



## DRILL STEM TEST REPORT

Prepared For: **Mustang Energy Corporation**

4100 Yellowstone Rd.  
Hays, KS 67601

ATTN: Cameron Brin

**MR Allen #17**

**22-11S-19W Ellis,KS**

Start Date: 2019.05.23 @ 02:29:53

End Date: 2019.05.23 @ 11:46:13

Job Ticket #: 65691                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
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**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mustang Energy Corporation  
 4100 Yellow stone Rd.  
 Hays, KS 67601  
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Test Start: 2019.05.23 @ 02:29:53

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:02:29  
 Time Test Ended: 11:46:13  
 Interval: **3422.00 ft (KB) To 3509.00 ft (KB) (TVD)**  
 Total Depth: 3509.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Brannan Lonsdale  
 Unit No: 73  
 Reference Elevations: 1990.00 ft (KB)  
 1982.00 ft (CF)  
 KB to GR/CF: 8.00 ft

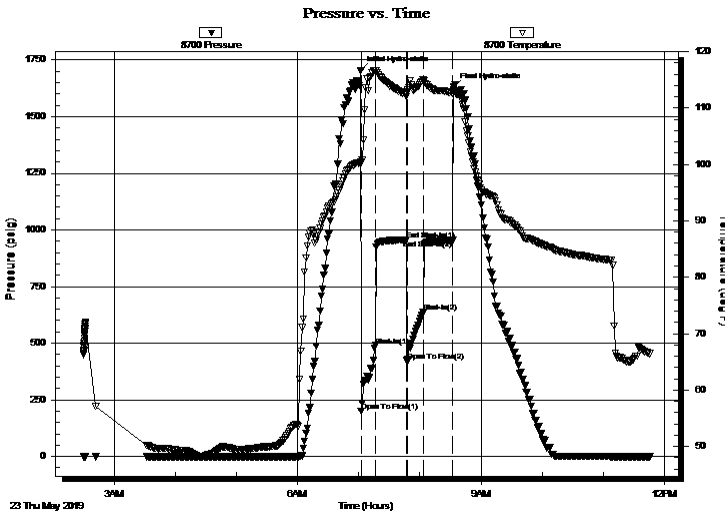
**Serial #: 8700**

**Outside**

Press@RunDepth: 635.68 psig @ 3423.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.05.23 End Date: 2019.05.23 Last Calib.: 2019.05.23  
 Start Time: 02:29:54 End Time: 11:46:13 Time On Btm: 2019.05.23 @ 07:01:59  
 Time Off Btm: 2019.05.23 @ 08:32:59

**TEST COMMENT:** 15- IF- BOB 90 secs. Built to 91.41"  
 30- IS- No blow  
 15- FF- BOB 90 secs. Built to 86.23"  
 30- FS- No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1704.01	100.47	Initial Hydro-static
1	199.75	100.29	Open To Flow (1)
15	489.11	116.55	Shut-In(1)
45	954.68	112.39	End Shut-In(1)
46	419.11	112.96	Open To Flow (2)
62	635.68	114.96	Shut-In(2)
91	953.98	112.64	End Shut-In(2)
91	1629.98	113.19	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1200.00	OCMW, 20%O 40%M 40%W	15.32
150.00	OCM, 10%O 90%M	2.13

