



## DRILL STEM TEST REPORT

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

8411 Preston Rd Ste 800  
Dallas, TX 75225

ATTN: Wyatt Urban

**Pfeifer #3**

**5-14S-17W Ellis,KS**

Start Date: 2019.07.04 @ 02:58:00

End Date: 2019.07.04 @ 08:45:00

Job Ticket #: 65939                      DST #: 1

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

Printed: 2019.07.08 @ 10:39:54



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations, Inc.

**5-14S-17W Ellis,KS**

8411 Preston Rd Ste 800  
Dallas, TX 75225

**Pfeifer #3**

Job Ticket: 65939

**DST#: 1**

ATTN: Wyatt Urban

Test Start: 2019.07.04 @ 02:58:00

## GENERAL INFORMATION:

Formation: **LKC A - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:18:30

Time Test Ended: 08:45:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

**Interval: 3288.00 ft (KB) To 3360.00 ft (KB) (TVD)**

Reference Elevations: 2029.00 ft (KB)

Total Depth: 3360.00 ft (KB) (TVD)

2020.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

**Serial #: 8671 Outside**

Press@RunDepth: 56.21 psig @ 3289.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.07.04

End Date:

2019.07.04

Last Calib.:

2019.07.04

Start Time:

02:58:05

End Time:

08:44:59

Time On Btm:

2019.07.04 @ 05:18:00

Time Off Btm:

2019.07.04 @ 06:41:15

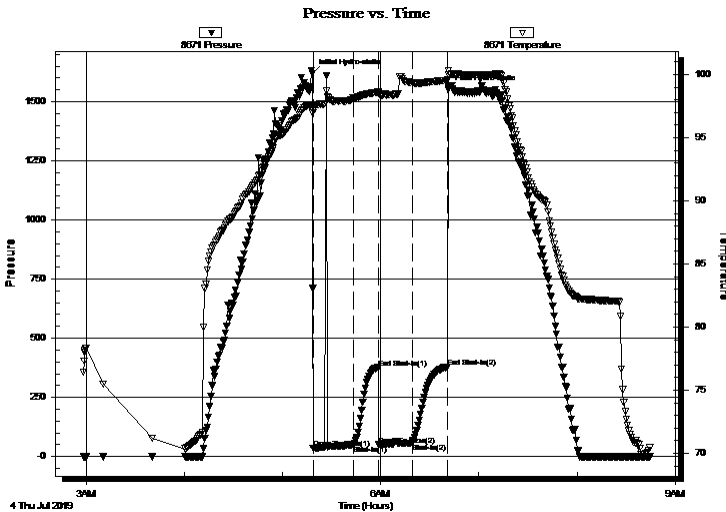
**TEST COMMENT:** 15 - IFP - Opened Tool chased 10' Flushed tool weak blow for a few seconds then died

15 - ISI - No Return

20 - FFP - No blow Flushed tool weak blow a couple seconds then died

20 - FSI - No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1617.63	97.63	Initial Hydro-static
1	35.46	97.16	Open To Flow (1)
26	47.74	98.10	Shut-In(1)
41	372.99	98.61	End Shut-In(1)
41	49.41	98.47	Open To Flow (2)
61	56.21	99.37	Shut-In(2)
83	379.02	99.55	End Shut-In(2)
84	1551.67	100.32	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
93.00	Mud - 100%m	0.95

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations, Inc.

**5-14S-17W Ellis,KS**

8411 Preston Rd Ste 800  
Dallas, TX 75225

**Pfeifer #3**

Job Ticket: 65939

**DST#: 1**

ATTN: Wyatt Urban

Test Start: 2019.07.04 @ 02:58:00

## Tool Information

Drill Pipe:	Length: 3290.51 ft	Diameter: 3.25 inches	Volume: 33.76 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: 33.76 bbl</u>	Tool Chased 10.00 ft
Drill Pipe Above KB:	22.51 ft			String Weight: Initial 30000.00 lb
Depth to Top Packer:	3288.00 ft			Final 30000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	72.00 ft			
Tool Length:	92.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3273.00	
Hydraulic tool	5.00			3278.00	
Packer	5.00			3283.00	20.00 Bottom Of Top Packer
Packer	5.00			3288.00	
Stubb	1.00			3289.00	
Recorder	0.00	8360	Inside	3289.00	
Recorder	0.00	8671	Outside	3289.00	
perforations	35.00			3324.00	
Change Over Sub	1.00			3325.00	
Drill Pipe	31.00			3356.00	
Change Over Sub	1.00			3357.00	
Bullnose	3.00			3360.00	72.00 Bottom Packers & Anchor

**Total Tool Length: 92.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Mai Oil Operations, Inc.

**5-14S-17W Ellis,KS**

8411 Preston Rd Ste 800  
Dallas, TX 75225

**Pfeifer #3**

Job Ticket: 65939

**DST#: 1**

ATTN: Wyatt Urban

Test Start: 2019.07.04 @ 02:58:00

### 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: 68.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
93.00	Mud - 100%m	0.954

Total Length: 93.00 ft      Total Volume: 0.954 bbl

Num Fluid Samples: 0

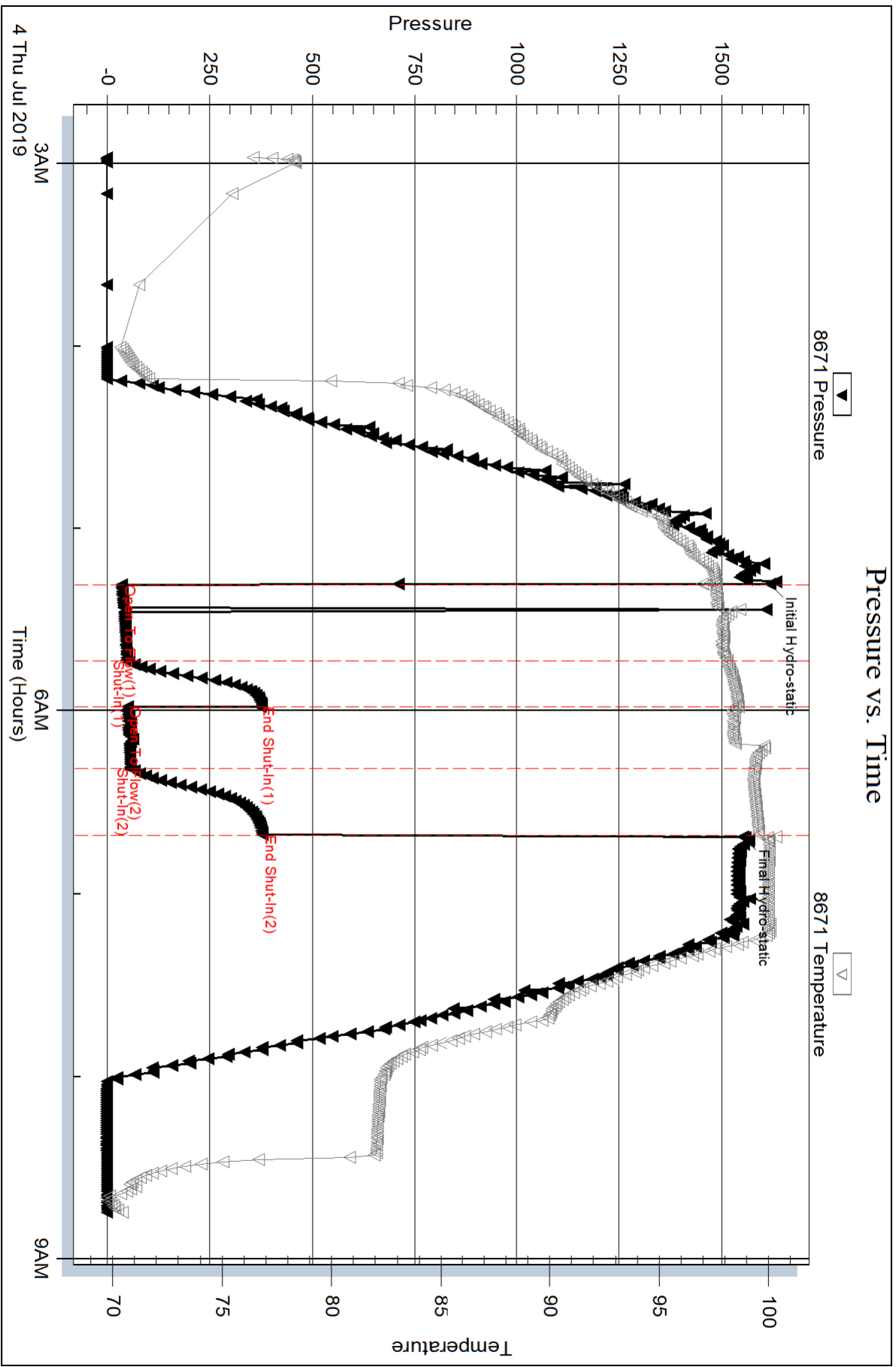
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



