

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	PTACEK 2
Doc ID	1453840

Tops

Name	Top	Datum
Anhydrte	736	1085
Topeka	2610	-789
Heebner	2884	-1063
Toronto	2904	-1083
Douglas	2919	-1098
Lansing	2984	-1163
Base KC	3239	-1418
Arb	3256	-1435





## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations Inc**

8411 Preston Rd Ste 800  
Dallas TX 75225-5520

ATTN: Jim Musgove

### **Ptacek #2**

#### **16-15s-12w Russell,KS**

Start Date: 2019.03.02 @ 05:36:00

End Date: 2019.03.02 @ 11:12:50

Job Ticket #: 64993                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.03.06 @ 14:55:31



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations Inc  
 8411 Preston Rd Ste 800  
 Dallas TX 75225-5520  
 ATTN: Jim Musgove

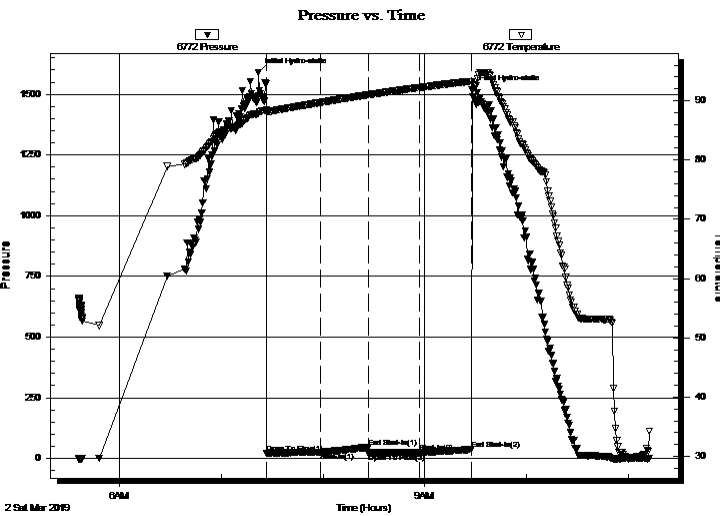
**16-15s-12w Russell,KS**  
**Ptacek #2**  
 Job Ticket: 64993 **DST#: 1**  
 Test Start: 2019.03.02 @ 05:36:00

## GENERAL INFORMATION:

Formation: **LKC A-C**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:26:50  
 Time Test Ended: 11:12:50  
 Interval: **2975.00 ft (KB) To 3020.00 ft (KB) (TVD)**  
 Total Depth: 3020.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Benny Mulligan  
 Unit No: 66  
 Reference Elevations: 1820.00 ft (KB)  
 1812.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 6772 Inside**  
 Press@RunDepth: 24.05 psig @ 2983.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.03.02 End Date: 2019.03.02 Last Calib.: 2019.03.02  
 Start Time: 05:36:01 End Time: 11:12:50 Time On Btm: 2019.03.02 @ 07:22:00  
 Time Off Btm: 2019.03.02 @ 09:27:50

**TEST COMMENT:** I.F.-30-built to 1 "  
 I.S.I.-30- no blow back  
 F.F.-30- built to 1/4"  
 F.S.I.-30- no blow back



## PRESSURE SUMMARY

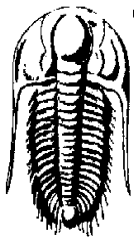
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1590.07	87.84	Initial Hydro-static
5	22.31	88.09	Open To Flow (1)
37	25.11	89.69	Shut-In(1)
65	46.49	90.99	End Shut-In(1)
65	20.11	91.00	Open To Flow (2)
95	24.05	92.22	Shut-In(2)
126	37.17	93.28	End Shut-In(2)
126	1518.10	93.24	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud w / oil spots	0.28

## Gas Rates

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Mai Oil Operations Inc  
8411 Preston Rd Ste 800  
Dallas TX 75225-5520  
  
ATTN: Jim Musgove

**16-15s-12w Russell,KS**

**Ptacek #2**

Job Ticket: 64993 **DST#: 1**  
Test Start: 2019.03.02 @ 05:36:00

**GENERAL INFORMATION:**

Formation: **LKC A-C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:26:50

Time Test Ended: 11:12:50

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

**Interval: 2975.00 ft (KB) To 3020.00 ft (KB) (TVD)**

Total Depth: 3020.00 ft (KB) (TVD)

Hole Diameter: 7.88 inchesHole Condition: Fair

Reference Elevations: 1820.00 ft (KB)

1812.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 6769 Outside**

Press@RunDepth: psig @ 2983.00 ft (KB)

Start Date: 2019.03.02

End Date: 2019.03.02

Capacity: 8000.00 psig

Last Calib.: 2019.03.02

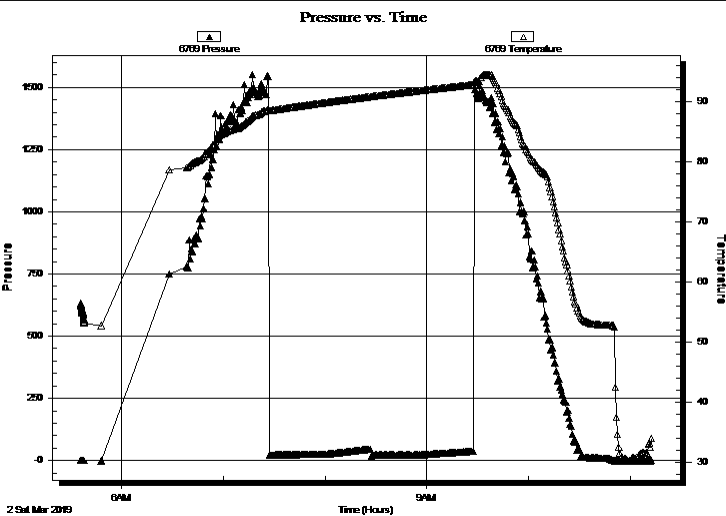
Start Time: 05:36:01

End Time: 11:12:50

Time On Btm:

Time Off Btm:

**TEST COMMENT:** I.F.-30-built to 1 "  
I.S.I.-30- no blow back  
F.F.-30- built to 1/4"  
F.S.I.-30- no blow back



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
20.00	Mud w / oil spots	0.28

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations Inc  
8411 Preston Rd Ste 800  
Dallas TX 75225-5520  
ATTN: Jim Musgove

**16-15s-12w Russell,KS**  
**Ptacek #2**  
Job Ticket: 64993      **DST#: 1**  
Test Start: 2019.03.02 @ 05:36:00

**Tool Information**

Drill Pipe:	Length: 2974.00 ft	Diameter: 3.80 inches	Volume: 41.72 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: 41.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 39000.00 lb
Depth to Top Packer:	2975.00 ft			Final 39000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	65.00 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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Change Over Sub	1.00			2956.00	
Shut In Tool	5.00			2961.00	
Hydraulic tool	5.00			2966.00	
Packer	5.00			2971.00	20.00      Bottom Of Top Packer
Packer	4.00			2975.00	
Stubb	1.00			2976.00	
Perforations	7.00			2983.00	
Recorder	0.00	6772	Inside	2983.00	
Recorder	0.00	6769	Outside	2983.00	
Change Over Sub	1.00			2984.00	
Drill Pipe	32.00			3016.00	
Change Over Sub	1.00			3017.00	
Bullnose	3.00			3020.00	45.00      Bottom Packers & Anchor

**Total Tool Length: 65.00**





**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mai Oil Operations Inc

**16-15s-12w Russell,KS**

8411 Preston Rd Ste 800  
Dallas TX 75225-5520

**Ptacek #2**

Job Ticket: 64993

**DST#: 1**

ATTN: Jim Musgove

Test Start: 2019.03.02 @ 05:36:00

**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: 64.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
20.00	Mud w / oil spots	0.281

Total Length: 20.00 ft      Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

