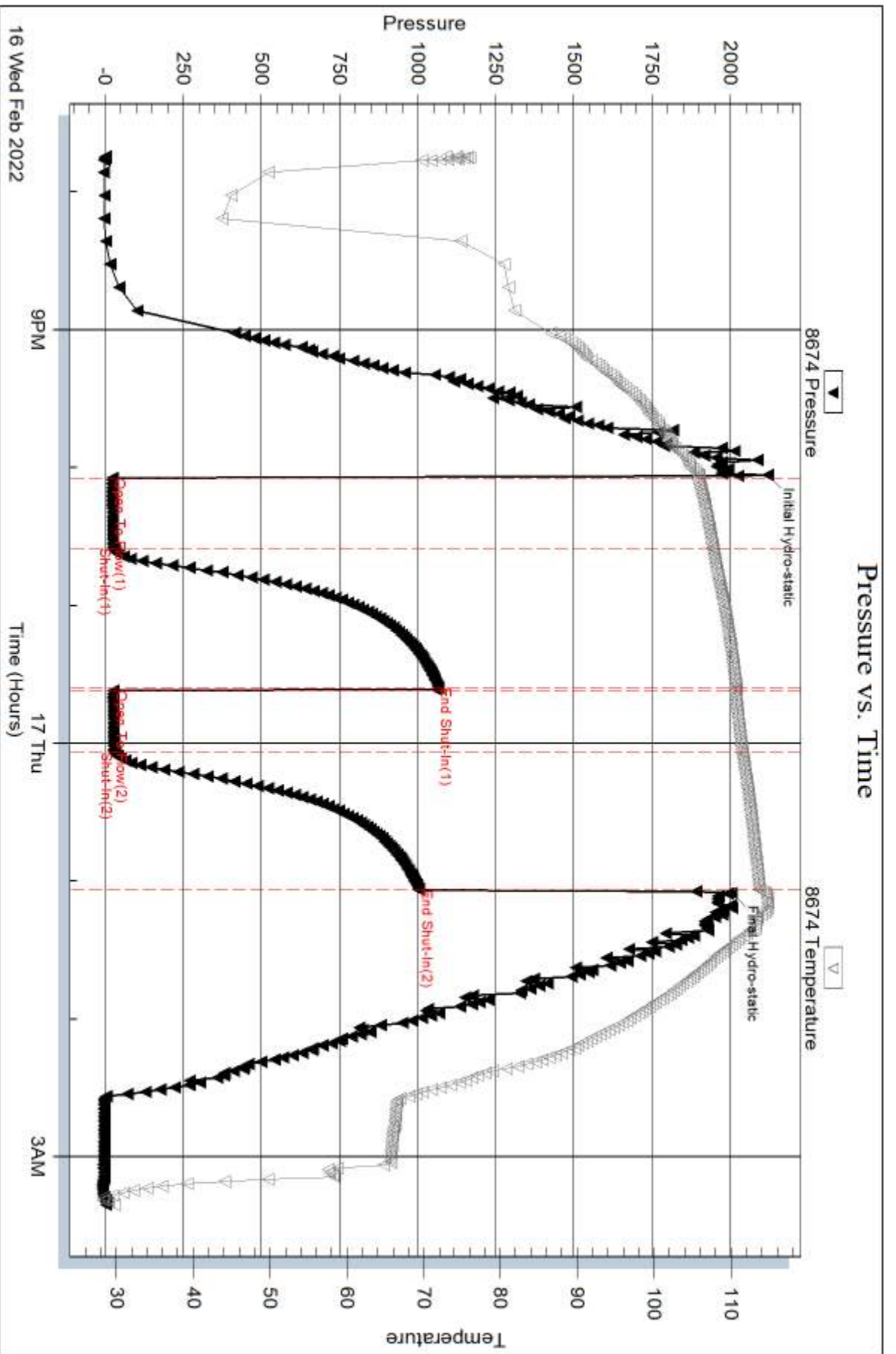
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