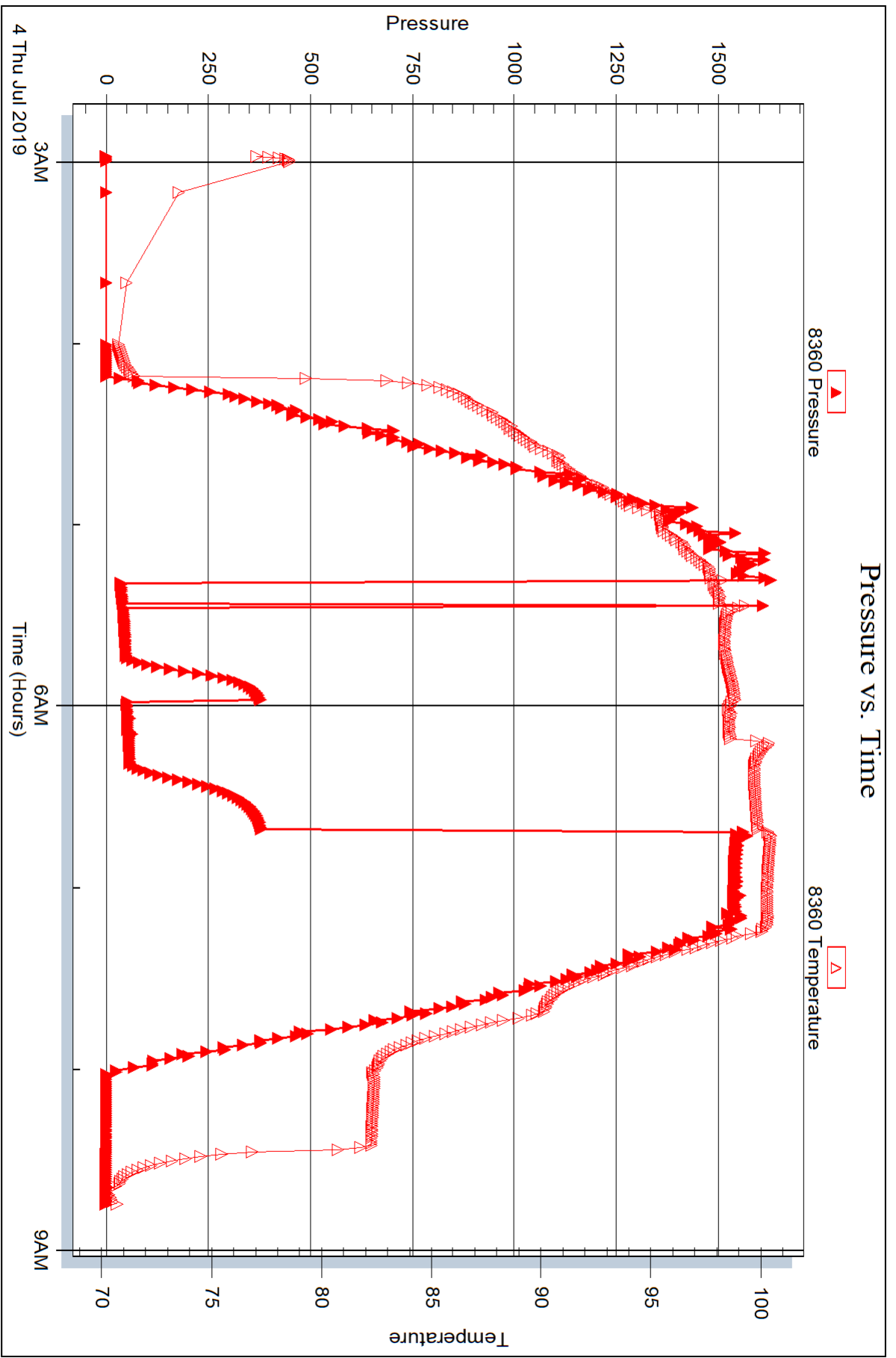
Serial #: 8360

Inside

Mai Oil Operations, Inc.

Preifer #3

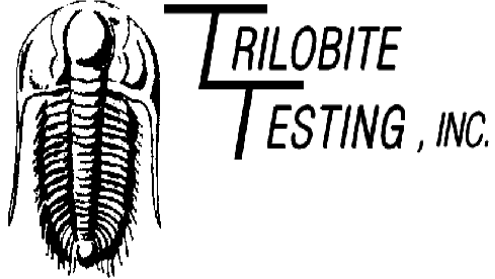
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 65939

Printed: 2019.07.08 @ 10:39:55



## DRILL STEM TEST REPORT

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

8411 Preston Rd Ste 800  
Dallas, TX 75225

ATTN: Wyatt Urban

**Pfeifer #3**

**5-14S-17W Ellis,KS**

Start Date: 2019.07.04 @ 16:20:00

End Date: 2019.07.04 @ 22:51:30

Job Ticket #: 65940                      DST #: 2

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

Printed: 2019.07.08 @ 10:39:27





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations, Inc.

**5-14S-17W Ellis,KS**

8411 Preston Rd Ste 800  
Dallas, TX 75225

**Pfeifer #3**

Job Ticket: 65940

**DST#: 2**

ATTN: Wyatt Urban

Test Start: 2019.07.04 @ 16:20:00

## GENERAL INFORMATION:

Formation: **LKC D - F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:13:15

Time Test Ended: 22:51:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

**Interval: 3342.00 ft (KB) To 3408.00 ft (KB) (TVD)**

Reference Elevations: 2029.00 ft (KB)

Total Depth: 3408.00 ft (KB) (TVD)

2020.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

**Serial #: 8671**

**Outside**

Press@RunDepth: 56.97 psig @ 3343.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.07.04

End Date:

2019.07.04

Last Calib.:

2019.07.04

Start Time:

16:20:05

End Time:

22:51:29

Time On Btm:

2019.07.04 @ 18:13:00

Time Off Btm:

2019.07.04 @ 21:15:45

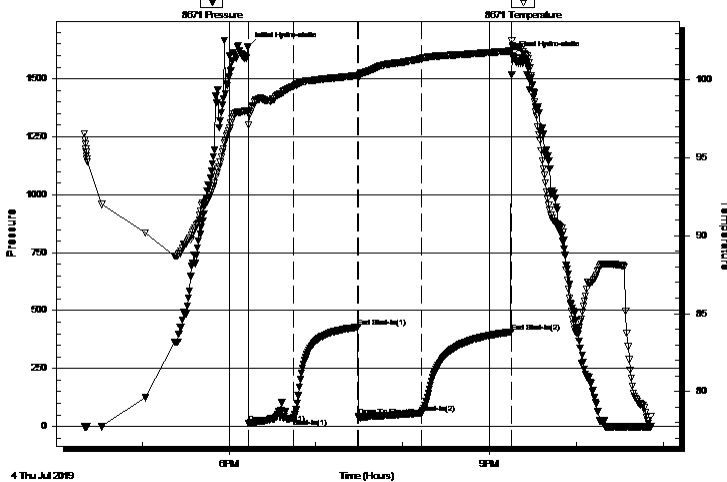
**TEST COMMENT:** 30 - IFP - Surface blow gradually built up to 4 1/4"

