

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 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. 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) (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	Mull Drilling Company, Inc.
Well Name	COOPER 1-12
Doc ID	1473155

All Electric Logs Run

CDL/CNL/PE
DIL
MEL
SONIC

Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	COOPER 1-12
Doc ID	1473155

Tops

Name	Top	Datum
Anhydrite	2680	+ 337
B/Anhydrite	2720	+ 297
Heebner	3891	- 874
Lansing	3989	- 922
Stark	4117	- 1100
Marmaton	4188	- 1171
Pawnee	4293	- 1276
Cherokee	4369	- 1352
Mississippian	4503	- 1486









## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co., Inc.**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206

ATTN: Rusty Mourning

### **Cooper #1-12**

#### **12-5s-33w Rawlins, KS**

Start Date: 2019.06.30 @ 03:21:00

End Date: 2019.06.30 @ 10:32:45

Job Ticket #: 64680                      DST #: 1

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

Printed: 2019.07.05 @ 15:12:40





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Co., Inc.  
 1700 N. Waterfront Pkwy  
 Bldg 1200  
 Wichita, KS 67206  
 ATTN: Rusty Mourning

**12-5s-33w Rawlins, KS**

**Cooper #1-12**

Job Ticket: 64680

**DST#: 1**

Test Start: 2019.06.30 @ 03:21:00

## GENERAL INFORMATION:

Formation: **Toronto - LKC "A"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 05:43:00  
 Tester: James Winder  
 Time Test Ended: 10:32:45  
 Unit No: 83  
 Interval: **3823.00 ft (KB) To 3945.00 ft (KB) (TVD)**  
 Reference Elevations: 3017.00 ft (KB)  
 Total Depth: 3945.00 ft (KB) (TVD)  
 3012.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

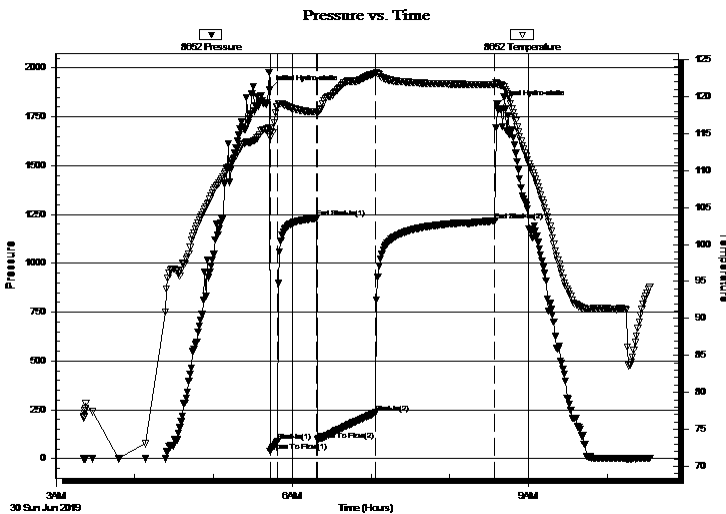
**Serial #: 8652**

**Outside**

Press@RunDepth: 234.37 psig @ 3824.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.06.30 End Date: 2019.06.30 Last Calib.: 2019.06.30  
 Start Time: 03:21:05 End Time: 10:32:44 Time On Btm: 2019.06.30 @ 05:42:45  
 Time Off Btm: 2019.06.30 @ 08:36:00

**TEST COMMENT:** 5 - IF: Blow built to 6"  
 30 - IS: No blow back  
 45 - FF: Blow built to BOB (11") at 13 min., built to 35"  
 90 - FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1887.04	115.71	Initial Hydro-static
1	35.86	114.51	Open To Flow (1)
6	89.45	118.66	Shut-In(1)
36	1229.84	117.93	End Shut-In(1)
37	96.36	117.71	Open To Flow (2)
81	234.37	123.15	Shut-In(2)
172	1216.53	121.62	End Shut-In(2)
174	1813.69	121.73	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
245.00	GMCW w/trace oil 67%w , 28%m, 5%g	2.36
125.00	GWCM w/oil spots 49%m, 44%w , 6%g	11.75
100.00	SO/WCM 73%m, 24%w , 3%o	1.40

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Co., Inc.

**12-5s-33w Rawlins, KS**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**Cooper #1-12**

Job Ticket: 64680

**DST#: 1**

Test Start: 2019.06.30 @ 03:21:00

## Tool Information

Drill Pipe:	Length: 3701.00 ft	Diameter: 3.80 inches	Volume: 51.92 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 52.50 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3823.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	122.00 ft			
Tool Length:	150.00 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
Change Over Sub	1.00			3796.00	
Shut In Tool	5.00			3801.00	
Hydraulic tool	5.00			3806.00	
EM Tool	4.00			3810.00	
Safety Joint	3.00			3813.00	
Packer	5.00			3818.00	28.00 Bottom Of Top Packer
Packer	5.00			3823.00	
Packer - Shale	0.00			3823.00	
Stubb	1.00			3824.00	
Recorder	0.00	6625	Inside	3824.00	
Recorder	0.00	8652	Outside	3824.00	
Perforations	20.00			3844.00	
Blank Spacing	96.00			3940.00	
Perforations	2.00			3942.00	
Bullnose	3.00			3945.00	122.00 Bottom Packers & Anchor

**Total Tool Length: 150.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drilling Co., Inc.

**12-5s-33w Rawlins, KS**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**Cooper #1-12**

Job Ticket: 64680

**DST#: 1**

Test Start: 2019.06.30 @ 03:21:00

## 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:

30000 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 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
245.00	GMCW w/trace oil 67%w , 28%m, 5%g	2.362
125.00	GWCM w/oil spots 49%m, 44%w , 6%g, 1%o	1.753
100.00	SO/WCM 73%m, 24%w , 3%o	1.403

Total Length: 470.00 ft      Total Volume: 5.518 bbl

Num Fluid Samples: 0

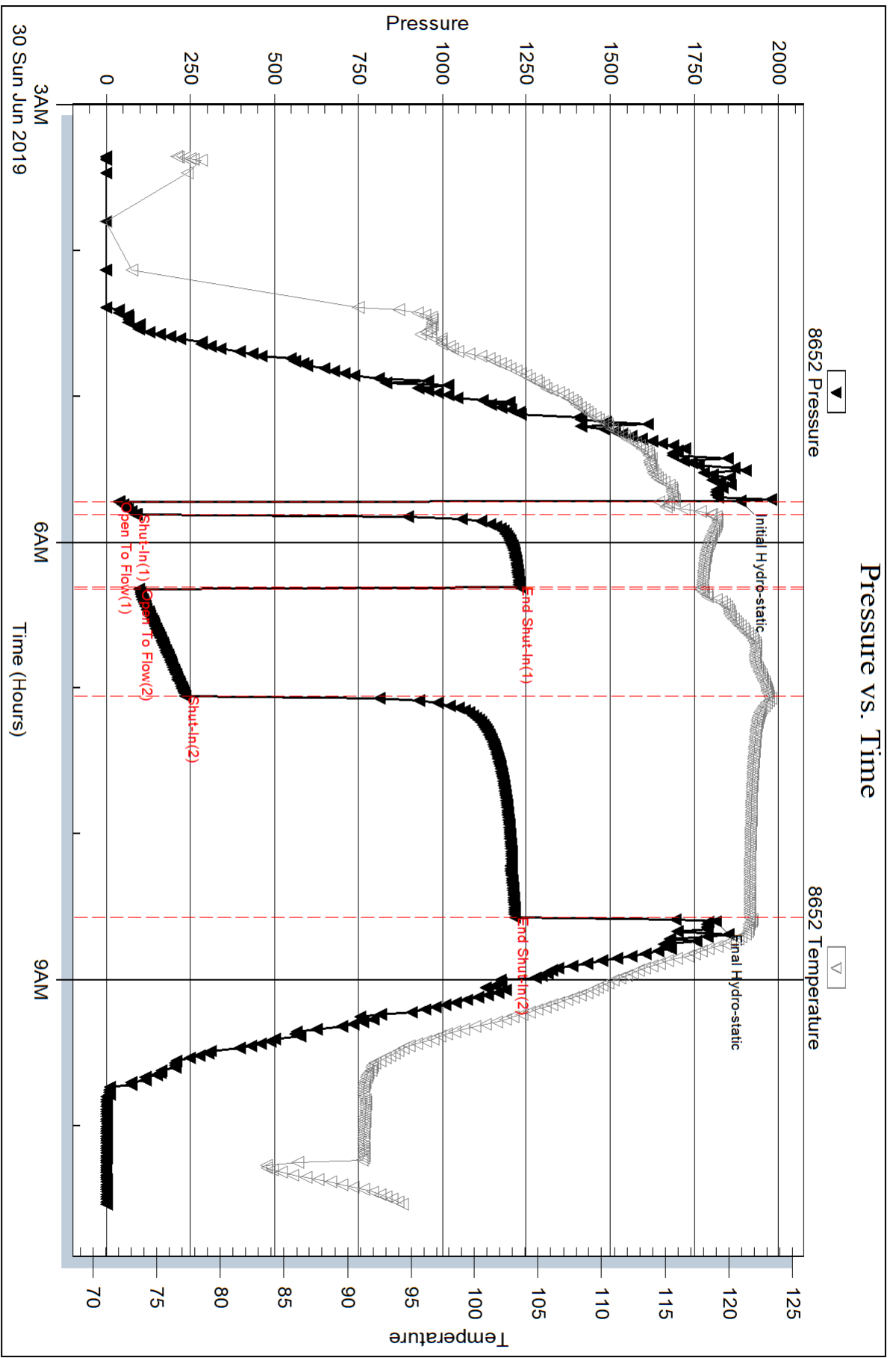
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .169 ohms @ 95 deg F Chlorides = 30,000 ppm



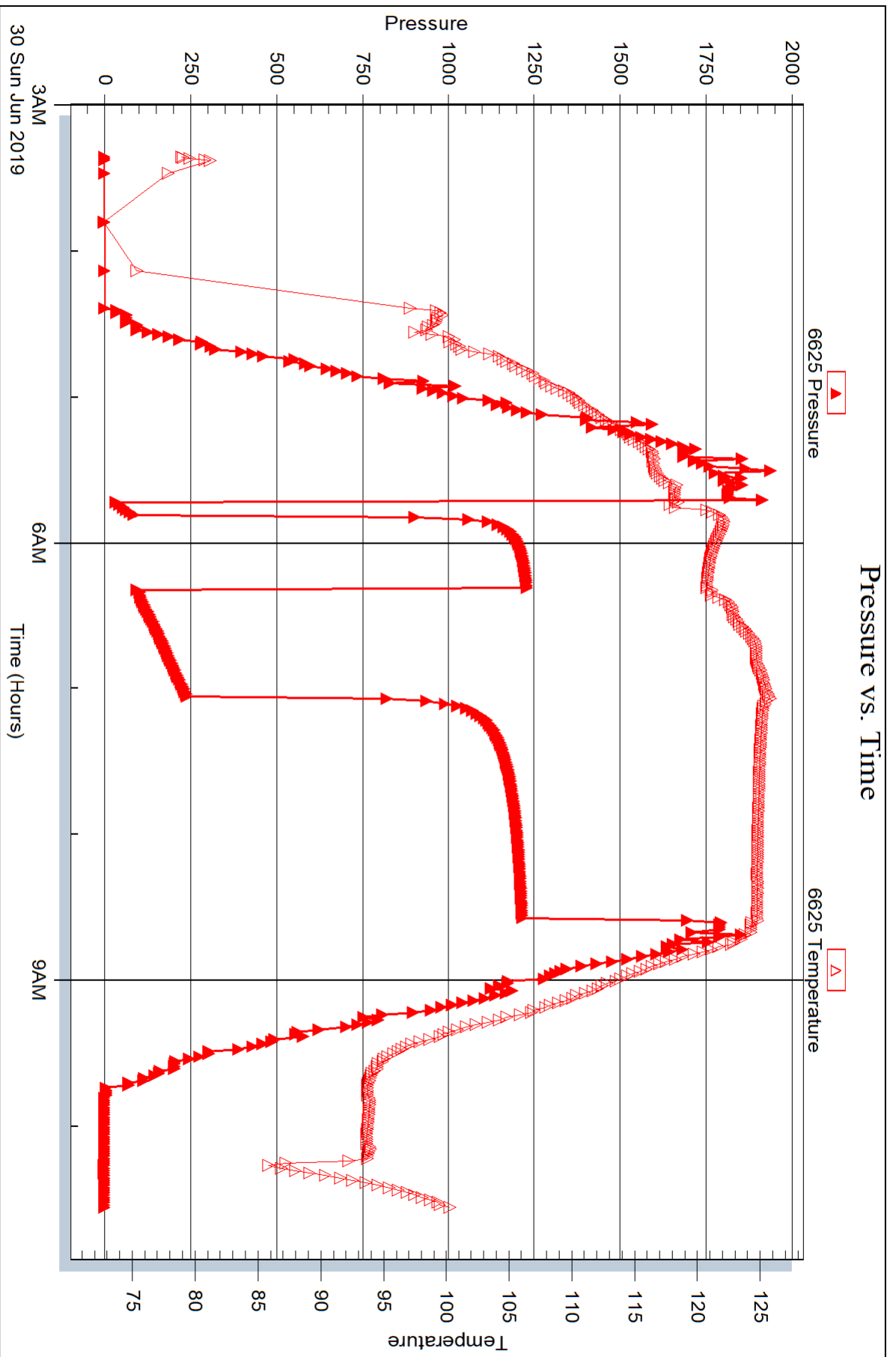
Serial #: 6625

Inside

Mull Drilling Co., Inc.

