

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	Mai Oil Operations, Inc.
Well Name	FRIEB 1
Doc ID	1592768

Tops

Name	Top	Datum
Anhydrite	903	1032
Topeka	2870	-935
Heebner	3109	-1174
Toronto	3119	-1184
Douglas	3131	-1196
Brown Lime	3176	-1241
LKC	3184	-1249
Conglomerate	3400	-1465
Arbuckle	3439	-1504





# 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. 1691

Date	7/6/21	Sec.	33	Twp.	17	Range	14	County	Barton	State	Ks	On Location		Finish	12:30 Pm
Lease								Location		Bolyd IN NW KN					

Lease		Fried		Well No.		1		Owner									
Contractor		Southwind		To Quality Oilwell Cementing, Inc.								You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.					
Type Job		Long Surface		Hole Size		12 1/4		T.D.		911		Charge To				HAI OIL	
Csg.		8 3/4		Depth		910		Street									
Tbg. Size				Depth				City				State					
Tool				Depth				The above was done to satisfaction and supervision of owner agent or contractor.									
Cement Left in Csg.		20'		Shoe Joint		55 1/2		Cement Amount Ordered				350 @ 4 1/2 CO 2% gel					
Meas Line				Displace													

EQUIPMENT											
Pumptrk		18		Cementer Helper		Dave		Common		210	
Bulktrk				Driver		Nick		Poz. Mix		140	
Bulktrk		9		Driver				Gel.		6	
Bulktrk				Driver				Calcium		15	

JOB SERVICES & REMARKS											
Remarks:				Hulls				Salt			
Rat Hole				Flowseal				Kol-Seal			
Mouse Hole				Mud CLR 48				CFL-117 or CD110 CAF 38			
Baskets				Sand				Handling		371	
D/V or Port Collar				Mileage							

FLOAT EQUIPMENT											
Guide Shoe				8 3/8 Rubber plug							
Centralizer											
Baskets											
AFU Inserts											
Float Shoe											
Latch Down											

Pumptrk Charge		Long Surface		Mileage		18		Tax			
Signature		[Signature]		Total Charge				Discount			

Thanks  
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**QUALITY OILWELL CEMENTING, INC.**  
 PO Box 32 - 740 West Wichita Ave, Russell KS 67665  
 Phone:785-324-1041 fax:785-483-1087  
 Email: cementing@ruraltel.net

Date: 7/12/2021  
 Invoice # 2322

P.O.#:  
 Due Date: 8/11/2021  
 Division: Russell

# Invoice

**Contact:**  
 Mai Oil Operations  
**Address/Job Location:**

8411 Preston Rd. Ste 800  
 Dallas TX 75225-5520

**Reference:**  
 FRIEB 1 SEC 33-17-14

**Description of Work:**  
 PROD STRING

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 641.27	No	Bulk Truck Mileage-Job to Nearest Bulk Plant	18	\$45.28	No
Common-Class A	108	\$ 1,599.08	Yes				
Mud Clear	1000	\$ 1,049.38	Yes				
5 1/2" Turbolizer	9	\$ 465.75	Yes				
POZ Mix-Standard	72	\$ 362.25	Yes				
Auto Fill Float Shoe, 5 1/2"	1	\$ 241.50	Yes				
Latch Down Plug & Baffle, 4 1/2"	1	\$ 161.00	Yes				
Bulk Truck Matl-Material Service Charge	196	\$ 140.88	No				
Salt (Fine)	13	\$ 122.40	Yes				
Flo Seal	60	\$ 86.25	Yes				
Pump Truck Mileage-Job to Nearest Camp	18	\$ 58.22	No				

**Invoice Terms:**

Net 30

SubTotal: \$ 4,973.25  
 Discount Available ONLY if Invoice is Paid & Received  
 within listed terms of invoice: \$ (124.33)

SubTotal for Taxable Items:	\$ 3,985.41
SubTotal for Non-Taxable Items:	\$ 863.50
<b>Total:</b>	<b>\$ 4,848.92</b>
<b>Tax:</b>	<b>\$ 298.91</b>

7.50% Barton County Sales Tax

**Thank You For Your Business!**

**Amount Due: \$ 5,147.83**  
**Applied Payments:**  
**Balance Due: \$ 5,147.83**

Past Due Invoices are subject to a service charge (annual rate of 24%)  
 This does not include any applicable taxes unless it is listed.  
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# 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. 2322

Date	7-12-21	Sec	33	Twp.	17	Range	14	County	Barton	State	KS	On Location		Finish	12:15PM
Location													49281-2W15SE		

Lease	Frieb			Well No.	1		Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.							
Contractor	South Wind			Type Job	Prod CSS		Charge To	MAI Oil							
Hole Size	7 7/8			T.D.	3500		Street								
Csg.	5 1/2			Depth			City	State							
Tbg. Size				Depth			The above was done to satisfaction and supervision of owner agent or contractor.								
Tool				Depth			Cement Amount Ordered	1800 gal 60/40 27064 10% Selt							
Cement Left in Csg.	28.06			Shoe Joint	28.06		1000gal Flush	to Flo Seal							
Meas Line				Displace	84.6		Common	108							

EQUIPMENT			
Pumptrk	No.	Cementer	Bill
		Helper	
Bulktrk	No.	Driver	
		Driver	
Bulktrk	No.	Driver	
		Driver	

JOB SERVICES & REMARKS	
Remarks:	Hulls
Rat Hole	Salt 13
Mouse Hole	Flowseal 60tr
Centralizers	Kol-Seal
Baskets	Mud CLR 48 1000 gal
D/V or Port Collar	CFL-117 or CD110 CAF 38
pipe set	Sand
Shoe Jt	Handling 189 196
Insert	Mileage

FLOAT EQUIPMENT	
Pump 1000 gal Flush	Guide Shoe
Cemt w/ 1354	Centralizer 9 TURB
pump plug w/ 84.6 bbls of water	Baskets
Land plug e 1300	AFU Inserts
Float did hold	Float Shoe 1
	Latch Down 1

Pumptrk Charge	prod String	Tax	
Mileage	15	Discount	
Signature <i>Kend</i>		Total Charge	

Thanks





## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations**

8411 Preston Rd STE 800  
Dallas, TX 75225

ATTN: Jim Musgrove

### **Frieb #1**

#### **33-17S-34W Barton,KS**

Start Date: 2021.07.09 @ 19:42:00

End Date: 2021.07.10 @ 02:27:39

Job Ticket #: 67652                      DST #: 1

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

Printed: 2021.07.14 @ 08:58:18







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations  
8411 Preston Rd STE 800  
Dallas, TX 75225  
ATTN: Jim Musgrove