45 - ISI - No Return

45 - FFP - Surface blow built to 4 1/4"

60 - FSI - No Return

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1639.32	98.03	Initial Hydro-static
1	13.88	97.10	Open To Flow (1)
32	34.42	99.58	Shut-In(1)
76	427.61	100.30	End Shut-In(1)
77	42.48	100.08	Open To Flow (2)
120	56.97	101.39	Shut-In(2)
182	407.59	101.86	End Shut-In(2)
183	1599.37	102.17	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
104.00	OCMW - 10%o - 40%m - 50%w	1.07

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations, Inc.

**5-14S-17W Ellis,KS**

8411 Preston Rd Ste 800  
Dallas, TX 75225

**Pfeifer #3**

Job Ticket: 65940

**DST#: 2**

ATTN: Wyatt Urban

Test Start: 2019.07.04 @ 16:20:00

## Tool Information

Drill Pipe:	Length: 3353.44 ft	Diameter: 3.25 inches	Volume: 34.41 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: 48000.00 lb
			<u>Total Volume: 34.41 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.44 ft			String Weight: Initial 32000.00 lb
Depth to Top Packer:	3342.00 ft			Final 33000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	66.00 ft			
Tool Length:	86.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3327.00	
Hydraulic tool	5.00			3332.00	
Packer	5.00			3337.00	20.00 Bottom Of Top Packer
Packer	5.00			3342.00	
Stubb	1.00			3343.00	
Recorder	0.00	8360	Inside	3343.00	
Recorder	0.00	8671	Outside	3343.00	
perforations	29.00			3372.00	
Change Over Sub	1.00			3373.00	
Drill Pipe	31.00			3404.00	
Change Over Sub	1.00			3405.00	
Bullnose	3.00			3408.00	66.00 Bottom Packers & Anchor

**Total Tool Length: 86.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mai Oil Operations, Inc.

**5-14S-17W Ellis,KS**

8411 Preston Rd Ste 800  
Dallas, TX 75225

**Pfeifer #3**

Job Ticket: 65940

**DST#: 2**

ATTN: Wyatt Urban

Test Start: 2019.07.04 @ 16:20:00

## 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:

9000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.77 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
104.00	OCMW - 10%o - 40%m - 50%w	1.067

Total Length: 104.00 ft      Total Volume: 1.067 bbl

Num Fluid Samples: 0

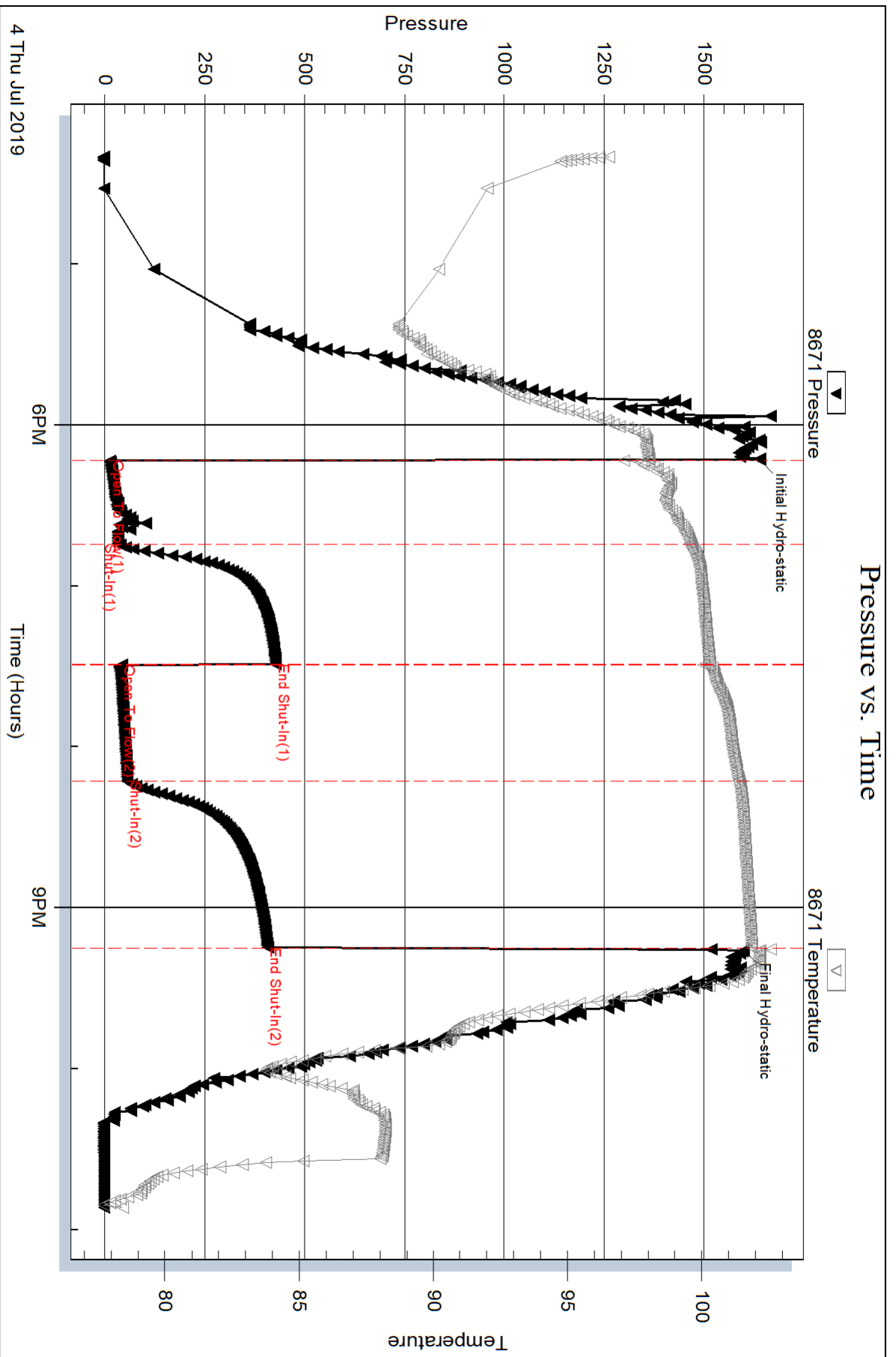
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: resistivity .600 @ 78 deg.