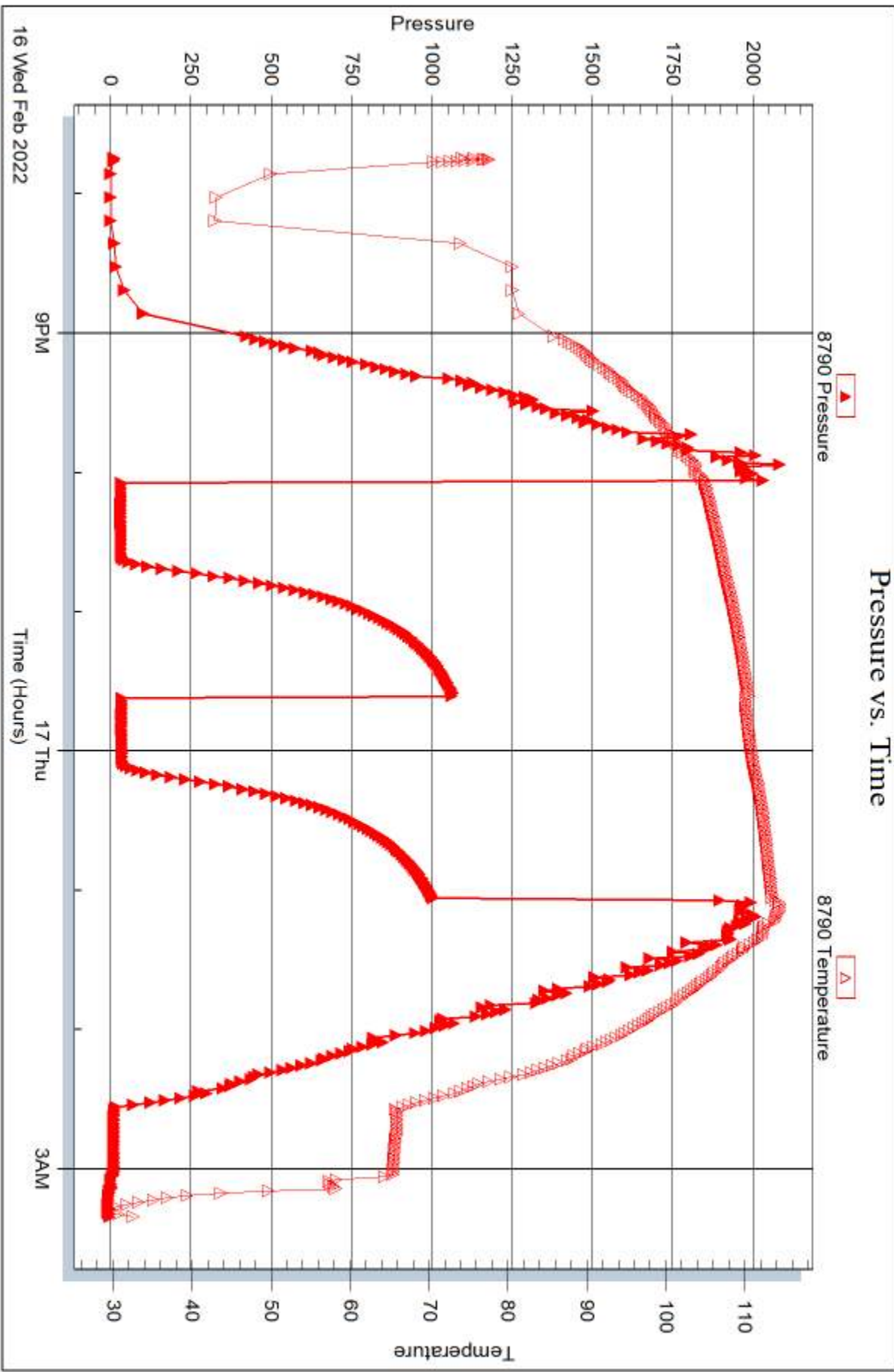
Serial #: 8790

Inside

Murfin Drilling Co

Jacobs Brothers #2

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 68399

Printed: 2022.02.21 @ 10:18:28



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co**

250 N Water
Wichita, KS 67202

ATTN: Steve Miller

Jacobs Brothers #2

27-5-28 Decator,KS

Start Date: 2022.02.17 @ 10:22:36

End Date: 2022.02.17 @ 17:53:36

Job Ticket #: 68400 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.02.21 @ 10:17:45



