

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 Recompletion Date \_\_\_\_\_ 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
--	---

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	HOLMES 4
Doc ID	1531242

All Electric Logs Run

CDNL
Micro
Sonic
DIL

Form	ACO1 - Well Completion
Operator	Mai Oil Operations, Inc.
Well Name	HOLMES 4
Doc ID	1531242

Tops

Name	Top	Datum
Anhydrite	1447	624
Topeka	3004	-933
Heebner	3211	-1140
Toronto	3223	-1152
Lansing	3253	-1182
BKC	3456	-1385
Conglomerate	3468	1397
Arbuckle	3498	-1427





**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

9  
 Date: 8/15/2020  
 Invoice # 1397

P.O.#:  
 Due Date: 9/14/2020  
 Division: Russell

# Invoice

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

8411 Preston Rd. Ste 800  
 Dallas TX 75225-5520

**Reference:**  
 HOLMES 4 SEC 5-9-18

**Description of Work:**  
 SURFACE JOB

**Services / Items Included:**

	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 603.55	No				
Common-Class A	90	\$ 1,254.18	Yes				
POZ Mix-Standard	60	\$ 284.12	Yes				
Calcium Chloride	7	\$ 265.18	Yes				
Bulk Truck Matl-Material Service Charge	160	\$ 108.24	No				
Pump Truck Mileage-Job to Nearest Camp	33	\$ 100.46	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	33	\$ 78.13	No				
Premium Gel (Bentonite)	3	\$ 58.85	Yes				

**Invoice Terms:**

Net 30

	SubTotal:	\$	2,752.69
	Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice:	\$	(68.82)
<hr/>			
	SubTotal for Taxable Items:	\$	1,815.77
	SubTotal for Non-Taxable Items:	\$	868.11
<hr/>			
	Total:	\$	2,683.87
	Tax:	\$	127.10
<hr/>			
	<b>Amount Due:</b>	<b>\$</b>	<b>2,810.97</b>
	<b>Applied Payments:</b>		
	<b>Balance Due:</b>	<b>\$</b>	<b>2,810.97</b>

7.00% Rooks County Sales Tax

**Thank You For Your Business!**

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 785-483-2025

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

No. 1397

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
9-15-20	5	9	18	Rooks	KS		8:00 PM
Location				Plainsville 3 1/2 W to 14 RD 4 3/4 N Dinto			

Lease	Holmes	Well No.	4	Owner	To Quality Oilwell Cementing, Inc.
Contractor	Southwind #3	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	Surface				
Hole Size	12 1/4	T.D.	215	Charge To	Mar Oil
Csg.	8 5/8	Depth	214	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.	10'	Shoe Joint		Cement Amount Ordered	150 60/40 4-1-CC 2-1-GER
Meas Line		Displace	13 BL		

EQUIPMENT				Common	
Pumptrk	20	No.	Cement Helper Craig	Poz. Mix	60
Bulktrk		No.	Driver Nick	Gel.	3
Bulktrk	9	No.	Driver Tom	Calcium	7

JOB SERVICES & REMARKS		Hulls	
Remarks:		Salt	
Rat Hole		Flowseal	
Mouse Hole		Kol-Seal	
Centralizers		Mud CLR 48	
Baskets		CFL-117 or CD110 CAF 38	
D/V or Port Collar		Sand	
8 5/8 on bottom - Est. Circulation - Mix 150SK + Displace.		Handling	160
Cement Circulated		Mileage	
		FLOAT EQUIPMENT 8 5/8 Surage	
		Guide Shoe	
		Centralizer	
		Baskets	
		AFU Inserts	
		Float Shoe	
		Latch Down	
		Pumptrk Charge	Surface
		Mileage	33

X Signature	<i>Frank J. Rouse</i>	Tax	
		Discount	
		Total Charge	





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

Date: 9/22/2020  
 Invoice # 1400  
 P.O.#:  
 Due Date: 10/22/2020  
 Division: Russell

# Invoice

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

8411 Preston Rd. Ste 800  
 Dallas TX 75225-5520

**Reference:**  
 HOLMES 4 SEC 5-9-18

**Description of Work:**  
 PLUG JOB

**Services / Items Included:**

	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 596.53	Yes				
Common-Class A	175	\$ 2,410.32	Yes				
POZ Mix-Standard	115	\$ 538.23	Yes				
Bulk Truck Matl-Material Service Charge	300	\$ 200.58	Yes				
Pump Truck Mileage-Job to Nearest Camp	33	\$ 99.29	Yes				
Premium Gel (Bentonite)	10	\$ 193.90	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	33	\$ 77.22	Yes				

**Invoice Terms:**

Net 30

SubTotal: \$ 4,272.52  
 Discount Available ONLY if Invoice is Paid & Received  
 within listed terms of invoice: \$ (106.81)

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SubTotal for Taxable Items: \$ 4,165.70  
 SubTotal for Non-Taxable Items: \$ -  
 Total: \$ 4,165.71  
 Tax: \$ 291.60

7.00% Rooks County Sales Tax

**Amount Due: \$ 4,457.31**  
**Applied Payments:**  
**Balance Due: \$ 4,457.31**

**Thank You For Your Business!**

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 785-483-2025  
Cell 785-324-1041

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

No. 1400

Date	9.22.20	Sec.	5	Twp.	9	Range	18	County	Rooks	State	KS	On Location		Finish	3:45 PM
Lease								Well No.		Owner					

Lease		Holmes		Well No.		4		Owner							
Contractor		Southwind #3		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		Rotary Plug		T.D.		3596		Charge To		Mai O:1					
Hole Size		7 7/8		Depth				Street							
Csg.				Depth				City		State					
Tbg. Size				Depth				The above was done to satisfaction and supervision of owner agent or contractor.							
Tool				Depth				Cement Amount Ordered		3290 6/40 4-1/2 1/4 #10					
Cement Left in Csg.				Shoe Joint											
Meas Line				Displace											

**EQUIPMENT**

Pumptrk	20	No.	Cement Helper	Craig	Common	175
Bulktrk		No.	Driver		Poz. Mix	115
Bulktrk	14	No.	Driver	Tom	Gel.	10
Bulktrk		No.	Driver		Calcium	

**JOB SERVICES & REMARKS**

Remarks:		Hulls	
Rat Hole	30SK	Salt	
Mouse Hole		Flowseal	75#
Centralizers		Kol-Seal	
Baskets		Mud CLR 48	
D/V or Port Collar		CFL-117 or CD110 CAF 38	
1st	3477	Sand	
2nd	1465	Handling	300
3rd	840	Mileage	
4th	265	FLOAT EQUIPMENT 8 5/8" Rotary Plug	
5th	40'	Guide Shoe	
		Centralizer	
		Baskets	
		AFU Inserts	
		Float Shoe	
		Latch Down	
		Pumptrk Charge	plug
		Mileage	33

X Signature *Frank J. Row*

Thank you

Tax	
Discount	
Total Charge	



## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations, Inc**

8411 Preston Rd  
Dallas TX 75225

ATTN: Jim Musgrove

### **Holmes #4**

#### **5-9S-18W Rooks,KS**

Start Date: 2020.09.19 @ 00:17:19

End Date: 2020.09.19 @ 06:02:49

Job Ticket #: 67408                      DST #: 1

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

Printed: 2020.09.23 @ 11:06:01



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

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

**5-9S-18W Rooks,KS**

**Holmes #4**

Job Ticket: 67408

**DST#: 1**

Test Start: 2020.09.19 @ 00:17:19

## GENERAL INFORMATION:

Formation:

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:58:04

Time Test Ended: 06:02:49

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

**Interval: 3255.00 ft (KB) To 3320.00 ft (KB) (TVD)**

Reference Elevations: 2071.00 ft (KB)

Total Depth: 3320.00 ft (KB) (TVD)

2062.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 9.00 ft

**Serial #: 8671**

**Outside**

Press@RunDepth: 20.22 psig @ 3256.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.09.19

End Date: 2020.09.19

Last Calib.: 2020.09.19

Start Time: 00:17:24

End Time: 06:02:48

Time On Btm: 2020.09.19 @ 01:57:49

Time Off Btm: 2020.09.19 @ 04:20:49

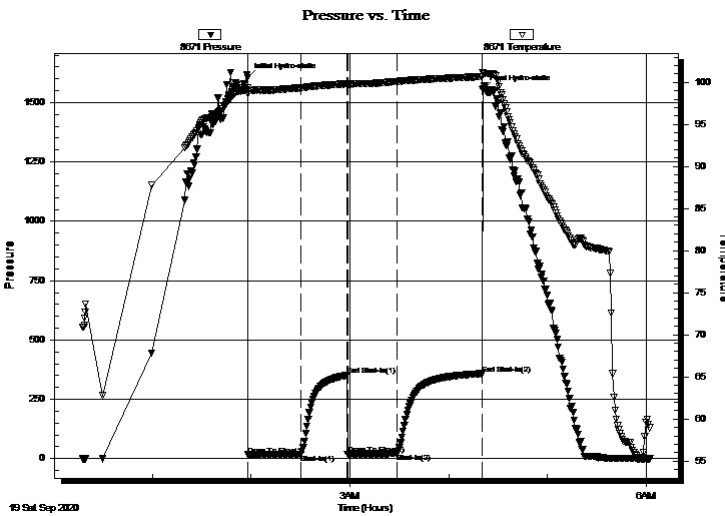
**TEST COMMENT:** 30 - IFP - Blow built up to 1/4" then died off to a weak surface

30 - ISI - No Return

30 - FFP - No Blow

45 - FSI - No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1605.32	99.29	Initial Hydro-static
1	15.89	98.69	Open To Flow (1)
33	18.69	99.33	Shut-In(1)
61	351.05	99.82	End Shut-In(1)
61	18.55	99.66	Open To Flow (2)
91	20.22	100.09	Shut-In(2)
143	357.93	100.68	End Shut-In(2)
143	1556.00	101.17	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
31.00	OSM - Oil Spots - 100% m	0.32

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations, Inc

**5-9S-18W Rooks,KS**

8411 Preston Rd  
Dallas TX 75225

**Holmes #4**

Job Ticket: 67408

**DST#: 1**

ATTN: Jim Musgrove

Test Start: 2020.09.19 @ 00:17:19

## Tool Information

Drill Pipe:	Length: 3256.00 ft	Diameter: 3.25 inches	Volume: 33.41 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 33.41 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3255.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.00 ft			
Tool Length:	90.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3235.00	
Hydraulic tool	5.00			3240.00	
Em Tool	5.00			3245.00	
Packer - Shale	5.00			3250.00	
Packer	5.00			3255.00	25.00 Bottom Of Top Packer
Stubb	1.00			3256.00	
Recorder	0.00	8354	Inside	3256.00	
Recorder	0.00	8671	Outside	3256.00	
perforations	25.00			3281.00	
Change Over Sub	1.00			3282.00	
Drill Pipe	31.00			3313.00	
Change Over Sub	1.00			3314.00	
Perforations	3.00			3317.00	
Bullnose	3.00			3320.00	65.00 Anchor Tool