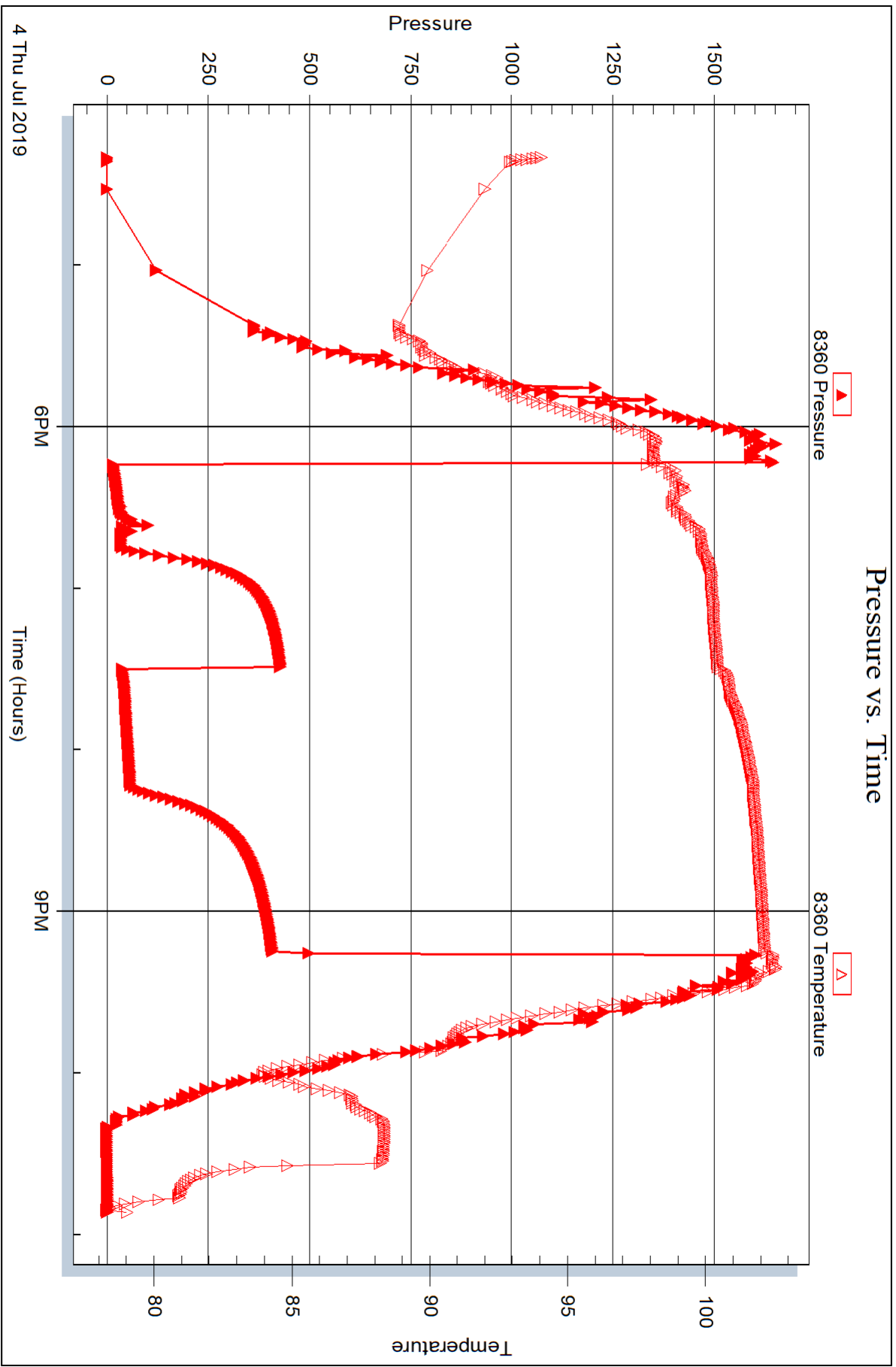
Serial #: 8360

Inside

Mai Oil Operations, Inc.

Pfeifer #3

DST Test Number: 2





## DRILL STEM TEST REPORT

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

8411 Preston Rd Ste 800  
Dallas, TX 75225

ATTN: Wyatt Urban

**Pfeifer #3**

**5-14S-17W Ellis,KS**

Start Date: 2019.07.05 @ 15:16:00

End Date: 2019.07.05 @ 22:04:15

Job Ticket #: 65941                      DST #: 3

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

Printed: 2019.07.08 @ 10:24:02



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations, Inc.

**5-14S-17W Ellis,KS**

8411 Preston Rd Ste 800  
Dallas, TX 75225

**Pfeifer #3**

Job Ticket: 65941

**DST#: 3**

ATTN: Wyatt Urban

Test Start: 2019.07.05 @ 15:16:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:48:30

Time Test Ended: 22:04:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

**Interval: 3503.00 ft (KB) To 3570.00 ft (KB) (TVD)**

Reference Elevations: 2029.00 ft (KB)

Total Depth: 3570.00 ft (KB) (TVD)

2020.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

**Serial #: 8671 Outside**

Press@RunDepth: 365.12 psig @ 3504.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.07.05 End Date: 2019.07.05

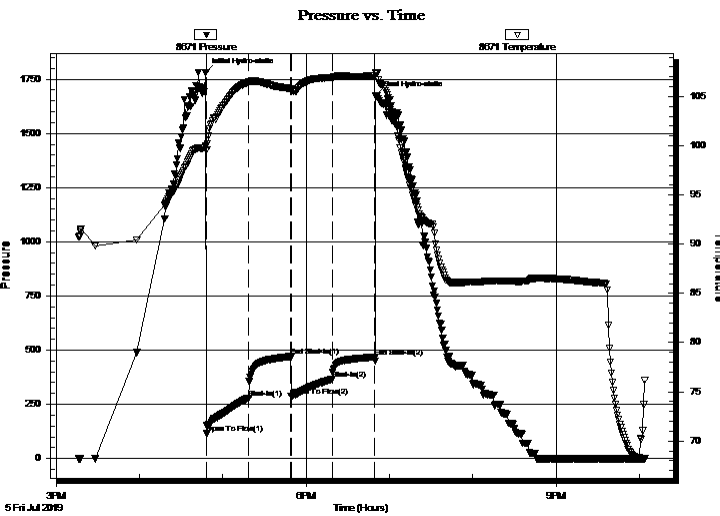
Last Calib.: 2019.07.05

Start Time: 15:16:05 End Time: 22:04:14

Time On Btm: 2019.07.05 @ 16:47:45

Time Off Btm: 2019.07.05 @ 18:50:00

**TEST COMMENT:** 30 - IFP - Surface blow built to BOB in 2 mins.  
30 - ISI - Return started 5 mins. in and built to 3"  
30 - FFP - Surface blow built to BOB in 6 mins.  
30 - FSI - Return started 10 mins. in and stayed at a weak blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1781.15	99.95	Initial Hydro-static
1	114.13	99.63	Open To Flow (1)
31	279.18	106.46	Shut-In(1)
61	470.21	105.82	End Shut-In(1)
62	288.07	105.74	Open To Flow (2)
91	365.12	106.94	Shut-In(2)
122	466.93	107.09	End Shut-In(2)
123	1673.23	107.45	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
283.00	WMO - 5%w - 25%m - 70%o	2.90
378.00	GMO - 5%m - 30%g - 65%o	3.88
252.00	GO - 30%g - 70%o	2.59
0.00	126' - GIP	0.00

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations, Inc.