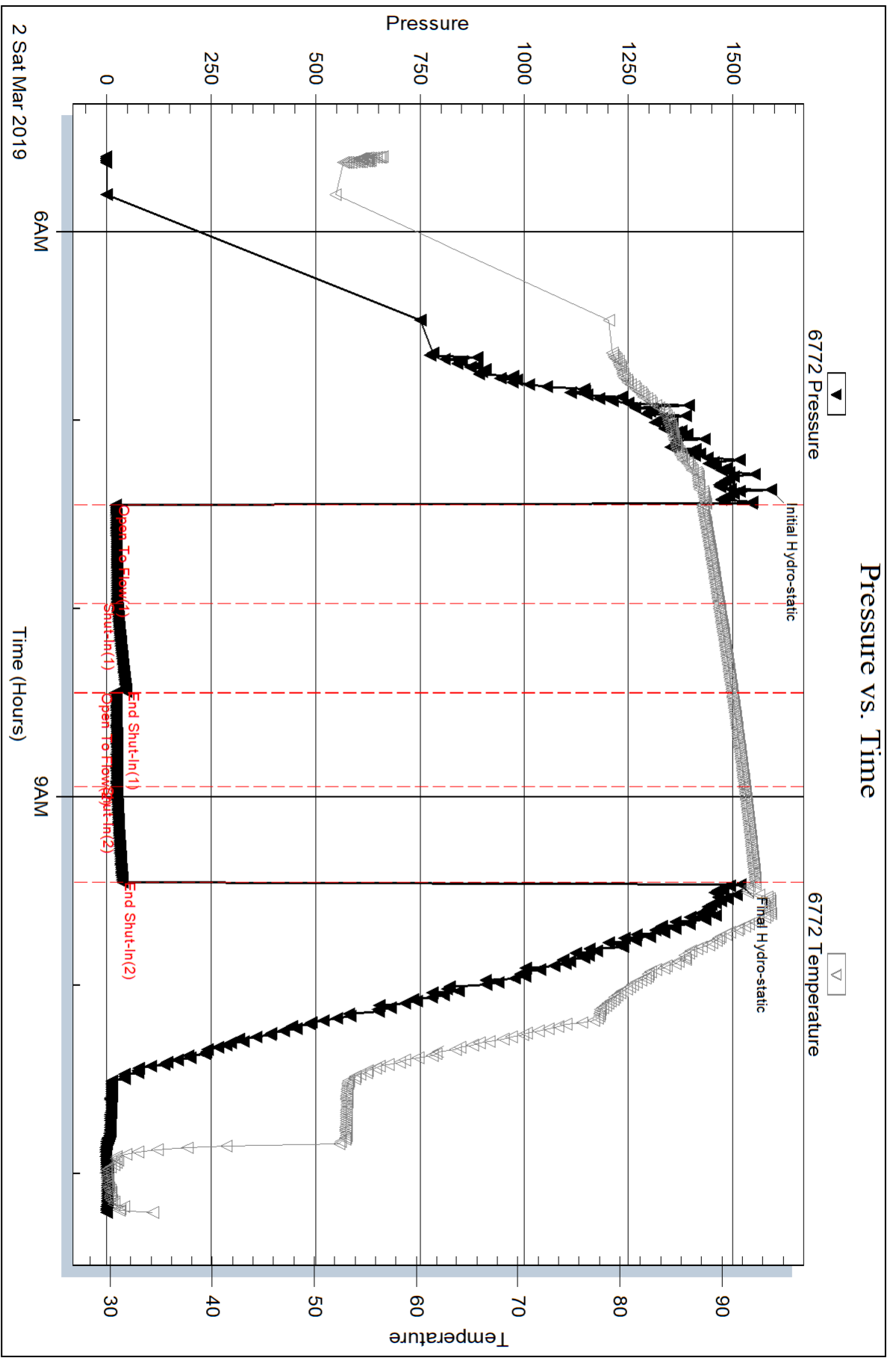
Serial #: 6772

Inside

Mai Oil Operations Inc

Placek #2

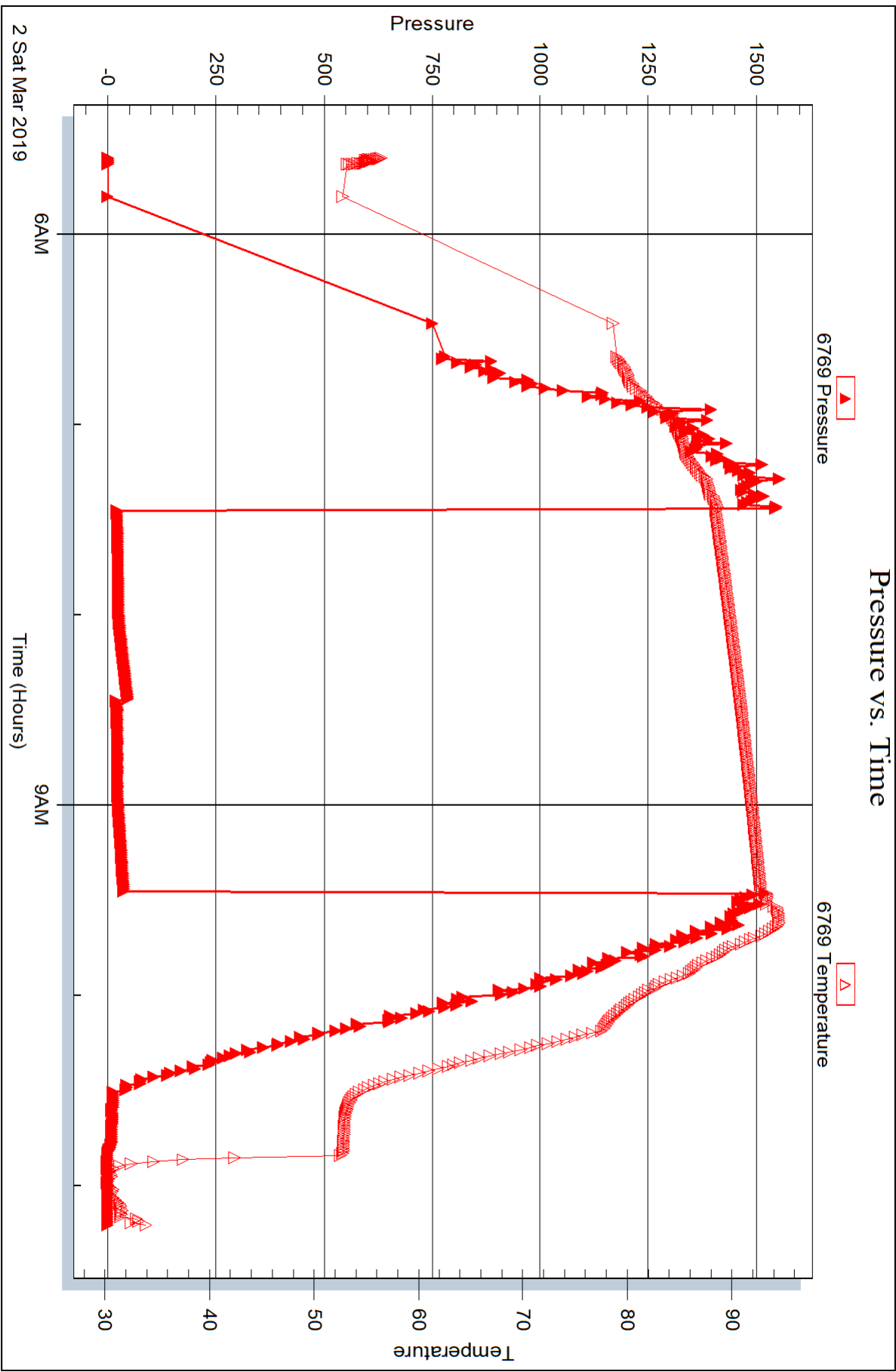
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 64993

Printed: 2019.03.06 @ 14:55:32





## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations Inc**

8411 Preston Rd Ste 800 Dallas TX 75225-5520

ATTN: Jim Musgove

### **Ptacek #2**

### **16-15s-12w Russell,KS**

Start Date: 2019.03.03 @ 08:00:00

End Date: 2019.03.03 @ 15:03:00

Job Ticket #: 64994                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.03.06 @ 14:46:24



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations Inc

**16-15s-12w Russell,KS**

8411 Preston Rd Ste 800 Dallas TX 75225-5520

**Ptacek #2**

ATTN: Jim Musgove

Job Ticket: 64994

**DST#: 2**

Test Start: 2019.03.03 @ 08:00:00

## GENERAL INFORMATION:

Formation: **LKC I-K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:20:30

Time Test Ended: 15:03:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

**Interval: 3124.00 ft (KB) To 3200.00 ft (KB) (TVD)**

Reference Elevations: 1820.00 ft (KB)

Total Depth: 3200.00 ft (KB) (TVD)

1812.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6772**

**Inside**

Press@RunDepth: 24.03 psig @ 3131.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.03.03

End Date:

2019.03.03

Last Calib.:

2019.03.03

Start Time:

08:00:01

End Time:

15:03:00

Time On Btm:

2019.03.03 @ 10:19:30

Time Off Btm:

2019.03.03 @ 12:53:30

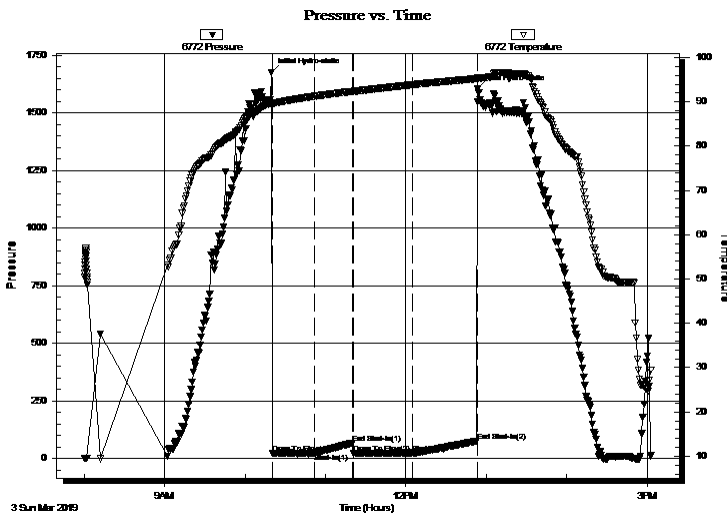
TEST COMMENT: I.F.-30- built to 1 1/2"

I.S.I.-30 w eak surface blow back

F.F.45- built to 4"

F.S.I.-45- no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1676.61	89.68	Initial Hydro-static
1	22.71	89.62	Open To Flow (1)
32	23.86	91.24	Shut-In(1)
61	67.44	92.35	End Shut-In(1)
62	21.33	92.36	Open To Flow (2)
106	24.03	93.86	Shut-In(2)
154	75.75	95.21	End Shut-In(2)
154	1604.11	95.54	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	O.C.M. 1%O 99%M	0.28