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co

27-5-28 Decator, KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

Job Ticket: 68400

DST#: 6

ATTN: Steve Miller

Test Start: 2022.02.17 @ 10:22:36

Tool Information

Drill Pipe:	Length: 3878.00 ft	Diameter: 3.80 inches	Volume: 54.40 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 55.31 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4078.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 ft			
Tool Length:	56.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00		Fluid	4050.00	
Shut In Tool	5.00			4055.00	
Hydraulic tool	5.00			4060.00	
Jars	5.00			4065.00	
EM Tool	2.00			4067.00	
Safety Joint	2.00			4069.00	
Packer	5.00			4074.00	29.00 Bottom Of Top Packer
Packer	4.00			4078.00	
Stubb	1.00			4079.00	
Recorder	0.00	8790	Inside	4079.00	
Recorder	0.00	8674	Outside	4079.00	
Perforations	23.00			4102.00	
Bullnose	3.00			4105.00	27.00 Bottom Packers & Anchor

Total Tool Length: 56.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co

27-5-28 Decator,KS

250 N Water
Wichita, KS 67202

Jacobs Brothers #2

Job Ticket: 68400

DST#: 6

ATTN: Steve Miller

Test Start: 2022.02.17 @ 10:22:36

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

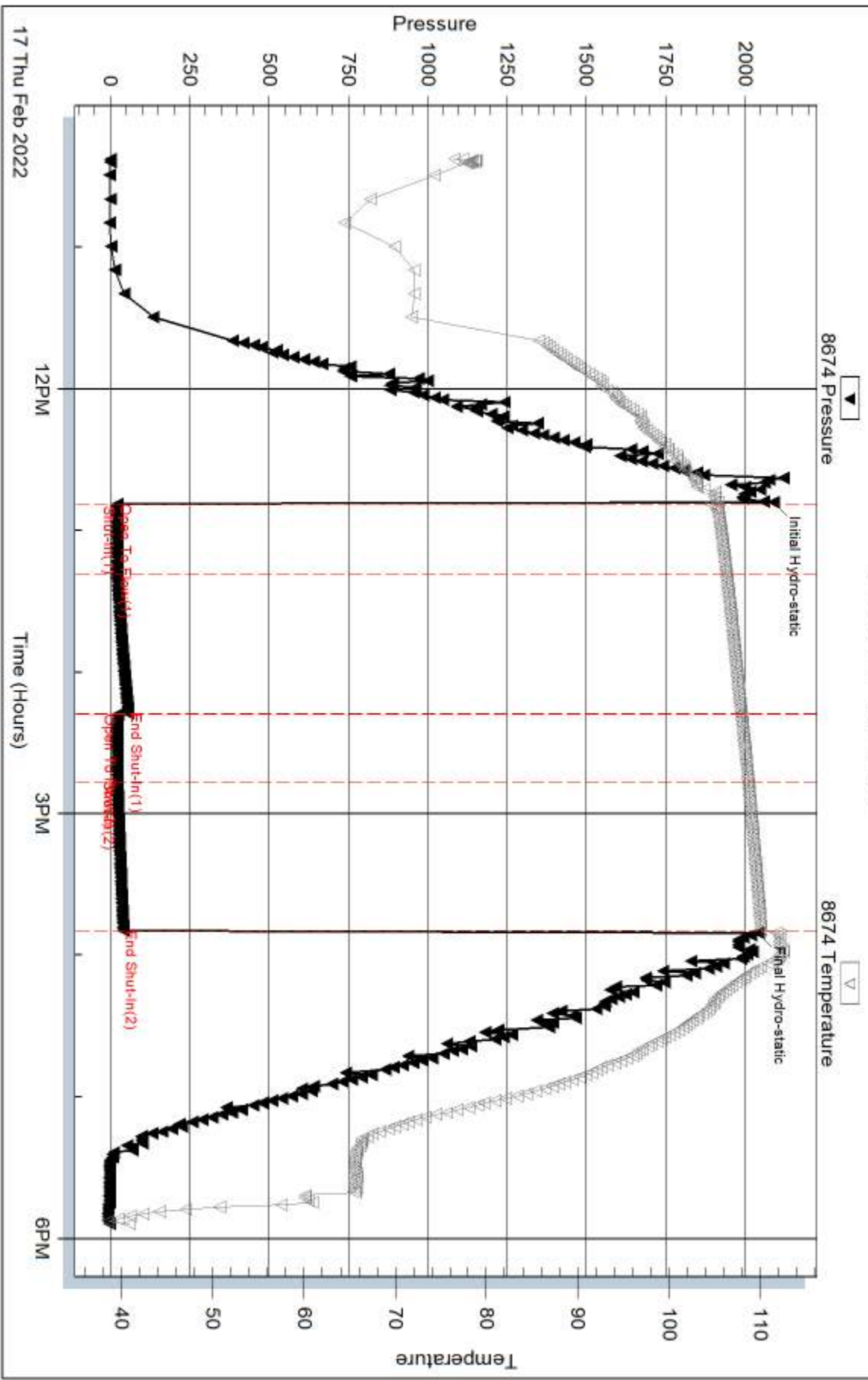
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