**5-14S-17W Ellis,KS**

8411 Preston Rd Ste 800  
Dallas, TX 75225

**Pfeifer #3**

Job Ticket: 65941

**DST#: 3**

ATTN: Wyatt Urban

Test Start: 2019.07.05 @ 15:16:00

## Tool Information

Drill Pipe:	Length: 3511.13 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: 50000.00 lb
			<u>Total Volume: 36.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.13 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3503.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	67.00 ft			
Tool Length:	87.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3488.00	
Hydraulic tool	5.00			3493.00	
Packer	5.00			3498.00	20.00 Bottom Of Top Packer
Packer	5.00			3503.00	
Stubb	1.00			3504.00	
Recorder	0.00	8360	Inside	3504.00	
Recorder	0.00	8671	Outside	3504.00	
perforations	30.00			3534.00	
Change Over Sub	1.00			3535.00	
Drill Pipe	31.00			3566.00	
Change Over Sub	1.00			3567.00	
Bullnose	3.00			3570.00	67.00 Bottom Packers & Anchor

**Total Tool Length: 87.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mai Oil Operations, Inc.

**5-14S-17W Ellis,KS**

8411 Preston Rd Ste 800  
Dallas, TX 75225

**Pfeifer #3**

Job Ticket: 65941

**DST#: 3**

ATTN: Wyatt Urban

Test Start: 2019.07.05 @ 15:16:00

## 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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.78 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 bbbl
283.00	WMO - 5%w - 25%m - 70%o	2.904
378.00	GMO - 5%m - 30%g - 65%o	3.879
252.00	GO - 30%g - 70%o	2.586
0.00	126' - GIP	0.000

Total Length: 913.00 ft

Total Volume: 9.369 bbl

Num Fluid Samples: 0

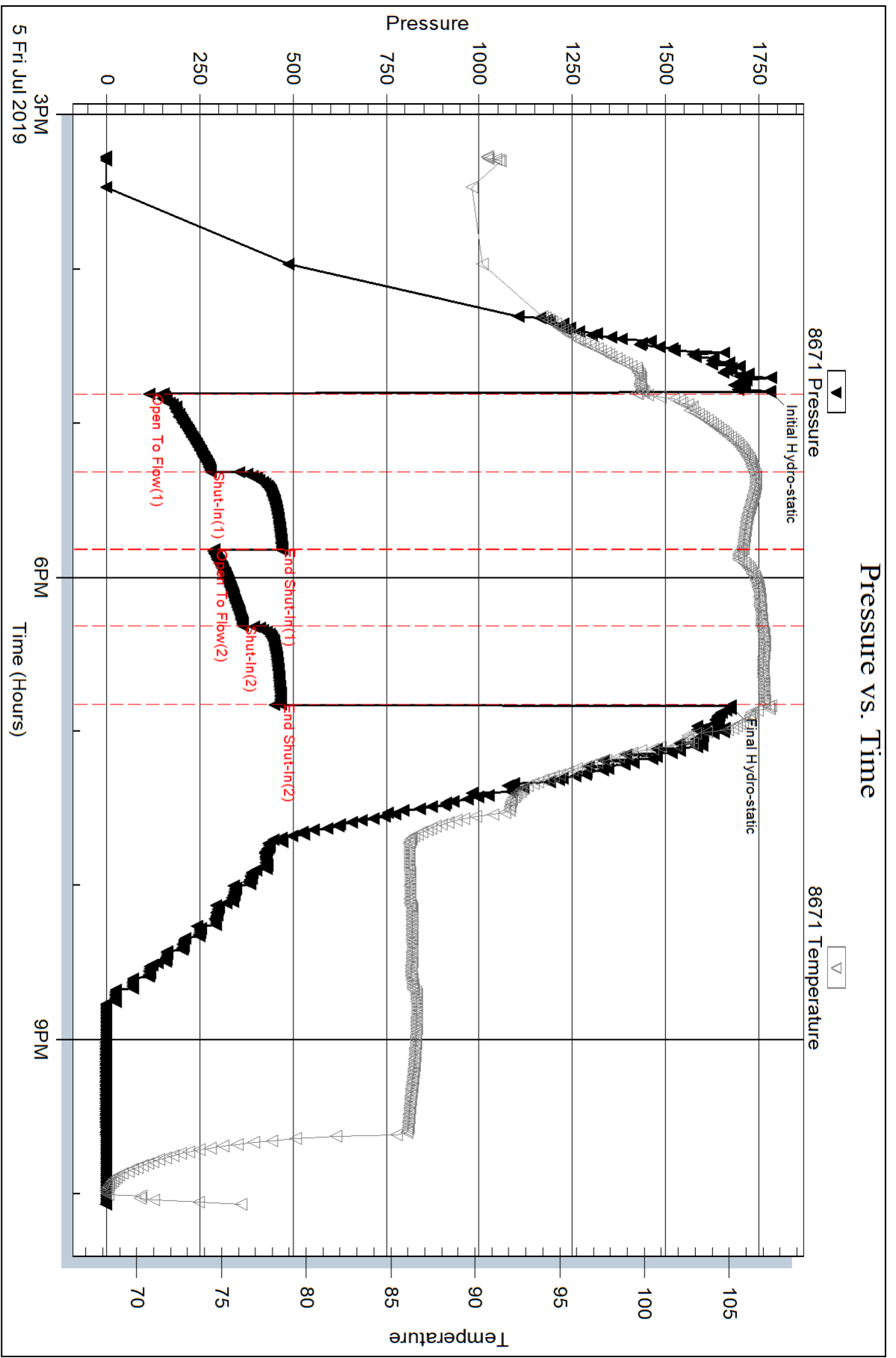
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



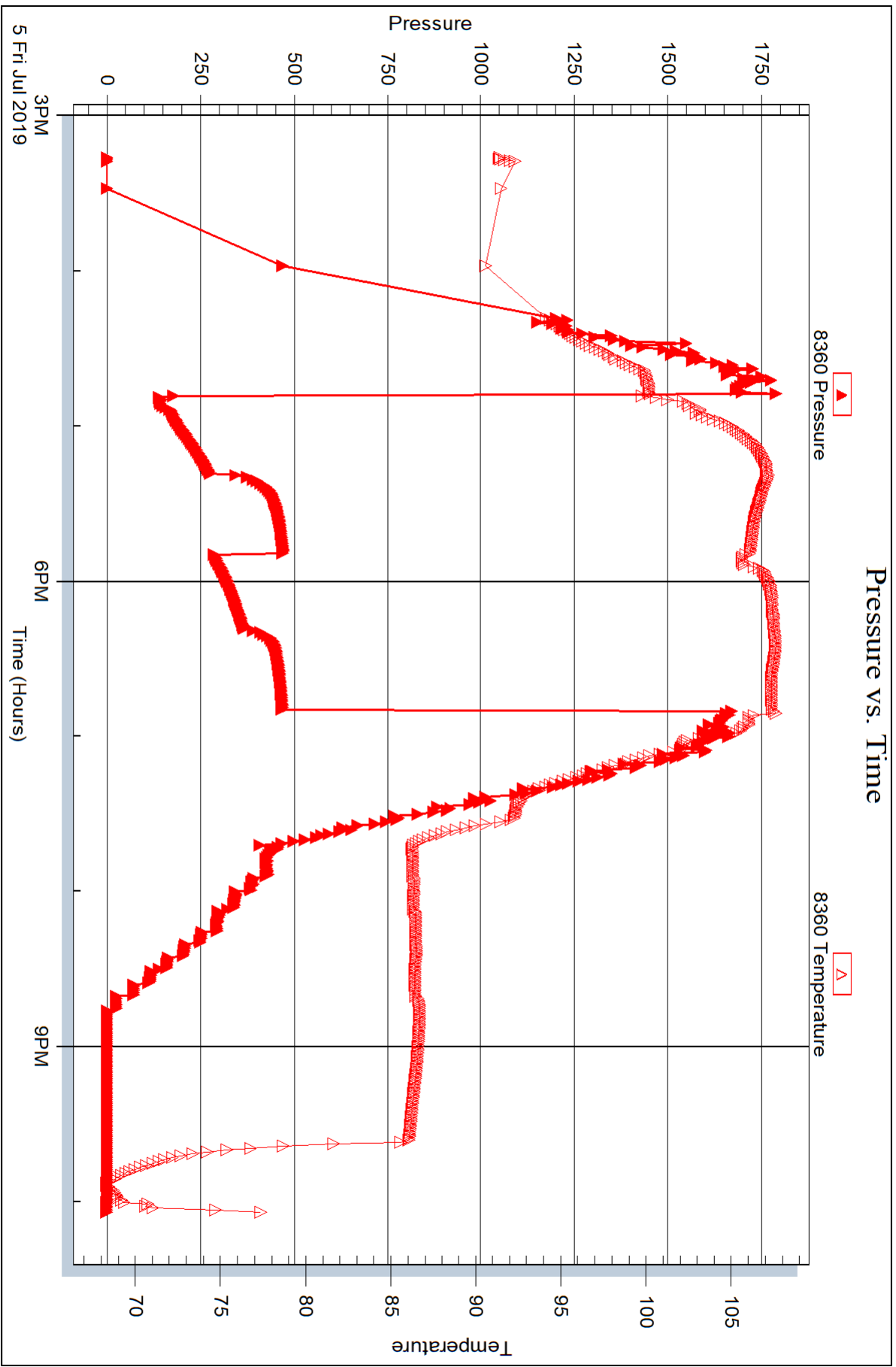
Serial #: 8360

Inside

Mai Oil Operations, Inc.