Cooper #1-12

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co., Inc.**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206

ATTN: Rusty Mourning

### **Cooper #1-12**

#### **12-5s-33w Rawlins, KS**

Start Date: 2019.06.30 @ 20:09:00

End Date: 2019.07.01 @ 00:43:15

Job Ticket #: 64681                      DST #: 2

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

Printed: 2019.07.05 @ 15:05:55



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Co., Inc.  
1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**12-5s-33w Rawlins, KS**

**Cooper #1-12**

Job Ticket: 64681

**DST#: 2**

Test Start: 2019.06.30 @ 20:09:00

## GENERAL INFORMATION:

Formation: **LKC "B - C"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:01:30  
 Time Test Ended: 00:43:15  
 Interval: **3948.00 ft (KB) To 4010.00 ft (KB) (TVD)**  
 Total Depth: 4010.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 83  
 Reference Elevations: 3017.00 ft (KB)  
 3012.00 ft (CF)  
 KB to GR/CF: 5.00 ft

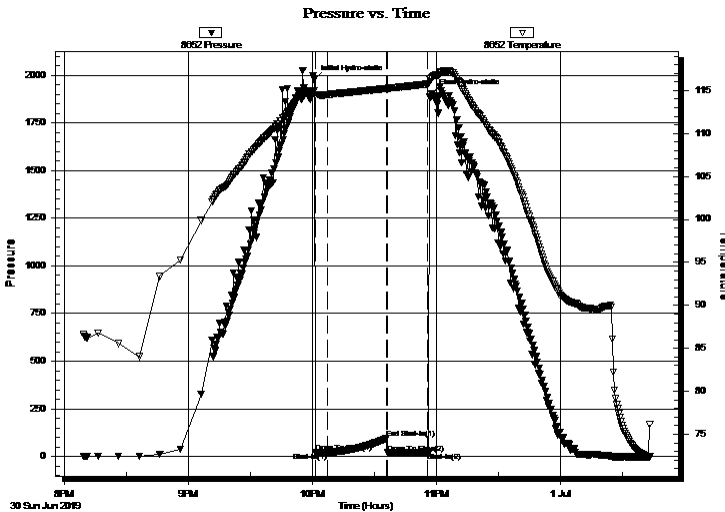
## Serial #: 8652

**Outside**

Press@RunDepth: 20.72 psig @ 3949.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.06.30 End Date: 2019.07.01 Last Calib.: 2019.07.01  
 Start Time: 20:09:05 End Time: 00:43:14 Time On Btm: 2019.06.30 @ 22:00:45  
 Time Off Btm: 2019.06.30 @ 22:57:45

**TEST COMMENT:** 5 - IF: Blow built to 1/8"  
 30 - ISI: No blow back  
 20 - FF: No blow  
 Pulled tool

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1977.71	114.95	Initial Hydro-static
1	21.42	114.52	Open To Flow (1)
7	20.72	114.50	Shut-In(1)
35	95.28	115.23	End Shut-In(1)
36	19.81	115.23	Open To Flow (2)
55	20.57	115.76	Shut-In(2)
57	1902.23	116.48	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud w /trace oil 100%m	0.00

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Co., Inc.

**12-5s-33w Rawlins, KS**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**Cooper #1-12**

Job Ticket: 64681

**DST#: 2**

Test Start: 2019.06.30 @ 20:09:00

## Tool Information

Drill Pipe:	Length: 3828.00 ft	Diameter: 3.80 inches	Volume: 53.70 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 54.28 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3948.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 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
Change Over Sub	1.00			3921.00	
Shut In Tool	5.00			3926.00	
Hydraulic tool	5.00			3931.00	
EM Tool	4.00			3935.00	
Safety Joint	3.00			3938.00	
Packer	5.00			3943.00	28.00 Bottom Of Top Packer
Packer	5.00			3948.00	
Packer - Shale	0.00			3948.00	
Stubb	1.00			3949.00	
Recorder	0.00	6625	Inside	3949.00	
Recorder	0.00	8652	Outside	3949.00	
Perforations	23.00			3972.00	
Blank Spacing	33.00			4005.00	
Perforations	2.00			4007.00	
Bullnose	3.00			4010.00	62.00 Bottom Packers & Anchor

**Total Tool Length: 90.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Mull Drilling Co., Inc.

**12-5s-33w Rawlins, KS**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**Cooper #1-12**

Job Ticket: 64681

**DST#: 2**

Test Start: 2019.06.30 @ 20:09:00

### 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: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 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
1.00	Mud w /trace oil 100%m	0.005

Total Length: 1.00 ft      Total Volume: 0.005 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

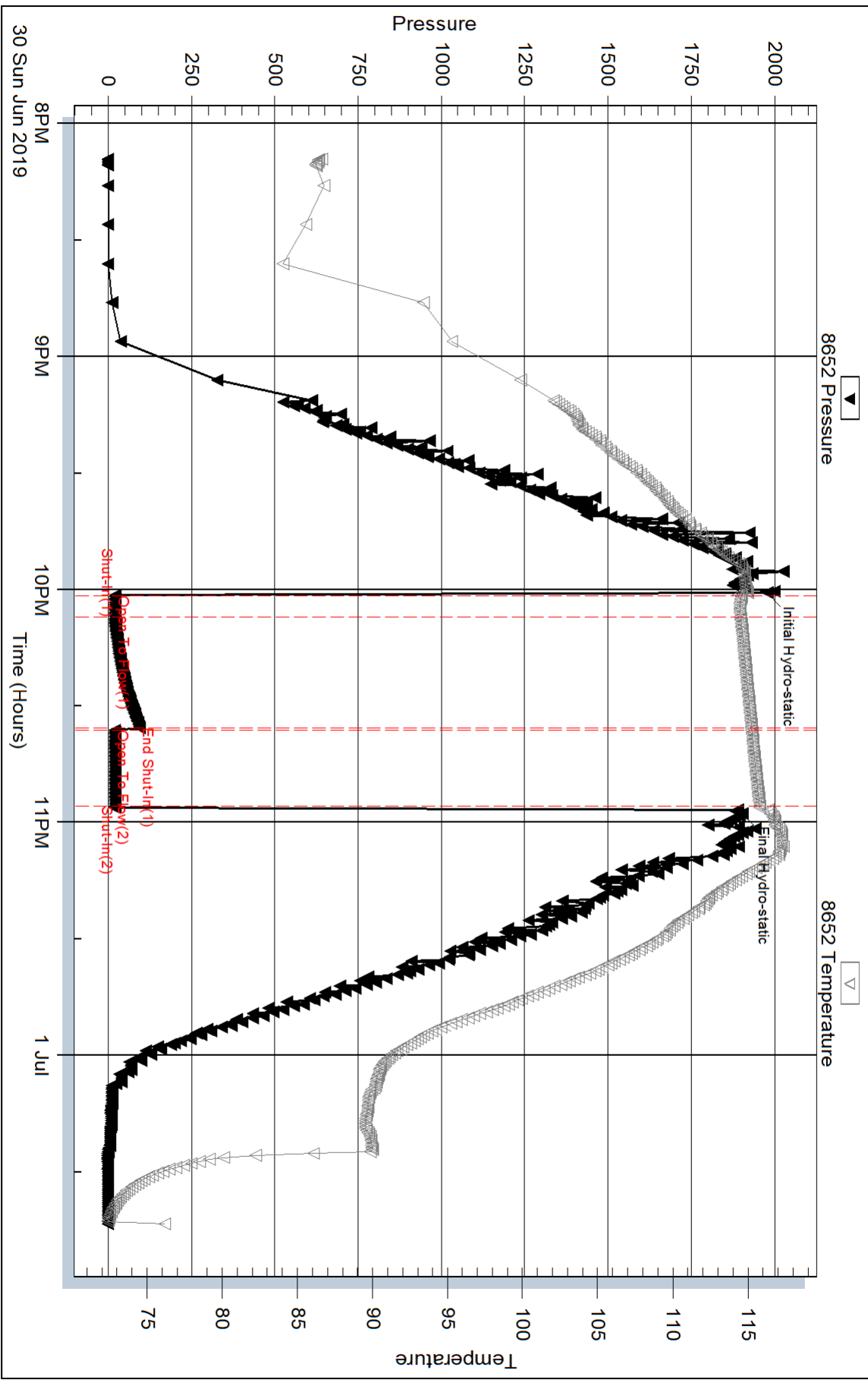
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