**33-17S-34W Barton,KS**  
**Frieb #1**  
Job Ticket: 67652      **DST#: 1**  
Test Start: 2021.07.09 @ 19:42:00

**Tool Information**

Drill Pipe:	Length: 3172.00 ft	Diameter: 3.80 inches	Volume: 44.49 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 44.49 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3177.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	69.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3158.00	
Hydraulic tool	5.00	1113		3163.00	
EM Tool	4.00			3167.00	
Packer	5.00			3172.00	24.00      Bottom Of Top Packer
Packer	5.00			3177.00	
Stubb	1.00			3178.00	
Recorder	0.00	8959	Inside	3178.00	
Recorder	0.00	8734	Outside	3178.00	
Perforations	6.00			3184.00	
Change Over Sub	1.00			3185.00	
Drill Pipe	32.00			3217.00	
Change Over Sub	1.00			3218.00	
Perforations	1.00			3219.00	
Bullnose	3.00			3222.00	45.00      Bottom Packers & Anchor

**Total Tool Length: 69.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mai Oil Operations

**33-17S-34W Barton,KS**

8411 Preston Rd STE 800  
Dallas, TX 75225

**Frieb #1**

Job Ticket: 67652

**DST#: 1**

ATTN: Jim Musgrove

Test Start: 2021.07.09 @ 19:42:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38.4 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5700.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
200.00	GSWMO 13%G,5%W,19%M,63%O	2.805
0.00	2972' GIP	0.000

Total Length: 200.00 ft      Total Volume: 2.805 bbl

Num Fluid Samples: 0

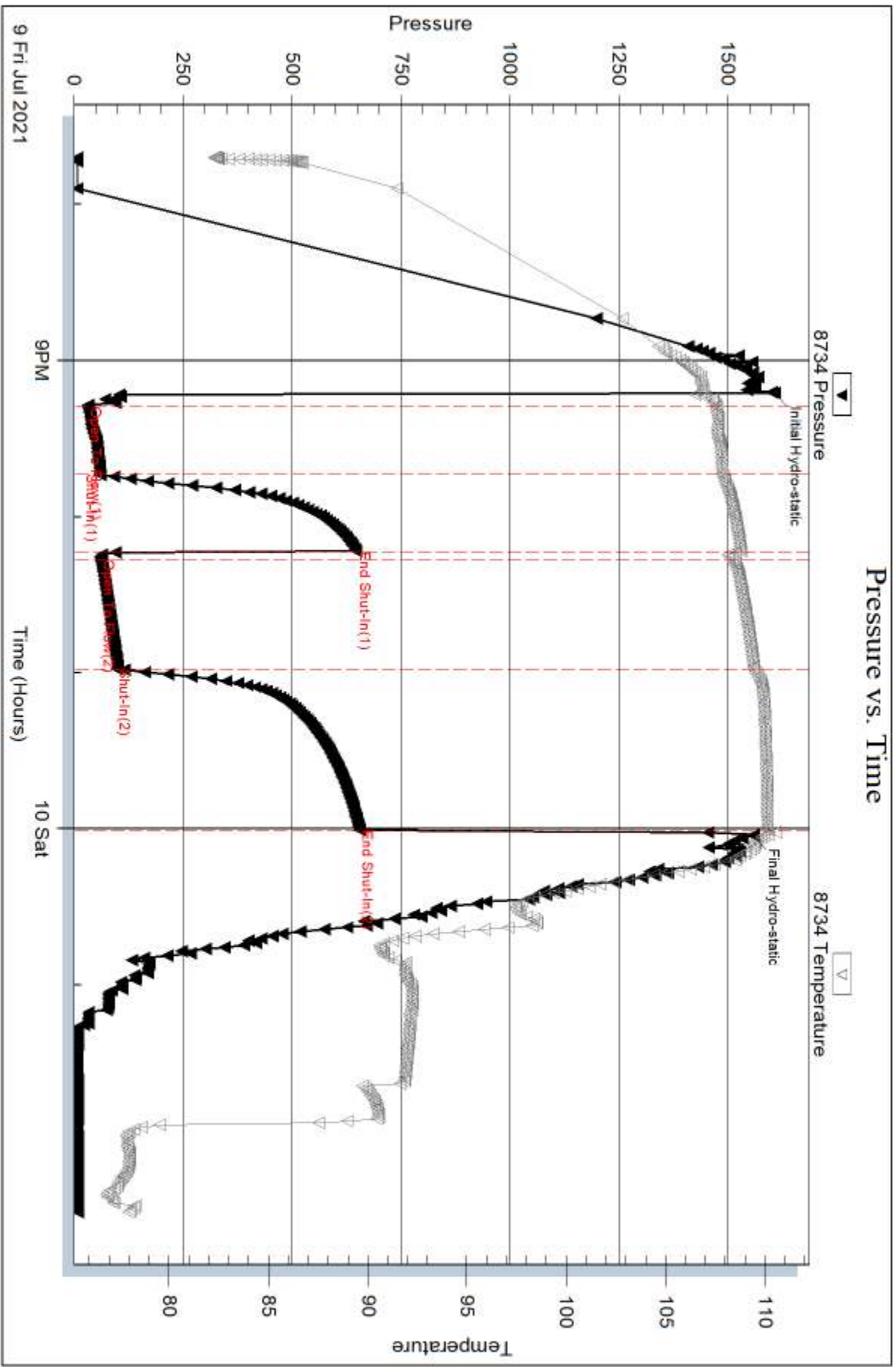
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity of oil = 40.2 @ 78 degs corrected to 38.4 @ 60 degs  
Not enough water to catch chlorides







## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations**

8411 Preston Rd STE 800  
Dallas, TX 75225

ATTN: Jim Musgrove

### **Frieb #1**

#### **33-17S-34W Barton,KS**

Start Date: 2021.07.10 @ 12:30:00

End Date: 2021.07.10 @ 16:40:00

Job Ticket #: 67653                      DST #: 2

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

Printed: 2021.07.14 @ 08:57:49

Mai Oil Operations  
33-17S-34W Barton,KS  
Frieb #1  
DST # 2  
LKC " G "  
2021.07.10