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations Inc  
8411 Preston Rd Ste 800 Dallas TX 75225-5520  
ATTN: Jim Musgove

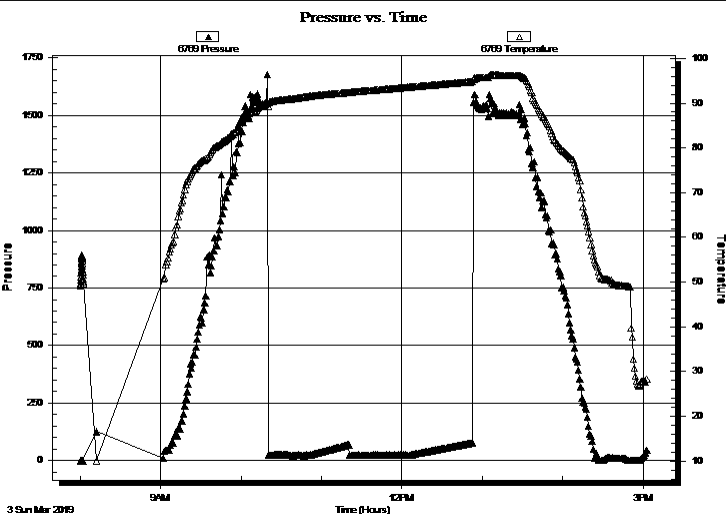
**16-15s-12w Russell,KS**  
**Ptacek #2**  
Job Ticket: 64994 **DST#: 2**  
Test Start: 2019.03.03 @ 08:00:00

## GENERAL INFORMATION:

Formation: **LKC I-K**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 10:20:30  
Time Test Ended: 15:03:00  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Benny Mulligan  
Unit No: 66  
**Interval: 3124.00 ft (KB) To 3200.00 ft (KB) (TVD)**  
Reference Elevations: 1820.00 ft (KB)  
Total Depth: 3200.00 ft (KB) (TVD) 1812.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 6769** **Outside**  
Press@RunDepth: psig @ 3131.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2019.03.03 End Date: 2019.03.03 Last Calib.: 2019.03.03  
Start Time: 08:00:01 End Time: 15:03:00 Time On Btm:  
Time Off Btm:

TEST COMMENT: I.F.-30- built to 1 1/2"  
I.S.I.-30 w eak surface blow back  
F.F.45- built to 4"  
F.S.I.-45- no blow back



## PRESSURE SUMMARY

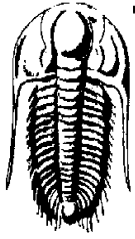
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	O.C.M. 1%O 99%M	0.28

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations Inc

**16-15s-12w Russell,KS**

8411 Preston Rd Ste 800 Dallas TX 75225-5520

**Ptacek #2**

Job Ticket: 64994

**DST#: 2**

ATTN: Jim Musgove

Test Start: 2019.03.03 @ 08:00:00

## Tool Information

Drill Pipe:	Length: 3129.00 ft	Diameter: 3.80 inches	Volume: 43.89 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: 43.89 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 39000.00 lb
Depth to Top Packer:	3124.00 ft			Final 39000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	96.00 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			3105.00	
Shut In Tool	5.00			3110.00	
Hydraulic tool	5.00			3115.00	
Packer	5.00			3120.00	20.00 Bottom Of Top Packer
Packer	4.00			3124.00	
Stubb	1.00			3125.00	
Perforations	6.00			3131.00	
Recorder	0.00	6772	Inside	3131.00	
Recorder	0.00	6769	Outside	3131.00	
Change Over Sub	1.00			3132.00	
Drill Pipe	64.00			3196.00	
Change Over Sub	1.00			3197.00	
Bullnose	3.00			3200.00	76.00 Bottom Packers & Anchor

**Total Tool Length: 96.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mai Oil Operations Inc

**16-15s-12w Russell,KS**

8411 Preston Rd Ste 800 Dallas TX 75225-5520

**Ptacek #2**

Job Ticket: 64994

**DST#: 2**

ATTN: Jim Musgove

Test Start: 2019.03.03 @ 08:00:00

**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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6500.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
20.00	O.C.M. 1%O 99%M	0.281

Total Length: 20.00 ft      Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

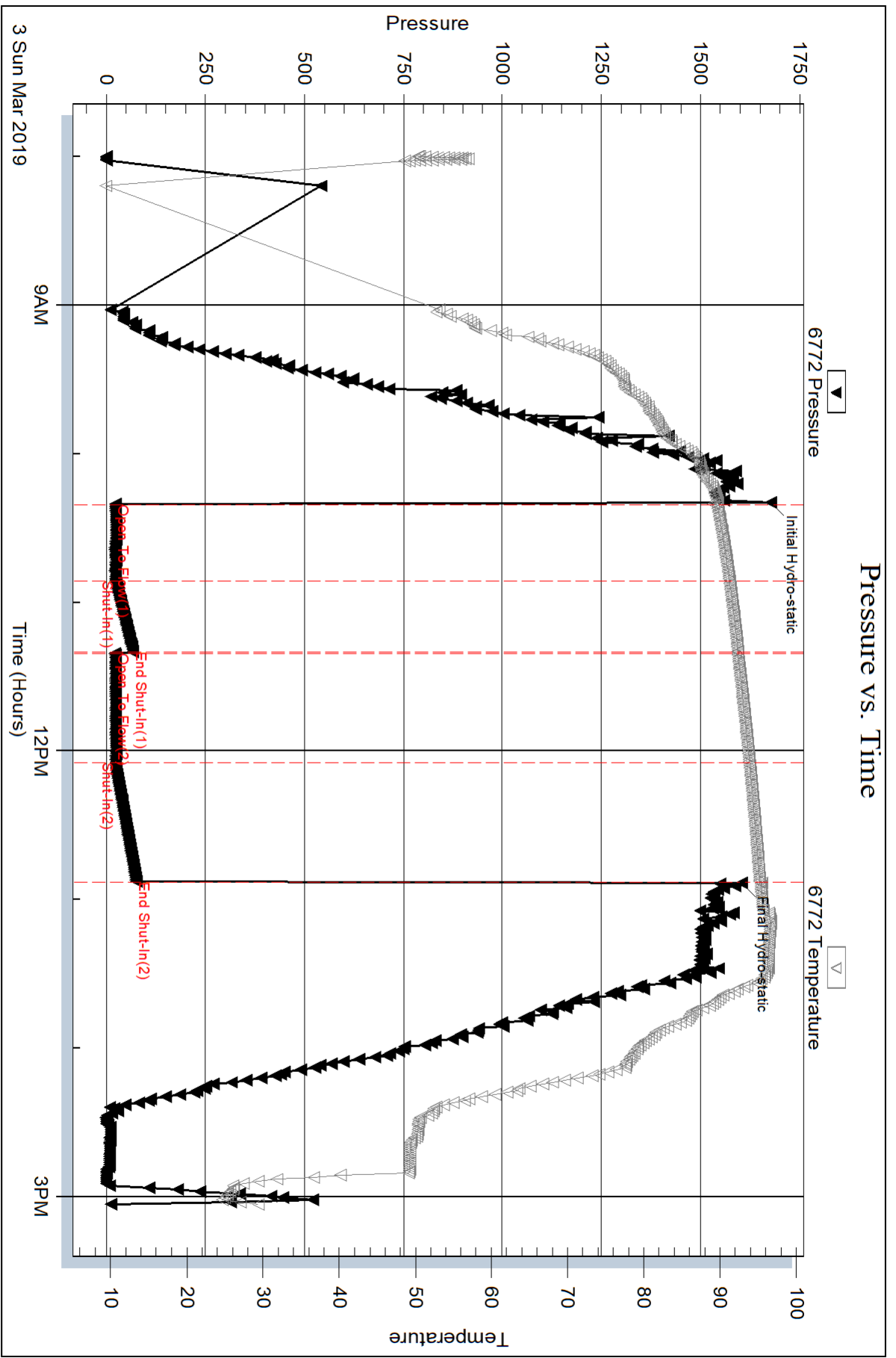
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