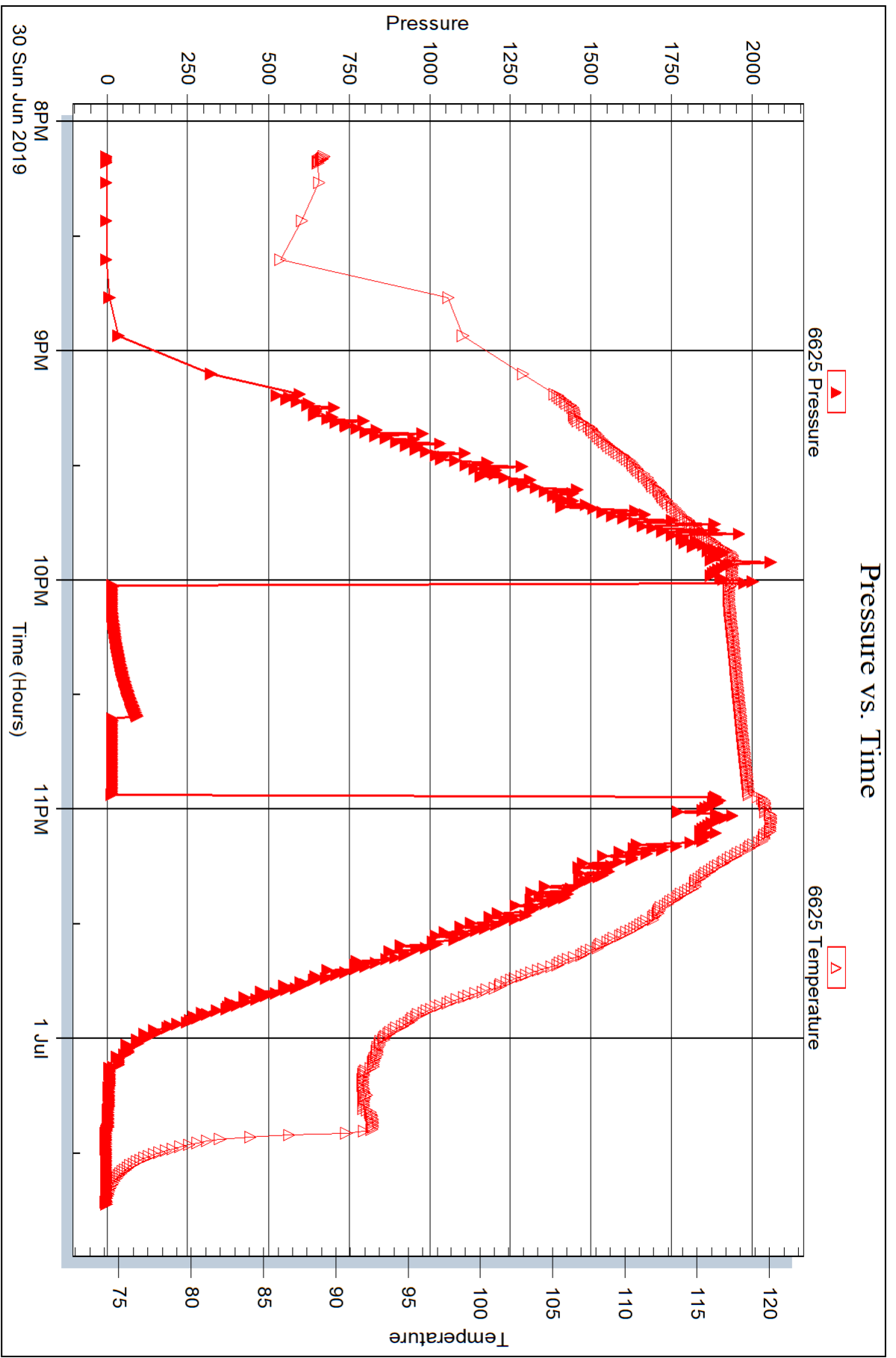
Serial #: 6625

Inside

Mull Drilling Co., Inc.

Cooper #1-12

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co., Inc.**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206

ATTN: Rusty Mourning

### **Cooper #1-12**

#### **12-5s-33w Rawlins, KS**

Start Date: 2019.07.01 @ 12:33:00

End Date: 2019.07.01 @ 18:57:45

Job Ticket #: 64682                      DST #: 3

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

Printed: 2019.07.05 @ 15:05:15



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Co., Inc.  
 1700 N. Waterfront Pkwy  
 Bldg 1200  
 Wichita, KS 67206  
 ATTN: Rusty Mourning

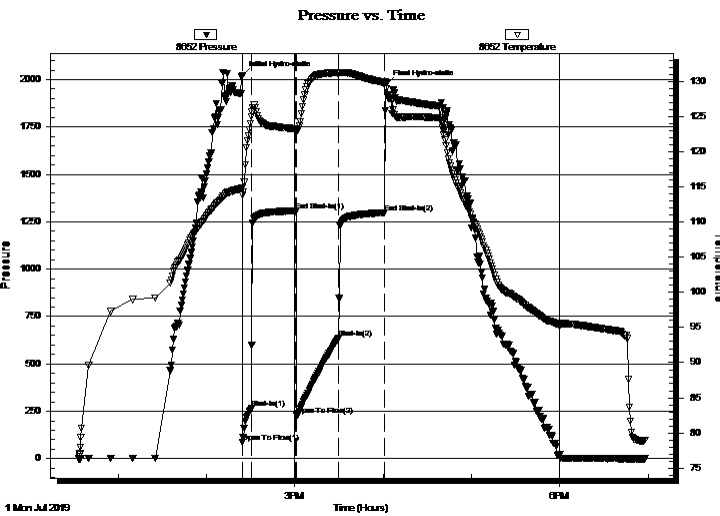
**12-5s-33w Rawlins, KS**  
**Cooper #1-12**  
 Job Ticket: 64682      **DST#: 3**  
 Test Start: 2019.07.01 @ 12:33:00

## GENERAL INFORMATION:

Formation: **LKC "H - J"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 14:24:30 Tester: James Winder  
 Time Test Ended: 18:57:45 Unit No: 83  
 Interval: **4006.00 ft (KB) To 4090.00 ft (KB) (TVD)** Reference Elevations: 3017.00 ft (KB)  
 Total Depth: 4090.00 ft (KB) (TVD) 3012.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 8652 Outside**  
 Press@RunDepth: 635.98 psig @ 4007.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.07.01 End Date: 2019.07.01 Last Calib.: 2019.07.01  
 Start Time: 12:33:05 End Time: 18:57:44 Time On Btm: 2019.07.01 @ 14:24:15  
 Time Off Btm: 2019.07.01 @ 16:02:15

**TEST COMMENT:** 5 - IF: Blow built to BOB (11") at 2 1/2 min., built to 27"  
 30 - IS: No blow back  
 30 - FF: Blow built to BOB at 2 1/2 min., built to 129"  
 30 - FS: No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2021.61	114.87	Initial Hydro-static
1	87.65	113.83	Open To Flow (1)
7	264.03	124.99	Shut-In(1)
36	1306.95	123.30	End Shut-In(1)
37	226.77	122.97	Open To Flow (2)
66	635.98	131.22	Shut-In(2)
97	1297.79	129.81	End Shut-In(2)
98	1975.43	129.05	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
370.00	SMCW w/trace oil 95%w , 5%m	4.12
880.00	MCW w/trace oil 73%w , 27%m	12.34
80.00	MW w/trace oil 53%w , 47%m	1.12

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Co., Inc.

**12-5s-33w Rawlins, KS**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**Cooper #1-12**

Job Ticket: 64682

**DST#: 3**

Test Start: 2019.07.01 @ 12:33:00

## Tool Information

Drill Pipe:	Length: 3890.00 ft	Diameter: 3.80 inches	Volume: 54.57 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 62000.00 lb
		Total Volume: 55.15 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4006.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	112.00 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
Change Over Sub	1.00			3979.00	
Shut In Tool	5.00			3984.00	
Hydraulic tool	5.00			3989.00	
EM Tool	4.00			3993.00	
Safety Joint	3.00			3996.00	
Packer	5.00			4001.00	28.00 Bottom Of Top Packer
Packer	5.00			4006.00	
Packer - Shale	0.00			4006.00	
Stubb	1.00			4007.00	
Recorder	0.00	6625	Inside	4007.00	
Recorder	0.00	8652	Outside	4007.00	
Perforations	15.00			4022.00	
Blank Spacing	64.00			4086.00	
Perforations	1.00			4087.00	
Bullnose	3.00			4090.00	84.00 Bottom Packers & Anchor

**Total Tool Length: 112.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drilling Co., Inc.

**12-5s-33w Rawlins, KS**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**Cooper #1-12**

Job Ticket: 64682

**DST#: 3**

Test Start: 2019.07.01 @ 12:33:00

## Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 57.00 sec/qt

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

Resistivity: ohm.m

Salinity: 2400.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: 26000 ppm

deg API

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
370.00	SMCW w/trace oil 95%w , 5%m	4.115
880.00	MCW w/trace oil 73%w , 27%m	12.344
80.00	MW w/trace oil 53%w , 47%m	1.122

Total Length: 1330.00 ft      Total Volume: 17.581 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

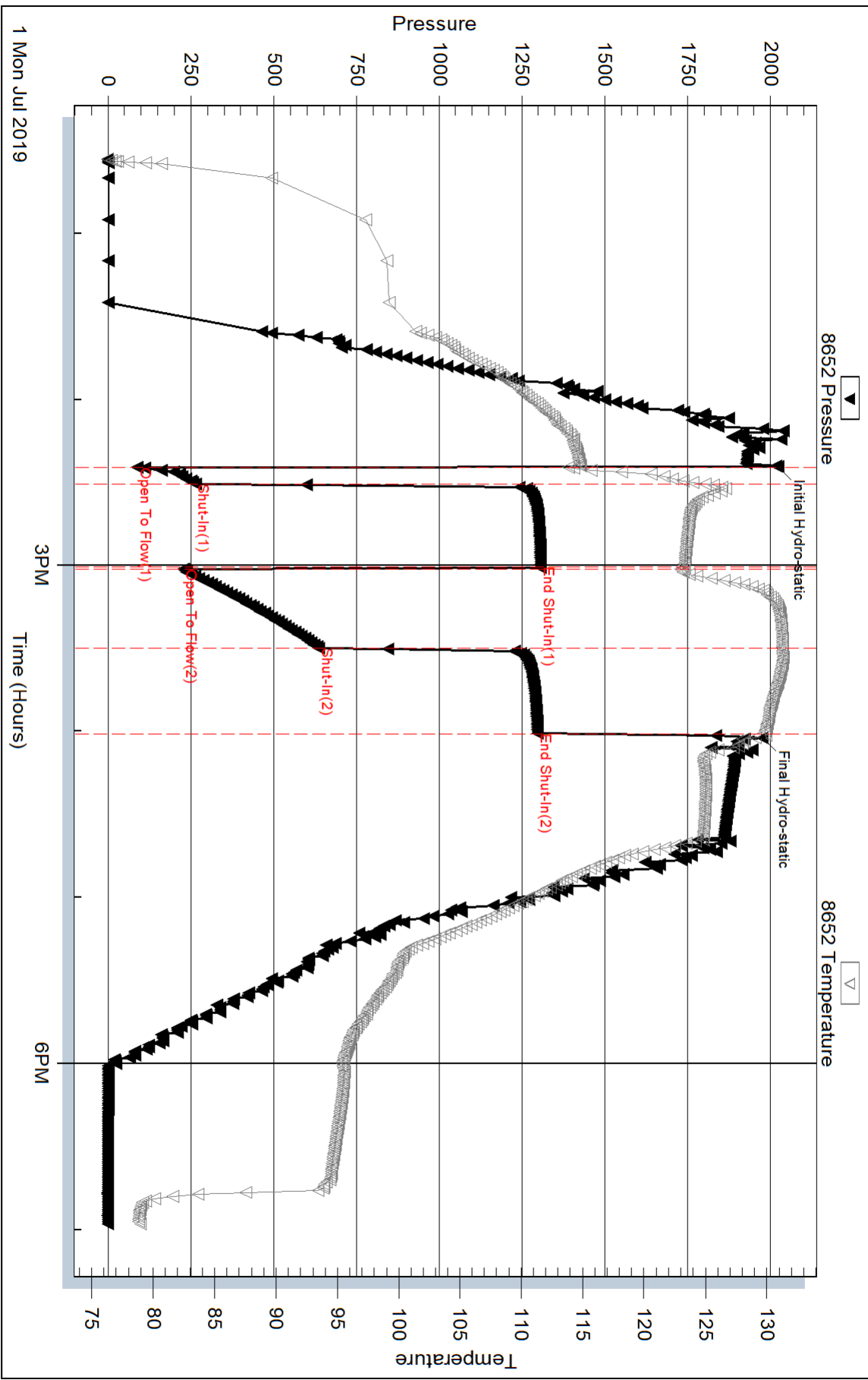
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .203 ohms @ 89.5 deg F Chlorides = 26,000 ppm