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations  
 8411 Preston Rd STE 800  
 Dallas, TX 75225  
 ATTN: Jim Musgrove

**33-17S-34W Barton, KS**

**Frieb #1**

Job Ticket: 67653

**DST#: 2**

Test Start: 2021.07.10 @ 12:30:00

## GENERAL INFORMATION:

Formation: **LKC " G "**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:54:10  
 Time Test Ended: 16:40:00  
 Interval: **3262.00 ft (KB) To 3295.00 ft (KB) (TVD)**  
 Total Depth: 3295.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Martine Salinas  
 Unit No: 82  
 Reference Elevations: 1935.00 ft (KB)  
 1925.00 ft (CF)  
 KB to GR/CF: 10.00 ft

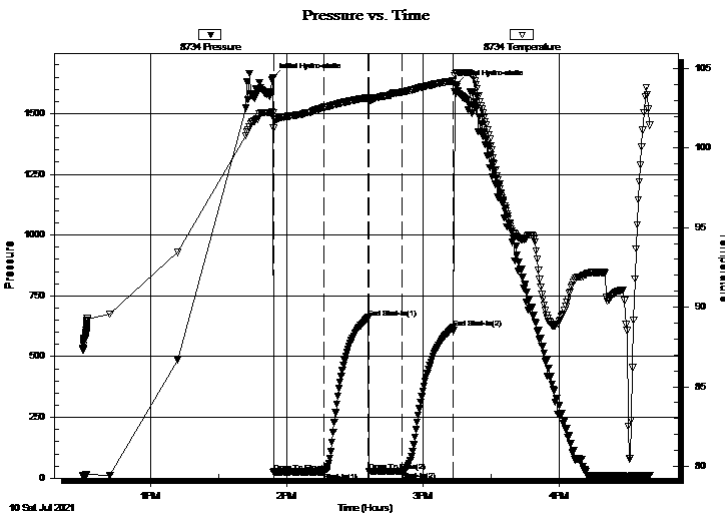
**Serial #: 8734**

**Outside**

Press@RunDepth: 27.41 psig @ 3263.00 ft (KB)  
 Start Date: 2021.07.10 End Date: 2021.07.10  
 Start Time: 12:30:01 End Time: 16:40:00  
 Capacity: 8000.00 psig  
 Last Calib.: 2021.07.10  
 Time On Btm: 2021.07.10 @ 13:54:00  
 Time Off Btm: 2021.07.10 @ 15:14:50

TEST COMMENT: 20-IF-Weak surface blow  
 20-ISI-No return  
 15-FF-No blow  
 20-FSI-No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1648.00	102.24	Initial Hydro-static
1	24.05	101.24	Open To Flow (1)
23	26.03	102.55	Shut-In(1)
42	660.64	103.16	End Shut-In(1)
43	27.41	102.93	Open To Flow (2)
57	27.41	103.52	Shut-In(2)
80	619.20	104.21	End Shut-In(2)
81	1619.07	104.72	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	100% Mud W/ Oil spots	0.14

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations

**33-17S-34W Barton,KS**

8411 Preston Rd STE 800  
Dallas, TX 75225

**Frieb #1**

Job Ticket: 67653

**DST#: 2**

ATTN: Jim Musgrove

Test Start: 2021.07.10 @ 12:30:00

## Tool Information

Drill Pipe:	Length: 3267.00 ft	Diameter: 3.80 inches	Volume: 45.83 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 45.83 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	45000.00 lb
Depth to Top Packer:	3262.00 ft			Final	45000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	33.00 ft				
Tool Length:	58.00 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			3238.00	
Shut In Tool	5.00			3243.00	
Hydraulic tool	5.00	1113		3248.00	
EM Tool	4.00			3252.00	
Packer	5.00			3257.00	25.00 Bottom Of Top Packer
Packer	5.00			3262.00	
Stubb	1.00			3263.00	
Recorder	0.00	8959	Inside	3263.00	
Recorder	0.00	8734	Outside	3263.00	
Perforations	29.00			3292.00	
Bullnose	3.00			3295.00	33.00 Bottom Packers & Anchor

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Mai Oil Operations

**33-17S-34W Barton,KS**

8411 Preston Rd STE 800  
Dallas, TX 75225

**Frieb #1**

Job Ticket: 67653

**DST#: 2**

ATTN: Jim Musgrove

Test Start: 2021.07.10 @ 12:30:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5700.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	100% Mud W/ Oil spots	0.140