Pfeifer #3

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 65941

Printed: 2019.07.08 @ 10:24:04



## DRILL STEM TEST REPORT

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

8411 Preston Rd Ste 800  
Dallas, TX 75225

ATTN: Wyatt Urban

**Pfeifer #3**

**5-14S-17W Ellis,KS**

Start Date: 2019.07.06 @ 03:58:00

End Date: 2019.07.06 @ 10:47:30

Job Ticket #: 65942                      DST #: 4

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

Printed: 2019.07.08 @ 10:20:04



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mai Oil Operations, Inc.

**5-14S-17W Ellis,KS**

8411 Preston Rd Ste 800  
Dallas, TX 75225

**Pfeifer #3**

Job Ticket: 65942

**DST#: 4**

ATTN: Wyatt Urban

Test Start: 2019.07.06 @ 03:58:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:37:30

Time Test Ended: 10:47:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

**Interval: 3575.00 ft (KB) To 3597.00 ft (KB) (TVD)**

Reference Elevations: 2029.00 ft (KB)

Total Depth: 3597.00 ft (KB) (TVD)

2020.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

**Serial #: 8671 Outside**

Press@RunDepth: 634.96 psig @ 3576.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.07.06

End Date:

2019.07.06

Last Calib.:

2019.07.06

Start Time:

03:58:05

End Time:

10:47:29

Time On Btm:

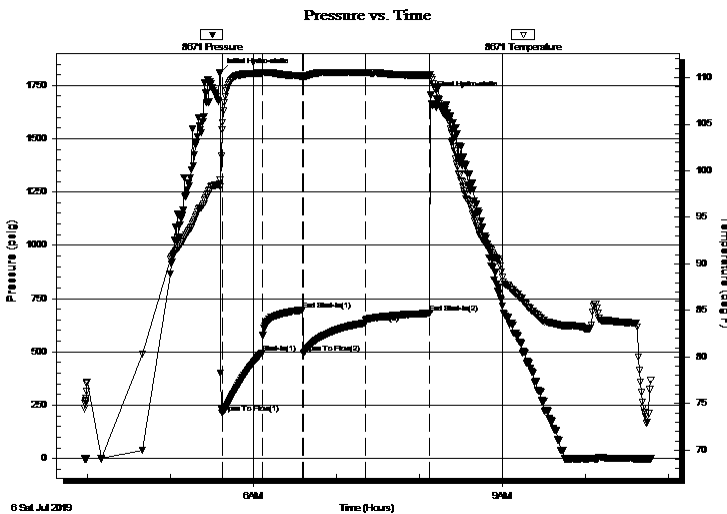
2019.07.06 @ 05:36:00

Time Off Btm:

2019.07.06 @ 08:08:30

**TEST COMMENT:** 30 - IFP - Surface blow built to BOB in 2 mins.  
30 - ISI - No Return  
45 - FFP - Surface blow built to BOB in 4 mins.  
45 - FSI - No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1810.04	99.02	Initial Hydro-static
2	212.36	104.38	Open To Flow (1)
31	494.76	110.51	Shut-In(1)
60	695.48	110.16	End Shut-In(1)
61	495.07	110.08	Open To Flow (2)
105	634.96	110.52	Shut-In(2)
152	681.03	110.28	End Shut-In(2)
153	1704.32	110.00	Final Hydro-static

## Recovery

## Gas Rates

Length (ft)	Description	Volume (bbl)
441.00	OSMW - Oil Skim 3%M 97%W	4.52
378.00	OSMW - Oil Skim - 5%M - 95%w	3.88
567.00	GOCMW 10G 14%O 15%M 60%W	5.82
31.00	OCMW 30%O 30%M 40%W	0.32

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations, Inc.

**5-14S-17W Ellis,KS**

8411 Preston Rd Ste 800  
Dallas, TX 75225

**Pfeifer #3**

Job Ticket: 65942

**DST#: 4**

ATTN: Wyatt Urban

Test Start: 2019.07.06 @ 03:58:00

## Tool Information

Drill Pipe:	Length: 3574.37 ft	Diameter: 3.25 inches	Volume: 36.68 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: 48000.00 lb
			<u>Total Volume: 36.68 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.37 ft			String Weight: Initial 32000.00 lb
Depth to Top Packer:	3575.00 ft			Final 37000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	42.00 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			3560.00	
Hydraulic tool	5.00			3565.00	
Packer	5.00			3570.00	20.00 Bottom Of Top Packer
Packer	5.00			3575.00	
Stubb	1.00			3576.00	
Recorder	0.00	8360	Inside	3576.00	
Recorder	0.00	8671	Outside	3576.00	
perforations	18.00			3594.00	
Bullnose	3.00			3597.00	22.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>42.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mai Oil Operations, Inc.

**5-14S-17W Ellis,KS**

8411 Preston Rd Ste 800  
Dallas, TX 75225

**Pfeifer #3**

Job Ticket: 65942

**DST#: 4**

ATTN: Wyatt Urban

Test Start: 2019.07.06 @ 03:58:00

## 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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.78 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 bbbl
441.00	OSMW - Oil Skim 3%M 97%W	4.525
378.00	OSMW - Oil Skim - 5%M - 95%w	3.879
567.00	GOCMW 10G 14%O 15%M 60%W	5.818
31.00	OCMW 30%O 30%M 40%W	0.318