**Total Tool Length: 90.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Mai Oil Operations, Inc

**5-9S-18W Rooks,KS**

8411 Preston Rd  
Dallas TX 75225

**Holmes #4**

Job Ticket: 67408

**DST#: 1**

ATTN: Jim Musgrove

Test Start: 2020.09.19 @ 00:17:19

### 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: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
31.00	OSM - Oil Spots - 100%m	0.318

Total Length: 31.00 ft      Total Volume: 0.318 bbl

Num Fluid Samples: 0

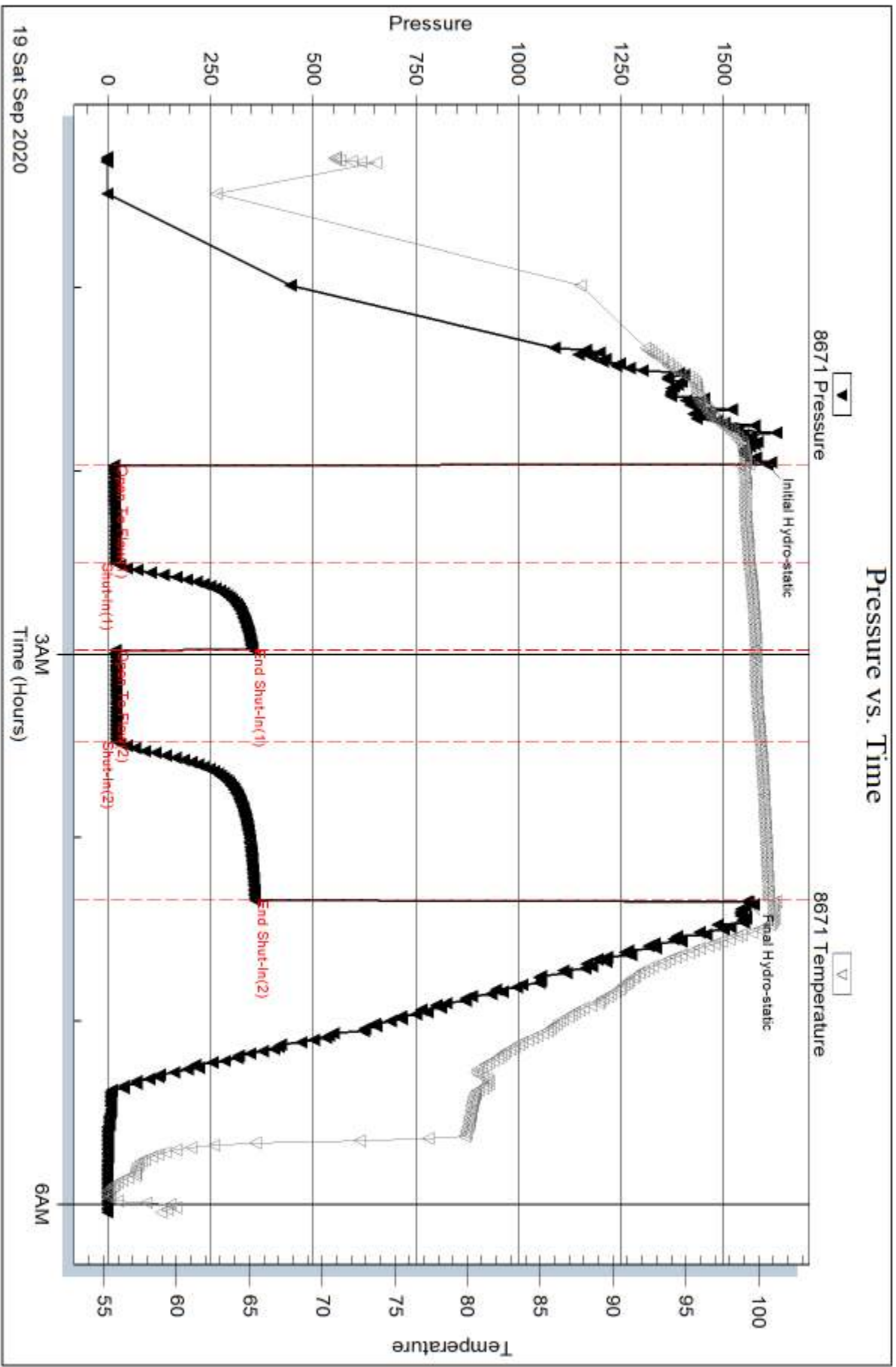
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



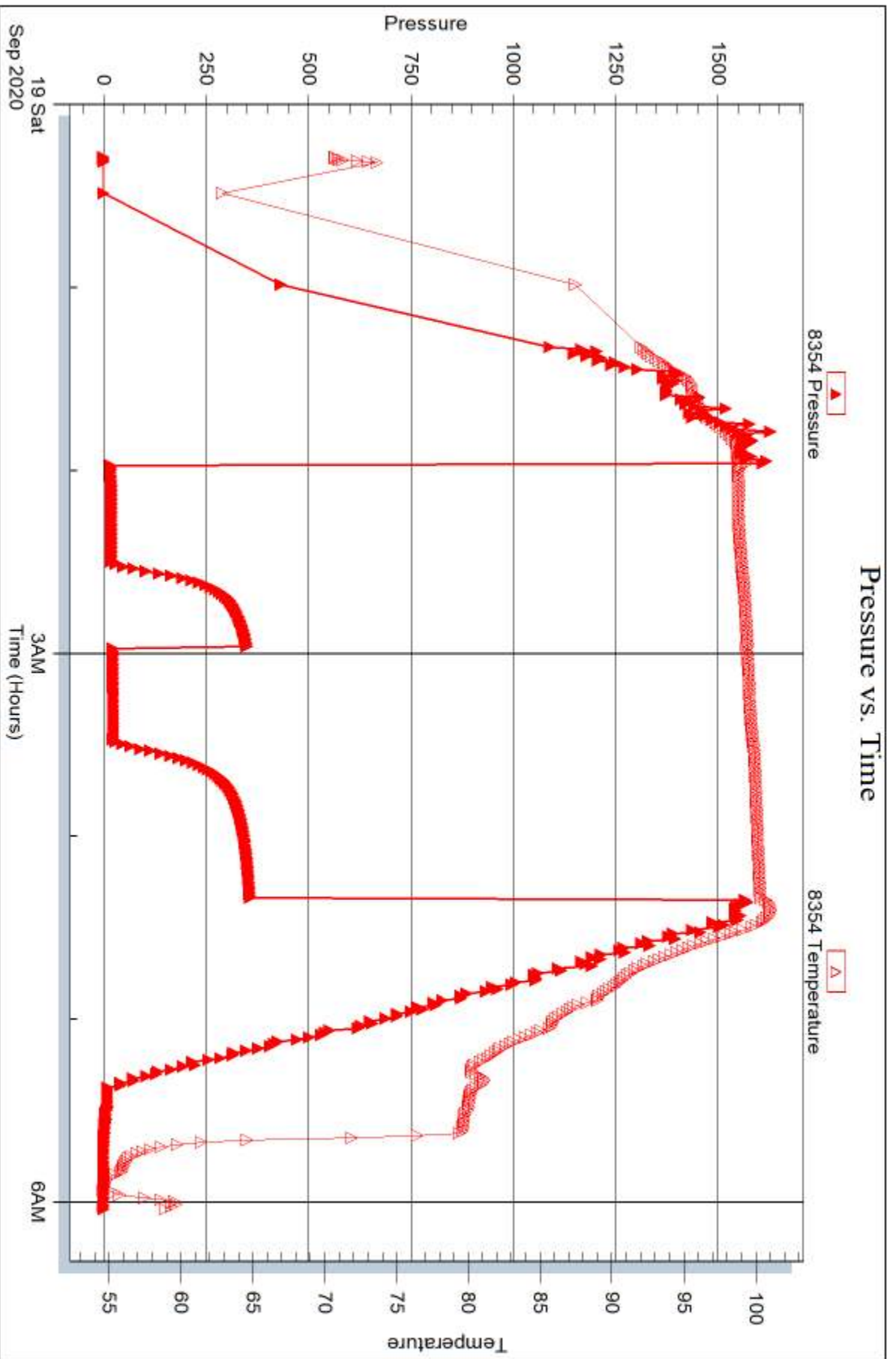
Serial #: 8354

Inside

Mai Oil Operations, Inc

Holmes #4

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 67408

Printed: 2020.09.23 @ 11:06:01





## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations, Inc**

8411 Preston Rd  
Dallas TX 75225

ATTN: Jim Musgrove

### **Holmes #4**

### **5-9S-18W Rooks,KS**

Start Date: 2020.09.19 @ 14:02:00

End Date: 2020.09.19 @ 20:35:30

Job Ticket #: 67409                      DST #: 2

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

Printed: 2020.09.23 @ 11:05:36



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

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

**5-9S-18W Rooks,KS**

**Holmes #4**

Job Ticket: 67409

**DST#: 2**

Test Start: 2020.09.19 @ 14:02:00

## GENERAL INFORMATION:

Formation: **LKC F - G**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 15:19:45  
 Time Test Ended: 20:35:30  
 Interval: **3317.00 ft (KB) To 3356.00 ft (KB) (TVD)**  
 Total Depth: 3356.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Royal Fisher  
 Unit No: 77  
 Reference Elevations: 2071.00 ft (KB)  
 2062.00 ft (CF)  
 KB to GR/CF: 9.00 ft

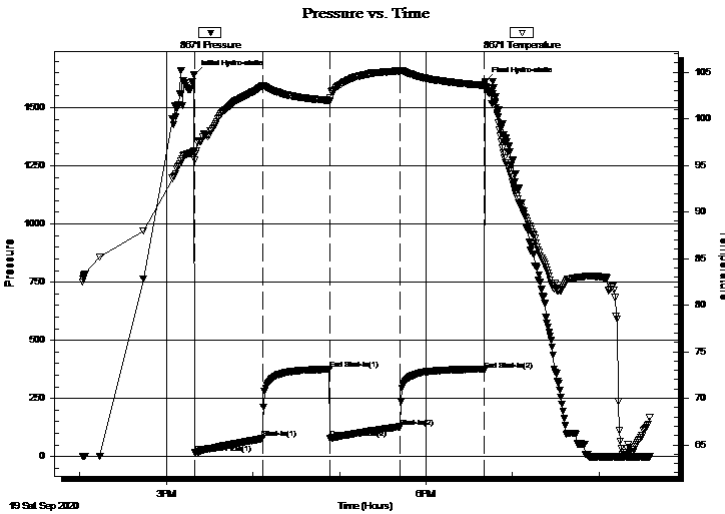
**Serial #: 8671**

**Outside**

Press@RunDepth: 128.01 psig @ 3318.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2020.09.19 End Date: 2020.09.19 Last Calib.: 2020.09.19  
 Start Time: 14:02:05 End Time: 20:35:29 Time On Btm: 2020.09.19 @ 15:19:30  
 Time Off Btm: 2020.09.19 @ 18:41:00