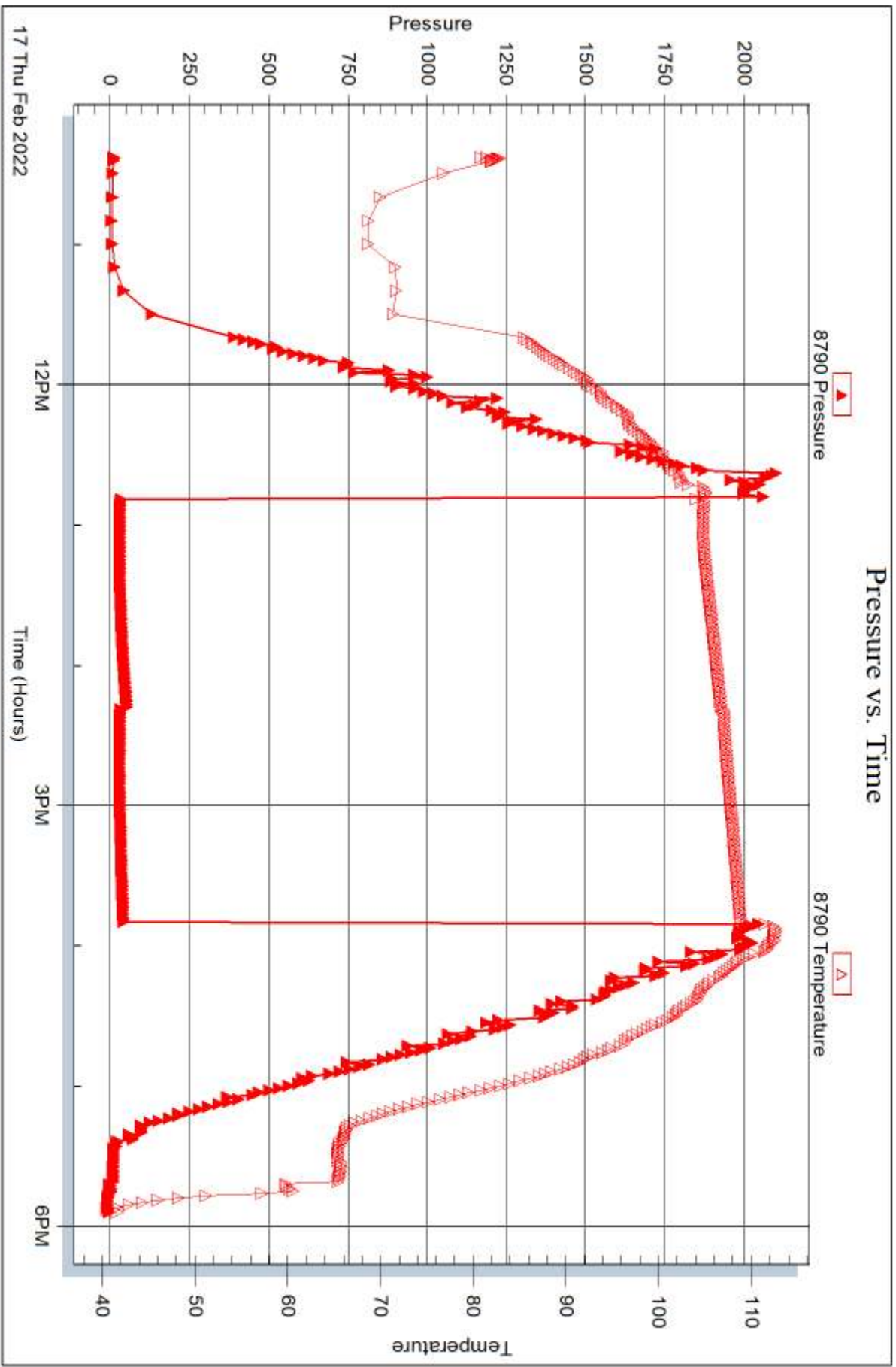
Serial #: 8790

Inside

Murfin Drilling Co

Jacobs Brothers #2

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68395

Well Name & No. Jacobs Brothers #2 Test No. 1 Date 2-13-22
 Company Murfin Drilling Co Elevation 2759 KB 2754 GL
 Address 250 N Water Wichita, KS 67202
 Co. Rep / Geo. Steve Miller Rig Murfin 8
 Location: Sec. 27 Twp 5 Rge. 28 Co. Decatur State KS

Interval Tested 3920 3940 Zone Tested Lansing A
 Anchor Length 20 Drill Pipe Run 3720 Mud Wt. 8.8
 Top Packer Depth 3915 Drill Collars Run 185 Vis 72
 Bottom Packer Depth 3920 Wt. Pipe Run — WL 6-0
 Total Depth 3940 Chlorides 1000 ppm System LCM 6

Blow Description ±F: 1/4 blow built to 1,
±S: No return.
FF: surface blow built to 3/4.
FSI NO return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>65</u>	<u>wcm</u>		<u>30</u>	<u>70</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

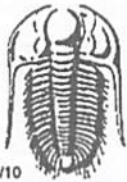
Rec Total 65 BHT 119 Gravity — API RW .49 @ 30° F Chlorides 34,000 ppm

(A) Initial Hydrostatic 2006 Test 1300 T-On Location 8:45
 (B) First Initial Flow 19 Jars 250 T-Started 23:30
 (C) First Final Flow 34 Safety Joint 75 T-Open 1:55
 (D) Initial Shut-In 1318 Circ Sub W/L T-Pulled 5:00
 (E) Second Initial Flow 37 Hourly Standby 49rt 61.25 T-Out 7:24
 (F) Second Final Flow 52 Mileage 210-262.50 Comments out of town
 (G) Final Shut-In 1243 Sampler _____
 (H) Final Hydrostatic 1927 Straddle _____ EM Tool 350 NS

Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 95 drawwork broke Extra Packer _____ Ruined Packer _____
 Final Flow 30 Extra Recorder _____ Extra Copies _____
 Final Shut-In 30 Day Standby _____ Sub Total 0
 Sub Total 1686.25 Accessibility _____ Total 1686.25
 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. 68396

Well Name & No. Jacobs Brothers #2 Test No. 2 Date 2-14-22
 Company Murfin Drilling Co Elevation 2759 KB 2754 GL
 Address _____
 Co. Rep / Geo. Steve Miller Rig Murfin 8
 Location: Sec. 27 Twp 5 Rge. 28 Co. Decatur State KS

Interval Tested 3942 3964 Zone Tested Lansing B
 Anchor Length 22 Drill Pipe Run _____ Mud Wt. 9.1
 Top Packer Depth 3937 Drill Collars Run 185 Vis 62
 Bottom Packer Depth 3942 Wt. Pipe Run _____ WL 6.4
 Total Depth 3964 Chlorides 1000 ppm System LCM 6

Blow Description IF: 1/4 blow built to 3/4 died + 0 & 1/2
FS: No return.
FF: No blow.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud oil spots</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

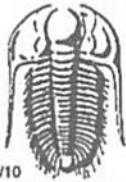
Rec Total 5 BHT 115 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2022 Test 1300 T-On Location 16:00
 (B) First Initial Flow 20 Jars 250 T-Started 16:06
 (C) First Final Flow 21 Safety Joint 75 T-Open 18:11
 (D) Initial Shut-In 442 Circ Sub NIL T-Pulled 21:11
 (E) Second Initial Flow 21 Hourly Standby _____ T-Out 23:11
 (F) Second Final Flow 21 Mileage 210- 61.25 Comments out of town
 (G) Final Shut-In 266 Sampler _____
 (H) Final Hydrostatic 1954 Straddle _____ EM Tool 350?

Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 60 Extra Packer _____ Ruined Packer _____
 Final Flow 30 Extra Recorder _____ Extra Copies _____
 Final Shut-In 60 Day Standby _____ Sub Total 0
 Sub Total 1686.25 Total 1686.25 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. 68397

Well Name & No. Jacobs Brothers #2 Test No. 3 Date 2-15-22
 Company Murfin Drilling Elevation 2759 KB 2754 GL
 Address _____
 Co. Rep / Geo. Steve Miller Rig Murfin 8
 Location: Sec. 27 Twp 5 Rge. 28 Co. Decatur State KS

Interval Tested 3942 3979 Zone Tested Lmsing B-C
 Anchor Length _____ 37 Drill Pipe Run 3748 Mud Wt. 9.1
 Top Packer Depth _____ 3937 Drill Collars Run 185 Vis 62
 Bottom Packer Depth _____ 3942 Wt. Pipe Run _____ WL 6.4
 Total Depth _____ 3979 Chlorides 1000 ppm System LCM 6
 Blow Description IFI 1/4 blow built to 3/4.
ISI No return.
FF: NO blow.
FSi No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud</u>			<u>100</u>	
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Rec Total 5 BHT 112 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1987</u>	<input checked="" type="checkbox"/> Test 1300	T-On Location <u>5:20</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>6:00</u>
(C) First Final Flow <u>24</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>8:20</u>
(D) Initial Shut-In <u>728</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>11:20</u>
(E) Second Initial Flow <u>25</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>13:39</u>
(F) Second Final Flow <u>25</u>	<input checked="" type="checkbox"/> Mileage <u>210</u> 61.25	Comments <u>out of town</u>
(G) Final Shut-In <u>195</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1932</u>	<input type="checkbox"/> Straddle _____	<input checked="" type="checkbox"/> EM Tool 350
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<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>30</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>350</u>
	<input type="checkbox"/> Accessibility _____	Total <u>2036.25</u>
	Sub Total <u>1686.25</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. 68398

Well Name & No. Jacobs Brothers #2 Test No. 4 Date 2-15-22
 Company Murfin Drilling Elevation 2759 KB 2754 GL
 Address _____
 Co. Rep / Geo. Steve Miller Rig Murfin 8
 Location: Sec. 27 Twp 5 Rge. 28 Co. Deerfoot State KS

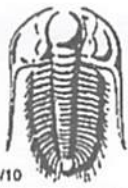
Interval Tested 3977 4024 Zone Tested Lansing E-F
 Anchor Length 47 Drill Pipe Run 3782 Mud Wt. 9.2
 Top Packer Depth 3972 Drill Collars Run 185 Vis 51
 Bottom Packer Depth 3977 Wt. Pipe Run _____ WL 6.8
 Total Depth 4024 Chlorides 1000 ppm System LCM 4
 Blow Description IF: BoB in 16 mins. 18"
IS: surface blow built to 3/4.
EF: BoB in 21 mins. 27"
FS: surface blow built to 1 1/2.

Rec	Feet of	%gas	%oil	%water	%mud
<u>157</u>	<u>90</u>	<u>10</u>	<u>90</u>		
<u>126</u>	<u>MC90</u>	<u>10</u>	<u>50</u>		<u>40</u>
<u>189</u>	<u>ocwm</u>		<u>10</u>	<u>30</u>	<u>60</u>
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 472 BHT 122 Gravity 31 API RW .44 @ 22 ° F Chlorides 55,000 ppm