Total Length: 1417.00 ft      Total Volume: 14.540 bbl

Num Fluid Samples: 0

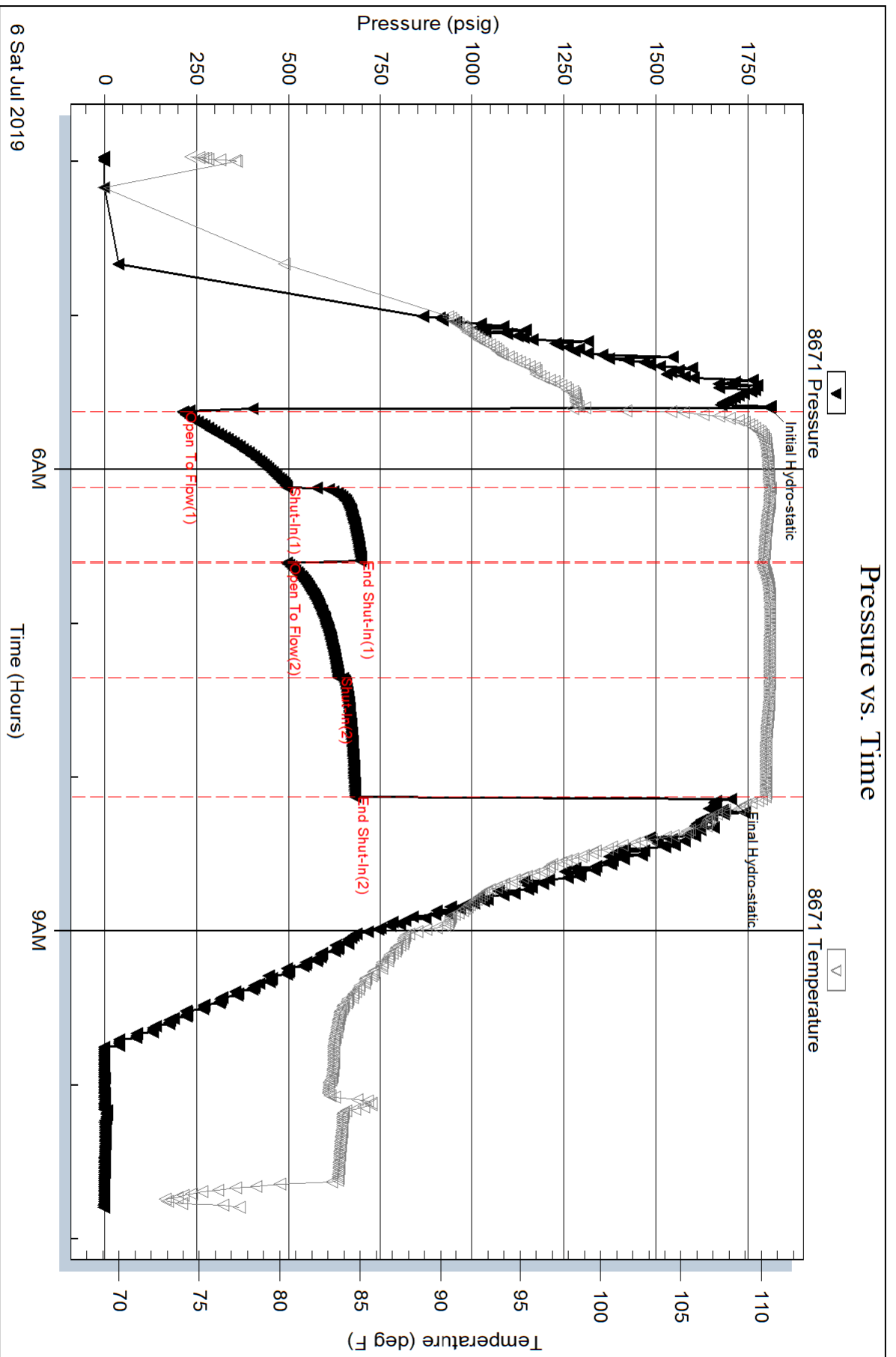
Num Gas Bombs: 0

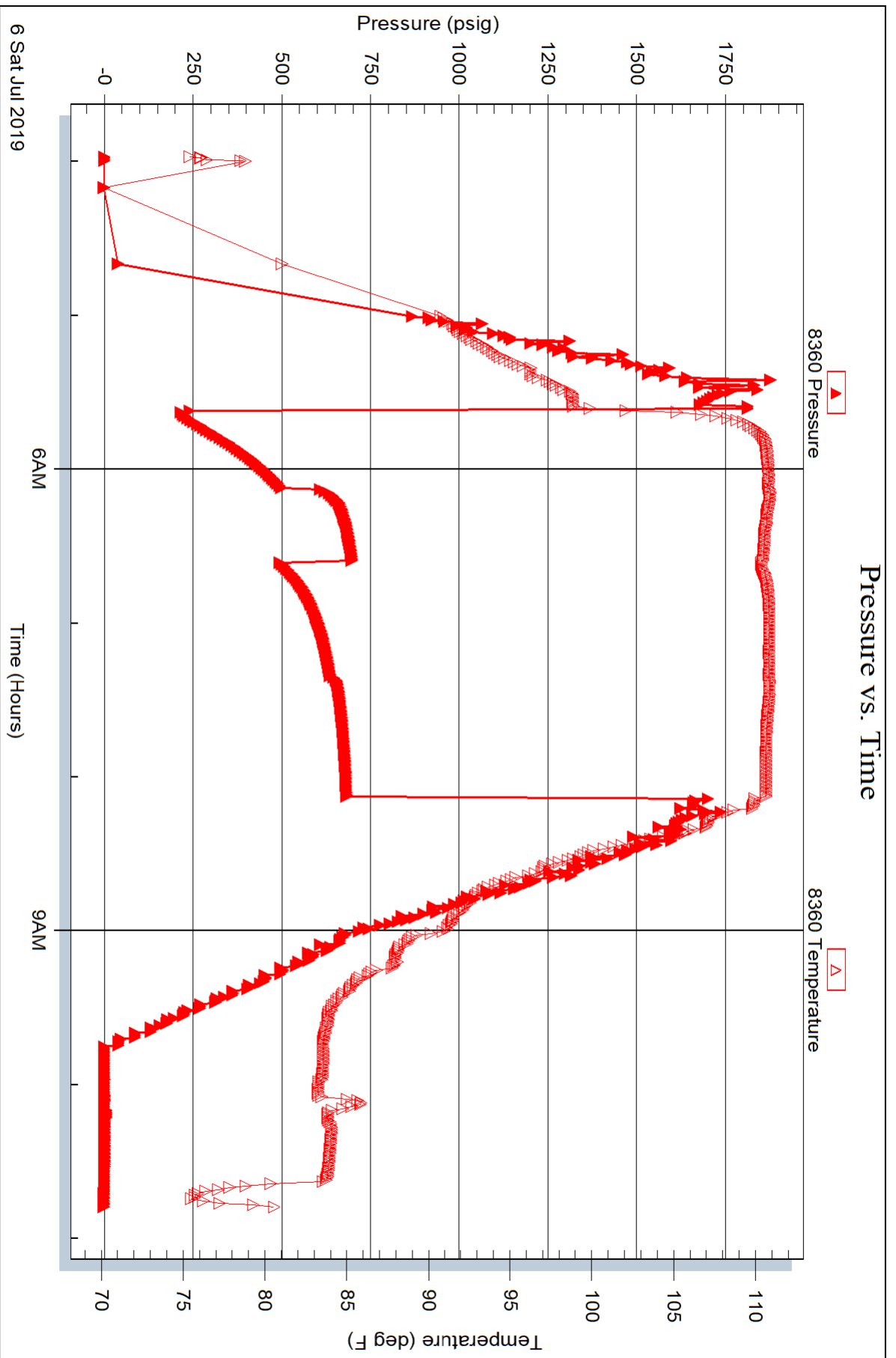
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .467@87deg - salinity







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 65939

NO.

Well Name & No. Pfeifer #3 Test No. 1 Date 7-3-19  
 Company Mai Oil Operations, Inc. Elevation 2029 KB 2020 GL  
 Address 8411 Preston Rd Ste 800, Dallas TX 75225  
 Co. Rep / Geo. Wyatt Urban Rig Southwind #3  
 Location: Sec. 5 Twp 14S Rge. 17W Co. Ellis State Ks

Interval Tested 3288 - 3310 Zone Tested Lansing A-D  
 Anchor Length 72 Drill Pipe Run 3290.57' Mud Wt. 8.7  
 Top Packer Depth 3283 Drill Collars Run 0 Vis 68  
 Bottom Packer Depth 3288 Wt. Pipe Run 0 WL 8  
 Total Depth 3310' Chlorides 2000 ppm System LCM 1/2#

Blow Description IFP - Open tool chased 10' flushed tool weak blow for a few seconds  
ISI - No Return  
FFP - No blow flushed tool weak blow a couple seconds then died  
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>93'</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 93' BHT 100°F Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1618  Test \_\_\_\_\_ T-On Location 11:30pm  
 (B) First Initial Flow 35  Jars \_\_\_\_\_ T-Started 2:58am  
 (C) First Final Flow 48  Safety Joint \_\_\_\_\_ T-Open 5:28am  
 (D) Initial Shut-In 373  Circ Sub \_\_\_\_\_ T-Pulled 6:38am  
 (E) Second Initial Flow 49  Hourly Standby 3hrs T-Out 8:45am  
 (F) Second Final Flow 56  Mileage 12 R/T Comments Geo said they  
 (G) Final Shut-In 379  Sampler \_\_\_\_\_ would be on bank  
 (H) Final Hydrostatic 1552  Straddle \_\_\_\_\_ between 12-12:30

Initial Open 15  Shale Packer \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Initial Shut-In 15  Extra Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Final Flow 20  Extra Recorder \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Final Shut-In 20  Day Standby \_\_\_\_\_ Sub Total \_\_\_\_\_  
 Sub Total \_\_\_\_\_  Accessibility \_\_\_\_\_ Total \_\_\_\_\_  
 MP/DST Disc't \_\_\_\_\_

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

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 65940

NO.

