

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	MUCHMORE-THORNBURG UNIT 1-34
Doc ID	1488195

All Electric Logs Run

CDL/CNL/PE
DIL
MEL
SONIC

Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	MUCHMORE-THORNBURG UNIT 1-34
Doc ID	1488195

Tops

Name	Top	Datum
Anhydrite	1992	+ 573
B/Anhydrite	2029	+ 536
Heebner	3822	- 1257
Lansing	3862	- 1297
Stark	4106	- 1541
Pawnee	4306	- 1741
Ft. Scott	4372	- 1807
Cherokee	4396	- 1831
Mississippian	4461	- 1896
Warsaw Poro	4469	- 1904
Warsaw Lime	4491	- 1926

JOB LOG

SWIFT Services, Inc.

DATE 10/7/2019 PAGE NO. 1

CUSTOMER Mull D. Ig Co WELL NO. 1-34 LEASE Munchmore - Thornburg JOB TYPE Surface Pipe TICKET NO. 032419

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
1830	1830							On Location 8 5/8" 2316/ft
								RTD: 220
	1915							Start Casing in Well
	2030							Break Circulation
	2040	3 1/2	5		✓	200		Pump 5bbl H ₂ O Space
	2045	4	36		✓	150		Mix 150 sks of Standard 2% gel 3% CC @ 14.7ppg
	2055	3 1/2	0		✓	100		Start Displacement
		3 1/2	10		✓	200		- Circulate CMT to Surface
								- 15 sks to the Pit-
	2100	0	13 1/2		✓	250		KO Pump * Shut in * Release Pressure * Hold *
	2106							Wash up Trk #112
	2130							Job Complete Thank You
								Pudon, Preston, Kirby
								150 sks of Standard 2% gel 3% CC CMT used - 15 sks to Pit- - Plug down @ 9:00 PM



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company Inc.
 1700 N Waterfront Pkw y
 Bldg 1200
 Wichita KS 67205
 ATTN: Phil Askey

34-15s-26w Gove Co KS

Muchmore-Thornburg

Job Ticket: 63934

DST#: 1

Test Start: 2019.10.13 @ 20:22:15

GENERAL INFORMATION:

Formation: **H-I-J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:40:45
 Time Test Ended: 02:46:30
 Interval: **4015.00 ft (KB) To 4100.00 ft (KB) (TVD)**
 Total Depth: 4100.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Mike Roberts
 Unit No: 81
 Reference Elevations: 2563.00 ft (KB)
 2558.00 ft (CF)
 KB to GR/CF: 5.00 ft

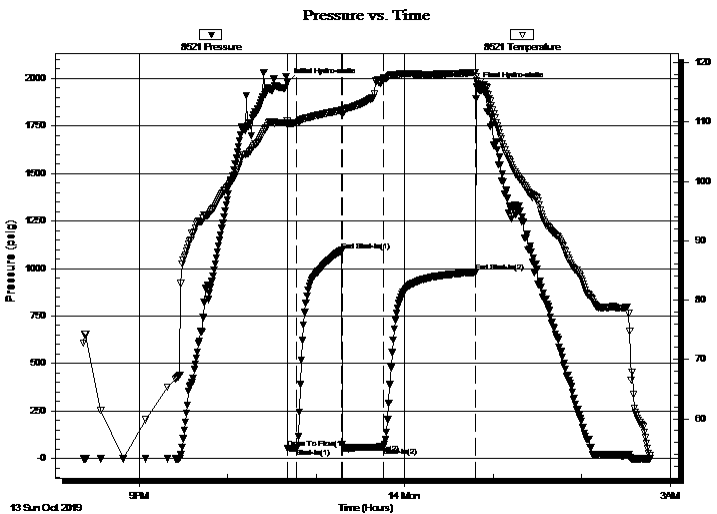
Serial #: 8521

Inside

Press@RunDepth: 61.25 psig @ 4085.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.10.13 End Date: 2019.10.14 Last Calib.: 2019.10.14
 Start Time: 20:22:15 End Time: 02:46:30 Time On Btm: 2019.10.13 @ 22:40:30
 Time Off Btm: 2019.10.14 @ 00:48:45

TEST COMMENT: IF: Built to 3/4" blow
 IS: No retron blow
 FF: Built to weak surface blow
 FS: No return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1979.36	110.18	Initial Hydro-static
1	53.19	109.50	Open To Flow (1)
7	54.78	109.89	Shut-In(1)
37	1094.69	111.99	End Shut-In(1)
38	74.52	111.20	Open To Flow (2)
65	61.25	117.36	Shut-In(2)
128	979.67	118.34	End Shut-In(2)
129	1956.73	116.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100% m	0.28

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company Inc.