## Gas Rates

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





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**TOOL DIAGRAM**

Mustang Energy Corporation

**22-11S-19W Ellis,KS**

4100 Yellow stone Rd.  
Hays, KS 67601

**MR Allen #17**

Job Ticket: 65691

**DST#: 1**

ATTN: Cameron Brin

Test Start: 2019.05.23 @ 02:29:53

## Tool Information

Drill Pipe:	Length: 3162.00 ft	Diameter: 3.82 inches	Volume: 44.82 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 247.00 ft	Diameter: 2.75 inches	Volume: 1.81 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 46.63 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3422.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	87.00 ft			
Tool Length:	107.00 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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Change Over Sub	1.00			3403.00	
Shut In Tool	5.00			3408.00	
Hydraulic tool	5.00			3413.00	
Packer	5.00			3418.00	20.00 Bottom Of Top Packer
Packer	4.00			3422.00	
Stubb	1.00			3423.00	
Recorder	0.00	6771	Inside	3423.00	
Recorder	0.00	8700	Outside	3423.00	
Perforations	19.00			3442.00	
Change Over Sub	1.00			3443.00	
Drill Pipe	62.00			3505.00	
Change Over Sub	1.00			3506.00	
Bullnose	3.00			3509.00	87.00 Bottom Packers & Anchor

**Total Tool Length: 107.00**



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**FLUID SUMMARY**

Mustang Energy Corporation

**22-11S-19W Ellis,KS**

4100 Yellow stone Rd.  
Hays, KS 67601

**MR Allen #17**

Job Ticket: 65691

**DST#: 1**

ATTN: Cameron Brin

Test Start: 2019.05.23 @ 02:29:53

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

30000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1200.00	OCMW, 20%O 40%M 40%W	15.324
150.00	OCM, 10%O 90%M	2.126

Total Length: 1350.00 ft      Total Volume: 17.450 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

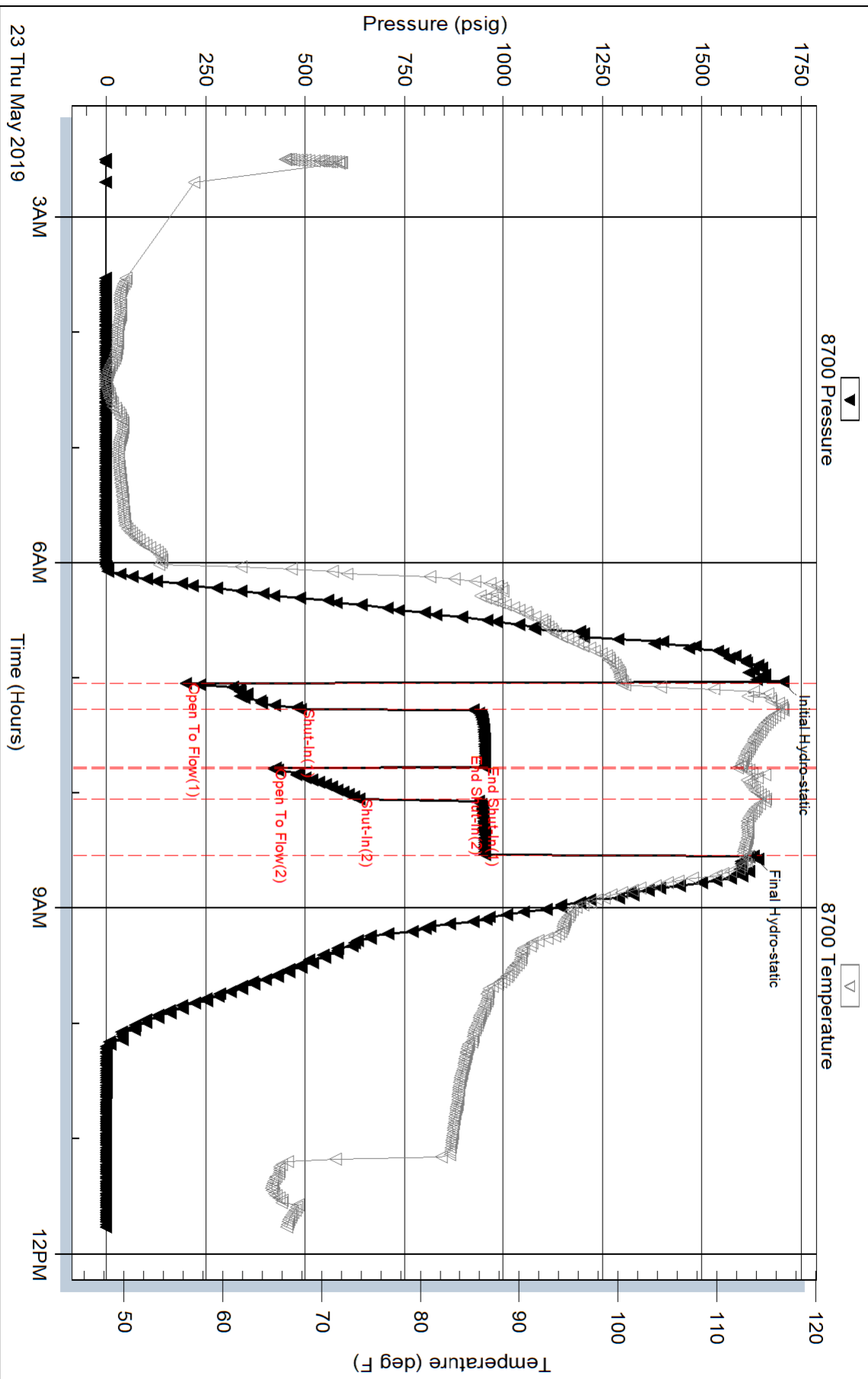
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .25@59deg