Total Length: 10.00 ft      Total Volume: 0.140 bbl

Num Fluid Samples: 0

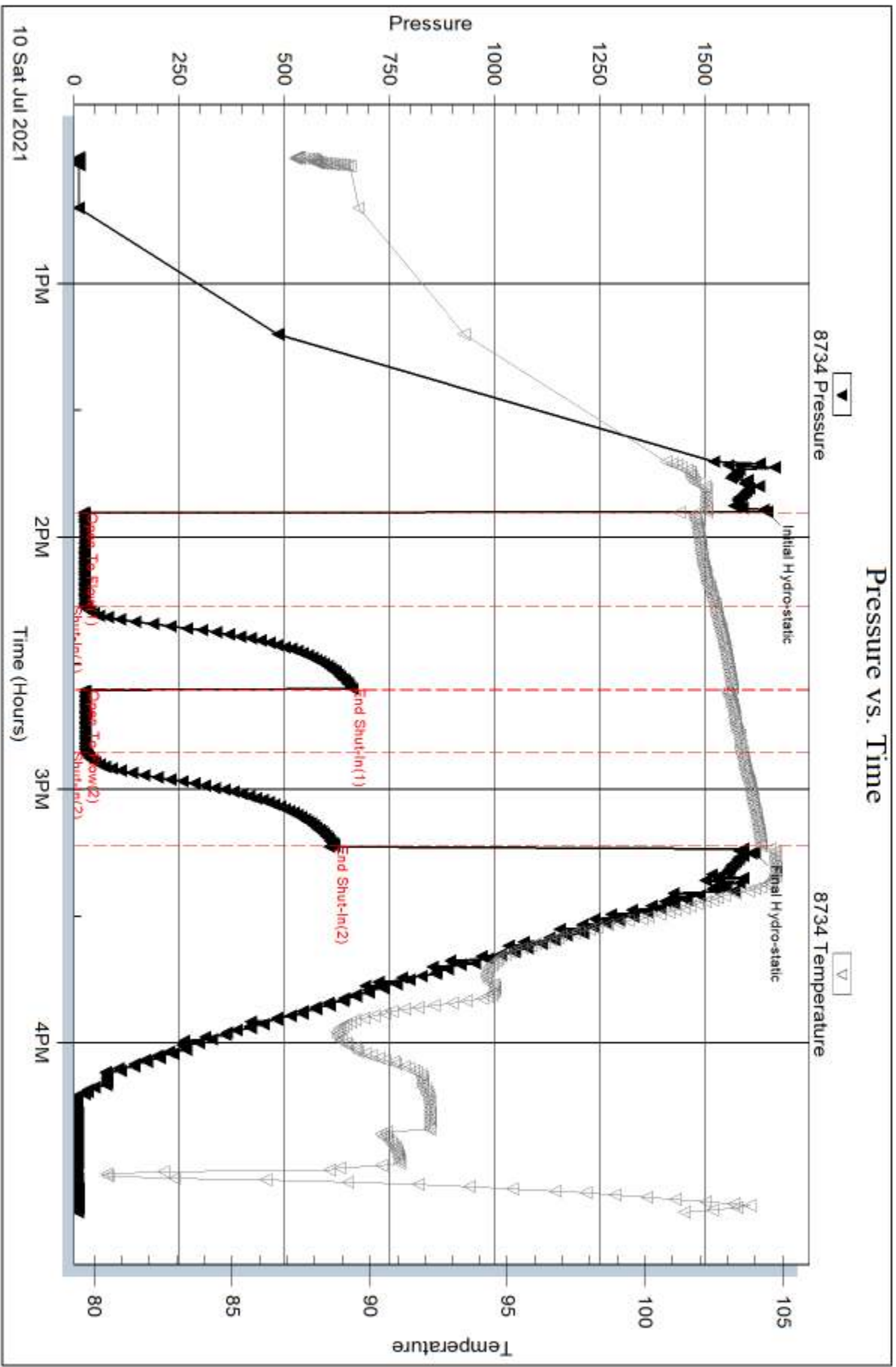
Num Gas Bombs: 0

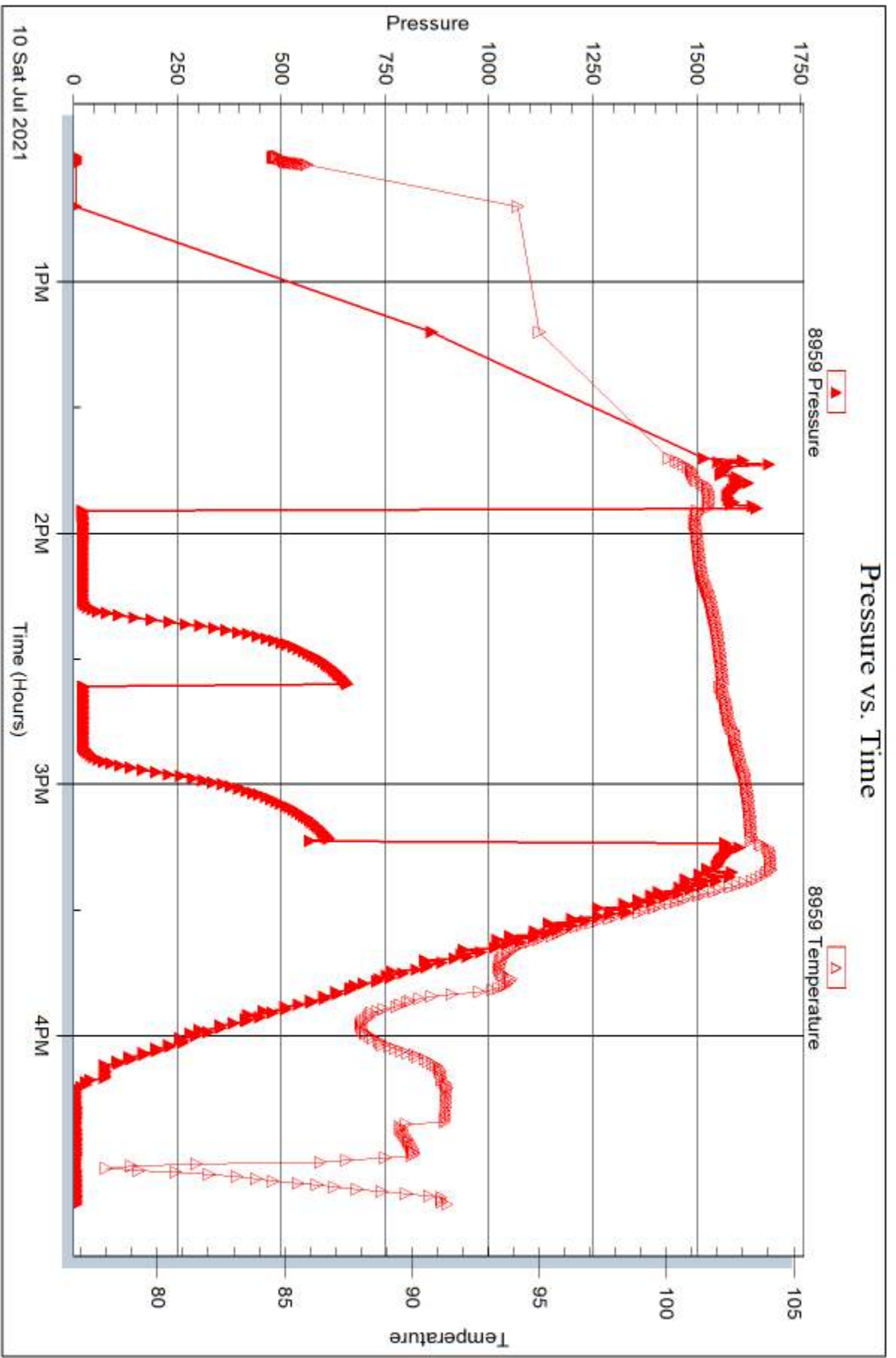
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations**

8411 Preston Rd STE 800  
Dallas, TX 75225

ATTN: Jim Musgrove

### **Frieb #1**

#### **33-17S-34W Barton,KS**

Start Date: 2021.07.11 @ 11:00:00

End Date: 2021.07.11 @ 16:05:00

Job Ticket #: 67654                      DST #: 3

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

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**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Mai Oil Operations  
 8411 Preston Rd STE 800  
 Dallas, TX 75225  
 ATTN: Jim Musgrove