### Pressure vs. Time



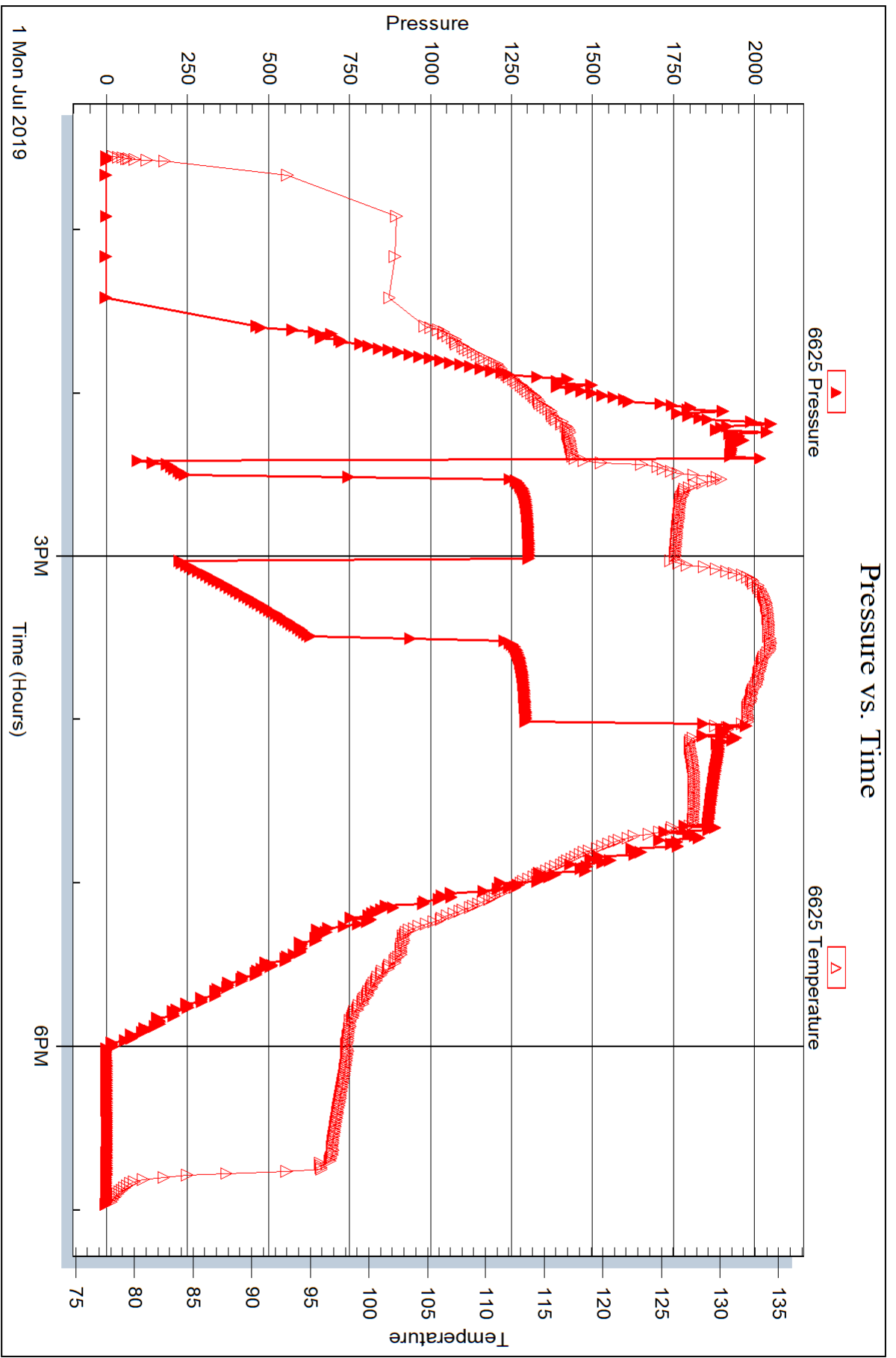
Serial #: 6625

Inside

Mull Drilling Co., Inc.

Cooper #1-12

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 64682

Printed: 2019.07.05 @ 15:05:16



## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co., Inc.**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206

ATTN: Rusty Mourning

### **Cooper #1-12**

#### **12-5s-33w Rawlins, KS**

Start Date: 2019.07.02 @ 02:19:00

End Date: 2019.07.02 @ 10:29:00

Job Ticket #: 64683                      DST #: 4

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

Printed: 2019.07.05 @ 15:04:43

Mull Drilling Co., Inc. 12-5s-33w Rawlins, KS Cooper #1-12 DST # 4 LKC "K" 2019.07.02



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Co., Inc.  
 1700 N. Waterfront Pkwy  
 Bldg 1200  
 Wichita, KS 67206  
 ATTN: Rusty Mourning

**12-5s-33w Rawlins, KS**

**Cooper #1-12**

Job Ticket: 64683

**DST#: 4**

Test Start: 2019.07.02 @ 02:19:00

## GENERAL INFORMATION:

Formation: **LKC "K"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:32:00  
 Time Test Ended: 10:29:00  
 Interval: **4097.00 ft (KB) To 4120.00 ft (KB) (TVD)**  
 Total Depth: 4120.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 83  
 Reference Elevations: 3017.00 ft (KB)  
 3012.00 ft (CF)  
 KB to GR/CF: 5.00 ft

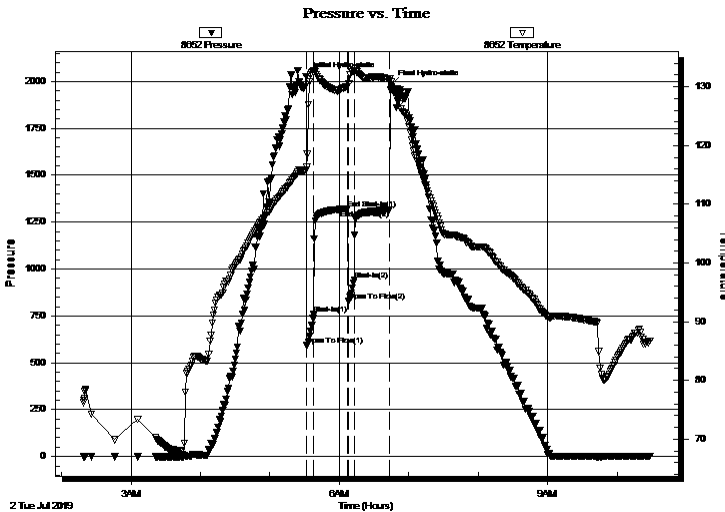
## Serial #: 8652

**Outside**

Press@RunDepth: 942.81 psig @ 4098.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.07.02 End Date: 2019.07.02 Last Calib.: 2019.07.02  
 Start Time: 02:19:05 End Time: 10:28:59 Time On Btm: 2019.07.02 @ 05:31:15  
 Time Off Btm: 2019.07.02 @ 06:44:45

**TEST COMMENT:** 5 - IF: Blow built to BOB (11") at 30 sec., built to 163"  
 30 - IS: No blow back  
 5 - FF: Blow built to BOB at 30 sec., built to 115"  
 30 - FS: Blow back built to 1/4"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2026.98	115.92	Initial Hydro-static
1	591.98	116.27	Open To Flow (1)
7	760.62	132.54	Shut-In(1)
36	1321.01	130.03	End Shut-In(1)
37	828.80	130.58	Open To Flow (2)
42	942.81	132.67	Shut-In(2)
73	1315.05	131.28	End Shut-In(2)
74	1983.99	130.81	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
430.00	SMSC w/trace oil 96%w , 4%m	4.96
30.00	SOMCW 77%w , 8%m, 8%g, 7%o	0.42
1570.00	SM/GWCO 55%o, 25%w , 16%g, 4%m	22.02

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Co., Inc.

**12-5s-33w Rawlins, KS**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**Cooper #1-12**

Job Ticket: 64683

**DST#: 4**

Test Start: 2019.07.02 @ 02:19:00

## Tool Information

Drill Pipe:	Length: 3983.00 ft	Diameter: 3.80 inches	Volume: 55.87 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 56.45 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4097.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	51.00 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			4070.00	
Shut In Tool	5.00			4075.00	
Hydraulic tool	5.00			4080.00	
EM Tool	4.00			4084.00	
Safety Joint	3.00			4087.00	
Packer	5.00			4092.00	28.00 Bottom Of Top Packer
Packer	5.00			4097.00	
Packer - Shale	0.00			4097.00	
Stubb	1.00			4098.00	
Recorder	0.00	6625	Inside	4098.00	
Recorder	0.00	8652	Outside	4098.00	
Perforations	19.00			4117.00	
Bullnose	3.00			4120.00	23.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drilling Co., Inc.

**12-5s-33w Rawlins, KS**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**Cooper #1-12**

Job Ticket: 64683

**DST#: 4**

Test Start: 2019.07.02 @ 02:19:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 50.00 sec/qt  
Water Loss: 7.18 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 2500.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: 29.6 deg API  
Water Salinity: 19000 ppm

## Recovery Information

Recovery Table

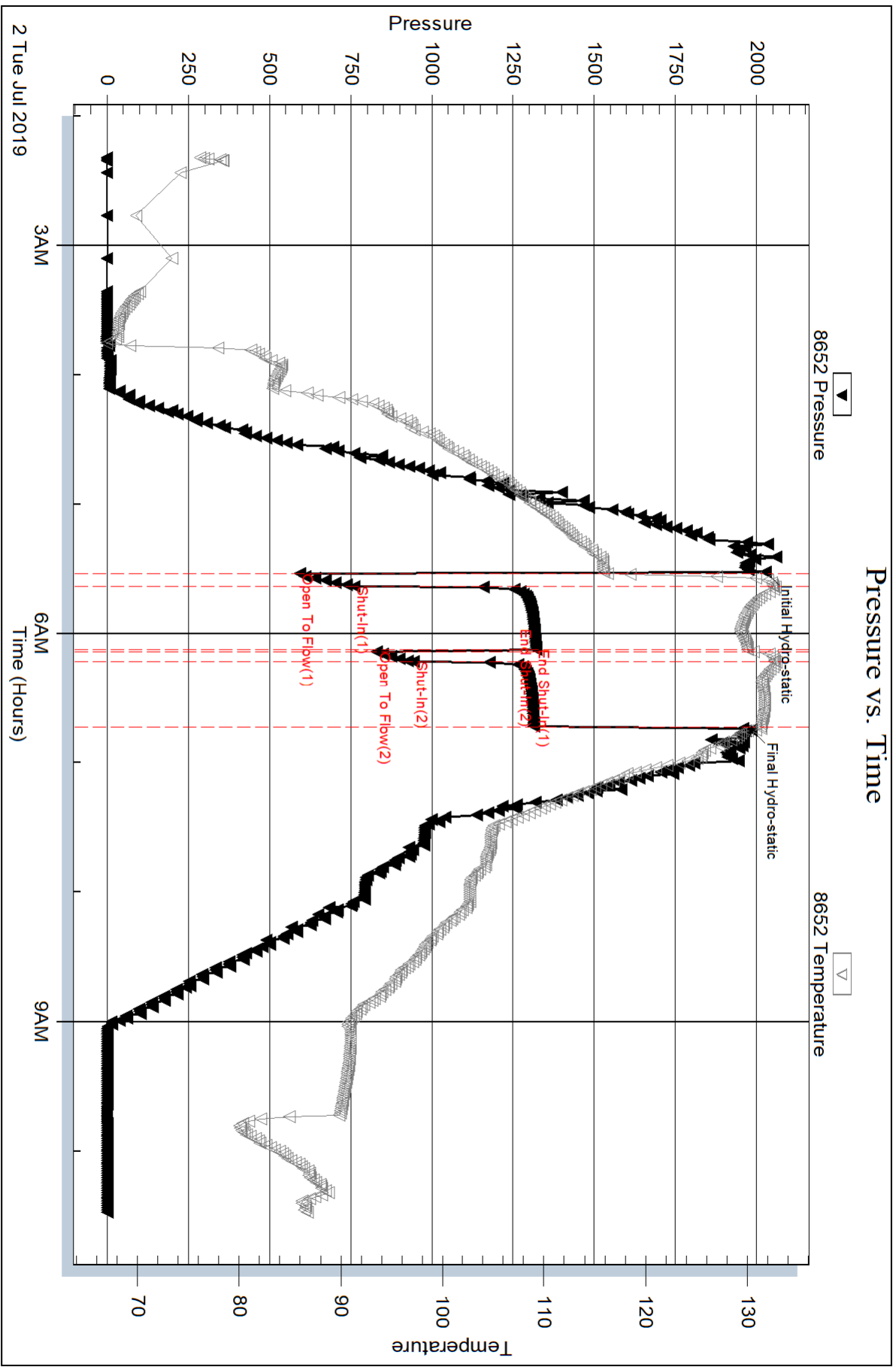
Length ft	Description	Volume bbl
430.00	SMSC w /trace oil 96%w , 4%m	4.957
30.00	SOMCW 77%w , 8%m, 8%g, 7%o	0.421
1570.00	SM/GWCO 55%o, 25%w , 16%g, 4%m	22.023