(A) Initial Hydrostatic <u>2035</u>	<input checked="" type="checkbox"/> Test <u>1450</u>	T-On Location <u>22:15</u>
(B) First Initial Flow <u>26</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>22:54</u>
(C) First Final Flow <u>123</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1:14</u>
(D) Initial Shut-In <u>1282</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>5:14</u>
(E) Second Initial Flow <u>127</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>8:10</u>
(F) Second Final Flow <u>217</u>	<input checked="" type="checkbox"/> Mileage <u>210 - 61.25</u>	Comments <u>out of town</u>
(G) Final Shut-In <u>1229</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1989</u>	<input type="checkbox"/> Straddle _____	<input checked="" type="checkbox"/> EM Tool <u>350</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<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>60</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>350</u>
	<input type="checkbox"/> Accessibility _____	Total <u>2186.25</u>
	Sub Total <u>1836.25</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. 68399

Well Name & No. Jacobs Brothers #2 Test No. 5 Date 2-16-22
 Company Murfin Drilling Elevation 2759 KB 2754 GL
 Address _____
 Co. Rep / Geo. Steve Miller Rig Murfin 8
 Location: Sec. 27 Twp 5 Rge. 28 Co. Decttor State KS

Interval Tested 4045 4084 Zone Tested Lansing J
 Anchor Length _____ 39 Drill Pipe Run 3851 Mud Wt. 9.3
 Top Packer Depth _____ 4040 Drill Collars Run 185 Vis 48
 Bottom Packer Depth _____ 4045 Wt. Pipe Run _____ WL 6.8
 Total Depth _____ 4085 Chlorides 1100 ppm System LCM 4
 Blow Description IF: 1/4 blow built to 1,
IS: No return,
FF: No blow.
KS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</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 5 BHT 113 Gravity _____ API RW _____ @ _____ F Chlorides _____ ppm
 (A) Initial Hydrostatic 2119 Test 1450 T-On Location 19:00
 (B) First Initial Flow 23 Jars 250 T-Started 19:44
 (C) First Final Flow 26 Safety Joint 75 T-Open 22:04
 (D) Initial Shut-In 1066 Circ Sub N/C T-Pulled 1:04
 (E) Second Initial Flow 26 Hourly Standby _____ T-Out 3:22
 (F) Second Final Flow 30 Mileage 210- 61.25 Comments out of town
 (G) Final Shut-In 1003 Sampler _____
 (H) Final Hydrostatic 2004 Straddle _____ EM Tool 350
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Initial Open 30 Day Standby _____ Sub Total 350
 Initial Shut-In 60 Accessibility _____ Total 2186.25
 Final Flow 30 Sub Total 1836.25 MP/DST Disc't
 Final Shut-In 60

Approved By _____ Our Representative _____
 Tritobite 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. 68400

Well Name & No. Jacobs Brothers #2 Test No. 6 Date 2-17-22
 Company Murfin Drilling Elevation 2959 KB 2754 GL
 Address _____
 Co. Rep / Geo. Steve Miller Rig Murfin 8
 Location: Sec. 27 Twp 5 Rge. 28 Co. Deator State KS

Interval Tested 4078 4104 Zone Tested K
 Anchor Length _____ Drill Pipe Run 3878 Mud Wt. 9.2
 Top Packer Depth _____ Drill Collars Run 185 Vis 62
 Bottom Packer Depth _____ Wt. Pipe Run _____ WL 6.0
 Total Depth _____ Chlorides 1400 ppm System LCM 6
 Blow Description IF: Surface blow built to 1/2.
IS: No returns.
FF: No blow.
FS: No returns.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</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 5 BHT 110 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic _____	<input checked="" type="checkbox"/> Test 1450	T-On Location <u>9:45</u>
(B) First Initial Flow _____	<input checked="" type="checkbox"/> Jars 250	T-Started <u>10:22</u>
(C) First Final Flow _____	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>12:47</u>
(D) Initial Shut-In _____	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>15:47</u>
(E) Second Initial Flow _____	<input type="checkbox"/> Hourly Standby _____	T-Out <u>17:58</u>
(F) Second Final Flow _____	<input checked="" type="checkbox"/> Mileage <u>210</u> 61.25	Comments <u>out of town</u>
(G) Final Shut-In _____	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic _____	<input type="checkbox"/> Straddle _____	<input checked="" type="checkbox"/> EM Tool 350
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
	<input type="checkbox"/> Day Standby _____	Sub Total 350
	<input type="checkbox"/> Accessibility _____	Total 2186.25
	Sub Total 1836.25	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.