**33-17S-34W Barton, KS**

**Frieb #1**

Job Ticket: 67654

**DST#: 3**

Test Start: 2021.07.11 @ 11:00:00

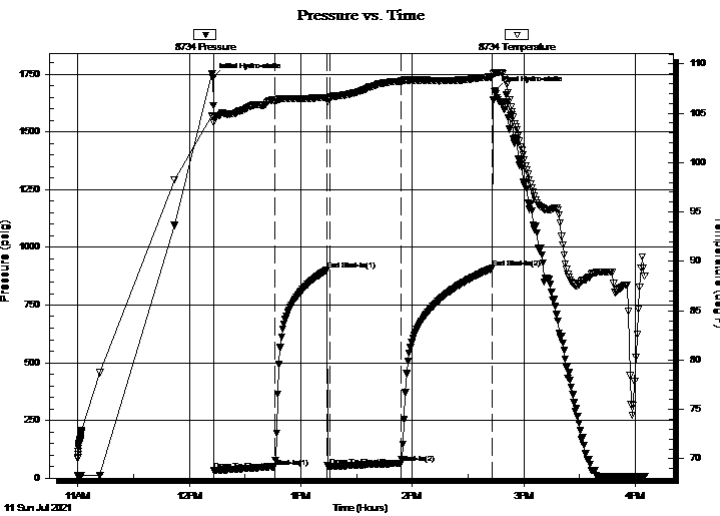
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:13:10  
 Time Test Ended: 16:05:00  
 Interval: **3390.00 ft (KB) To 3446.00 ft (KB) (TVD)**  
 Total Depth: 3446.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Martine Salinas  
 Unit No: 82  
 Reference Elevations: 1935.00 ft (KB)  
 1925.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8734 Outside**

Press@RunDepth: 64.45 psig @ 3391.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2021.07.11 End Date: 2021.07.11 Last Calib.: 2021.07.11  
 Start Time: 11:00:01 End Time: 16:05:00 Time On Btm: 2021.07.11 @ 12:12:50  
 Time Off Btm: 2021.07.11 @ 14:44:40

TEST COMMENT: 30-IF-Blow built to 4 1/2"  
 30-ISI-No return  
 45-FF-S.blow @ 1 min built to 2 1/2"  
 45-FSI-No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1734.68	104.64	Initial Hydro-static
1	32.11	104.08	Open To Flow (1)
33	48.21	106.33	Shut-In(1)
62	902.69	106.60	End Shut-In(1)
63	50.62	106.61	Open To Flow (2)
102	64.45	108.25	Shut-In(2)
151	909.60	108.69	End Shut-In(2)
152	1678.57	109.10	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
80.00	100% Mud	1.12

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations  
8411 Preston Rd STE 800  
Dallas, TX 75225  
ATTN: Jim Musgrove

**33-17S-34W Barton,KS**  
**Frieb #1**  
Job Ticket: 67654      **DST#: 3**  
Test Start: 2021.07.11 @ 11:00:00

**Tool Information**

Drill Pipe:	Length: 3394.00 ft	Diameter: 3.80 inches	Volume: 47.61 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 47.61 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3390.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	80.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut In Tool	5.00			3371.00	
Hydraulic tool	5.00	1113		3376.00	
EM Tool	4.00			3380.00	
Packer	5.00			3385.00	24.00      Bottom Of Top Packer
Packer	5.00			3390.00	
Stubb	1.00			3391.00	
Recorder	0.00	8959	Inside	3391.00	
Recorder	0.00	8734	Outside	3391.00	
Perforations	17.00			3408.00	
Change Over Sub	1.00			3409.00	
Drill Pipe	32.00			3441.00	
Change Over Sub	1.00			3442.00	
Perforations	1.00			3443.00	
Bullnose	3.00			3446.00	56.00      Bottom Packers & Anchor

**Total Tool Length: 80.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Mai Oil Operations

**33-17S-34W Barton,KS**

8411 Preston Rd STE 800  
Dallas, TX 75225

**Frieb #1**

Job Ticket: 67654

**DST#: 3**

ATTN: Jim Musgrove

Test Start: 2021.07.11 @ 11:00:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9800.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
80.00	100% Mud	1.122

Total Length: 80.00 ft      Total Volume: 1.122 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

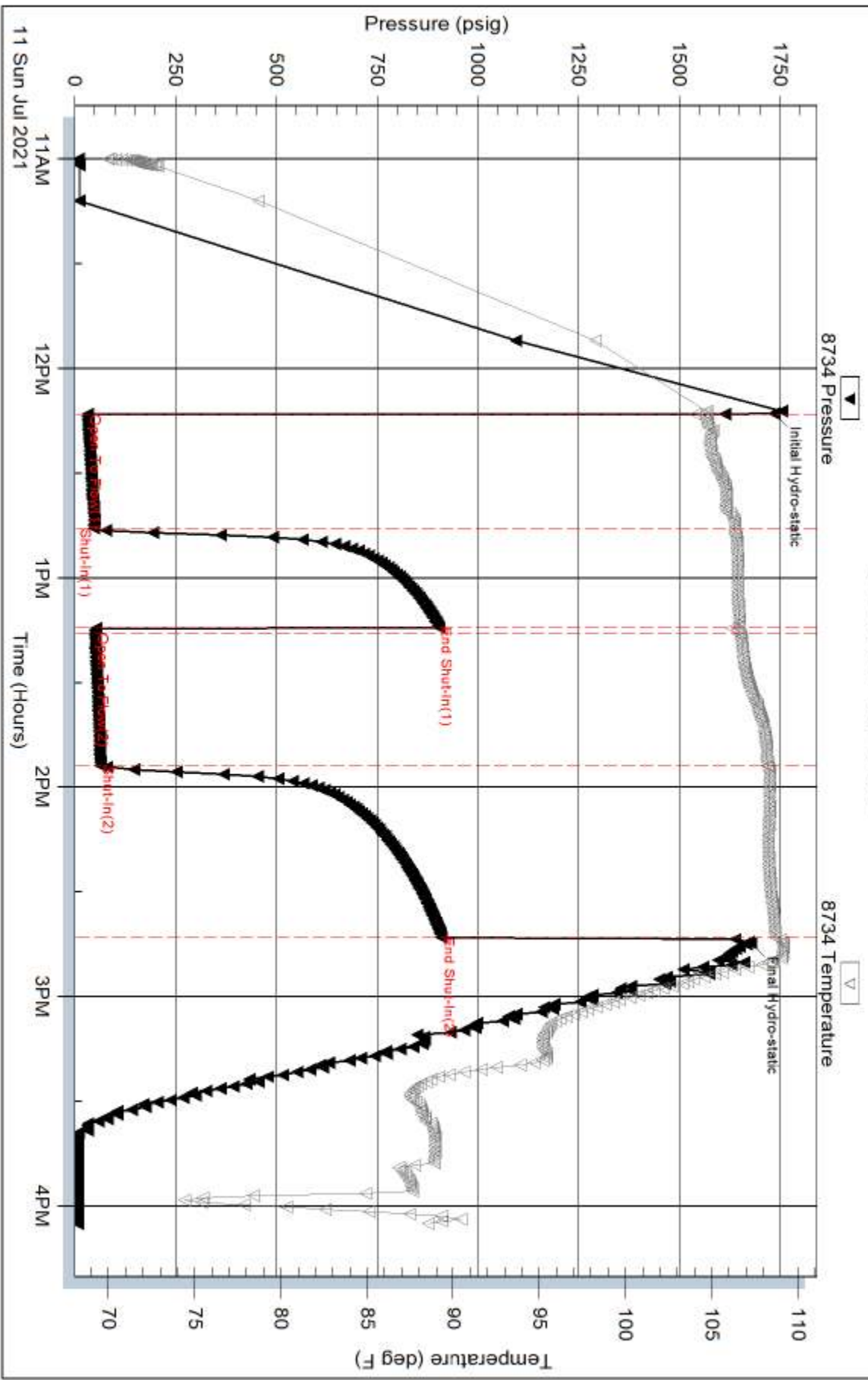
Serial #:

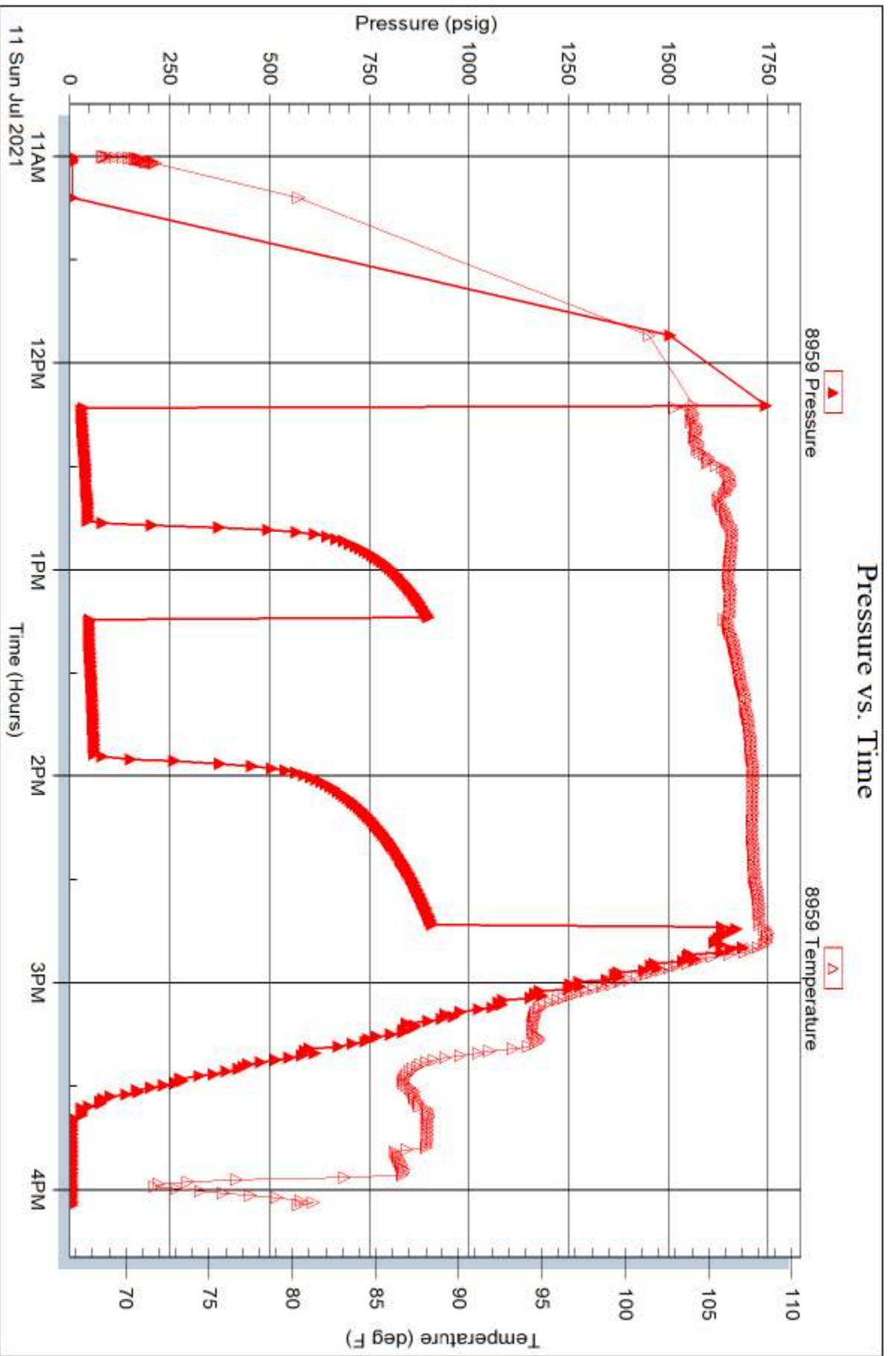
Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **67652**

Well Name & No. Frich #1 Test No. 1 Date 7-9-21  
 Company Mai Oil Operations Elevation 1935 KB 1925 GL  
 Address 8411 Preston Rd. STE 800 Dallas, TX 75225  
 Co. Rep / Geo. Jim McSwigrave Rig Southwind #1  
 Location: Sec. 33 Twp 17S Rge. 14 W. Co. Barton State KS

Interval Tested 3177-3222 Zone Tested Lansing "C"  
 Anchor Length 45 Drill Pipe Run 3172 Mud Wt. 9.3  
 Top Packer Depth 3172 Drill Collars Run — Vis 60  
 Bottom Packer Depth 3177 Wt. Pipe Run — WL 6.4  
 Total Depth 3222 Chlorides 5700 ppm System LCM 1#

Blow Description IF - B.O.B (11 inches) @ 3 mins (blow increased to 125 1/2")  
ISI - No return.