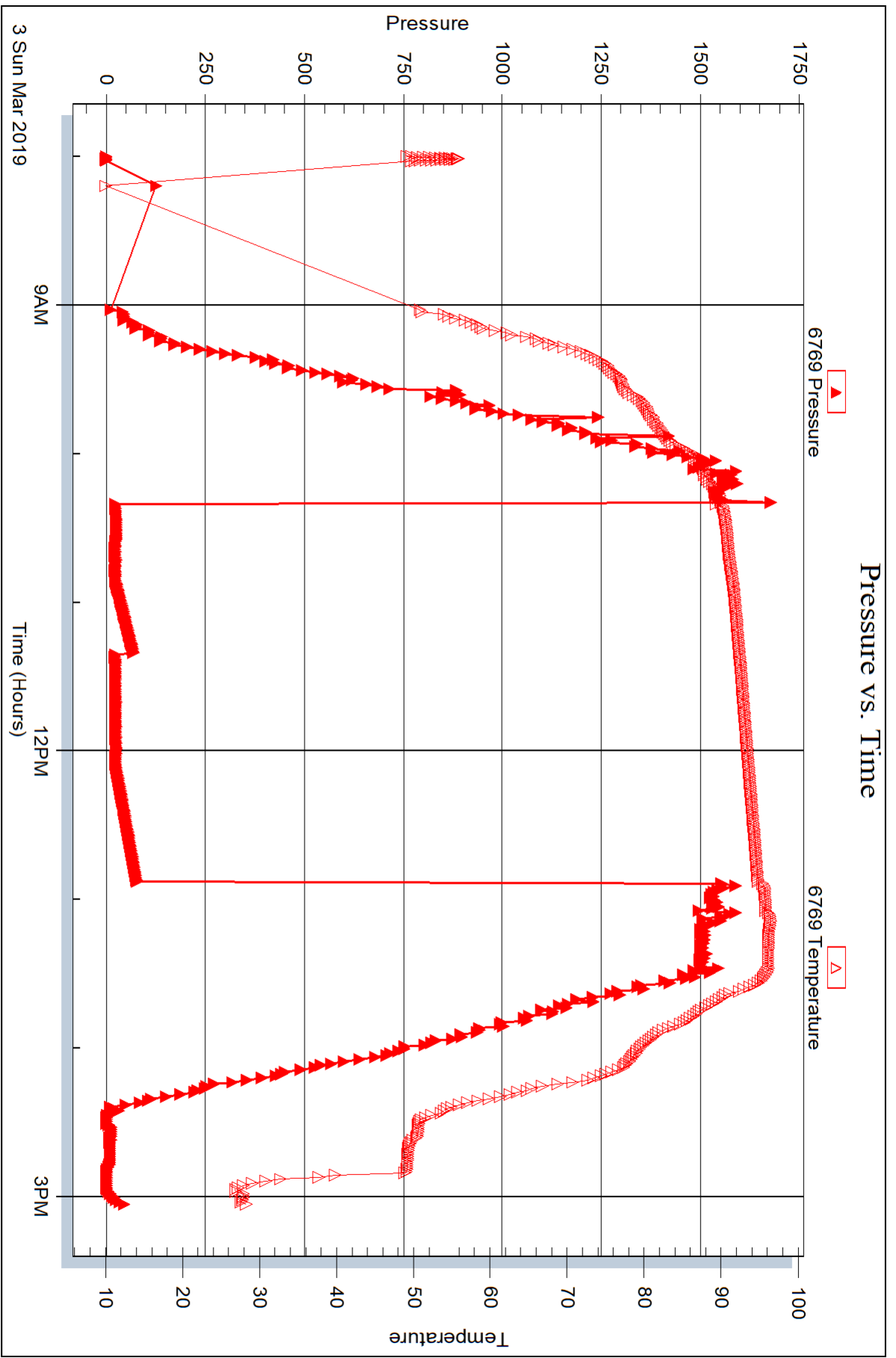


Serial #: 6769

Outside Mai Oil Operations Inc

Placek #2

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 64994

Printed: 2019.03.06 @ 14:46:25



## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations Inc**

8411 Preston Rd Ste 800 Dallas TX 75225-5520

ATTN: Jim Musgove

### **Ptacek #2**

### **16-15s-12w Russell,KS**

Start Date: 2019.03.04 @ 02:29:00

End Date: 2019.03.04 @ 08:54:20

Job Ticket #: 64995                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.03.06 @ 14:45:56

Mai Oil Operations Inc  
16-15s-12w Russell,KS  
Ptacek #2  
DST # 3  
Arbuckle  
2019.03.04



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations Inc  
 8411 Preston Rd Ste 800 Dallas TX 75225-5520  
 ATTN: Jim Musgove

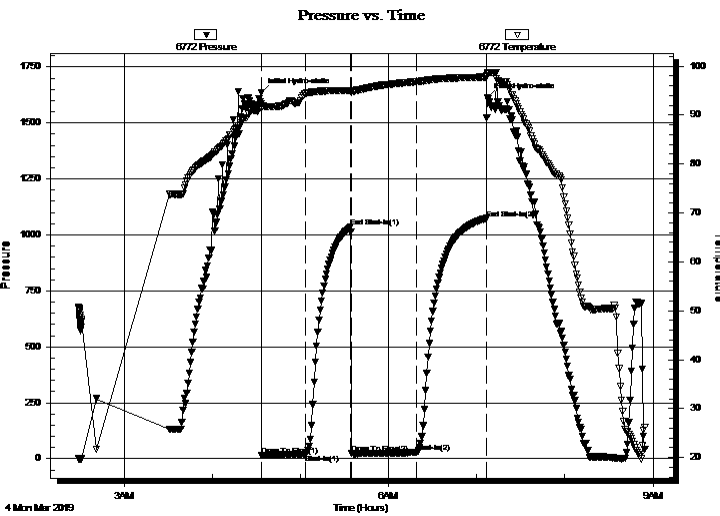
**16-15s-12w Russell,KS**  
**Ptacek #2**  
 Job Ticket: 64995 **DST#: 3**  
 Test Start: 2019.03.04 @ 02:29:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 04:33:30  
 Time Test Ended: 08:54:20  
 Interval: **3233.00 ft (KB) To 3261.00 ft (KB) (TVD)**  
 Total Depth: 3261.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Benny Mulligan  
 Unit No: 66  
 Reference Elevations: 1820.00 ft (KB)  
 1812.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 6772 Inside**  
 Press@RunDepth: 27.90 psig @ 3234.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.03.04 End Date: 2019.03.04 Last Calib.: 2019.03.04  
 Start Time: 02:29:01 End Time: 08:54:20 Time On Btm: 2019.03.04 @ 04:33:20  
 Time Off Btm: 2019.03.04 @ 07:07:20

**TEST COMMENT:** I.F.-30- built to 2 "  
 I.S.I.-30- no blow back  
 F.F.-45- built to 3 "  
 F.S.I.-45- no blow back



## PRESSURE SUMMARY

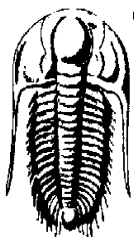
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1636.12	92.34	Initial Hydro-static
1	16.33	91.38	Open To Flow (1)
31	20.90	94.42	Shut-In(1)
61	1035.06	95.00	End Shut-In(1)
62	23.50	94.70	Open To Flow (2)
106	27.90	96.82	Shut-In(2)
154	1073.68	97.78	End Shut-In(2)
155	1613.95	98.46	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	VSOCM 5%O 95%M	0.63

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

### DRILL STEM TEST REPORT

Mai Oil Operations Inc  
8411 Preston Rd Ste 800 Dallas TX 75225-5520

**16-15s-12w Russell,KS**

ATTN: Jim Musgove

**Ptacek #2**

Job Ticket: 64995 **DST#: 3**

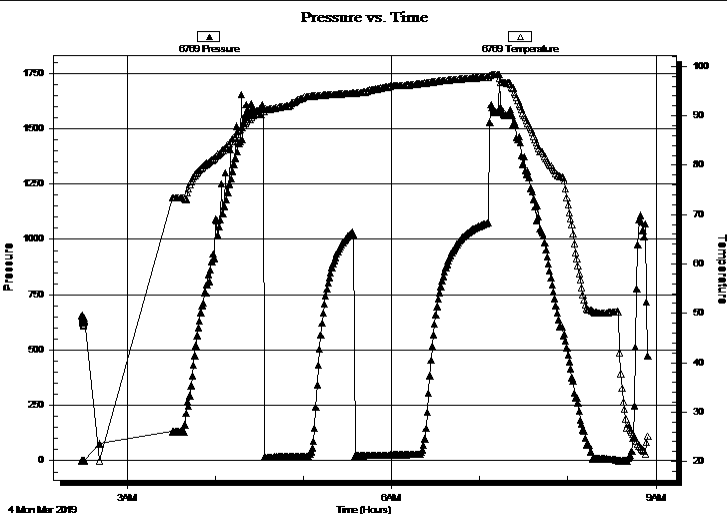
Test Start: 2019.03.04 @ 02:29:00

#### GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 04:33:30 Tester: Benny Mulligan  
 Time Test Ended: 08:54:20 Unit No: 66  
 Interval: **3233.00 ft (KB) To 3261.00 ft (KB) (TVD)**  
 Reference Elevations: 1820.00 ft (KB)  
 Total Depth: 3261.00 ft (KB) (TVD) 1812.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 6769 Outside**  
 Press@RunDepth: psig @ 3234.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.03.04 End Date: 2019.03.04 Last Calib.: 2019.03.04  
 Start Time: 02:29:01 End Time: 08:54:20 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** I.F.-30- built to 2 "  
 I.S.I.-30- no blow back  
 F.F.-45- built to 3 "  
 F.S.I.-45- no blow back



#### PRESSURE SUMMARY

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

#### Recovery

Length (ft)	Description	Volume (bbl)
45.00	VSOCM 5%O 95%M	0.63

#### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations Inc

**16-15s-12w Russell,KS**

8411 Preston Rd Ste 800 Dallas TX 75225-5520

**Ptacek #2**

Job Ticket: 64995

**DST#: 3**

ATTN: Jim Musgove

Test Start: 2019.03.04 @ 02:29:00

## Tool Information

Drill Pipe:	Length: 3225.00 ft	Diameter: 3.80 inches	Volume: 45.24 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: 45.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 39000.00 lb
Depth to Top Packer:	3233.00 ft			Final 39000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	48.00 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			3214.00	
Shut In Tool	5.00			3219.00	
Hydraulic tool	5.00			3224.00	
Packer	5.00			3229.00	20.00 Bottom Of Top Packer
Packer	4.00			3233.00	
Stubb	1.00			3234.00	
Recorder	0.00	6772	Inside	3234.00	
Recorder	0.00	6769	Outside	3234.00	
Perforations	24.00			3258.00	
Bullnose	3.00			3261.00	28.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>48.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mai Oil Operations Inc