Total Length: 2030.00 ft      Total Volume: 27.401 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: Gravity = 32.6 api @ 90 deg F    Corrected Gravity = 29.6 api  
RW = .332 ohms @ 74.8 deg F    Chlorides = 19,000 ppm



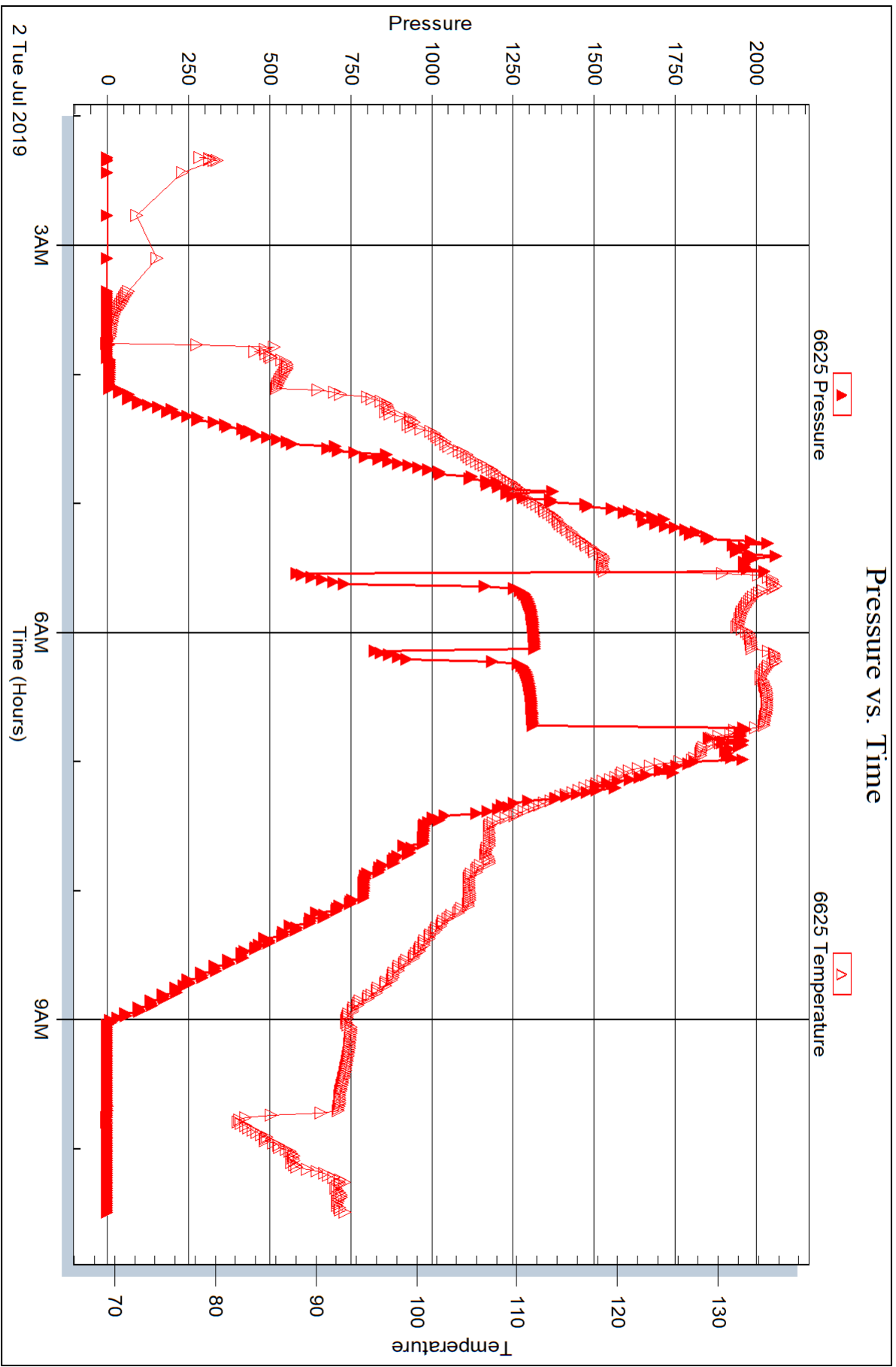
Serial #: 6625

Inside

Mull Drilling Co., Inc.

Cooper #1-12

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 64683

Printed: 2019.07.05 @ 15:04:44



## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co., Inc.**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206

ATTN: Rusty Mourning

### **Cooper #1-12**

#### **12-5s-33w Rawlins, KS**

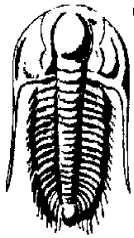
Start Date: 2019.07.03 @ 11:50:00

End Date: 2019.07.03 @ 18:40:45

Job Ticket #: 64684                      DST #: 5

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

Printed: 2019.07.05 @ 15:01:43



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Co., Inc.  
1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**12-5s-33w Rawlins, KS**

**Cooper #1-12**

Job Ticket: 64684

**DST#: 5**

Test Start: 2019.07.03 @ 11:50:00

## GENERAL INFORMATION:

Formation: **Cherokee**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 13:47:30  
 Tester: James Winder  
 Time Test Ended: 18:40:45  
 Unit No: 83  
 Interval: **4285.00 ft (KB) To 4350.00 ft (KB) (TVD)**  
 Reference Elevations: 3017.00 ft (KB)  
 Total Depth: 4350.00 ft (KB) (TVD)  
 3012.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

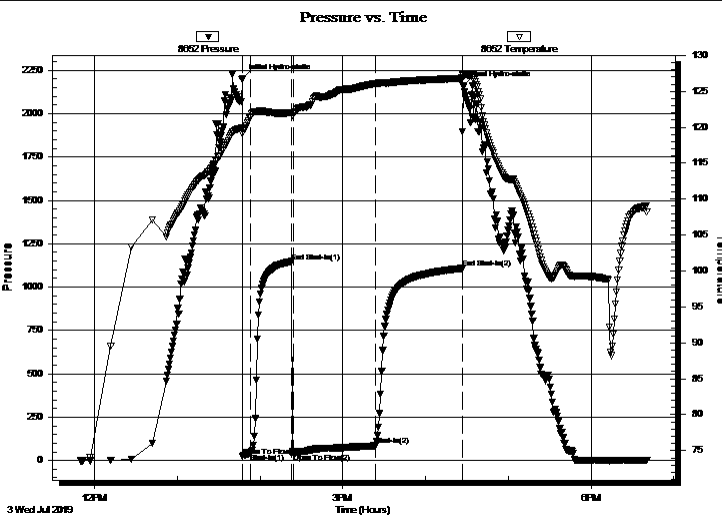
**Serial #: 8652 Outside**

Press@RunDepth: 85.37 psig @ 4286.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.07.03 End Date: 2019.07.03 Last Calib.: 2019.07.03  
 Start Time: 11:50:05 End Time: 18:40:44 Time On Btm: 2019.07.03 @ 13:47:15  
 Time Off Btm: 2019.07.03 @ 16:27:15

**TEST COMMENT:** 5 - IF: Blow built to 2 1/4"  
 30 - IS: No blow back  
 60 - FF: Blow built to BOB (11") at 24 min., built to 26"  
 60 - FS: Weak surface blow for around 20 min., then died off

## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2204.01	119.90	Initial Hydro-static
1	25.69	119.12	Open To Flow (1)
6	43.71	121.41	Shut-In(1)
36	1147.85	122.03	End Shut-In(1)
37	41.24	121.88	Open To Flow (2)
97	85.37	126.08	Shut-In(2)
160	1108.06	126.83	End Shut-In(2)
160	2163.42	127.15	Final Hydro-static



## Recovery

Length (ft)	Description	Volume (bbl)
59.00	GMWCO 35%o, 26%m, 23%g, 16%w	0.29
59.00	GOCM 77%m, 23%o, 5%g	0.29
52.00	CGO 94%o, 6%g	0.73
0.00	GIP = 200'	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Co., Inc.

**12-5s-33w Rawlins, KS**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**Cooper #1-12**

Job Ticket: 64684

**DST#: 5**

Test Start: 2019.07.03 @ 11:50:00

## Tool Information

Drill Pipe:	Length: 4170.00 ft	Diameter: 3.80 inches	Volume: 58.49 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 59.07 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4285.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	65.00 ft			
Tool Length:	93.00 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
Change Over Sub	1.00			4258.00	
Shut In Tool	5.00			4263.00	
Hydraulic tool	5.00			4268.00	
EM Tool	4.00			4272.00	
Safety Joint	3.00			4275.00	
Packer	5.00			4280.00	28.00 Bottom Of Top Packer
Packer	5.00			4285.00	
Packer - Shale	0.00			4285.00	
Stubb	1.00			4286.00	
Recorder	0.00	6625	Inside	4286.00	
Recorder	0.00	8652	Outside	4286.00	
Perforations	27.00			4313.00	
Blank Spacing	33.00			4346.00	
Perforations	1.00			4347.00	
Bullnose	3.00			4350.00	65.00 Bottom Packers & Anchor

**Total Tool Length: 93.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drilling Co., Inc.

**12-5s-33w Rawlins, KS**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**Cooper #1-12**

Job Ticket: 64684

**DST#: 5**

Test Start: 2019.07.03 @ 11:50:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 62.00 sec/qt  
Water Loss: 9.59 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 3000.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: 36.2 deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
59.00	GMWCO 35%o, 26%m, 23%g, 16%w	0.290
59.00	GOCM 77%m, 23%o, 5%g	0.290
52.00	CGO 94%o, 6%g	0.729
0.00	GIP = 200'	0.000

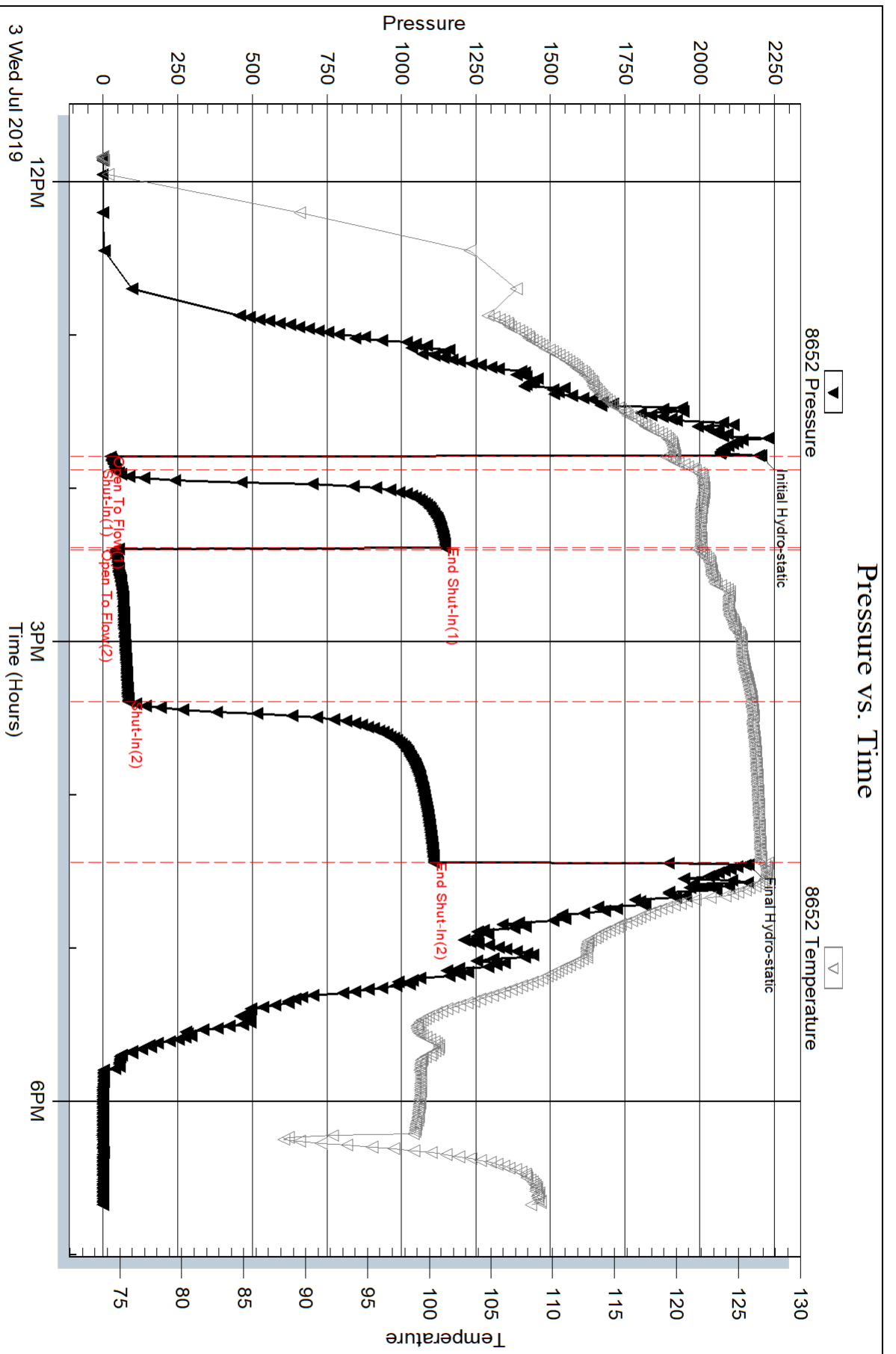
Total Length: 170.00 ft      Total Volume: 1.309 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: Gravity = 39.4 api @ 92 deg F    Corrected Gravity = 36.2 api