TEST COMMENT: 45 - IF - Blow gradually built up to 3 3/4"  
 45 - ISI - No Return  
 45 - FF - Blow again gradually built up to 3 3/4"  
 60 - FSI - No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1642.73	96.64	Initial Hydro-static
1	16.28	95.56	Open To Flow (1)
48	77.39	103.52	Shut-In(1)
94	375.56	101.98	End Shut-In(1)
94	78.83	101.86	Open To Flow (2)
143	128.01	105.15	Shut-In(2)
201	373.28	103.59	End Shut-In(2)
202	1609.92	103.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
204.00	OSMW - Oil Spots, 20%w, 80%w	2.09

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations, Inc

**5-9S-18W Rooks,KS**

8411 Preston Rd  
Dallas TX 75225

**Holmes #4**

Job Ticket: 67409

**DST#: 2**

ATTN: Jim Musgrove

Test Start: 2020.09.19 @ 14:02:00

## Tool Information

Drill Pipe:	Length: 3320.30 ft	Diameter: 3.25 inches	Volume: 34.07 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 34.07 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.30 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3317.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	39.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			3297.00	
Hydraulic tool	5.00			3302.00	
Em Tool	5.00			3307.00	
Packer - Shale	5.00			3312.00	
Packer	5.00			3317.00	25.00 Bottom Of Top Packer
Stubb	1.00			3318.00	
Recorder	0.00	8354	Inside	3318.00	
Recorder	0.00	8671	Outside	3318.00	
perforations	35.00			3353.00	
Bullnose	3.00			3356.00	39.00 Anchor Tool
<b>Total Tool Length:</b>	<b>64.00</b>				





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Mai Oil Operations, Inc

**5-9S-18W Rooks,KS**

8411 Preston Rd  
Dallas TX 75225

**Holmes #4**

Job Ticket: 67409

**DST#: 2**

ATTN: Jim Musgrove

Test Start: 2020.09.19 @ 14:02:00

### 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:

81000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
204.00	OSMW - Oil Spots, 20%m, 80%w	2.093

Total Length: 204.00 ft      Total Volume: 2.093 bbl

Num Fluid Samples: 0

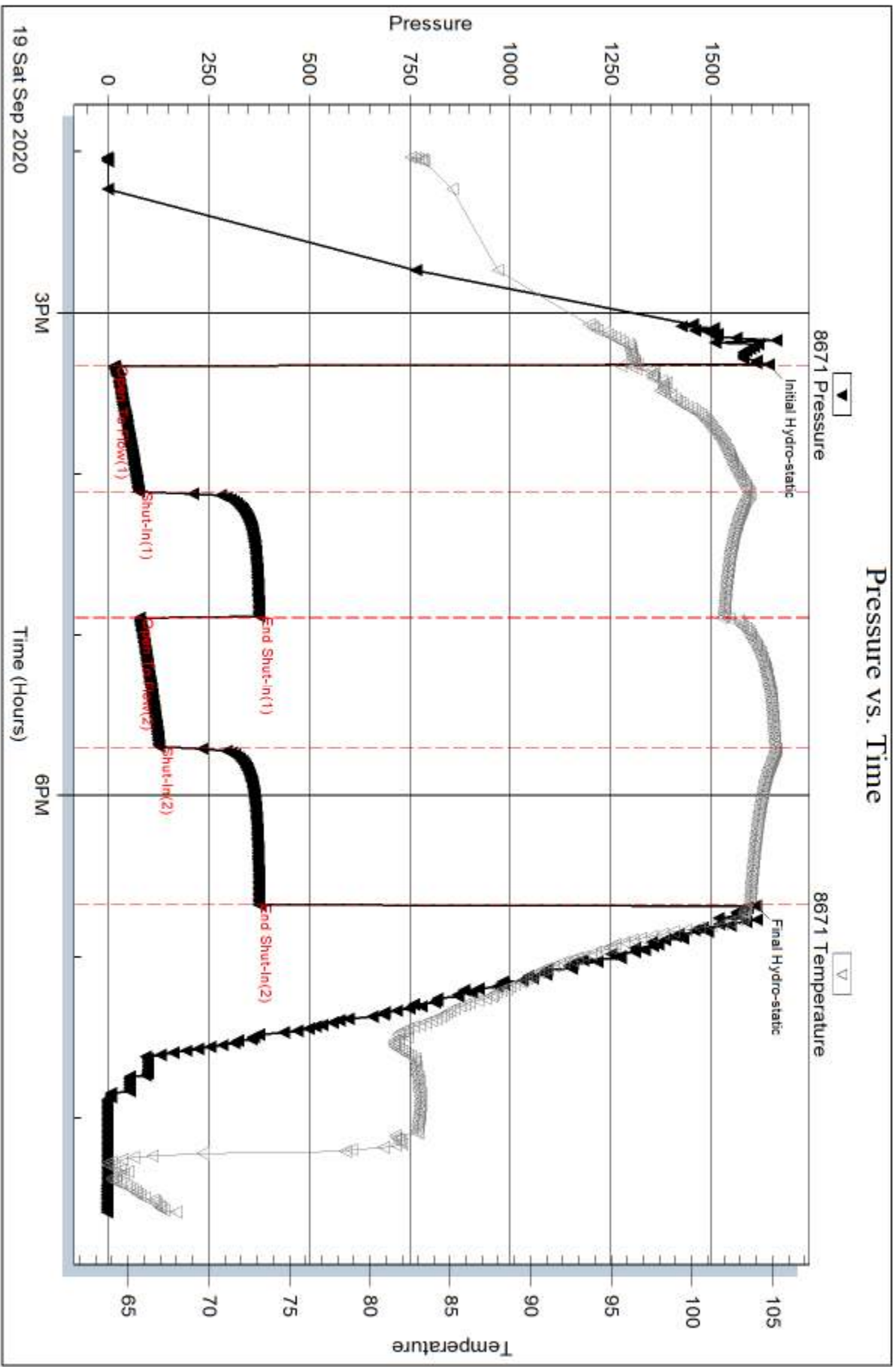
Num Gas Bombs: 0

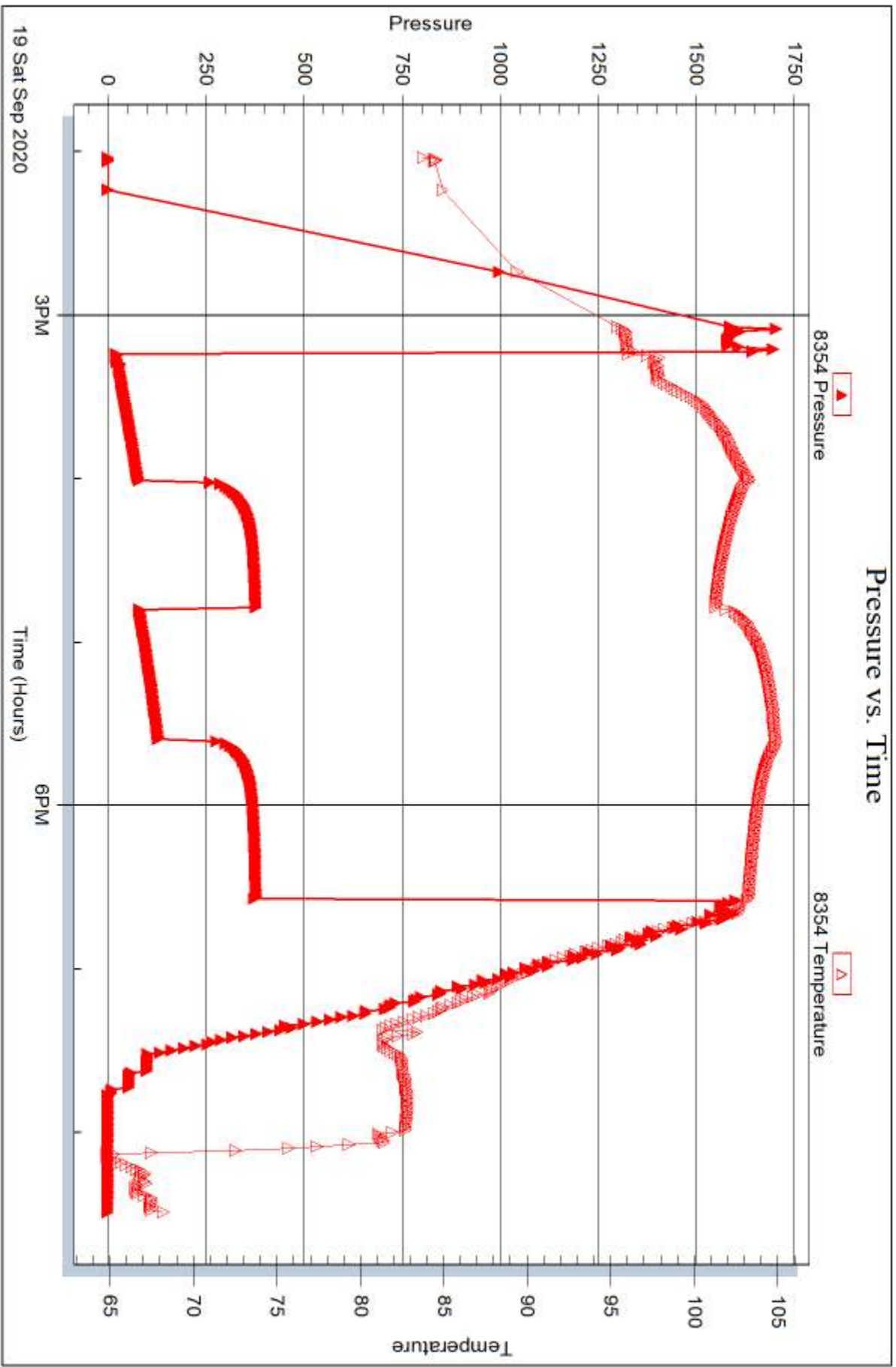
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations, Inc**