**16-15s-12w Russell,KS**

8411 Preston Rd Ste 800 Dallas TX 75225-5520

**Ptacek #2**

Job Ticket: 64995

**DST#: 3**

ATTN: Jim Musgove

Test Start: 2019.03.04 @ 02:29:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	VSOCM 5%O 95%M	0.631

Total Length: 45.00 ft      Total Volume: 0.631 bbl

Num Fluid Samples: 0

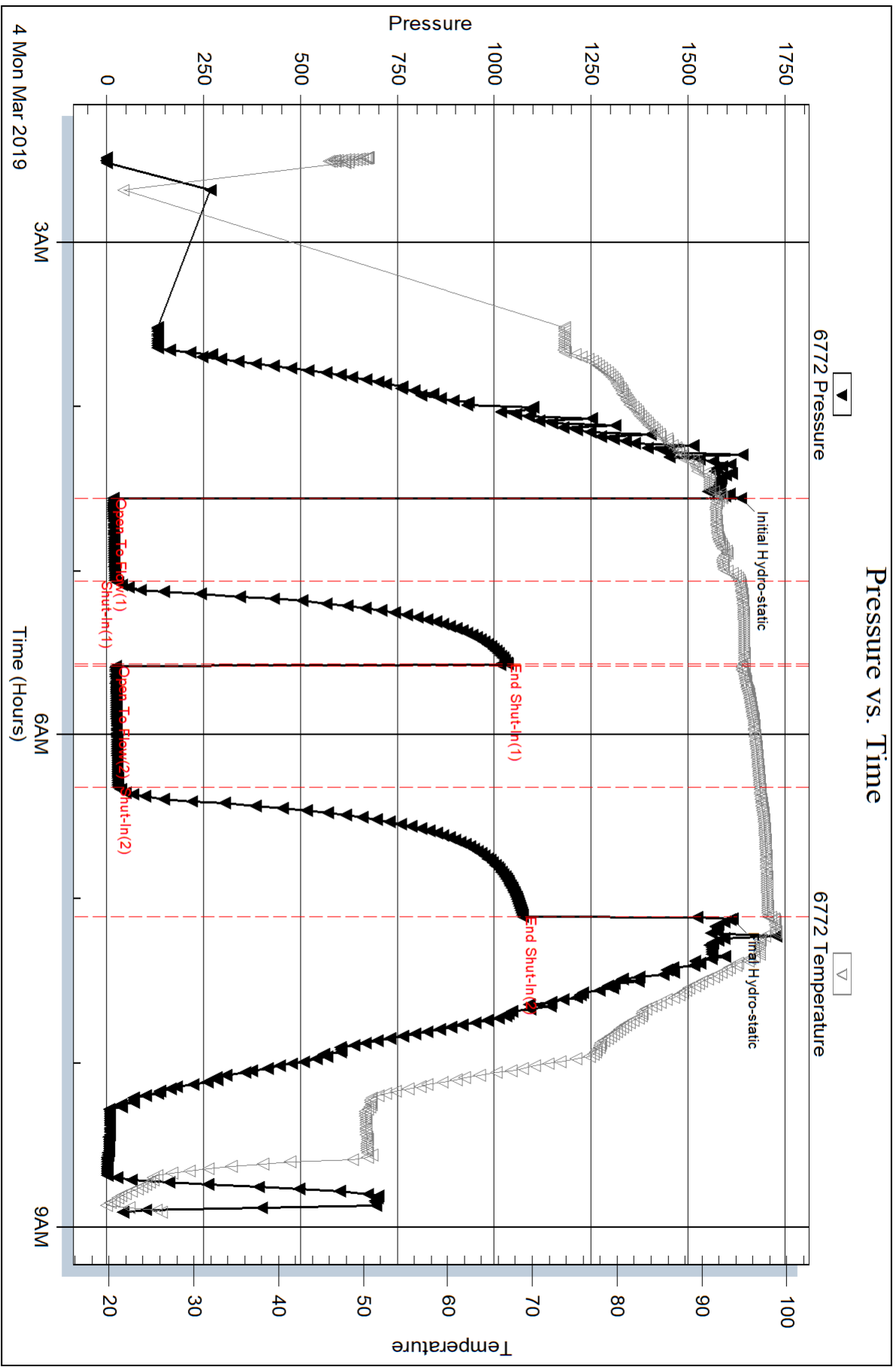
Num Gas Bombs: 0

Serial #:

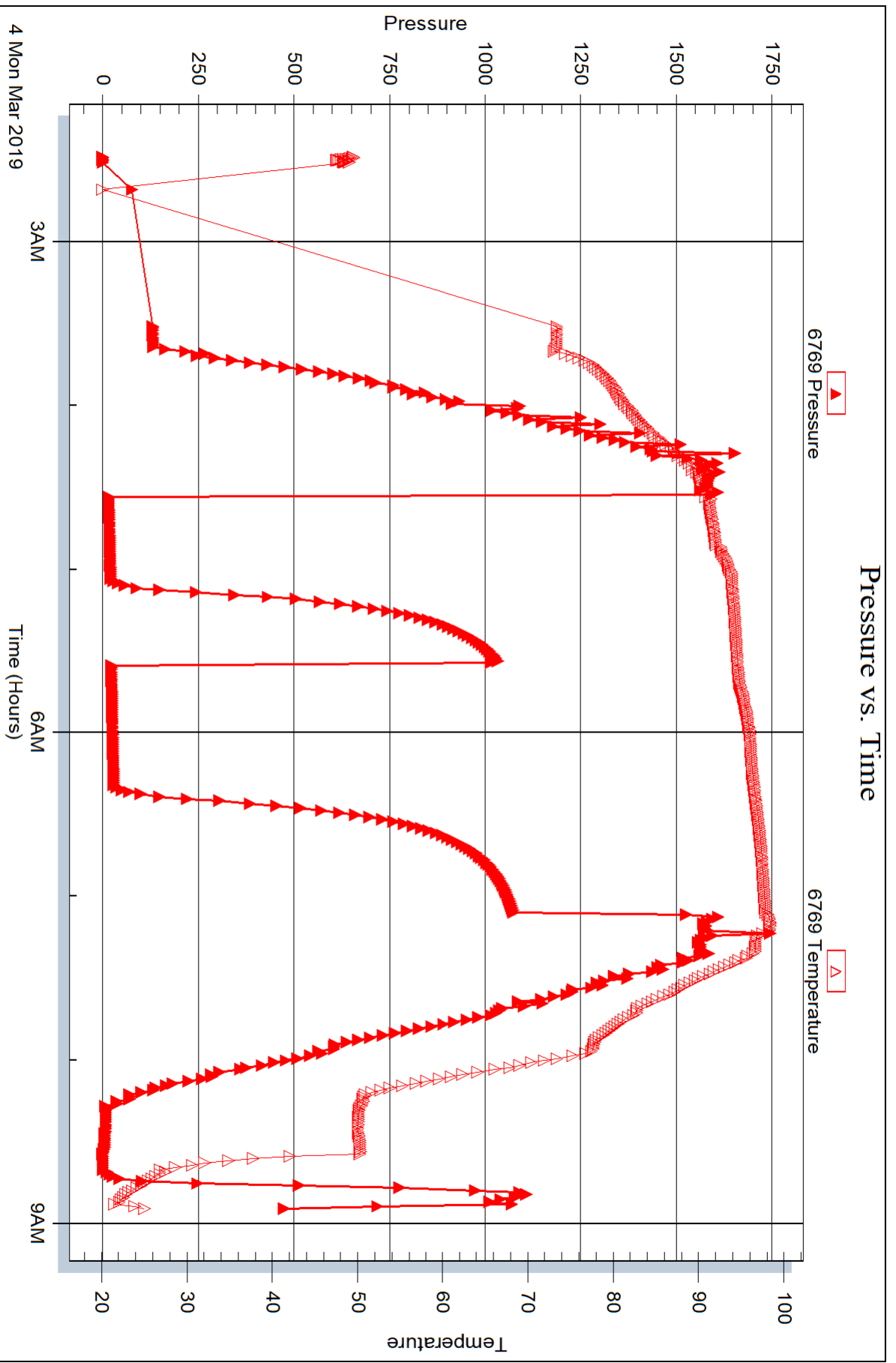
Laboratory Name:

Laboratory Location:

Recovery Comments: 2' clean oil on top









## DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations Inc**

8411 Preston Rd Ste 800 Dallas TX 75225-5520

ATTN: Jim Musgove

### **Ptacek #2**

#### **16-15s-12w Russell,KS**

Start Date: 2019.03.04 @ 18:36:00

End Date: 2019.03.05 @ 02:57:00

Job Ticket #: 64996                      DST #: 4

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.03.06 @ 14:45:04



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations Inc

**16-15s-12w Russell,KS**

8411 Preston Rd Ste 800 Dallas TX 75225-5520

**Ptacek #2**

ATTN: Jim Musgove

Job Ticket: 64996

**DST#: 4**

Test Start: 2019.03.04 @ 18:36:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:00:50

Time Test Ended: 02:57:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

**Interval: 3233.00 ft (KB) To 3270.00 ft (KB) (TVD)**

Reference Elevations: 1820.00 ft (KB)

Total Depth: 3270.00 ft (KB) (TVD)

1812.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6772 Inside**

Press@RunDepth: 450.30 psig @ 3243.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.03.04