FF - B.O.B @ 3 mins (blow increased to 165") G.T.S. @ End of FF  
FSE - Return blow built to 1/2" & reduced to surface blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>200</u>	<u>GSWMO</u>	<u>13</u>	<u>63</u>	<u>5</u>	<u>19</u>
<u>0</u>	<u>2972' GIP</u>				

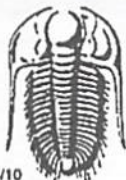
Rec Total 200 BHT 110 Gravity 38.4 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1606  Test 1200 T-On Location 18:45  
 (B) First Initial Flow 32  Jars — T-Started 19:42  
 (C) First Final Flow 59  Safety Joint — T-Open 21:13  
 (D) Initial Shut-In 648  Circ Sub — T-Pulled 23:53  
 (E) Second Initial Flow 61  Hourly Standby — T-Out 02:27  
 (F) Second Final Flow 98  Mileage 96 RT E/Hays Comments To 1.71tc of water  
 (G) Final Shut-In 655  Sampler 120 to get RW  
 (H) Final Hydrostatic 1556  Straddle —  EM Tool 350  
 Ruined Shale Packer —  
 Ruined Packer —  
 Extra Copies —

Initial Open 30  Extra Packer —  
 Initial Shut-In 30  Extra Recorder —  
 Final Flow 45  Day Standby —  
 Final Shut-In 60  Accessibility —  
 Sub Total 1320 Sub Total 350  
 Total 1670 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. **67653**

Well Name & No. Frieb #1 Test No. 2 Date 7-10-21  
 Company Mai Oil Operations Elevation 1935 KB 1925 GL  
 Address 8411 Preston Rd. STE 800 Dallas, Tx 75225  
 Co. Rep / Geo. Jim Musgrave Rig Southwind #1  
 Location: Sec. 33 Twp 17S. Rge. 14W. Co. Barton State KS.

Interval Tested 3262-3295. Zone Tested Lansing "G"  
 Anchor Length 33' Drill Pipe Run 3267 Mud Wt. 9.1  
 Top Packer Depth 3257 Drill Collars Run — Vis 60  
 Bottom Packer Depth 3262 Wt. Pipe Run — WL 5.4  
 Total Depth 3295 Chlorides 5700 ppm System LCM 1#  
 Blow Description IF - Weak surface blow

ISI - No returns

FF - No blow

FSI - No returns

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud w/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 16 BHT 105 Gravity — API RW — @ — °F Chlorides — ppm  
 (A) Initial Hydrostatic 1648  Test 1200 T-On Location 12:00  
 (B) First Initial Flow 24  Jars — T-Started 12:30  
 (C) First Final Flow 26  Safety Joint — T-Open 13:55  
 (D) Initial Shut-In 661  Circ Sub — T-Pulled 15:10  
 (E) Second Initial Flow 27  Hourly Standby — T-Out 16:41  
 (F) Second Final Flow 27  Mileage 96 RT 120 Comments —  
 (G) Final Shut-In 619  Sampler —  
 (H) Final Hydrostatic 1619  Straddle —  EM Tool -350 NS  
 Shale Packer —  Ruined Shale Packer —  
 Extra Packer —  Ruined Packer —  
 Extra Recorder —  Extra Copies —  
 Day Standby — Sub Total 0  
 Accessibility — Total 1320  
 Sub Total 1320 MP/DST Disc't —

Approved By \_\_\_\_\_

Our Representative Mauro Jalen

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.



# TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 67654

Well Name & No. Frieb #1 Test No. 3 Date 7-11-21  
 Company Mai Oil Operations Elevation 1935 KB 1925 GL  
 Address 8411 Preston Rd STE 800 Dallas, Tx 75225  
 Co. Rep / Geo. Jim Musgrove Rig Southernwind #1  
 Location: Sec. 33 Twp 17S. Rge. 14W. Co. Barton State KS

Interval Tested 3390 - 3446 Zone Tested Arbuckle  
 Anchor Length 56' Drill Pipe Run 3394 Mud Wt. 9.2  
 Top Packer Depth 3385 Drill Collars Run — Vis 52  
 Bottom Packer Depth 3390 Wt. Pipe Run — WL 6.4  
 Total Depth 3446 Chlorides 9800 ppm System LCM 1#

Blow Description IF - Blow built to 4 1/2"  
ISZ - No return.  
FF - S. blow @ 1 min built to 2 1/2"  
FJI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>80</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 80 BHT 109 Gravity — API RW — @ — °F Chlorides — ppm  
 (A) Initial Hydrostatic 1735  Test 1200 T-On Location 10:45.  
 (B) First Initial Flow 32  Jars — T-Started 11:00  
 (C) First Final Flow 48  Safety Joint — T-Open 12:13  
 (D) Initial Shut-In 903  Circ Sub — T-Pulled 14:43  
 (E) Second Initial Flow 51  Hourly Standby — T-Out 16:05  
 (F) Second Final Flow 64  Mileage 96 RT x 2 <sup>120+120</sup> Comments Opened tool & slid 2'  
 (G) Final Shut-In 910  Sampler — to bottom  
 (H) Final Hydrostatic 1679  Straddle — Tools loaded @ 20:30  
 EM Tool 350 NS  
 Ruined Shale Packer —  
 Ruined Packer —

Initial Open 30  Extra Packer —  Extra Copies —  
 Initial Shut-In 30  Extra Recorder — Sub Total 0  
 Final Flow 45  Day Standby — Total 1440  
 Final Shut-In 45  Accessibility — MP/DST Disc't —  
 Sub Total 1440

Approved By \_\_\_\_\_ Our Representative Mark Spina

Tribolite 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.