8411 Preston Rd  
Dallas TX 75225

ATTN: Jim Musgrove

### **Holmes #4**

### **5-9S-18W Rooks,KS**

Start Date: 2020.09.20 @ 17:24:00

End Date: 2020.09.20 @ 23:10:15

Job Ticket #: 67410                      DST #: 3

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

Printed: 2020.09.23 @ 11:05:05





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

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

**5-9S-18W Rooks,KS**

**Holmes #4**

Job Ticket: 67410

**DST#: 3**

Test Start: 2020.09.20 @ 17:24:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 18:56:15 Tester: Royal Fisher  
 Time Test Ended: 23:10:15 Unit No: 77  
 Interval: **3443.00 ft (KB) To 3514.00 ft (KB) (TVD)** Reference Elevations: 2071.00 ft (KB)  
 Total Depth: 3514.00 ft (KB) (TVD) 2062.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Poor KB to GR/CF: 9.00 ft

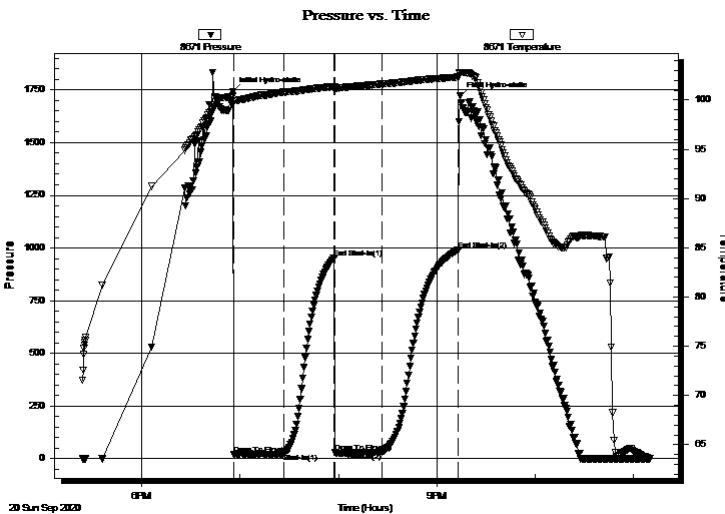
**Serial #: 8671**

**Outside**

Press@RunDepth: 30.51 psig @ 3444.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2020.09.20 End Date: 2020.09.20 Last Calib.: 2020.09.20  
 Start Time: 17:24:05 End Time: 23:10:14 Time On Btm: 2020.09.20 @ 18:55:45  
 Time Off Btm: 2020.09.20 @ 21:14:15

**TEST COMMENT:** 30 - IF - Blow stated out at 1/4" and slowly built to 1"  
 30 - ISI - No Return  
 30 - FF - Blow started about 10 mins into and built up to 1/4"  
 45 - FSI - No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1741.94	100.42	Initial Hydro-static
1	18.28	99.89	Open To Flow (1)
31	22.71	100.79	Shut-In(1)
62	953.96	101.36	End Shut-In(1)
62	30.30	100.96	Open To Flow (2)
91	30.51	101.62	Shut-In(2)
138	992.32	102.33	End Shut-In(2)
139	1720.65	102.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	OCM - 40% m - 60% o	0.21
21.00	Free Oil - 100% o	0.22

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations, Inc

**5-9S-18W Rooks,KS**

8411 Preston Rd  
Dallas TX 75225

**Holmes #4**

Job Ticket: 67410

**DST#: 3**

ATTN: Jim Musgrove

Test Start: 2020.09.20 @ 17:24:00

## Tool Information

Drill Pipe:	Length: 3447.45 ft	Diameter: 3.25 inches	Volume: 35.37 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 63000.00 lb
			<u>Total Volume: 35.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.45 ft			String Weight: Initial 43000.00 lb
Depth to Top Packer:	3443.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	71.00 ft			
Tool Length:	96.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3423.00	
Hydraulic tool	5.00			3428.00	
Packer - Shale	5.00			3433.00	
Em Tool	5.00			3438.00	
Packer	5.00			3443.00	25.00 Bottom Of Top Packer
Stubb	1.00			3444.00	
Recorder	0.00	8354	Inside	3444.00	
Recorder	0.00	8671	Outside	3444.00	
perforations	34.00			3478.00	
Change Over Sub	1.00			3479.00	
Drill Pipe	31.00			3510.00	
Change Over Sub	1.00			3511.00	
Bullnose	3.00			3514.00	71.00 Anchor Tool

**Total Tool Length: 96.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Mai Oil Operations, Inc

**5-9S-18W Rooks,KS**

8411 Preston Rd  
Dallas TX 75225

**Holmes #4**

Job Ticket: 67410

**DST#: 3**

ATTN: Jim Musgrove

Test Start: 2020.09.20 @ 17:24:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	OCM - 40%m - 60%o	0.205
21.00	Free Oil - 100%o	0.215

Total Length: 41.00 ft      Total Volume: 0.420 bbl

Num Fluid Samples: 0

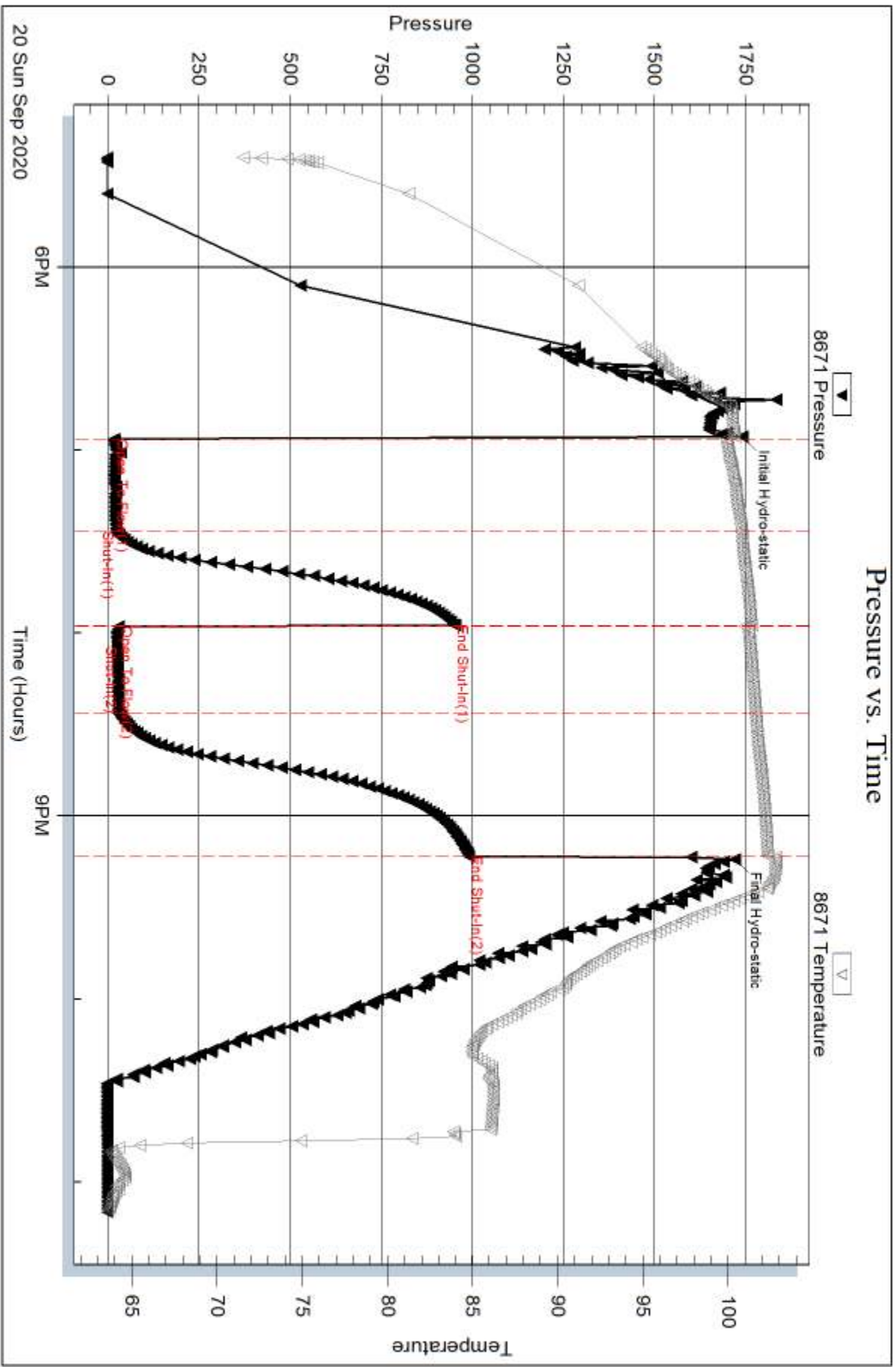
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