End Date:

2019.03.05

Last Calib.: 2019.03.05

Start Time: 18:36:01

End Time:

02:57:00

Time On Btm: 2019.03.04 @ 20:57:30

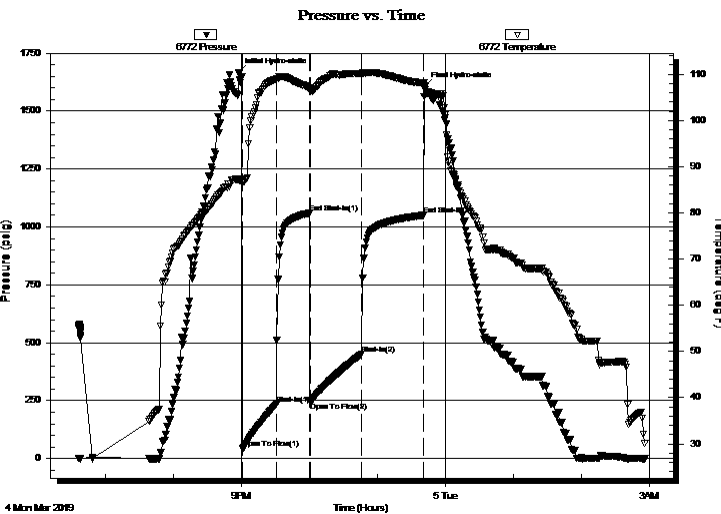
Time Off Btm: 2019.03.04 @ 23:41:40

**TEST COMMENT:** I.F.-30-BOB 4 mins 10 sec total build of 58"

I.S.I.-30- no blow back

F.F.45- BOB 5 mins total build of 78"

F.S.I.-45- weak blow back



## PRESSURE SUMMARY

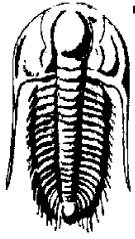
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1667.09	87.31	Initial Hydro-static
4	43.89	86.42	Open To Flow (1)
34	234.73	108.86	Shut-In(1)
63	1059.11	107.05	End Shut-In(1)
63	244.36	106.78	Open To Flow (2)
109	450.30	110.13	Shut-In(2)
164	1050.45	108.04	End Shut-In(2)
165	1607.27	106.89	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
240.00	W 100%W	3.37
660.00	SMCW 10%M 90%W	9.26
400.00	WCM 40%W 60%M	5.61

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations Inc

**16-15s-12w Russell,KS**

8411 Preston Rd Ste 800 Dallas TX 75225-5520

**Ptacek #2**

ATTN: Jim Musgove

Job Ticket: 64996

**DST#: 4**

Test Start: 2019.03.04 @ 18:36:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:00:50

Time Test Ended: 02:57:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

**Interval: 3233.00 ft (KB) To 3270.00 ft (KB) (TVD)**

Reference Elevations: 1820.00 ft (KB)

Total Depth: 3270.00 ft (KB) (TVD)

1812.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6769 Outside**

Press@RunDepth: psig @ 3243.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.03.04

End Date:

2019.03.05

Last Calib.:

2019.03.05

Start Time: 18:36:01

End Time:

02:57:00

Time On Btm:

Time Off Btm:

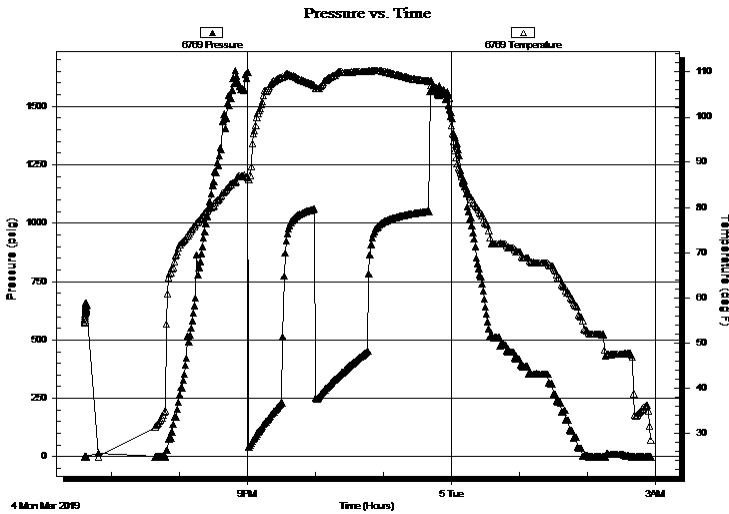
**TEST COMMENT:** I.F.-30-BOB 4 mins 10 sec total build of 58"

I.S.I.-30- no blow back

F.F.45- BOB 5 mins total build of 78"

F.S.I.-45- weak blow back

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
240.00	W 100%W	3.37
660.00	SMCW 10%M 90%W	9.26
400.00	WCM 40%W 60%M	5.61

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations Inc

**16-15s-12w Russell,KS**

8411 Preston Rd Ste 800 Dallas TX 75225-5520

**Ptacek #2**

Job Ticket: 64996

**DST#: 4**

ATTN: Jim Musgove

Test Start: 2019.03.04 @ 18:36:00

## Tool Information

Drill Pipe:	Length: 3226.00 ft	Diameter: 3.80 inches	Volume: 45.25 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: 45.25 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 39000.00 lb
Depth to Top Packer:	3233.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3214.00	
Shut In Tool	5.00			3219.00	
Hydraulic tool	5.00			3224.00	
Packer	5.00			3229.00	20.00 Bottom Of Top Packer
Packer	4.00			3233.00	
Stubb	1.00			3234.00	
Perforations	9.00			3243.00	
Recorder	0.00	6772	Inside	3243.00	
Recorder	0.00	6769	Outside	3243.00	
Perforations	24.00			3267.00	
Bullnose	3.00			3270.00	37.00 Bottom Packers & Anchor

**Total Tool Length: 57.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mai Oil Operations Inc

**16-15s-12w Russell,KS**

8411 Preston Rd Ste 800 Dallas TX 75225-5520

**Ptacek #2**

Job Ticket: 64996

**DST#: 4**

ATTN: Jim Musgove

Test Start: 2019.03.04 @ 18:36:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
240.00	W 100%W	3.367
660.00	SMCW 10%M 90%W	9.258
400.00	WCM 40%W 60%M	5.611

Total Length: 1300.00 ft      Total Volume: 18.236 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