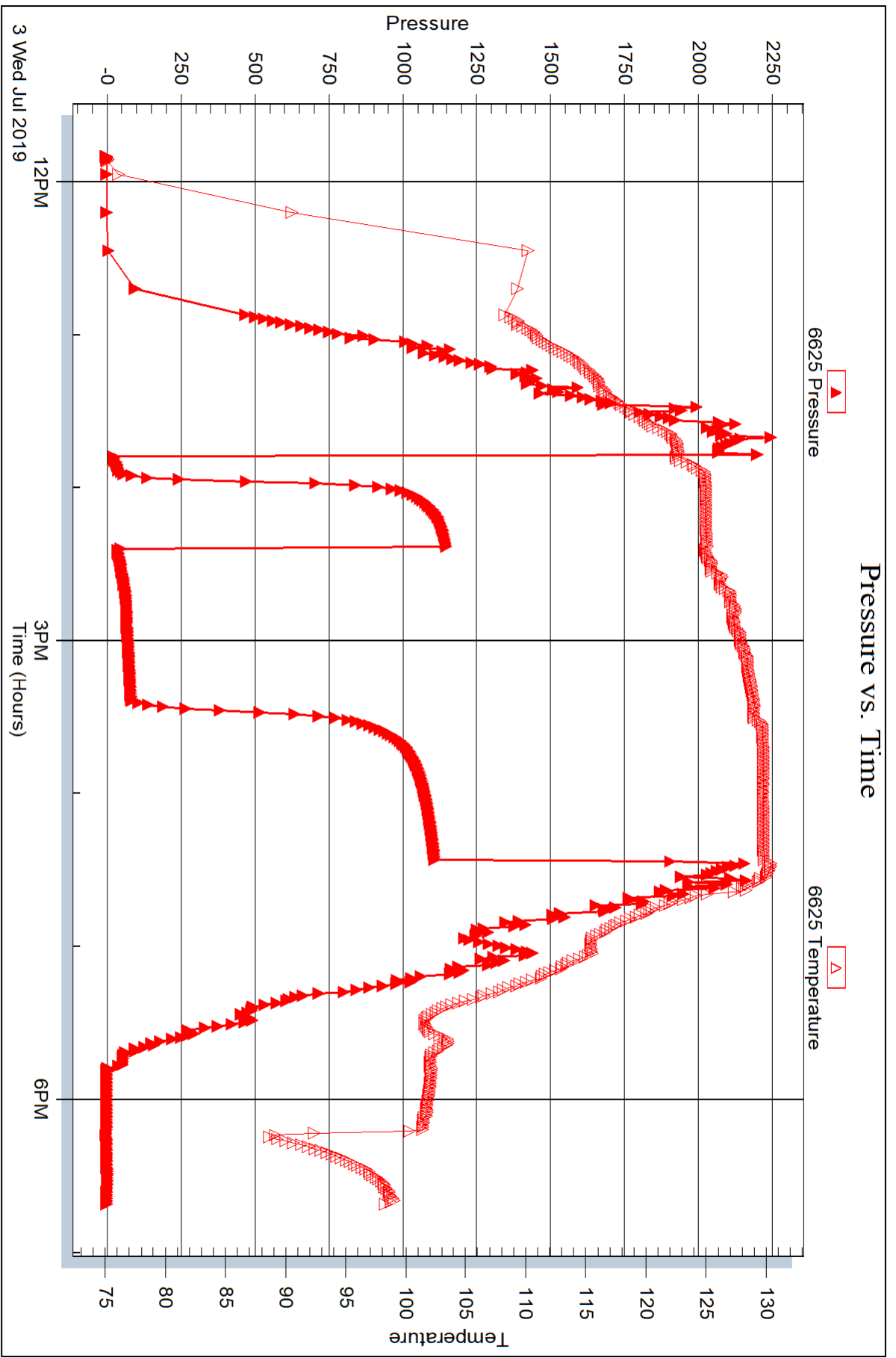
Serial #: 6625

Inside

Mull Drilling Co., Inc.

Cooper #1-12

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 64684

Printed: 2019.07.05 @ 15:01:45



## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co., Inc.**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206

ATTN: Rusty Mourning

### **Cooper #1-12**

#### **12-5s-33w Rawlins, KS**

Start Date: 2019.07.04 @ 05:00:00

End Date: 2019.07.04 @ 13:05:30

Job Ticket #: 64685                      DST #: 6

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

Printed: 2019.07.05 @ 14:53:55

Mull Drilling Co., Inc.  
12-5s-33w Rawlins, KS  
Cooper #1-12  
DST # 6  
Cherokee Sand  
2019.07.04



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Co., Inc.  
 1700 N. Waterfront Pkwy  
 Bldg 1200  
 Wichita, KS 67206  
 ATTN: Rusty Mourning

**12-5s-33w Rawlins, KS**

**Cooper #1-12**

Job Ticket: 64685

**DST#: 6**

Test Start: 2019.07.04 @ 05:00:00

## GENERAL INFORMATION:

Formation: **Cherokee Sand**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:35:00  
 Time Test Ended: 13:05:30  
 Interval: **4348.00 ft (KB) To 4421.00 ft (KB) (TVD)**  
 Total Depth: 4421.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 83  
 Reference Elevations: 3017.00 ft (KB)  
 3012.00 ft (CF)  
 KB to GR/CF: 5.00 ft

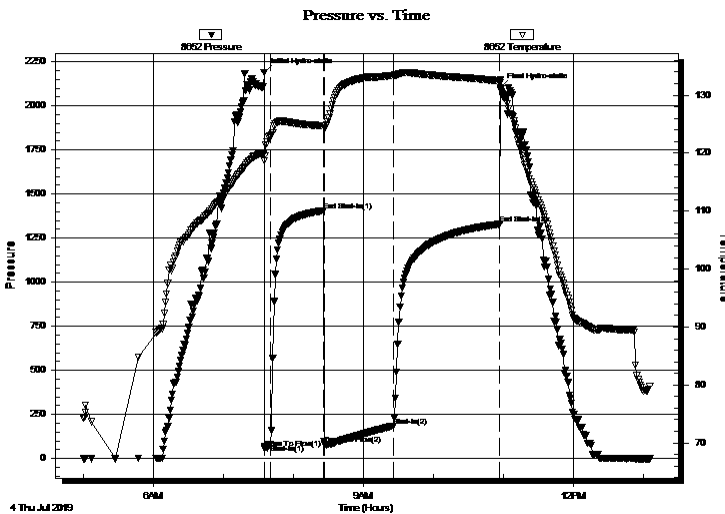
**Serial #: 8652**

**Outside**

Press@RunDepth: 185.15 psig @ 4349.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.07.04 End Date: 2019.07.04 Last Calib.: 2019.07.04  
 Start Time: 05:00:05 End Time: 13:05:29 Time On Btm: 2019.07.04 @ 07:34:45  
 Time Off Btm: 2019.07.04 @ 10:57:30

**TEST COMMENT:** 5 - IF: Blow built to 6 1/2"  
 30 - IS: No blow back  
 60 - FF: Blow built to BOB (11") at 10 min., built to 50"  
 90 - FS: Blow back built to 7"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2189.34	120.02	Initial Hydro-static
1	58.48	118.63	Open To Flow (1)
6	81.54	123.03	Shut-In(1)
51	1404.80	124.74	End Shut-In(1)
52	80.14	124.33	Open To Flow (2)
111	185.15	133.44	Shut-In(2)
202	1329.25	132.47	End Shut-In(2)
203	2103.59	132.20	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
59.00	GMCO 65%o, 25%m, 10%g	0.29
59.00	GSMCO 80%o, 12%g, 8%m	0.29
62.00	GHMCO 54%o, 40%m, 6%g	0.87
270.00	CGO 82%o, 18%g	3.79
0.00	GIP = 290'	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Co., Inc.

**12-5s-33w Rawlins, KS**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**Cooper #1-12**

Job Ticket: 64685

**DST#: 6**

Test Start: 2019.07.04 @ 05:00:00

## Tool Information

Drill Pipe:	Length: 4233.00 ft	Diameter: 3.80 inches	Volume: 59.38 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 62000.00 lb
		Total Volume: 59.96 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4348.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	73.00 ft			
Tool Length:	101.00 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
Change Over Sub	1.00			4321.00	
Shut In Tool	5.00			4326.00	
Hydraulic tool	5.00			4331.00	
EM Tool	4.00			4335.00	
Safety Joint	3.00			4338.00	
Packer	5.00			4343.00	28.00 Bottom Of Top Packer
Packer	5.00			4348.00	
Packer - Shale	0.00			4348.00	
Stubb	1.00			4349.00	
Recorder	0.00	6625	Inside	4349.00	
Recorder	0.00	8652	Outside	4349.00	
Perforations	5.00			4354.00	
Blank Spacing	64.00			4418.00	
Bullnose	3.00			4421.00	73.00 Bottom Packers & Anchor

**Total Tool Length: 101.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drilling Co., Inc.

**12-5s-33w Rawlins, KS**

1700 N. Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Rusty Mourning

**Cooper #1-12**

Job Ticket: 64685

**DST#: 6**

Test Start: 2019.07.04 @ 05:00:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

24.8 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
59.00	GMCO 65%o, 25%m, 10%g	0.290
59.00	GSMCO 80%o, 12%g, 8%m	0.290
62.00	GHMCO 54%o, 40%m, 6%g	0.870
270.00	CGO 82%o, 18%g	3.787
0.00	GIP = 290'	0.000