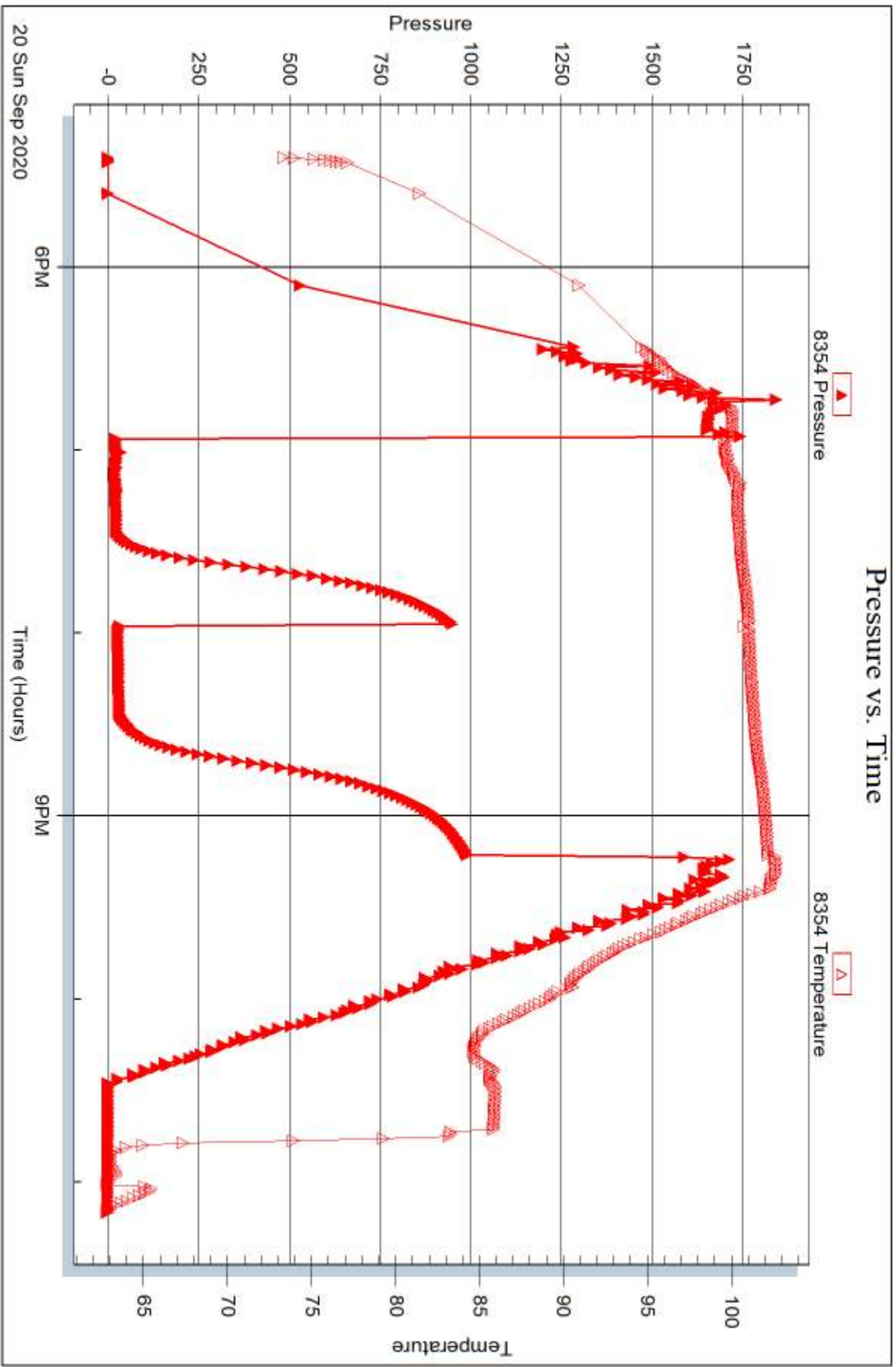
Serial #: 8354

Inside

Mai Oil Operations, Inc

Holmes #4

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 67410

Printed: 2020.09.23 @ 11:05:06





## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations, Inc**

8411 Preston Rd  
Dallas TX 75225

ATTN: Jim Musgrove

### **Holmes #4**

### **5-9S-18W Rooks,KS**

Start Date: 2020.09.21 @ 05:00:00

End Date: 2020.09.21 @ 10:41:45

Job Ticket #: 67411                      DST #: 4

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

Printed: 2020.09.23 @ 10:29:57



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Mai Oil Operations, Inc

**5-9S-18W Rooks,KS**

8411 Preston Rd  
Dallas TX 75225

**Holmes #4**

Job Ticket: 67411

**DST#: 4**

ATTN: Jim Musgrove

Test Start: 2020.09.21 @ 05:00:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:27:15

Time Test Ended: 10:41:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: **3514.00 ft (KB) To 3524.00 ft (KB) (TVD)**

Reference Elevations: 2071.00 ft (KB)

Total Depth: 3524.00 ft (KB) (TVD)

2062.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 9.00 ft

**Serial #: 8671 Outside**

Press@RunDepth: 40.87 psig @ 3515.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.09.21

End Date: 2020.09.21

Last Calib.: 2020.09.21

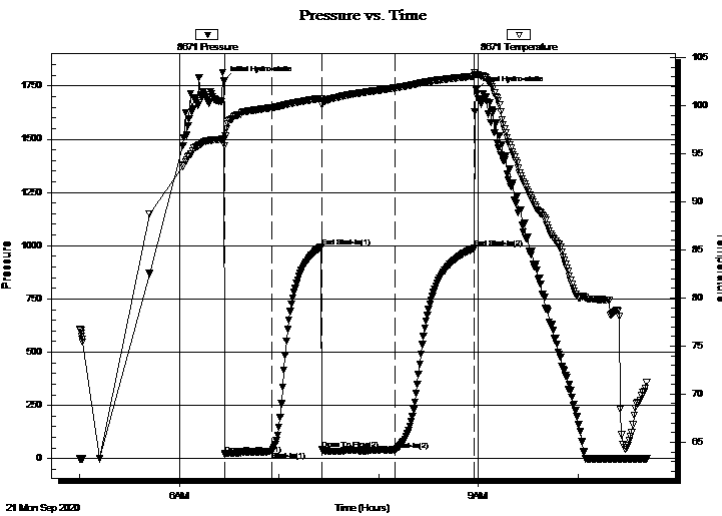
Start Time: 05:00:05

End Time: 10:41:44

Time On Btm: 2020.09.21 @ 06:27:00

Time Off Btm: 2020.09.21 @ 08:58:30

**TEST COMMENT:** 30 - IF - Blow built up to 2" then started to die down to 1"  
30 - ISI - No Return  
45 - FF - Blow started at a faint blow and built to a weak surface blow  
45 - FSI - No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1773.45	96.55	Initial Hydro-static
1	21.39	95.85	Open To Flow (1)
29	32.91	99.79	Shut-In(1)
59	996.39	100.77	End Shut-In(1)
59	44.83	100.14	Open To Flow (2)
103	40.87	101.86	Shut-In(2)
151	987.66	103.08	End Shut-In(2)
152	1729.66	103.27	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Free Oil - 100%o	0.10
50.00	OM - 45%o - 55% m	0.51

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations, Inc

**5-9S-18W Rooks,KS**

8411 Preston Rd  
Dallas TX 75225

**Holmes #4**

Job Ticket: 67411

**DST#: 4**

ATTN: Jim Musgrove

Test Start: 2020.09.21 @ 05:00:00

## Tool Information

Drill Pipe:	Length: 3516.02 ft	Diameter: 3.25 inches	Volume: 36.08 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	42000.00 lb
			<u>Total Volume: 36.08 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	22.02 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	3514.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	10.00 ft				
Tool Length:	30.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3499.00	
Hydraulic tool	5.00			3504.00	
Packer - Shale	5.00			3509.00	
Packer	5.00			3514.00	20.00 Bottom Of Top Packer
Stubb	1.00			3515.00	
Recorder	0.00	8354	Inside	3515.00	
Recorder	0.00	8671	Outside	3515.00	
perforations	6.00			3521.00	
Bullnose	3.00			3524.00	10.00 Anchor Tool
<b>Total Tool Length:</b>	<b>30.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Mai Oil Operations, Inc

**5-9S-18W Rooks,KS**

8411 Preston Rd  
Dallas TX 75225

**Holmes #4**

Job Ticket: 67411

**DST#: 4**

ATTN: Jim Musgrove

Test Start: 2020.09.21 @ 05:00:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
10.00	Free Oil - 100%o	0.103
50.00	OM - 45%o - 55%m	0.513

Total Length: 60.00 ft

Total Volume: 0.616 bbl

Num Fluid Samples: 0

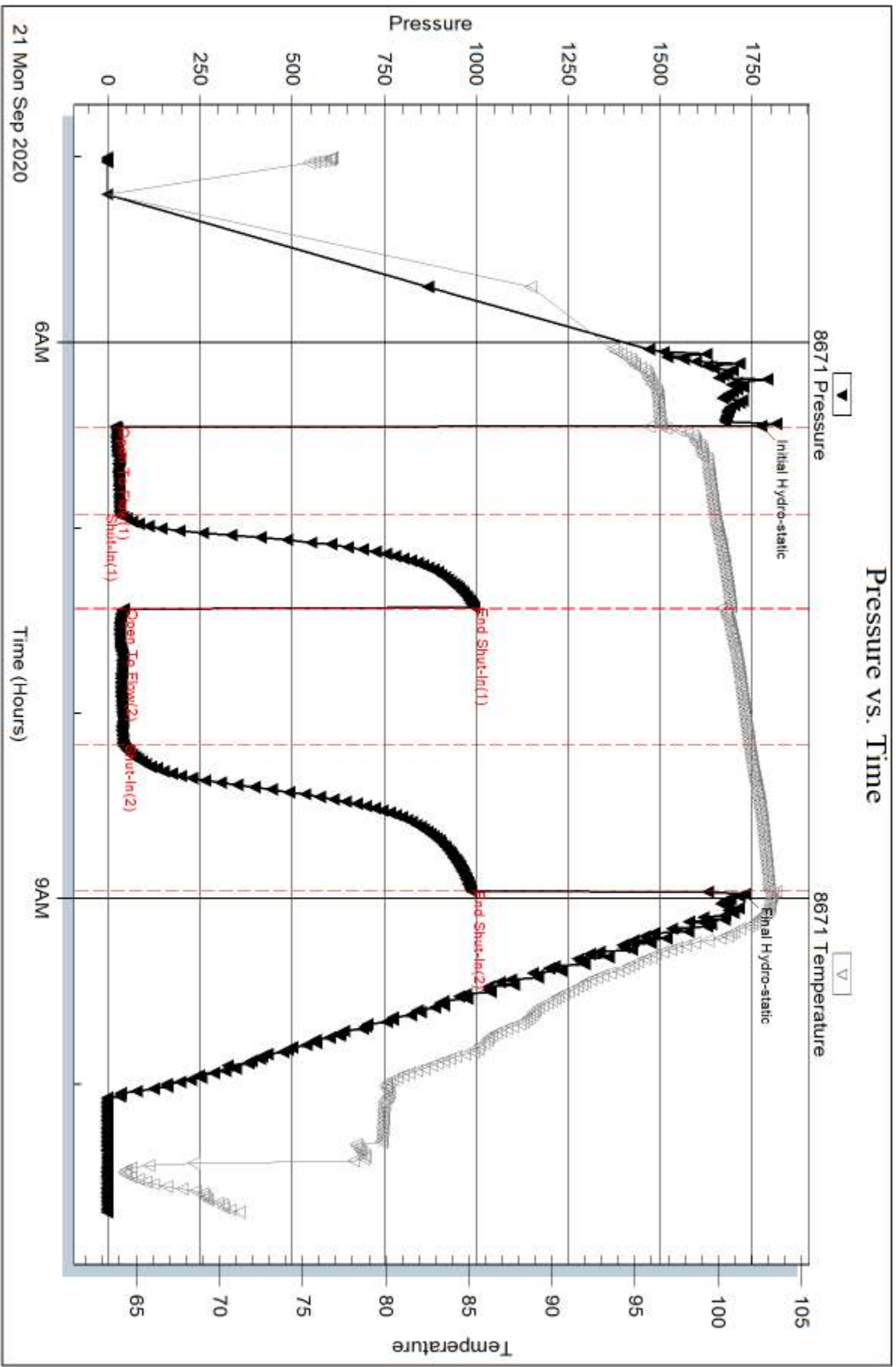
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