**JAMES C. MUSGROVE**

Petroleum Geologist, LLC  
212 Main Street  
P.O. Box 215  
Claflin, KS 67525

Office (620) 588-4250

Res. Claflin (620) 786-0839

Mai Oil Operations, Inc.  
Frieb #1  
SW-NE-NE-SW (2065' FSL & 2047' FWL)  
Section 33-17s-14w  
Barton County, Kansas

Page 1

**q5 1/2" Production Casing Set**

**Contractor:** Southwind Drilling Co. (rig #1)  
**Commenced:** July 5, 2021  
**Completed:** July 12, 2021  
**Elevation:** 1935' K.B., 1933' D.F., 1925' G.L.  
**Casing program:** Surface; 8 5/8" @ 911  
Production, 5 1/2" @ 3498  
**Sample:** Samples saved and examined 2800' to the Rotary Total Depth.  
**Drilling time:** One (1) foot drilling time recorded and kept 2800' to the Rotary Total Depth.  
**Measurements:** All depths measured from the Kelly Bushing.  
**Drill Stem Tests:** There were three (3) Drill Stem Tests ran by Trilobite Testing Co.  
**Electric Log:** By Eli; Dual Induction, Compensated Density/Neutron Log, and Micro Log

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	903	+1032
Base Anhydrite	934	+1001
Topeka	2870	-935
Heebner	3109	-1174
Toronto	3119	-1184
Douglas	3131	-1196
Brown Lime	3176	-1241
Lansing	3184	-1249
Base Kansas City	3392	-1457
Conglomerate	3400	-1465
Arbuckle	3439	-1504
Rotary Total Depth	3500	-1565
Log Total Depth	3501	-1566

(All tops and zone(s) corrected to Electric Log Measurements)

**SAMPLE ANALYSIS, SHOWS OF OIL, TESTING DATA, ETC.**

**TOPEKA SECTION**

2989-3000' Limestone, white, gray, fossiliferous, sparry calcite cement, poor visible porosity; no shows.

- 3000-3010' Limestone, gray, white, fossiliferous, granular, chalky, poor visible porosity; no shows.
- 3036-3030' Limestone, tan/brown and gray, fossiliferous, slightly cherty (dense)
- 3061-3080' Limestone, white, gray, few fossiliferous, poor visible porosity, chalky in part, no shows.
- 3080-3106' Limestone, gray, finely crystalline, chalky; dense; plus gray chert.

**TORONTO SECTION**

- 3119-3130' Limestone; tan, white, finely crystalline, few slightly dolomitic; poor visible porosity; trace brown stain; no show of free oil and no odor in fresh samples.

**LANSING SECTION**

- 3184-3188' Limestone, white, fossiliferous, chalky, fossiliferous; trace brown stain, trace of free oil and questionable odor in fresh samples.
- 3190-3200' Limestone; as above; poor visible porosity.
- 3120-3224' Limestone; cream, white, oolitic, oomoldic; fair oomoldic porosity, spotty brown stain, show of free oil and faint odor in fresh samples.

**Drill Stem Test #1 3177-3222**

**Times: 30-30-45-60**

**Blow: Strong; gas to surface end F.F.P., T.S.T.M.**

**Recovery: 2972' gas in pipe  
200' muddy gassy oil (trace of water)  
(13% gas; 5% water; 19% mud; 63% oil)**

**Pressures: ISIP 648 psi  
FSIP 655 psi  
IFP 32-59 psi  
FFP 61-98 psi  
HSH 1606-1556 psi**

- 3225-3238' Limestone, white, gray, chalky, (dense)
- 3241-3250' Limestone, tan/gray, fossiliferous/oolitic, poor porosity, no shows.
- 3261-3270' Limestone, tan, highly oolitic; dense, no shows.

3272-3284' Limestone, white, tray, oolitic/fossiliferous; scattered vuggy type porosity, good dark brown stain and saturation, fair show of free oil (gassy) and faint to fair odor in fresh samples.

**Drill Stem Test #2** **3262-3295**

**Times:** 20-20-15-20  
**Blow:** Weak (surface)  
**Recovery:** 10' mud, with oil spots  
**Pressures:** ISIP 661 psi  
 FSIP 619 psi  
 IFP 24-26 psi  
 FFP 27-27 psi  
 HSH 1648-1619 psi

3290-3300' Limestone, white, gray chalky, few cherty (dense)  
 3300-3310' Limestone, tan, cherty (dense)  
 3325-3333' Limestone, white, oolitic, fossiliferous, poor visible porosity, trace brown stain, no show of free oil and no odor in fresh samples.  
 3340-3350' Limestone, tan, gray, fine and medium crystalline, scattered inter-crystalline porosity, trace brown stain, weak show of free oil and no odor in fresh samples.  
 3358-3368' Limestone, white, finely crystalline, chalky, poor porosity, black edge staining, no free oil and no odor in fresh samples.  
 3378-3387' Limestone, white, finely crystalline, highly chalky, poor porosity, black (dead) stain, no show of free oil and no odor in fresh samples.

**CONGLOMERATE SECTION**

3400-3420' Chert; red, orange, salmon colored; boney/opaque; plus shale; brick red, blocky and red sandy shale and soft gray shales.  
 3420-3439 Chert; orange yellow, oolitic, boney; some opaque; plus shale; brick red, blocky and red sandy shale and soft shales.

**ARBUCKLE SECTION**

3439-3442' Dolomite, white, gray, finely crystalline, sucrosic; cherty (dense), no shows.  
 3442-3446' Dolomite, white, medium crystalline, fair inter-crystalline porosity, brown stain, show of free oil and faint odor in fresh samples.

**Drill Stem Test #3** **3390-3446**

---

**Times: 30-30-45-45**

**Blow: Weak increased to 4 ½ inches final flow; weak built to 2 ½ inches**

**Recovery: 80' mud**

**Pressures:**

<b>ISIP</b>	<b>903</b>	<b>psi</b>
<b>FSIP</b>	<b>910</b>	<b>psi</b>
<b>IFP</b>	<b>32-48</b>	<b>psi</b>
<b>FFP</b>	<b>51-64</b>	<b>psi</b>
<b>HSH</b>	<b>1735-1679</b>	<b>psi</b>

3446-3453' Dolomite, white; gray; fine to medium crystalline, poor visible porosity; black dead stain, no free oil and faint (sour) odor in fresh samples.

3453-3460' Dolomite, white, cream, medium crystalline, fair inter-crystalline porosity; poor brown to black stain, trace of free oil (50% dead) and faint (sour) odor in fresh samples.

3460-3480' Dolomite, white, cream, medium and coarse crystalline, good inter-crystalline porosity; black stain, trace of free oil (dead appearing) and faint (sour) odor in fresh samples.

3480-3500' Dolomite, as above, sandy in part, plus white, chalk and trace white oolitic chert.

**Rotary Total Depth: 3500 (-1565)**  
**Log Total Depth: 3501 (-1566)**

**Recommendations:**

5 ½" production casing was set and cemented on the Mai Operations Oil Inc., Frieb #1.

Respectfully yours,

James C. Musgrove  
Petroleum Geologist