Total Length: 450.00 ft      Total Volume: 5.237 bbl

Num Fluid Samples: 0

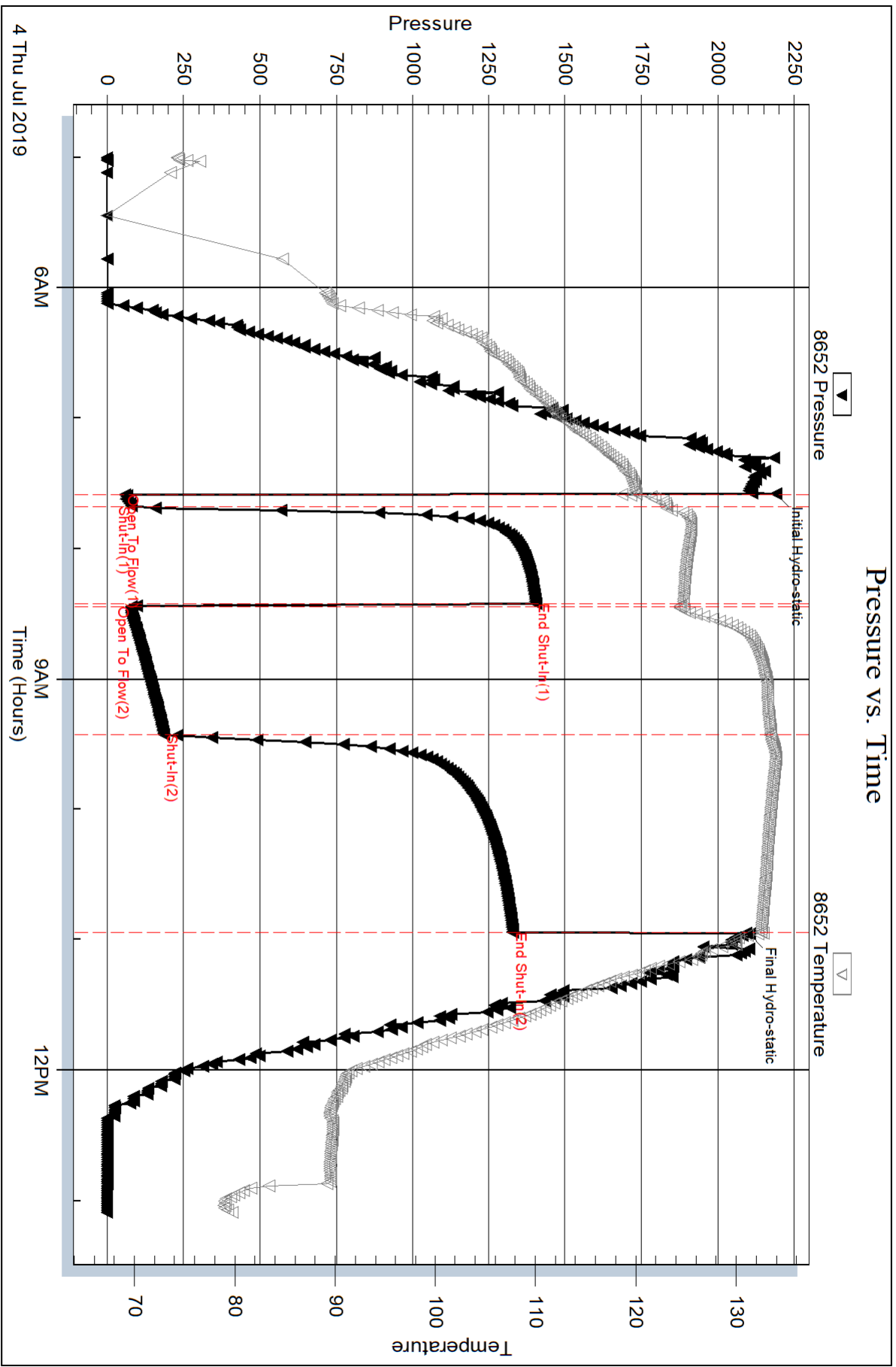
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 27 api @ 82 Deg F Corrected Gravity = 24.8 api





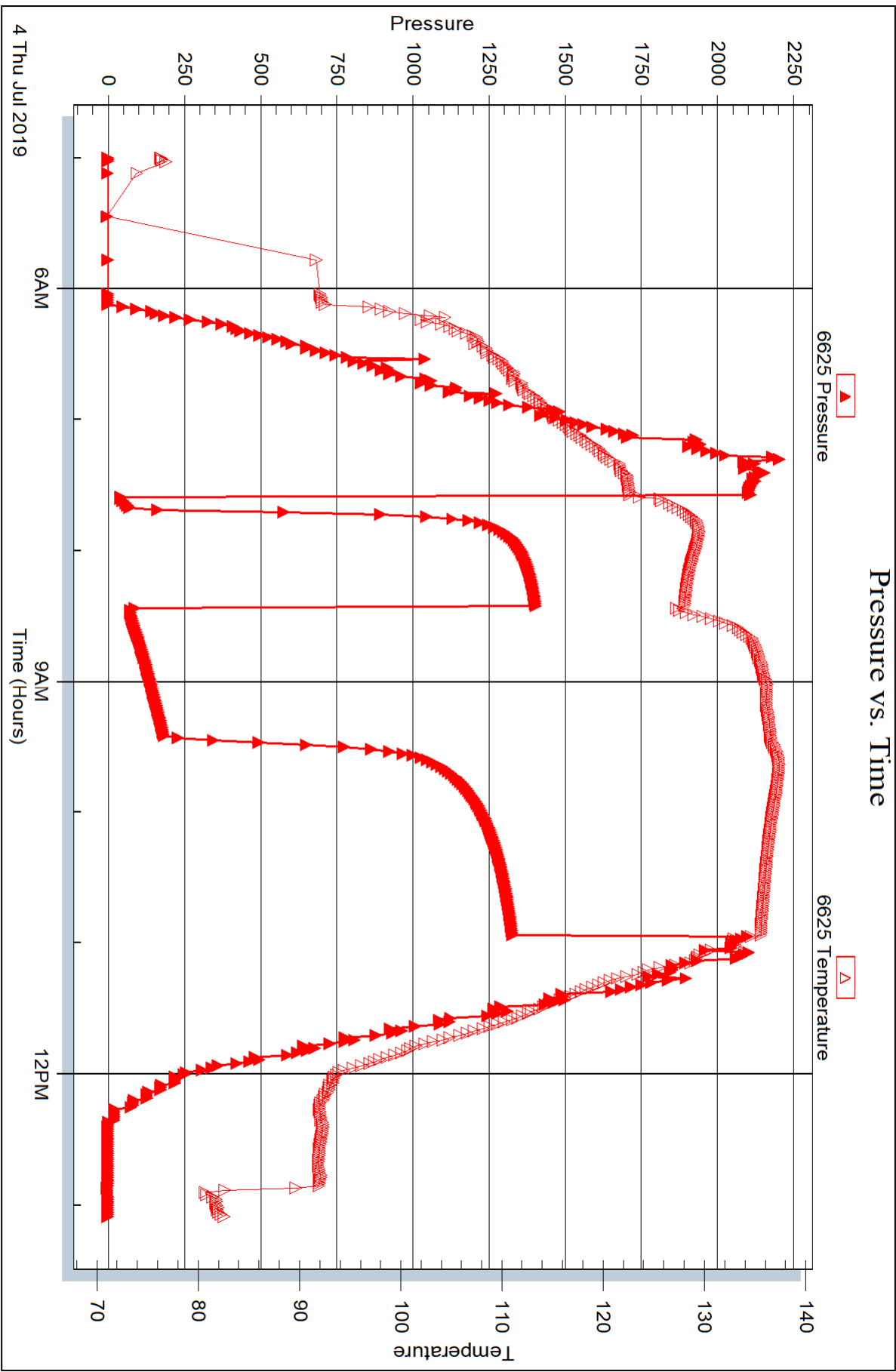
Serial #: 6625

Inside

Mull Drilling Co., Inc.

Cooper #1-12

DST Test Number: 6





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64680

Well Name & No. Cooper #1-12 Test No. 1 Date 6-30-19  
 Company Mull Drilling Co. Inc. Elevation 3017 KB 3012 GL  
 Address 1700 N. Waterfront PKWY Bldg 1200 Wichita, KS 67206  
 Co. Rep / Geo. Rusty Mourning Rig WW #8  
 Location: Sec. 12 Twp 5s Rge. 33w Co. Rawlins State KS

Interval Tested 3823 - 3945 Zone Tested Toronto - LKC "A"  
 Anchor Length 122 Drill Pipe Run 3701 Mud Wt. 9.1  
 Top Packer Depth 3818 Drill Collars Run 118 Vis 62  
 Bottom Packer Depth 3823 (shale) Wt. Pipe Run - WL 7.2  
 Total Depth 3945 Chlorides 2000 ppm System LCM 2  
 Blow Description IF: Blow built to 6"  
ISI: No blowback  
FF: Blow built to BOB (11") at 13min, built to 35"  
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
100	50/WCM	3	24	73	
125	GWCM w/oil spots	6	44	49	
245	GMCW w/trace oil	5	67	28	

Rec Total 470 BHT 122 Gravity API RW 169 @ 95 °F Chlorides 30,000 ppm  
 (A) Initial Hydrostatic 1887  Test 1200 T-On Location 00:45  
 (B) First Initial Flow 36  Jars \_\_\_\_\_ T-Started 3:21  
 (C) First Final Flow 89  Safety Joint \_\_\_\_\_ T-Open 5:43  
 (D) Initial Shut-In 1230  Circ Sub \_\_\_\_\_ T-Pulled 8:34  
 (E) Second Initial Flow 96  Hourly Standby \_\_\_\_\_ T-Out 10:30  
 (F) Second Final Flow 234  Mileage 92 RT 92 Comments \_\_\_\_\_  
 (G) Final Shut-In 1217  Sampler \_\_\_\_\_  EM Tool 0  
 (H) Final Hydrostatic 1814  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer 250  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1542  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1542

Approved By \_\_\_\_\_ Our Representative James Winder  
 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. 64681

Well Name & No. Cooper #1-12 Test No. 2 Date 6-30-19  
 Company Mull Drilling Co. Inc Elevation 3017 KB 3012 GL  
 Address 1700 N. Waterfront PKWY Bldg 1200 Wichita, KS 67206  
 Co. Rep / Geo. Rusty Mourning Rig WW #8  
 Location: Sec. 12 Twp 5s Rge. 33w Co. Rawlins State KS

Interval Tested 3948 - 4010 Zone Tested LKC "B-C"  
 Anchor Length 62 Drill Pipe Run 3828 Mud Wt. 9.1  
 Top Packer Depth 3943 Drill Collars Run 118 Vls 62  
 Bottom Packer Depth 3948 (shale) Wt. Pipe Run - WL 7.2  
 Total Depth 4010 Chlorides 2000 ppm System LCM 2  
 Blow Description IF: Blow built to 1/8"  
ISI: No blowback  
FF: No blow  
Pulled Tool

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>mud w/trace oil</u>	<u>trace</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 1 BHT 116 Gravity API RW @ F Chlorides ppm  
 (A) Initial Hydrostatic 1978  Test 1300 T-On Location 19:15 6/30  
 (B) First Initial Flow 21  Jars \_\_\_\_\_ T-Started 20:09  
 (C) First Final Flow 21  Safety Joint \_\_\_\_\_ T-Open 22:01  
 (D) Initial Shut-In 95  Circ Sub \_\_\_\_\_ T-Pulled 22:55  
 (E) Second Initial Flow 20  Hourly Standby \_\_\_\_\_ T-Out 00:40 7/1  
 (F) Second Final Flow 21  Mileage 92 RT 92 Comments \_\_\_\_\_  
 (G) Final Shut-In -  Sampler \_\_\_\_\_  Em Tool 350 Comped  
 (H) Final Hydrostatic 1902  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Initial Open 5  Shale Packer 250  Ruined Packer \_\_\_\_\_  
 Initial Shut-In 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow 20  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Shut-In -  Day Standby \_\_\_\_\_ Total 1642  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1642

Approved By \_\_\_\_\_ Our Representative James Winder

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# TRIOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64682

Well Name & No. Cooper #1-12 Test No. 3 Date 7-1-19  
 Company Mull Drilling Co. Inc Elevation 3017 KB 3012 GL  
 Address 1700 N Waterfront PKWY Bldg 1200 Wichita, KS 67206  
 Co. Rep / Geo. Rusty Mourning Rig WW #8  
 Location: Sec. 12 Twp 5s Rge. 33w Co. Rawlins State KS