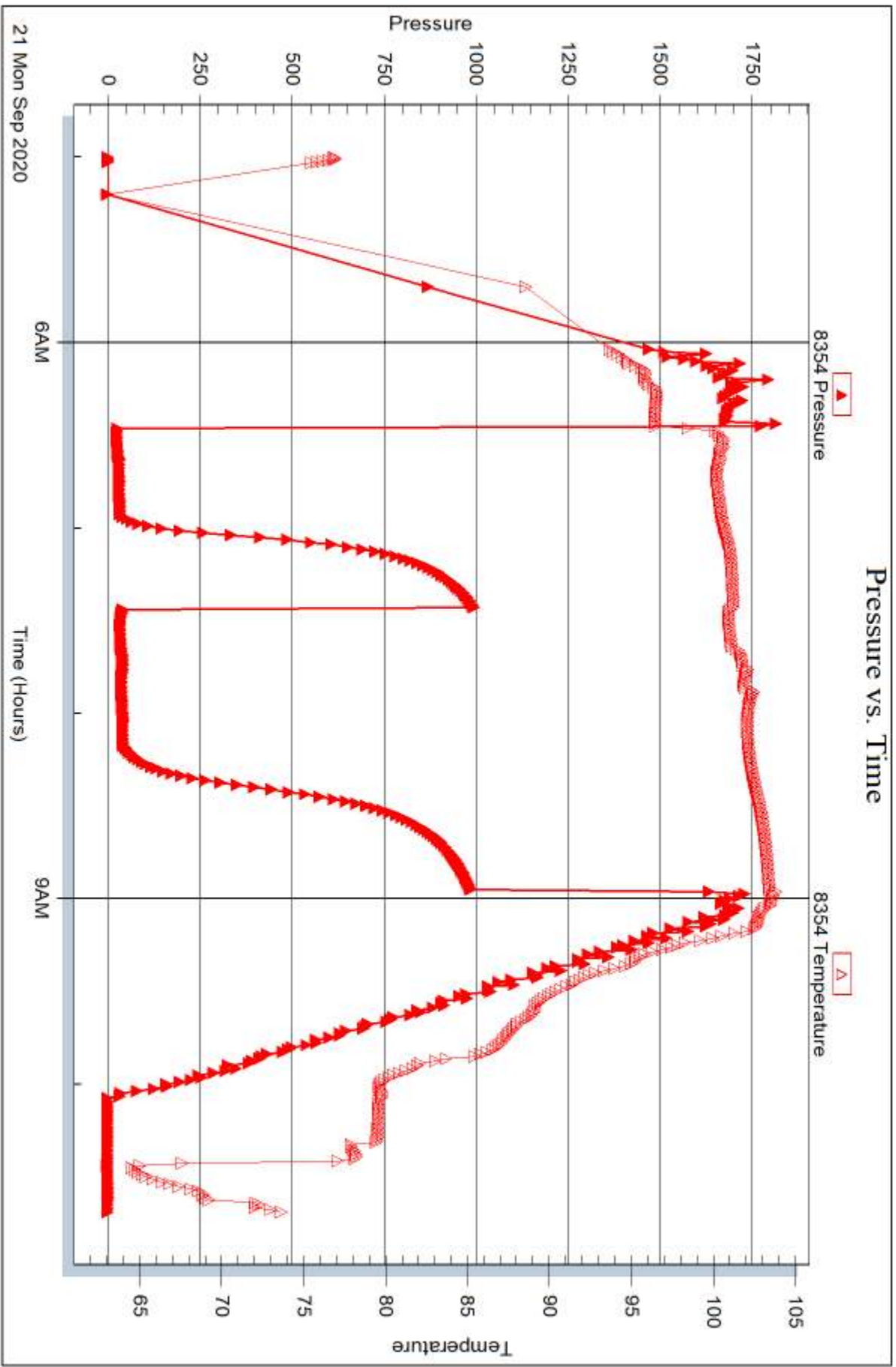
Serial #: 8354

Inside

Mai Oil Operations, Inc

Holmes #4

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 67411

Printed: 2020.09.23 @ 10:29:58





## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations, Inc**

8411 Preston Rd  
Dallas TX 75225

ATTN: Jim Musgrove

### **Holmes #4**

### **5-9S-18W Rooks,KS**

Start Date: 2020.09.21 @ 16:00:00

End Date: 2020.09.21 @ 21:52:15

Job Ticket #: 67412                      DST #: 5

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

Printed: 2020.09.23 @ 10:20:48



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Mai Oil Operations, Inc

**5-9S-18W Rooks,KS**

8411 Preston Rd  
Dallas TX 75225

**Holmes #4**

Job Ticket: 67412

**DST#: 5**

ATTN: Jim Musgrove

Test Start: 2020.09.21 @ 16:00:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:25:45

Time Test Ended: 21:52:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

**Interval: 3524.00 ft (KB) To 3536.00 ft (KB) (TVD)**

Reference Elevations: 2071.00 ft (KB)

Total Depth: 3536.00 ft (KB) (TVD)

2062.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 9.00 ft

**Serial #: 8671 Outside**

Press@RunDepth: 27.91 psig @ 3525.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.09.21

End Date: 2020.09.21

Last Calib.: 2020.09.21

Start Time: 16:00:05

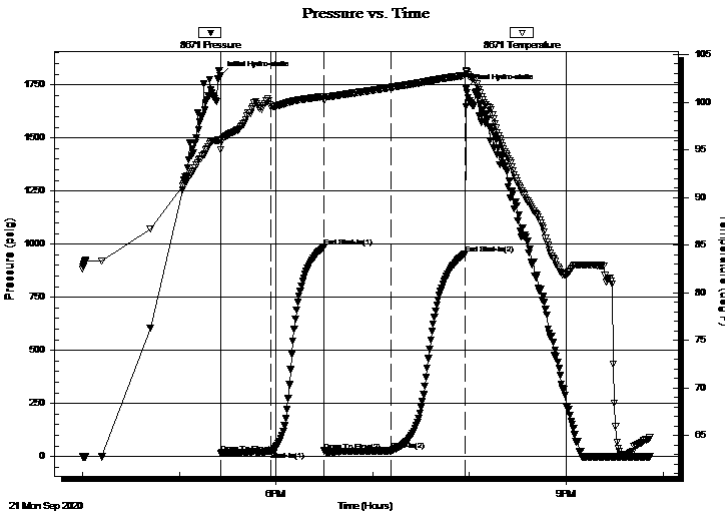
End Time: 21:52:14

Time On Btm: 2020.09.21 @ 17:25:30

Time Off Btm: 2020.09.21 @ 19:58:00

**TEST COMMENT:** 30 - IF - Blow started out at a weak blow and built up to 1/2"  
30 - ISI - No Return  
45 - FF - Blow started out at a faint blow and built up to 1/4"  
45 - FSI - No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1792.38	95.99	Initial Hydro-static
1	16.58	95.01	Open To Flow (1)
32	25.55	99.51	Shut-In(1)
65	986.51	100.59	End Shut-In(1)
65	26.93	100.21	Open To Flow (2)
106	27.91	101.55	Shut-In(2)
152	954.74	102.79	End Shut-In(2)
153	1730.27	103.33	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Free Oil - 100%o	0.05
26.00	OCM - 10%o - 90%m	0.27

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations, Inc

**5-9S-18W Rooks,KS**

8411 Preston Rd  
Dallas TX 75225

**Holmes #4**

Job Ticket: 67412

**DST#: 5**

ATTN: Jim Musgrove

Test Start: 2020.09.21 @ 16:00:00

## Tool Information

Drill Pipe:	Length: 3511.02 ft	Diameter: 3.25 inches	Volume: 36.03 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 53000.00 lb
			<u>Total Volume: 36.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.02 ft			String Weight: Initial 43000.00 lb
Depth to Top Packer:	3524.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	12.00 ft			
Tool Length:	37.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3504.00	
Hydraulic tool	5.00			3509.00	
Em Tool	5.00			3514.00	
Packer - Shale	5.00			3519.00	
Packer	5.00			3524.00	25.00 Bottom Of Top Packer
Stubb	1.00			3525.00	
Recorder	0.00	8354	Inside	3525.00	
Recorder	0.00	8671	Outside	3525.00	
perforations	8.00			3533.00	
Bullnose	3.00			3536.00	12.00 Anchor Tool
<b>Total Tool Length:</b>	<b>37.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Mai Oil Operations, Inc

**5-9S-18W Rooks,KS**

8411 Preston Rd  
Dallas TX 75225

**Holmes #4**

Job Ticket: 67412

**DST#: 5**

ATTN: Jim Musgrove

Test Start: 2020.09.21 @ 16:00:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Free Oil - 100%o	0.051
26.00	OCM - 10%o - 90%m	0.267

Total Length: 31.00 ft

Total Volume: 0.318 bbl

Num Fluid Samples: 0

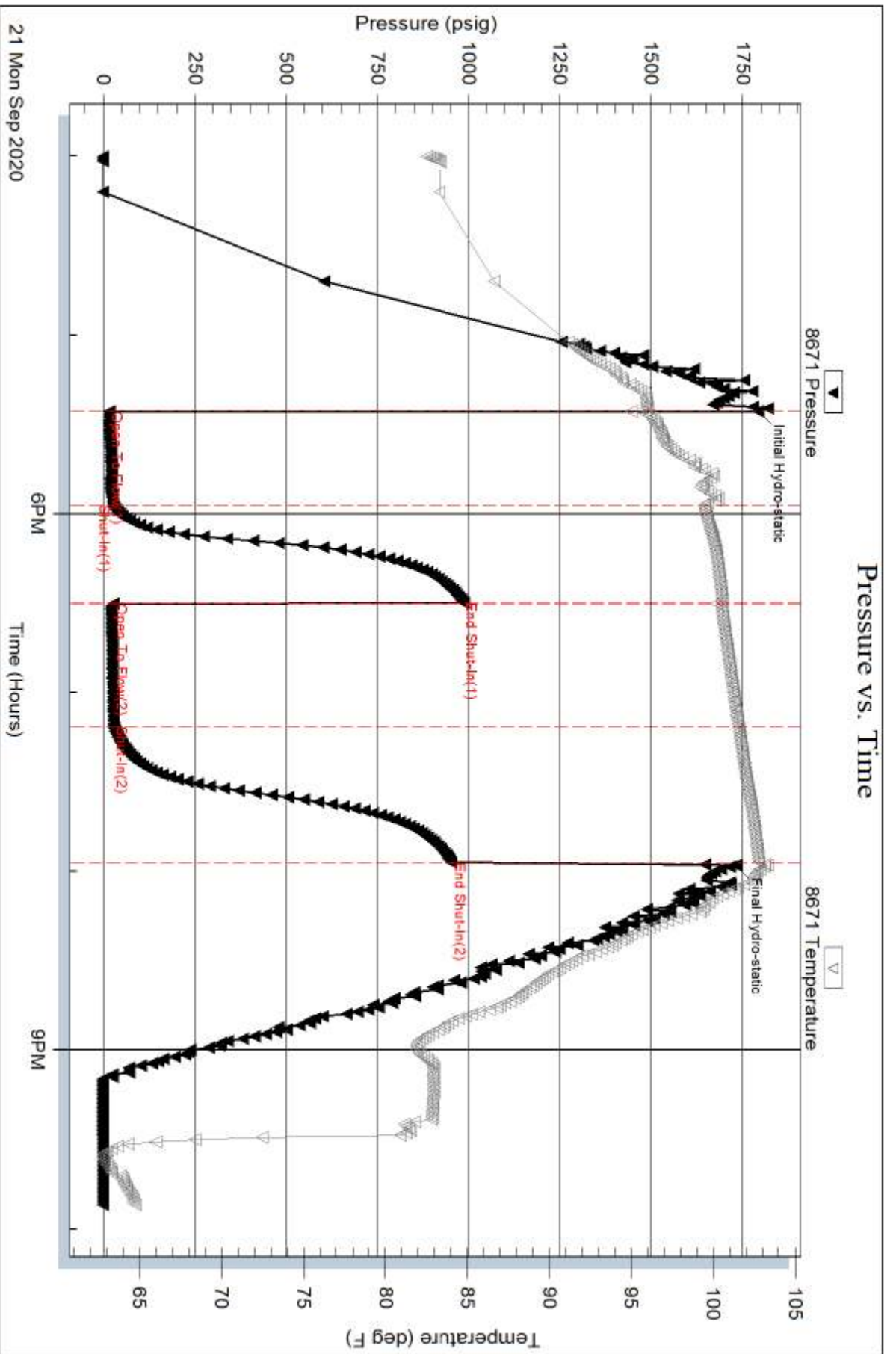
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