### Pressure vs. Time



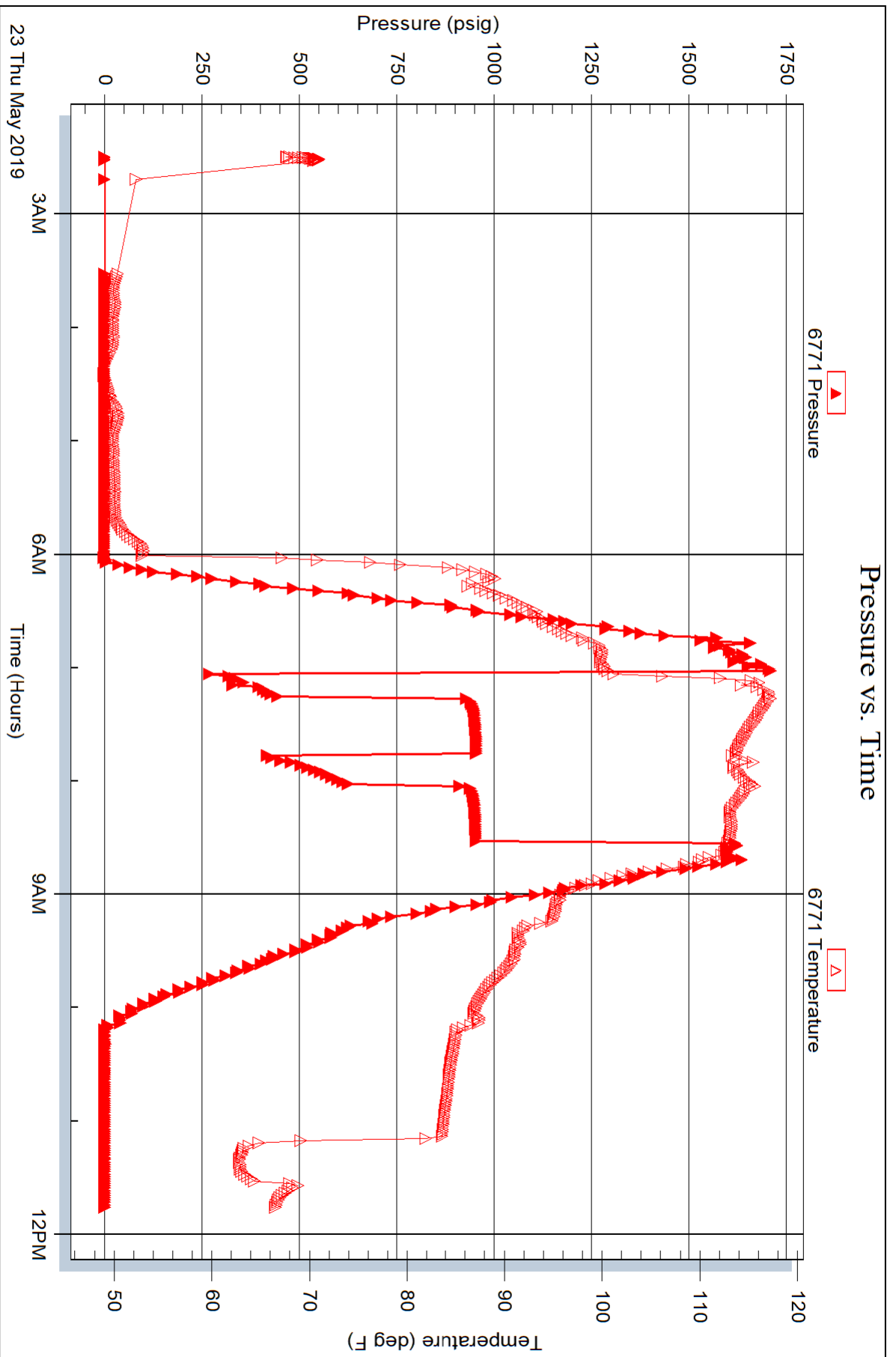
Serial #: 6771

Inside

Mustang Energy Corporation

MR Allen #17

DST Test Number: 1





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65691

Well Name & No. M.B. Allen #17 Test No. 1 Date 5/23/19  
 Company Mustang Energy Corporation Elevation 1990 KB 1982 GL  
 Address 4100 Yellowstone Rd. Hays, KS 67601  
 Co. Rep / Geo. Cameron Brin Rig Discovery 2  
 Location: Sec. 22 Twp 11 Rge. 19 Wbo. Ellis State KS

Interval Tested 3422-3509 Zone Tested Arbuckle  
 Anchor Length 87' Drill Pipe Run 3162 Mud Wt. 8.9  
 Top Packer Depth 3417 Drill Collars Run --- Vis 48  
 Bottom Packer Depth 3422 Wt. Pipe Run 247 WL 8.4  
 Total Depth 3509 Chlorides 8,500 ppm System LCM 3 1/2"

Blow Description IF-BOB 90 secs. Built to 91.41"  
ISF- No blow  
FF-BOB 90 secs. Built to 86.23"  
FSI- No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1200</u>	<u>OCMW</u>	<u>20</u>	<u>40</u>	<u>40</u>	<u>40</u>