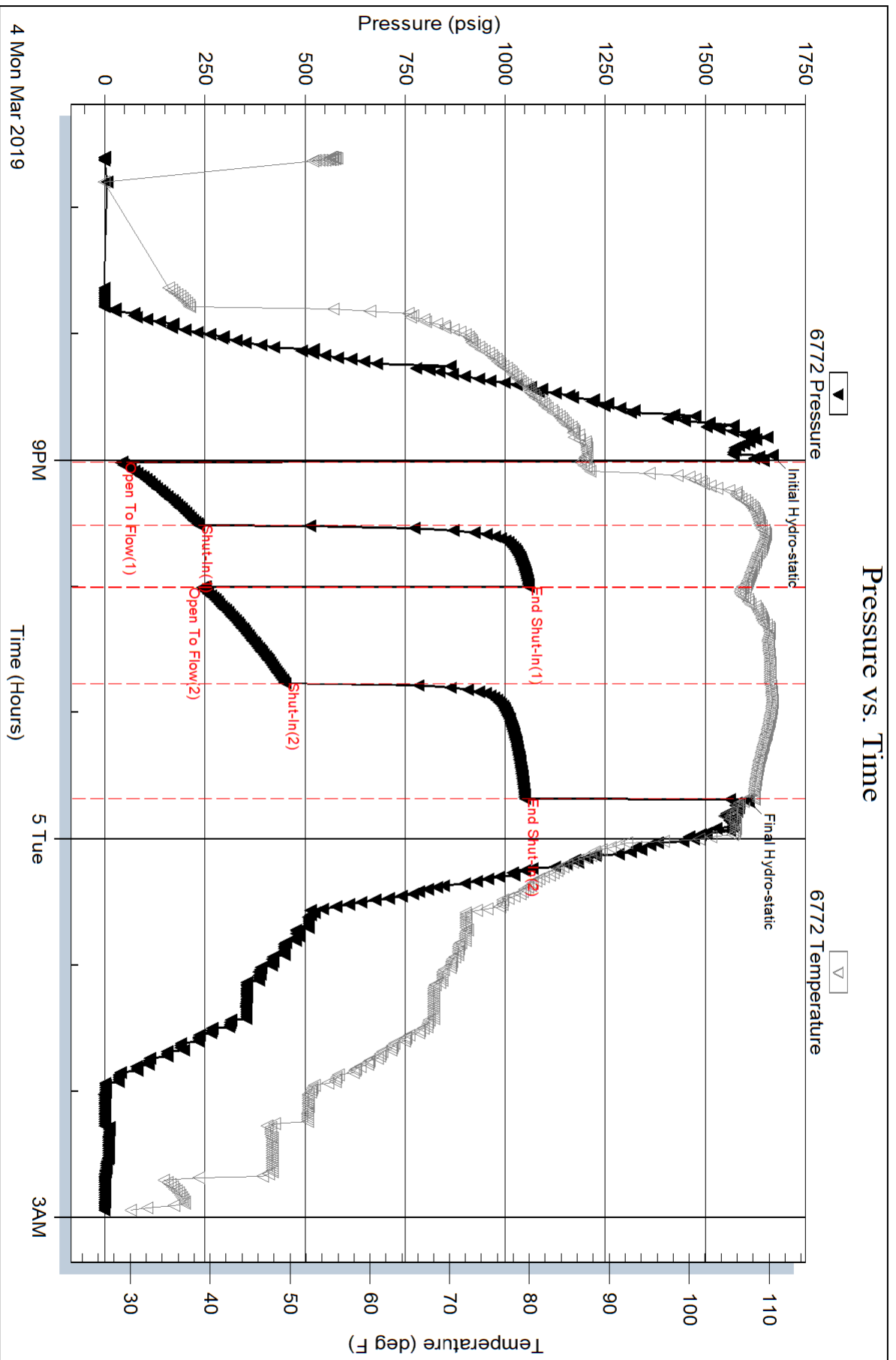
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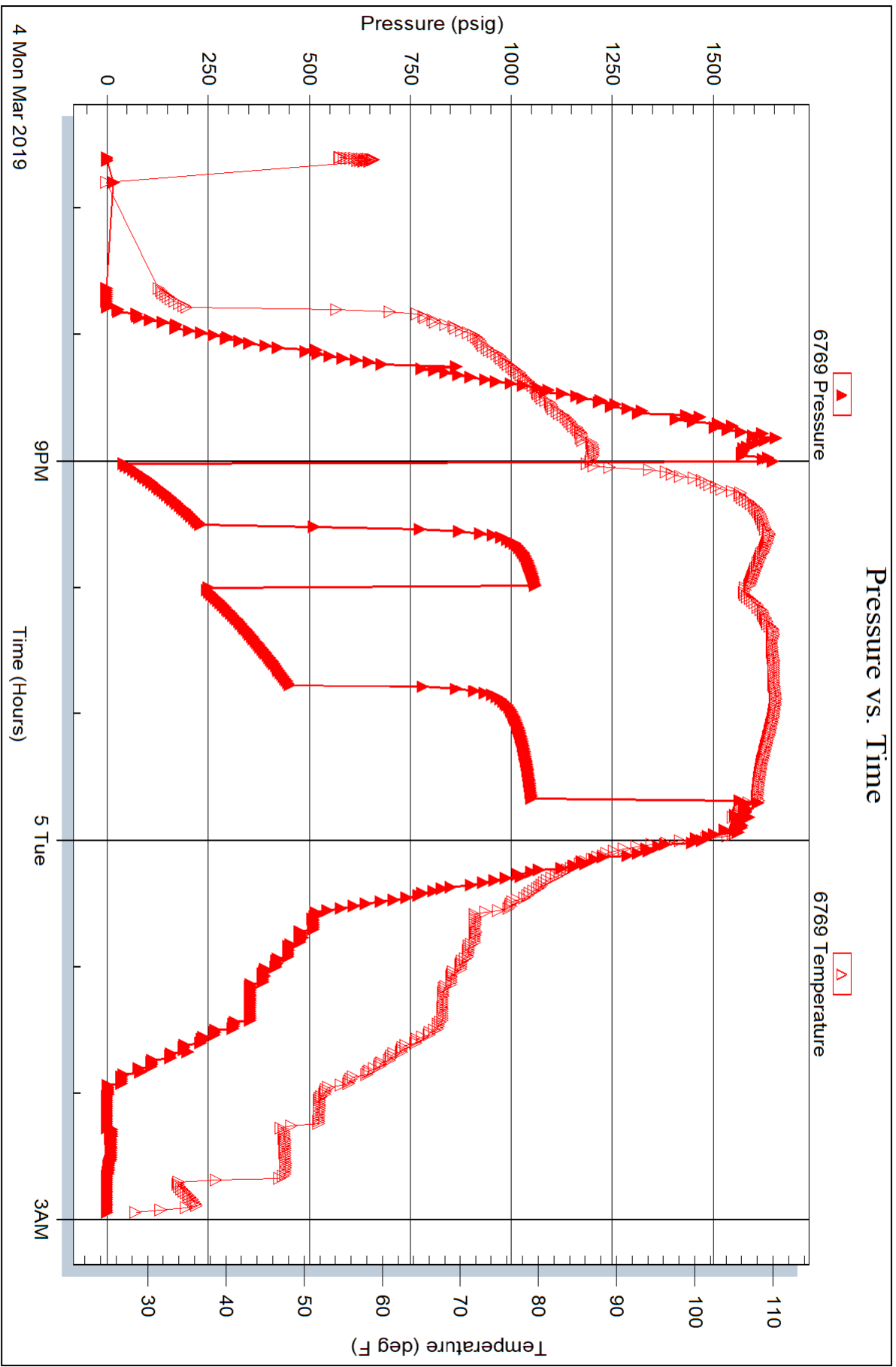
Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time









# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64993

Well Name & No. Ptacek #2 Test No. 1 Date 3/2/2019  
 Company Mai Oil Operations Inc Elevation 1820 KB 1812 GL  
 Address 8411 Preston Rd Ste 800 Dallas, TX 75225-5520  
 Co. Rep / Geo. Jim Musgrove Rig Southwing 3  
 Location: Sec. 16 Twp 15S Rge. 12W Co. Russel State Ks

Interval Tested 2975-3020 Zone Tested Lansing A-C  
 Anchor Length 45' Drill Pipe Run 2974 Mud Wt. 8.9  
 Top Packer Depth 2970 Drill Collars Run — Vis 64  
 Bottom Packer Depth 2975 Wt. Pipe Run — WL 7.6  
 Total Depth 3020 Chlorides 6000 ppm System LCM 2#  
 Blow Description IF - built to 1"  
IS T - no blow back  
FF - built to 1/4"  
FS T - no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>0.5 M.</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 20' BHT 93° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1590</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>4:15 Am</u>
(B) First Initial Flow <u>22</u>	<input type="checkbox"/> Jars _____	T-Started <u>5:36</u>
(C) First Final Flow <u>25</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>7:27</u>
(D) Initial Shut-In <u>46</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>9:27</u>
(E) Second Initial Flow <u>20</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>11:13</u>
(F) Second Final Flow <u>24</u>	<input checked="" type="checkbox"/> Mileage <u>74RT</u> 74	Comments _____
(G) Final Shut-In <u>37</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>1518</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>30</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>30</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1274</u>
	Sub Total <u>1274</u>	MP/DST Disc't _____

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

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. 64994

Well Name & No. Pfencek #2 Test No. 2 Date 3/3/2019  
 Company Mai Oil Operations Inc Elevation 1820 KB 1812 GL  
 Address 8411 Preston Rd Ste 800 Dallas tx 75225-5520  
 Co. Rep / Geo. Jim Murgrove Rig south wind 3  
 Location: Sec. 16 Twp 15s Rge. 12w Co. Russell State KS

Interval Tested 3124-3200 Zone Tested Lansing I-K  
 Anchor Length 76 Drill Pipe Run 3129 Mud Wt. 9.3  
 Top Packer Depth 3119 Drill Collars Run — Vls 50  
 Bottom Packer Depth 3124 Wt. Pipe Run — WL 7.6  
 Total Depth 3200 Chlorides 6500 ppm System LCM 1#

Blow Description IF - built to 1 1/2"  
FST - weak surface blow back  
FE - built to 4"  
FST - no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>20'</u>	<u>O.C.M.</u>		<u>1</u>		<u>99</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 20' BHT 95° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1676  Test 1200 T-On Location 6:45  
 (B) First Initial Flow 22  Jars \_\_\_\_\_ T-Started 8:00  
 (C) First Final Flow 23  Safety Joint \_\_\_\_\_ T-Open 10:20  
 (D) Initial Shut-In 67  Circ Sub \_\_\_\_\_ T-Pulled 12:50  
 (E) Second Initial Flow 21  Hourly Standby \_\_\_\_\_ T-Out \_\_\_\_\_  
 (F) Second Final Flow 24  Mileage 74 RT 74 Comments \_\_\_\_\_  
 (G) Final Shut-In 75  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1604  Straddle \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 1274  
 Sub Total 1274 MP/DST Disc't \_\_\_\_\_

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

Approved By \_\_\_\_\_ Our Representative Benny Mulligan

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. 64995

Well Name & No. Ptacek #2 Test No. 3 Date 3/4/2019  
 Company Mai Oil Operations Inc Elevation 1820 KB 1812 GL  
 Address 8411 Preston Rd Ste 800 Dallas tx 75225-5520  
 Co. Rep / Geo. Jim Musgrove Rig Southwind 3  
 Location: Sec. 16 Twp 15 S Rge. 12 W Co. Russell State KS

Interval Tested 3233-3261 Zone Tested Arbuckle  
 Anchor Length 28' Drill Pipe Run 3225 Mud Wt. 9.6  
 Top Packer Depth 3228 Drill Collars Run --- Vis 48  
 Bottom Packer Depth 3233 Wt. Pipe Run --- WL 8.8  
 Total Depth 3261 Chlorides 6500 ppm System LCM 1#  
 Blow Description IF - Built to 2"  
ISI - no blow back  
FF - Built to 3'  
F&I - no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>45'</u>	<u>0.0 M.</u>		<u>5</u>		<u>95</u>
	<u>2' clean oil on top</u>				