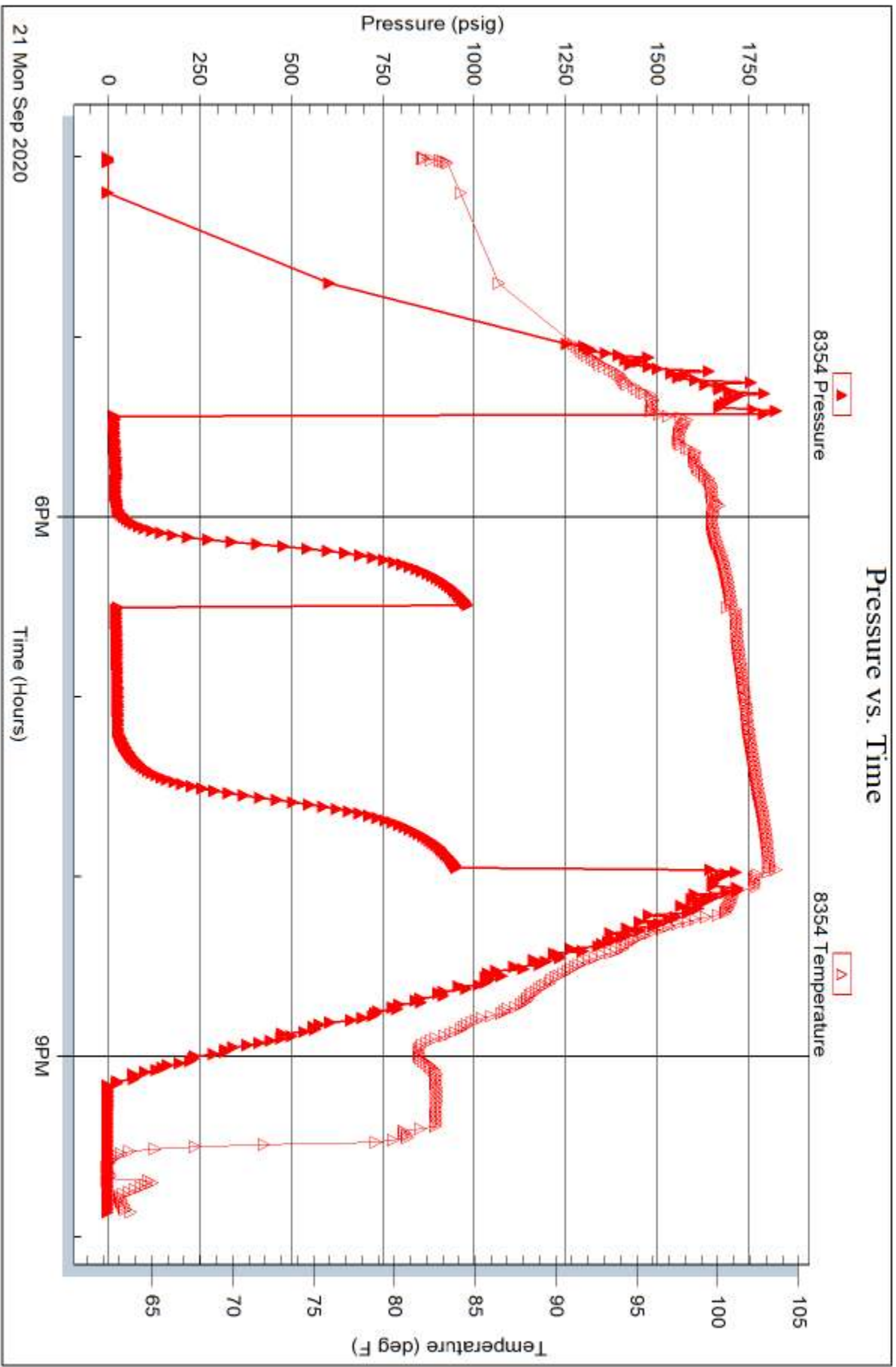
Serial #: 8354

Inside

Mai Oil Operations, Inc

Holmes #4

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 67412

Printed: 2020.09.23 @ 10:23:06





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 67408

Well Name & No. Mal Oil Operations, Inc. Test No. 1 Date 9-18-2020  
 Company Holmes #4 Elevation 2071 KB 2062 GL  
 Address 8411 Preston TX 75225  
 Co. Rep / Geo. Jim Musgrove Rig Southwind #3  
 Location: Sec. 5 Twp 9S Rge. 18W Co. Rooks State Ks

Interval Tested 3255' - 3320' Zone Tested \_\_\_\_\_  
 Anchor Length 65' Drill Pipe Run 3256 Mud Wt. 9  
 Top Packer Depth 3250' Drill Collars Run 0 Vls 47  
 Bottom Packer Depth 3255' Wt. Pipe Run 0 WL 7.6  
 Total Depth 3320' Chlorides 2000 ppm System LCM 1#

Blow Description IF - Blow built up to 1/4" the died by down to well  
ISI - No Return  
EF - No Blow  
FSP - No Return

Rec	Feet of	%gas	%oil	%water	%mud
31'	OSM				

Rec Total 31' BHT 100°F Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1105  Test 1200 T-On Location 11:55am  
 (B) First Initial Flow 16  Jars \_\_\_\_\_ T-Started 12:17am  
 (C) First Final Flow 19  Safety Joint \_\_\_\_\_ T-Open 1:57am  
 (D) Initial Shut-In 357  Circ Sub \_\_\_\_\_ T-Pulled 4:12am  
 (E) Second Initial Flow 19  Hourly Standby \_\_\_\_\_ T-Out 6:03am  
 (F) Second Final Flow 20  Mileage 72 R/T 72 Comments \_\_\_\_\_  
 (G) Final Shut-In 357  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1556  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 45

Sub Total 1272 MP/DST Disc'l \_\_\_\_\_

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





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 67409

Well Name & No. Holmes #4 Test No. 2 Date 9-19-2020  
 Company mai O.I. Company Elevation 2071 KB 2062 GL  
 Address 8411 Preston Dallas TX 75225  
 Co. Rep / Geo. Jim Musgrove Rig Southwind #3  
 Location: Sec. 5 Twp 9S Rge. 18W Co. Brooks State ks

Interval Tested 3317' - 3356' Zone Tested LKC - F4G"  
 Anchor Length 39' Drill Pipe Run 3320, 30 Mud Wt. 9.1  
 Top Packer Depth 3312' Drill Collars Run Ø Vis 60  
 Bottom Packer Depth 3317' Wt. Pipe Run Ø WL 8  
 Total Depth 3356 Chlorides 3000 ppm System LCM 2.5#

Blow Description IF - Surface blow gradually built up to 3 3/4"  
ISI - No Return  
FF - Blow started right away and built to 3 3/4"  
ESt - No Return

Rec	Feet of	%gas	Spots	%oil	%water	%mud
<u>204</u>	<u>BSMW</u>			<u>80</u>	<u>20</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 204 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW 107 @ 62 °F Chlorides 81,000 ppm  
 (A) Initial Hydrostatic 116.43  Test 1200 T-On Location 1:30pm  
 (B) First Initial Flow 116  Jars \_\_\_\_\_ T-Started 2:02pm  
 (C) First Final Flow 77  Safety Joint \_\_\_\_\_ T-Open 3:20pm  
 (D) Initial Shut-In 37.0  Circ Sub \_\_\_\_\_ T-Pulled 6:35pm  
 (E) Second Initial Flow 79  Hourly Standby \_\_\_\_\_ T-Out 8:36pm  
 (F) Second Final Flow 128  Mileage 22 RT 72 Comments \_\_\_\_\_  
 (G) Final Shut-In 37.3  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 116.0  Straddle \_\_\_\_\_  EM Tool 350  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies

Initial Open 45  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 160  
 Sub Total 1272 MP/DST Disc'l \_\_\_\_\_

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





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 67410

Well Name & No. Holmes #4 Test No. 3 Date 9-20-2020  
 Company Mai Oil Company Elevation 2071 KB 2062 GL  
 Address 8411 Preston Dallas Tx 75225  
 Co. Rep / Geo. Jim Musgrave Rig Southwind #3  
 Location: Sec. 5 Twp 9S Rge. 18W Co. Rooks State Ks

Interval Tested 3443 - 3514' Zone Tested Arbuckle  
 Anchor Length 71' Drill Pipe Run 3447.45' Mud Wt. 9.3  
 Top Packer Depth 3438' Drill Collars Run 0 Vis 52  
 Bottom Packer Depth 3443' Wt. Pipe Run 0 WL 9.6  
 Total Depth 3514' Chlorides 3000 ppm System LCM 2.5#

Blow Description IF-Blow started at 1/4" then built to 1"  
IST-No Return  
HF-Blow started about 10mins in and built to 1/4"  
FST-No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>ccm</u>	<u>60</u>		<u>40</u>	
<u>21</u>	<u>Free Oil</u>	<u>100</u>			