CEMENT TREATMENT REPORT

Customer: Murfin Drilling	Well: Jacobs Brothers #2	Ticket: WP-2437
City, State: Oakley KS	County: Decatur KS	Date: 2/18/2022
Field Rep: Jason Galli	S-T-R: 27-5S-28W	Service: 2 Stage

Downhole Information	
Hole Size:	7 7/8 in
Hole Depth:	4200 ft
Casing Size:	5 1/2 in
Casing Depth:	4197.18 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	D.V
Tool Depth:	2542 ft
Displacement:	159.9 bbls

Calculated Slurry - Lead	
Blend:	H-LD
Weight:	14.8 ppg
Water / Sx:	6.5 gal / sx
Yield:	1.51 ft ³ / sx
Annular Bbls / Ft.:	0.0244 bbs / ft.
Depth:	4197 ft
Annular Volume:	102.4 bbls
Excess:	
Total Slurry:	53.7 bbls
Total Sacks:	200 sx

Calculated Slurry - Tail	
Blend:	H-Con
Weight:	12 ppg
Water / Sx:	15.5 gal / sx
Yield:	2.56 ft ³ / sx
Annular Bbls / Ft.:	0.0244 bbs / ft.
Depth:	2542 ft
Annular Volume:	62.0248 bbls
Excess:	
Total Slurry:	143.6 bbls
Total Sacks:	315 sx

TIME	RATE	PSI	BBLs	STAGE TOTAL BBLs	REMARKS
3:35p			-	-	Arrival
3:40p				-	Safety meeting
5:55p				-	Run float equipment
7:00p				-	Rig up 6 1/2 head and pump
7:05p				-	Drop ball
7:08p				-	Circulate hole for one hour
8:20p	5.6	400.0	5.0	5.0	H2O ahead
8:22p	5.6	420.0	12.0	17.0	Mix super flush
8:25p	5.6	400.0	5.0	22.0	H2O behlde
8:27p	4.0	380.0	53.7	75.7	Mix 200 sks of H-LD @ 14.8 ppg @ 4197'
8:50p				75.7	Wash up pump and lines
8:51p					Drop plug
8:54p	6.6	300.0	40.0		Displace H2O
8:59p	6.6	340.0	59.0		Displace Mud
9:10p	3.5	1,370.0			Landed Plug at 1370 psi
9:25p					Drop bomb
10:00p	3.5	800.0			Open tool with truck
10:01p					Circulated hole for one hour with rig
11:00p	5.0	180.0	5.0		H2O ahead
11:06p	5.2	470.0	143.6		Mix 315 sks of H-Con @ 12 ppg @ 2542'
11:10p	6.0	370.0	9.1		Mix 20 sks of H-Con @ 12 ppg @ Mouse hole
11:15p	6.0	370.0	11.4		Mix 25 sks of H-Con @ 12 ppg @ Rat hole
11:32p					Wash up pump and lines
11:33p					Drop plug
11:35p	6.6	900.0	60.5		Displaced H2O
11:45p	3.5	1,900.0			Landed plug at 1900 psi
11:48p					Wash up pump and lines

CREW		UNIT	SUMMARY		
Cementer:	Jesse J	78	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Michael R	230	5.4 bpm	614 psi	404 bbls
Bulk #1:	Jose V	194/235			
Bulk #2:	Kale O	205			

MDCI
 Jacobs Brothers #2
 1500 FNL 2060 FEL
 Sec. 27-T5S-R28W
 2757' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	2541	+216	-3	2538	+219	Flat
B/Anhydrite	2573	+184	-3	2571	+186	-1
Topeka	3700	-943	+2	3703	-946	-1
Heebner	3887	-1130	+1	3894	-1137	-6
Toronto	3917	-1160	+1	3924	-1167	-6
Lansing	3930	-1173	+4	3938	-1181	-4
Stark	4079	-1322	+17	4098	-1341	-2
Mound City				4143	-1386	-3
RTD	4200					
LTD				4198		