Well Name & No. Pfeifer #3 Test No. 2 Date 7-4-19  
 Company Mai Oil Operations, Inc Elevation 2029 KB 2020 GL  
 Address 8411 Preston Rd Ste 800, Dallas Tx 75225  
 Co. Rep / Geo. Wyatt Urban Rig Southwind #3  
 Location: Sec. 5 Twp 14S Rge. 17W Co. Ellis State Ks

Interval Tested 3342' - 3408' Zone Tested Lansing D-F  
 Anchor Length 160' Drill Pipe Run 3353.44 Mud Wt. 8.9  
 Top Packer Depth 3337' Drill Collars Run 0 Vis 48  
 Bottom Packer Depth 3342' Wt. Pipe Run 0 WL 10.8  
 Total Depth 3408' Chlorides 5000 ppm System LCM 1/2 #

Blow Description IFP - surface blow gradually built to 4 1/4"  
ISI - No Return  
FFP - surface blow built to 4 1/4"  
ESI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>104'</u>	<u>0cmw</u>	<u>10</u>	<u>50</u>	<u>40</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 104' BHT 102F Gravity \_\_\_\_\_ API RW 100 @ 78 °F Chlorides 9,000 ppm

(A) Initial Hydrostatic <u>11039</u>	<input checked="" type="checkbox"/> Test _____	T-On Location <u>3:45pm</u>
(B) First Initial Flow <u>14</u>	<input type="checkbox"/> Jars _____	T-Started <u>4:20pm</u>
(C) First Final Flow <u>34</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>6:13pm</u>
(D) Initial Shut-In <u>428</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>9:13pm</u>
(E) Second Initial Flow <u>42</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>10:51pm</u>
(F) Second Final Flow <u>57</u>	<input checked="" type="checkbox"/> Mileage <u>12 R/T</u>	Comments _____
(G) Final Shut-In <u>408</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1599</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____

Initial Open 30  Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Final Flow 45  Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Shut-In 160  Day Standby \_\_\_\_\_ Sub Total \_\_\_\_\_  
 Accessibility \_\_\_\_\_ Total \_\_\_\_\_  
 Sub Total \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Ronald Justice

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 65941

NO.

Well Name & No. Afeifer #3 Test No. 3 Date 7-5-19  
 Company Mai Oil Operations, Inc. Elevation 2029 KB 2020 GL  
 Address 8411 Preston Rd Ste 800 Dallas Tx 75225  
 Co. Rep / Geo. Wyatt Urban Rig Southwind #3  
 Location: Sec. 5 Twp 14S Rge. 17W Co. Ellis State Ks

Interval Tested 3503' - 3570' Zone Tested Arbuckle  
 Anchor Length 67' Drill Pipe Run 3511.13' Mud Wt. 9  
 Top Packer Depth 3498 Drill Collars Run 0 Vis 410  
 Bottom Packer Depth 3503' Wt. Pipe Run 0 WL 10.8  
 Total Depth 3570' Chlorides 10000 ppm System LCM 1.5#

Blow Description IFP - Surface blow built to B.O.B in 2 mins  
ISI - Return started 5 mins. in a built to 3"  
FFP - Surface blow built to B.O.B in 6 mins.  
FSI - Return started 10 mins. in and stayed at a weak blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>283'</u>	<u>WMO</u>	<u>70</u>	<u>5</u>	<u>25</u>	<u></u>
<u>378'</u>	<u>GMO</u>	<u>30</u>	<u>65</u>	<u>5</u>	<u></u>
<u>252'</u>	<u>GO</u>	<u>30</u>	<u>70</u>	<u></u>	<u></u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 913' BHT 107°F Gravity 35 API RW @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

- (A) Initial Hydrostatic 1781
- (B) First Initial Flow 114
- (C) First Final Flow 279
- (D) Initial Shut-In 470
- (E) Second Initial Flow 288
- (F) Second Final Flow 365
- (G) Final Shut-In 467
- (H) Final Hydrostatic 1673

- Test \_\_\_\_\_
- Jars \_\_\_\_\_
- Safety Joint \_\_\_\_\_
- Circ Sub \_\_\_\_\_
- Hourly Standby \_\_\_\_\_
- Mileage 12 R/T
- Sampler \_\_\_\_\_
- Straddle \_\_\_\_\_
- Shale Packer \_\_\_\_\_
- Extra Packer \_\_\_\_\_
- Extra Recorder \_\_\_\_\_
- Day Standby \_\_\_\_\_
- Accessibility \_\_\_\_\_

T-On Location 2:45pm  
 T-Started 3:16pm  
 T-Open 4:48pm  
 T-Pulled 6:48pm  
 T-Out 10:04pm

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

Comments \_\_\_\_\_  
 EM Tool \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total \_\_\_\_\_  
 Total \_\_\_\_\_  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Royal Foster

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 65942

NO.

Well Name & No. Pfeifer #3 Test No. 4 Date 7-6-19  
 Company Mai Oil Operations Elevation 2029 KB 2020 GL  
 Address 8411 Preston Rd Ste 800 Dallas TX 75225  
 Co. Rep / Geo. Wyatt Urban Rig Southwind #3  
 Location: Sec. 5 Twp 14S Rge. 17 W Co. Ellis State Ks

Interval Tested ~~3550~~ 3575-3598' Zone Tested Arbuckle  
 Anchor Length 22' Drill Pipe Run 3574.37 Mud Wt. 9  
 Top Packer Depth 3570' Drill Collars Run 0 Vis 4/0  
 Bottom Packer Depth 3575' Wt. Pipe Run 0 WL 10.8  
 Total Depth 3598' Chlorides 10000 ppm System LCM 1.5 #

Blow Description IFP-Surface blow built to B.O.B. in 2mins.  
IST-No Return  
FFP-Surface blow built to B.O.B. in 4mins.  
FST-No Return

Rec	Feet of	%gas	%oil	%water	%mud
31'	OCmw	30	40	30	
567'	BOCmw	10	15	60	15
378'	OCmw	Skim	95	5	
441'	OCmw	Skim	97	3	

Rec Total 1417' BHT 110°F Gravity \_\_\_\_\_ API RW 467 @ 87 °F Chlorides 11,000 ppm

(A) Initial Hydrostatic 1810  Test \_\_\_\_\_ T-On Location 3:30am  
 (B) First Initial Flow 212  Jars \_\_\_\_\_ T-Started 3:58am  
 (C) First Final Flow 495  Safety Joint \_\_\_\_\_ T-Open 5:30am  
 (D) Initial Shut-In 1095  Circ Sub \_\_\_\_\_ T-Pulled 8:06am  
 (E) Second Initial Flow 495  Hourly Standby \_\_\_\_\_ T-Out 10:47am  
 (F) Second Final Flow 1635  Mileage 12 R/T Comments \_\_\_\_\_  
 (G) Final Shut-In 1681  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1704  Straddle \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Initial Shut-In 30  Extra Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Final Flow 45  Extra Recorder \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Final Shut-In 45  Day Standby \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Sub Total \_\_\_\_\_ Sub Total \_\_\_\_\_ Total \_\_\_\_\_  
 Sub Total \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_

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

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