Rec Total 41' BHT 102°F Gravity 38@60 API RW @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1742  Test 1200 T-On Location 5:00pm  
 (B) First Initial Flow 18  Jars \_\_\_\_\_ T-Started 5:21pm  
 (C) First Final Flow 23  Safety Joint \_\_\_\_\_ T-Open 6:50pm  
 (D) Initial Shut-In 954  Circ Sub \_\_\_\_\_ T-Pulled 9:11pm  
 (E) Second Initial Flow 30  Hourly Standby \_\_\_\_\_ T-Out 11:11pm  
 (F) Second Final Flow 31  Mileage 72 R/T 72 Comments \_\_\_\_\_  
 (G) Final Shut-In 992  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1721  Straddle \_\_\_\_\_  EM Tool 350  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 1272  
 Sub Total 1272 MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 45

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

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Thanks





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 67411

Well Name & No. Holmes #4 Test No. 4 Date 9-21-2020  
 Company Mai Oil Operation, Inc. Elevation 2071 KB 2062 GL  
 Address 8411 Preston Dallas TX 75225  
 Co. Rep / Geo. Jim Musgrove Rig Southwind #3  
 Location: Sec. 5 Twp 9S Rge. 18W Co. Rooks State Ks

Interval Tested 3514-3524' Zone Tested Arbuckle  
 Anchor Length 10' Drill Pipe Run 3516.02' Mud Wt. 9.3  
 Top Packer Depth 3509' Drill Collars Run 0 Vis 52  
 Bottom Packer Depth 3514' Wt. Pipe Run 0 WL 9.6  
 Total Depth 3524' Chlorides 3000 ppm System LCM 2.5 #

Blow Description IF-Blow built up to 2" then started dying to 1"  
ISI-No Return  
FF-Blow started as a faint blow & built to a weak blow  
EST-No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10'</u>	<u>Free Oil</u>	<u>100</u>			
<u>50'</u>	<u>Om</u>	<u>45</u>	<u>55</u>		

Rec Total 100' BHT 103°F Gravity 32 API RW @      °F Chlorides      ppm

(A) Initial Hydrostatic 1773  Test 1200 T-On Location 4:25am  
 (B) First Initial Flow 21  Jars      T-Started 5:00am  
 (C) First Final Flow 33  Safety Joint      T-Open 6:25am  
 (D) Initial Shut-In 996  Circ Sub      T-Pulled 8:55am  
 (E) Second Initial Flow 45  Hourly Standby      T-Out 10:42am  
 (F) Second Final Flow 41  Mileage 72 R/T 72 Comments       
 (G) Final Shut-In 988  Sampler       
 (H) Final Hydrostatic 1730  Straddle       EM Tool 350 NS

Initial Open 30  Shale Packer       Ruined Shale Packer       
 Initial Shut-In 30  Extra Packer       Ruined Packer       
 Final Flow 45  Extra Recorder       Extra Copies       
 Final Shut-In 45  Day Standby      Sub Total 0  
 Accessibility      Total 1272  
 Sub Total 1272 MP/DST Disc't     

Approved By      Our Representative Royal Foster

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Thanks





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 67412

Well Name & No. Holmes #4 Test No. 5 Date 9-21-2020  
 Company Mai Oil Operations, Inc. Elevation 2071 KB 2062 GL  
 Address 8411 Preston Dallas Tx 75225  
 Co. Rep / Geo. Jim Musgrave Rig Southwind #3  
 Location: Sec. 5 Twp 9S Rge. 18W Co. Hook State Ks

Interval Tested 3524'-3536' Zone Tested Arbuckle  
 Anchor Length 12' Drill Pipe Run 3511.02' Mud Wt. 9.4  
 Top Packer Depth 3519' Drill Collars Run Ø Vis 48  
 Bottom Packer Depth 3524' Wt. Pipe Run Ø WL 9.6  
 Total Depth 3536' Chlorides 3000 ppm System LCM 2.5#

Blow Description IF - Blow started at a weak blow & built up to 1/2"  
ISI - ~~Blow~~ No Return  
FF - Blow started at a faint blow and built to 1/4"  
PST - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>Free Oil</u>	<u>100</u>			
<u>26'</u>	<u>ocm</u>	<u>10</u>		<u>90</u>	

Rec Total 31' BHT 103°F Gravity 35 API RW @      °F Chlorides      ppm

(A) Initial Hydrostatic 1792  Test 1200 T-On Location 3:24 pm  
 (B) First Initial Flow 17  Jars      T-Started 4:00 pm  
 (C) First Final Flow 26  Safety Joint      T-Open 5:25 pm  
 (D) Initial Shut-In 987  Circ Sub      T-Pulled 7:55 pm  
 (E) Second Initial Flow 27  Hourly Standby      T-Out 9:52 pm  
 (F) Second Final Flow 28  Mileage 72 R/T 72 Comments       
 (G) Final Shut-In 955  Sampler       
 (H) Final Hydrostatic 1730  Straddle       EM Tool 350 NS  
 Shale Packer       Ruined Shale Packer       
 Extra Packer       Ruined Packer       
 Extra Recorder       Extra Copies     

Initial Open 30 Sub Total 0  
 Initial Shut-In 30 Total 1272  
 Final Flow 45 Sub Total 1272 MP/DST Disc't       
 Final Shut-In 45

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

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Thanks





**TORONTO SECTION**

3031-3040' Limestone, gray, finely crystalline, granular in part; scattered pinpoint porosity, chalky; no shows.

3114-3124' Limestone, tan, fossiliferous, chalky, scattered porosity, no shows.

3160-3177' Limestone, white, cream, finely crystalline, few fossiliferous, chalky; no shows.

3181-3188' Limestone, white, cream, finely crystalline, slightly fossiliferous, chalky; trace brown stain, trace of free oil and no odor in fresh samples.

3223-3230' Limestone, gray, tan, fossiliferous, chalky; poor brown spotty stain, no show of free oil and no odor in fresh samples.

**LANSING SECTION**

3253-3260' Limestone, white, fossiliferous, chalky, poor spotty stain, no show of free oil and no odor in fresh samples.

3260-3272' Limestone, tan cherty (dense) plus tan chert.

3286-3296' Limestone, white, gray, tan, fossiliferous in part, chalky, brown and golden brown stain; weak show of free oil and faint/fair odor in fresh samples.

3305-3315' Limestone, tan, gray, finely crystalline, fossiliferous, few medium crystalline, brown stain, show of free oil and faint odor in fresh samples.

**Drill Stem Test #1** **3255-3320**

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

**Blow: Weak**

**Recovery: 31' oil specked mud**

**Pressures: ISIP 351 psi**

**FVIP 357 psi**

**IFP 16-19 psi**

**FFP 19-20 psi**

**HSH 1605-1556 psi**

3331-3342' Limestone, white, gray, highly oolitic, fair porosity, fair brown stain and saturation, fair show of free oil and good odor in fresh samples.

3343-3352' Limestone, tan, oolitic, oomoldic, granular in part; good oomoldic to vuggy type porosity, good stain and saturation, good show of free oil and good odor in fresh samples.

**Drill Stem Test #2**  
**3317-3356**

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

**Blow: Fair**

**Recovery: 204' oil specked muddy water**

**Pressures:**  
 ISIP 376 psi  
 FSIP 373 psi  
 IFP 16-77 psi  
 FFP 79-128 psi  
 HSH 1643-1610 psi

3380-3390' Limestone, white/gray, chalky; plus gray and white opaque chert.  
 3401-3410' Limestone, white, gray, fine and medium crystalline, scattered porosity, brown spotty stain.  
 3416-3430' Limestone, as above, chalky "crumbly", no shows,  
 3443-3448' Limestone, white, gray, chalky, poor visible porosity; trace brown stain, no show of free oil; plus gray and white, cherty, dense.

**CONGLOMERATE SECTION**

3468-3493' Shale, maroon, rusty brown silty; soft; trace white/yellow chert.  
 3493-3497' Chert; as above, plus trace gray, white, re-crystallized cherty, limestone, no shows.  
 (cfs @ 3496 – no Arbuckle)

**ARBUCKLE SECTION**

3497-3502' Dolomite, white, tan, yellow, finely crystalline, cherty in part, scattered vuggy porosity, brown and black stain, trace of free oil and faint to fair odor in fresh samples, plus white, gray oolitic chert.  
 3502-3510' Dolomite, as above  
 3510-3514' Dolomite, as above, increase in porosity; brown; dark brown stain, show of free oil, faint and fair odor in fresh samples.

**Drill Stem Test #3** 3443-3514

Times: 30-30-30-45

Blow: Weak

Recovery: 21' clean oil  
 20' muddy oil  
 (40% mud, 60% oil)

Pressures: ISIP 953 psi

FVIP 992 psi

IFP 18-23 psi

FFP 30-31 psi

HSH 1742-1721 psi

Dolomite, white, tan, fine to medium crystalline, cherty, scattered vuggy porosity; brown stain and saturation, show of free oil and faint odor in fresh samples.

3514-3524

**Drill Stem Test #4** 3514-3524

Times: 30-30-45-45

Blow: Weak

Recovery: 10' clean oil  
 50' muddy oil  
 (45% oil; 55% mud)

Pressures: ISIP 996 psi

FVIP 998 psi

IFP 21-33 psi

FFP 45-41 psi

HSH 1773-1730 psi

Dolomite, tan, white, medium crystalline; fair inter-crystalline porosity, brown stain, fair show of free and faint odor in fresh samples.

3524-3536

**Drill Stem Test #5** 3524-3536

Times: 30-30-45-45

Blow: Weak

Recovery: 5' clean oil  
 20' slightly oil cut mud  
 (10% oil; 90% mud)

Pressures: ISIP 897 psi

FVIP 955 psi

IFP 17-26 psi

FFP 27-28 psi

HSH 1792-1730 psi

Rotary Total Depth	Log Total Depth	3596	3596
3536-3555'	Dolomite, tan, finely crystalline, fine oomoldic to vuggy type porosity, gray and black stain, no show of free oil and faint odor in fresh samples.		
3555-3580'	Dolomite, white, gray, fine to medium crystalline, few sucrosic, slightly cherty, plus white and gray, oolitic chert.		
3580-3590'	Dolomite, white/gray, medium crystalline, fair inter-crystalline porosity, black dead stain, no free oil and no odor.		
3590-3596'	Dolomite, white, gray, tan, fine to medium crystalline poor porosity, glauconitic, black tarry edge stain, no free oil and no odor in fresh samples.		

**Recommendations:**

The Mai Oil Operations Inc., Holmes #4, was plugged and abandoned at the Rotary Total Depth 3596.

Respectfully yours,

*James C. Musgrove*  
 James C. Musgrove  
 Petroleum Geologist