<u>150</u>	<u>OCM</u>	<u>10</u>	<u>---</u>	<u>---</u>	<u>90</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1350' BHT 113° Gravity 29 API RW .25 @ 59° F Chlorides 30,000 ppm  
 (A) Initial Hydrostatic 1704  Test 1200 T-On Location 0130  
 (B) First Initial Flow 200  Jars \_\_\_\_\_ T-Started 0229  
 (C) First Final Flow 489  Safety Joint \_\_\_\_\_ T-Open 0701  
 (D) Initial Shut-In 955  Circ Sub \_\_\_\_\_ T-Pulled 0831  
 (E) Second Initial Flow 419  Hourly Standby .25h 25 T-Out 1146  
 (F) Second Final Flow 636  Mileage 44 RT 44 Comments Shut-in tool  
 (G) Final Shut-In 954  Sampler \_\_\_\_\_ severely plugged  
 (H) Final Hydrostatic 1630  Straddle \_\_\_\_\_ after test  
 EM Tool \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 15  Extra Packer \_\_\_\_\_  
 Initial Shut-In 30  Extra Recorder \_\_\_\_\_  
 Final Flow 15  Day Standby \_\_\_\_\_  
 Final Shut-In 30  Accessibility \_\_\_\_\_  
 Sub Total 1269 Sub Total 1269 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Braman Lonsdale

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