Rec Total 45' BHT 98° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1663</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>1:55</u>
(B) First Initial Flow <u>16</u>	<input type="checkbox"/> Jars _____	T-Started <u>2:29</u>
(C) First Final Flow <u>20</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>4:34</u>
(D) Initial Shut-In <u>1035</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>7:05</u>
(E) Second Initial Flow <u>23</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>8:54</u>
(F) Second Final Flow <u>27</u>	<input checked="" type="checkbox"/> Mileage <u>74 RT</u> 74	Comments _____
(G) Final Shut-In <u>1073</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1613</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby _____	Total <u>1274</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1274</u>	

Approved By \_\_\_\_\_ Our Representative Benny Mulligan

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. 64996

Well Name & No. Ptacek #2 Test No. 4 Date 3/4/2019  
 Company Mai. Oil Operations Inc Elevation 1820 KB 1812 GL  
 Address 8411 Preston Rd Ste 800 Dallas tx 75225-5520  
 Co. Rep / Geo. Jim Muscare Rig Southwind 3  
 Location: Sec. 16 Twp 15s Rge. 12w Co. Russell State KS

Interval Tested 3233-3270 Zone Tested Arbuckle  
 Anchor Length 37' Drill Pipe Run 3226 Mud Wt. 9.5  
 Top Packer Depth 3228 Drill Collars Run — Vis 52  
 Bottom Packer Depth 3233 Wt. Pipe Run — WL 8  
 Total Depth 3270 Chlorides 5000 ppm System LCM 2#

Blow Description IS - BOB 4mins 10sec total build 58"  
ESI - no blow back  
FF - BOB 5mins total build 78"  
FSE - 1/4" blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>400</u>	<u>O.C.W.M.</u>		<u>40</u>	<u>60</u>	
<u>660</u>	<u>M.C.W</u>		<u>90</u>	<u>10</u>	
<u>240</u>	<u>W.</u>		<u>100</u>		

Rec Total 1300 BHT 106 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1667</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>5:45 PM</u>
(B) First Initial Flow <u>43</u>	<input type="checkbox"/> Jars _____	T-Started <u>6:36</u>
(C) First Final Flow <u>234</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>9:01</u>
(D) Initial Shut-In <u>1059</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>11:31</u>
(E) Second Initial Flow <u>244</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>2:57</u>
(F) Second Final Flow <u>450</u>	<input checked="" type="checkbox"/> Mileage <u>74RT</u> 74	Comments <u>Loaded tool after test</u>
(G) Final Shut-In <u>1050</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1607</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1274</u>
	Sub Total <u>1274</u>	MP/DST Disc't _____

Approved By \_\_\_\_\_ Our Representative Benny Mulligan

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**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.  
Ptacek #2  
SW-NW-SE-NW (1890' FNL & 1460' FWL)  
Section 16-15s-12w  
Russell County, Kansas

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**Dry and Abandoned**

**Contractor:** Southwind Drilling Co. (rig #3)  
**Commenced:** February 25, 2019  
**Completed:** March 3, 2019  
**Elevation:** 1821' K.B., 1819' D.F., 1813' G.L.  
**Casing program:** Surface; 8 5/8" @ 555'  
Production, 5 1/2" @ none  
**Sample:** Samples saved and examined 2250' to the Rotary Total Depth.  
**Drilling time:** One (1) foot drilling time recorded and kept 2250' to the Rotary Total Depth.  
**Measurements:** All depths measured from the Kelly Bushing.  
**Drill Stem Tests:** There were four (4) Drill Stem Tests ran by Trilobite Testing Co.  
**Electric Log:** By Eli; Dual Induction, Compensated Density/Neutron and Micro

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	736	+1085
Base Anhydrite	766	+1055
Grand Haven	2304	-483
1 <sup>st</sup> Tarkio Sand	2317	-496
Dover	2327	-506
2 <sup>nd</sup> Tarkio Sand	2335	-514
Tarkio Lime	2377	-556
Elmont	2435	-614
Howard	2574	-753
Topeka	2610	-789
Heebner	2884	-1063
Toronto	2904	-1083
Douglas	2919	-1098

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

**1<sup>st</sup> TARKIO SAND**

2317-2322' Sand, gray, grayish green; silty poorly developed, no shows.

**2<sup>nd</sup> TARKIO SAND**

2335-2346' Sand, gray, grayish green, very fine grained; silty, trace iron pyrite, poorly developed, no shows.

**TOPEKA SECTION**

2610-2800' There were several zones of well-developed porosity encountered in the drilling of the Upper Topeka Section but no show of oil and/or gas was noted.

2810-2820' Limestone, gray to tan, finely crystalline, granular in part, chalky, no shows.

2832-2841' Limestone, gray to white, sub-oomoldic, few oolitic, chalky, poor visible porosity; trace poor brown stain, no show of free oil and no odor in fresh samples.

2844-2860' Limestone, as above, trace brown stain, trace of free oil and faint odor when samples broken

**TORONTO SECTION**

2904-2910' Limestone, white, cream, finely crystalline, slightly dolomitic, no shows.

**LANSING SECTION**

2984-2992' Limestone, gray, cream, oomoldic, fair oomoldic porosity, trace brown and dark brown stain, show of free oil and faint odor in fresh samples.

3011-3022' Limestone, cream, white, sub-oomoldic, chalky; trace poor stain, no show of free oil and no odor in fresh samples.

**Drill Stem Test #1** **2975-3020**  
**(Log Measurements 2977-3022)**

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

**Blow: Weak**

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3031-3040' Limestone, gray, white, finely crystalline, slightly chalky, no shows.

3050-3058' Limestone, cream, white, oomoldic, fair oomoldic porosity, chalky, trace brown stain, trace free oil and no odor in fresh samples.

3068-3098' Limestone, white, oolitic, oomoldic, fair to good oomoldic porosity, chalky, plus white chalk.

3120-3130 Poor samples (Junk)

3136-3148' Limestone, white, cream, oolitic, chalky, trace brown stain, no show of free oil and faint odor in fresh samples.

3158-3170' Limestone, gray and white, oolitic/fossiliferous, chalky in part; light brown stain; trace of free oil and faint odor in fresh samples.

3196-3200' Limestone, white, finely crystalline, few medium crystalline, chalky, poor visible porosity, no shows.

**Drill Stem Test #2** **3124-3200**  
(Log Measurements **3126-3202**)

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

**Blow:** Weak

**Recovery:** 20' oil very slightly oil cut mud  
(1% oil; 99% mud)

**Pressures:** ISIP 67 psi  
FSIP 75 psi  
IFP 22-23 psi  
FFP 21-24 psi  
HSH 1676-1604 psi

3224-3238' Limestone, tan, brown, chalky increasingly cherty (dense)

**ARBUCKLE SECTION**

3256-3259' Dolomite, white, cream, fine and medium crystalline, scattered porosity:

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**Drill Stem Test #3** **3233-3261**  
**( Log Measurement 3235-3263)**

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

**Blow:** Weak

**Recovery:** 2' clean oil  
45' slightly oil cut mud  
(5% oil; 95% mud)

**Pressures:** ISIP 1035 psi  
FSIP 1073 psi  
IFP 16-20 psi  
FFP 23-27 psi  
HSH 1663-1613 psi

**Supervision above by Jim from 2317-3263**

**Supervision below by Keith from 3263-3317**

3263-3268' Dolomite, white, light gray, fine to medium crystalline, trace inter-crystalline porosity, trace stain, trace of free oil and good odor in fresh samples.

**Drill Stem Test #4** **3233-3266**  
**( Log Measurement 3235-3268)**

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

**Blow:** Strong

**Recovery:** 2' clean oil  
400' muddy water; trace of oil  
660' muddy water  
240' water

**Pressures:** ISIP 1060 psi  
FSIP 1050 psi  
IFP 44-235 psi  
FFP 244-450 psi  
HSH 1667-1607 psi

3268-3276' Dolomite; white, light gray, fine and medium crystalline. fair inter-



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**Rotary Total Depth: 3315**  
**Log Total Depth: 3317**

**Recommendations:**

The Mai Oil Operations, Ptacek #2 was plugged and abandoned at the Rotary Total Depth 3315

Respectfully yours,

   
James C. Musgrove and Keith Reavis  
Petroleum Geologists



# 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. 1199

Date	2-26-19	Sec.	16	Twp.	15	Range	12	County	Russell	State	Ks	On Location		Finish	12:30 PM
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Lease Ptacek Location Breaker hill - 4S, 2E, 25, 1/2E,

Well No. 2 Owner 5/Into

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 Surface Charge To Major oil

Hole Size 12 1/4" T.D. 555' Csg. 8 3/8" Depth 555' 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. 25' Shoe Joint 25' Cement Amount Ordered 250 60/40 4% cc 2% gel

Meas Line Displace 33 3/4 BLS

**EQUIPMENT**

Pumptrk	17	No.	Cementor		Common	<u>130</u>
			Helper	<u>David</u>	Poz. Mix	<u>100</u>
Bulktrk	15	No.	Driver	<u>Danoy</u>	Gel.	<u>5</u>
			Driver	<u>Rick</u>	Calclum	<u>11</u>

**JOB SERVICES & REMARKS**

Remarks:	<u>Cement did Circulate</u>	Hulls
Rat Hole		Salt
Mouse Hole		Flowseal
Centralizers		Kol-Seal
Baskets		Mud CLR 48
D/V or Port Collar		CFL-117 or CD110 CAF 38
		Sand
		Handling <u>266</u>
		Mileage

**FLOAT EQUIPMENT**

Guide Shoe	<u>Rubber plug</u>
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

Pumptrk Charge Long Surface  
Mileage 15

Signature	<u>Jay Olson</u>	Tax	
		Discount	
		Total Charge	