Interval Tested 4006 - 4090 Zone Tested LKC "H-J"  
 Anchor Length 84 Drill Pipe Run 3890 Mud Wt. 9.2  
 Top Packer Depth 4001 Drill Collars Run 118 Vis 57  
 Bottom Packer Depth 4006 (shale) Wt. Pipe Run - WL 8.0  
 Total Depth 4090 Chlorides 2400 ppm System LCM 2  
 Blow Description IF: Blow built to BOB @ 2 1/2 min, built to 27"  
ISI: No blowback  
EF: Blow built to BOB at 2 1/2 min, built to 129"  
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>80</u>	<u>mw w/trace of oil</u>	<u>trace</u>	<u>53</u>	<u>47</u>	
<u>880</u>	<u>mcw w/trace of oil</u>	<u>trace</u>	<u>73</u>	<u>27</u>	
<u>370</u>	<u>smcw w/trace of oil</u>	<u>trace</u>	<u>95</u>	<u>5</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1330 BHT 130 Gravity API RW .203 @ 89.5 F Chlorides 26,000 ppm  
 (A) Initial Hydrostatic 2022  Test 1300 T-On Location 12:05  
 (B) First Initial Flow 88  Jars \_\_\_\_\_ T-Started 12:33  
 (C) First Final Flow 264  Safety Joint \_\_\_\_\_ T-Open 14:24  
 (D) Initial Shut-In 1307  Circ Sub \_\_\_\_\_ T-Pulled 16:01  
 (E) Second Initial Flow 227  Hourly Standby \_\_\_\_\_ T-Out 18:55  
 (F) Second Final Flow 636  Mileage 92 RT 92 Comments \_\_\_\_\_  
 (G) Final Shut-In 1298  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1975  Straddle \_\_\_\_\_  
 Shale Packer 250  Em Tool 0  
 Extra Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Day Standby \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Accessibility \_\_\_\_\_ Sub Total 0  
 Sub Total 1642 Total 1642 MP/DST Disc't \_\_\_\_\_

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



# TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64683

Well Name & No. Cooper #1-12 Test No. 4 Date 7-2-19  
 Company Mull Drilling Co. Inc Elevallon 3017 KB 3012 GL  
 Address 1700 N. Waterfront PKWY Bldg 1200 Wichita, KS 67206  
 Co. Rep / Geo. Rusty Mourning Rig WW#8  
 Location: Sec. 12 Twp 5S Rge. 33W Co. Rawlins State KS

Interval Tested 4097 - 4120 Zone Tested LKC "K"  
 Anchor Length 23 Drill Pipe Run 3983 Mud Wt. 9.1  
 Top Packer Depth 4092 Drill Collars Run 118 Vis 50  
 Bottom Packer Depth 4097 (Shale) Wt. Pipe Run - WL 7.2  
 Total Depth 4120 Chlorides 2500 ppm System LCM 2

Blow Description IF: Blow built to BOB (11") at 30sec, built to 163"  
ISI: No blowback  
FF: Blow built to BOB at 30sec, built to 115"  
FSI: Blowback built to 14"

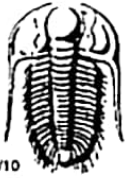
Rec	Feet of	%gas	%oil	%water	%mud
<u>1570</u>	<u>5m/6wco</u>	<u>16</u>	<u>55</u>	<u>25</u>	<u>4</u>
<u>30</u>	<u>SOMCW</u>	<u>8</u>	<u>7</u>	<u>77</u>	<u>8</u>
<u>430</u>	<u>smcw w/trace oil</u>	<u>trace</u>	<u>0</u>	<u>96</u>	<u>4</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2030 BHT 131 Gravity 29.6 API RW .332 @ 74.8°F Chlorides 19,000 ppm

(A) Initial Hydrostatic 2027  Test 1300 T-On Location 2:00  
 (B) First Initial Flow 592  Jars \_\_\_\_\_ T-Started 2:19  
 (C) First Final Flow 761  Safety Joint \_\_\_\_\_ T-Open 5:32  
 (D) Initial Shut-In 1321  Circ Sub \_\_\_\_\_ T-Pulled 6:43  
 (E) Second Initial Flow 829  Hourly Standby \_\_\_\_\_ T-Out 9:50  
 (F) Second Final Flow 943  Mileage 92 RJ 92 Comments Rig repaired drive chain when on Bank  
 (G) Final Shut-In 1315  Sampler \_\_\_\_\_  Em Tool 350  
 (H) Final Hydrostatic 1984  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer 250  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 350  
 Day Standby \_\_\_\_\_ Total 1992  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1642

Approved By \_\_\_\_\_ Our Representative James Nicks

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



# TRIOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64684

Well Name & No. Cooper #1-12 Test No. 5 Date 7-3-19  
 Company Mull Drilling Co. Inc Elevation 3017 KB 3012 GL  
 Address 1700 N. Waterfront PKWY Bldg 1200 Wichita, KS 67206  
 Co. Rep / Geo. Rusty Mourning Rig WW #8  
 Location: Sec. 12 Twp 5S Rge. 33w Co. Rawlins State KS

Interval Tested 4285-4350 Zone Tested Cherokee  
 Anchor Length 65 Drill Pipe Run 4170 Mud Wt. 9.3  
 Top Packer Depth 4280 Drill Collars Run 118 Vis 62  
 Bottom Packer Depth 4285 (shale) Wt. Pipe Run - WL 9.6  
 Total Depth 4350 Chlorides 3000 ppm System LCM 2

Blow Description IF: Blow built to 2 1/4"  
ISI: No blowback  
FF: Blow built to BOB (11") at 24 min., built to 26"  
FSI: Weak surface blow for around 20 min., then died off

Rec	Feet of	%gas	%oil	%water	%mud
<u>52</u>	<u>CGO</u>	<u>6</u>	<u>94</u>	<u>-</u>	<u>-</u>
<u>59</u>	<u>60CM</u>	<u>5</u>	<u>23</u>	<u>-</u>	<u>77</u>
<u>59</u>	<u>GMWCO</u>	<u>23</u>	<u>35</u>	<u>16</u>	<u>26</u>
<u>Rec</u>	<u>Feet of</u>	<u>%gas</u>	<u>%oil</u>	<u>%water</u>	<u>%mud</u>
<u>Rec</u>	<u>Feet of</u>	<u>%gas</u>	<u>%oil</u>	<u>%water</u>	<u>%mud</u>

Rec Total 170 BHT 127 Gravity 36.2 API RW @ °F Chlorides ppm

- (A) Initial Hydrostatic 2204
- (B) First Initial Flow 26
- (C) First Final Flow 44
- (D) Initial Shut-In 1148
- (E) Second Initial Flow 41
- (F) Second Final Flow 85
- (G) Final Shut-In 1108
- (H) Final Hydrostatic 2163

- Test 1300
- Jars
- Safety Joint
- Circ Sub
- Hourly Standby
- Mileage 92RT 92
- Sampler
- Straddle
- Shale Packer 250
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1642

T-On Location 11:05  
 T-Started 11:50  
 T-Open 13:47  
 T-Pulled 16:26  
 T-Out 18:30

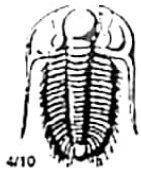
Comments \_\_\_\_\_  
 EM Tool 350  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 350  
 Total 1992  
 MP/DST Disc't \_\_\_\_\_

Initial Open 5  
 Initial Shut-In 30  
 Final Flow 60  
 Final Shut-In 60

Approved By \_\_\_\_\_ Our Representative Jane Winder

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64685

Well Name & No. Cooper #1-12 Test No. 6 Date 7-4-19  
 Company Mull Drilling Co. Inc Elevation 3017 KB 3012 GL  
 Address 1700 N. Waterfront PKWY Bldg 1200 Wichita, KS 67206  
 Co. Rep / Geo. Rusty Mourning Rig WW#8  
 Location: Sec. 12 Twp 5S Rge. 33W Co. Rawlins State KS

Interval Tested 4348-4421 Zone Tested Cherokee Sand  
 Anchor Length 73 Drill Pipe Run 4233 Mud Wt. 9.1  
 Top Packer Depth 4343 Drill Collars Run 118 Vis 59  
 Bottom Packer Depth 4348 (Shale) Wt. Pipe Run - WL 7.2  
 Total Depth 4421 Chlorides 3200 ppm System LCM 2  
 Blow Description IF: Blow built to 6 1/2"  
ISI: No blowback  
FF: Blow built to BOB (11") at 10 min, built to 50"  
FSI: Blowback built to 7"

Rec	Feet of	%gas	%oil	%water	%mud
270	C60	18	82	-	-
62	6HMCO	6	54	-	40
59	6SMCO	12	80	-	8
59	6MCO	10	65	-	25
	GIP=290'				

Rec Total 450 BHT 133 Gravity 24.8 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2189  Test 1300 T-On Location 4:15  
 (B) First Initial Flow 58  Jars \_\_\_\_\_ T-Started 5:00  
 (C) First Final Flow 82  Safety Joint \_\_\_\_\_ T-Open 7:35  
 (D) Initial Shut-In 1405  Circ Sub \_\_\_\_\_ T-Pulled 10:56  
 (E) Second Initial Flow 80  Hourly Standby \_\_\_\_\_ T-Out 13:00  
 (F) Second Final Flow 185  Mileage 92RT 92 Comments \_\_\_\_\_  
 (G) Final Shut-In 1329  Sampler \_\_\_\_\_  EM Tool 0  
 (H) Final Hydrostatic 2104  Straddle \_\_\_\_\_  Ruined Shale Packer 350  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 5  Extra Packer \_\_\_\_\_ Sub Total 350  
 Initial Shut-In 45  Extra Recorder \_\_\_\_\_ Total 1992  
 Final Flow 60  Day Standby \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90  Accessibility \_\_\_\_\_  
 Sub Total 1642

Approved By \_\_\_\_\_ Our Representative James Winder  
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# MUD LOG

## WellSight Systems

Scale 1:480 (2.5"=100') Imperial  
Measured Depth Log

Well Name: **Cooper #1-12**  
 Well Id:  
 Location: **Sec. 12 T5S/R33W**  
 License Number:  
 Spud Date:  
 Surface Coordinates:  
 Region: **Rawlins County**  
 Drilling Completed:  
 Bottom Hole Coordinates:  
 Ground Elevation (ft):  
 Logged Interval (ft):  
 Formation:  
 Type of Drilling Fluid:  
 K.B. Elevation (ft): **3017**  
 Total Depth (ft):

Printed by MudLog from WellSight Systems 1-800-447-1534 www.WellSight.com

### OPERATOR

Company: **Mull Drilling**  
 Address:

### GEOLOGIST

Name: **Rusty C. Mourning**  
 Company: **Mull Drilling Co**  
 Address:

### Cores

### DSTs

### Comments

### ROCK TYPES

Anhy	Clyst	Gyp	Mrlst	Shgy
Bent	Coal	Igne	Salt	Slst
Brec	Congl	Lmst	Shale	Ss
Cht	Dol	Meta	Shcol	Till

### ACCESSORIES

<b>MINERAL</b>	Gyp	<b>FOSSIL</b>	Ostra	Slststrg
Anhy	Hvymn	Algae	Pelec	Ssstrg
Arggrn	Kaol	Amph	Pellet	<b>TEXTURE</b>
Arg	Marl	Belm	Pisolite	Boundst
Bent	Minxl	Bioclst	Plant	Chalky
Bit	Nodule	Brach	Strom	Cryxin
Brecfrag	Phos	Bryozoa	<b>STRINGER</b>	Earthy
Calc	Pyr	Cephal	Anhy	Finexln
Carb	Salt	Coral	Arg	Grainst
Chtdk	Sandy	Crin	Bent	Lithogr
Chtlt	Silt	Echin	Coal	Microxln
Dol	Sil	Fish	Dol	Mudst
Feldspar	Sulphur	Foram	Gyp	Packst
Ferrpel	Tuff	Fossil	Ls	Wackest
Ferr		Gastro	Mrst	
Glau		Oolite		

### OTHER SYMBOLS

<b>POROSITY</b>	Vuggy	<b>ROUNDING</b>	Spotted	<b>EVENT</b>
Earthy	<b>SORTING</b>	Rounded	Ques	Rft
Fenest	Well	Subrmd	Dead	Dst
Fracture	Moderate	Subang	<b>INTERVAL</b>	Sidewall
Moldic	Poor	<b>OIL SHOW</b>	Core	
Organic		Even	Dst	
Pinpoint				