34-15s-26w Gove Co KS

1700 N Waterfront Pkw y
Bldg 1200
Wichita KS 67205
ATTN: Phil Askey

Muchmore-Thornburg

Job Ticket: 63934

DST#: 1

Test Start: 2019.10.13 @ 20:22:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	mud 100%m	0.281

Total Length: 20.00 ft Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8521

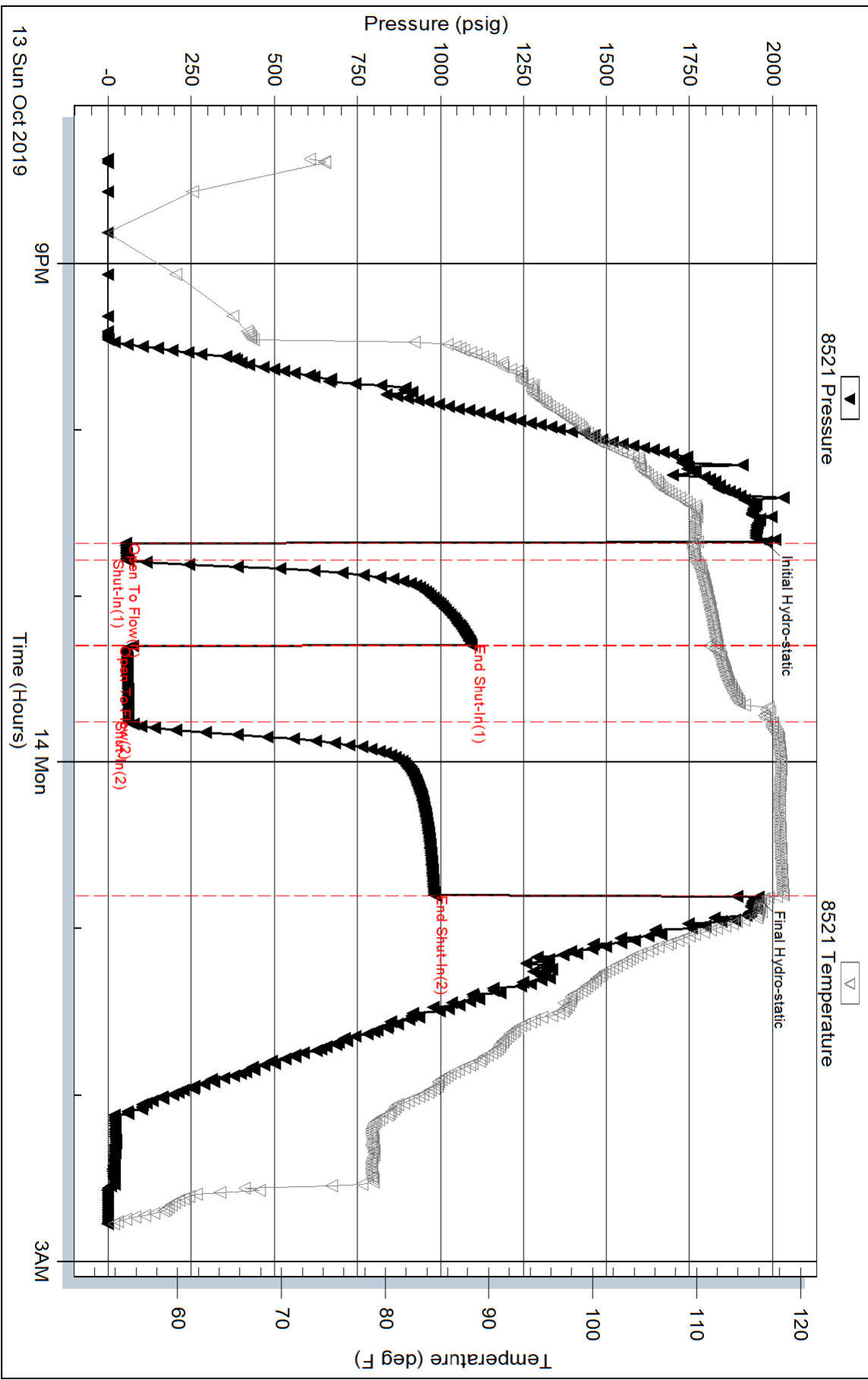
Inside

Mull Drilling Company Inc.

Muchmore-Thornburg

DST Test Number: 1

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 63934

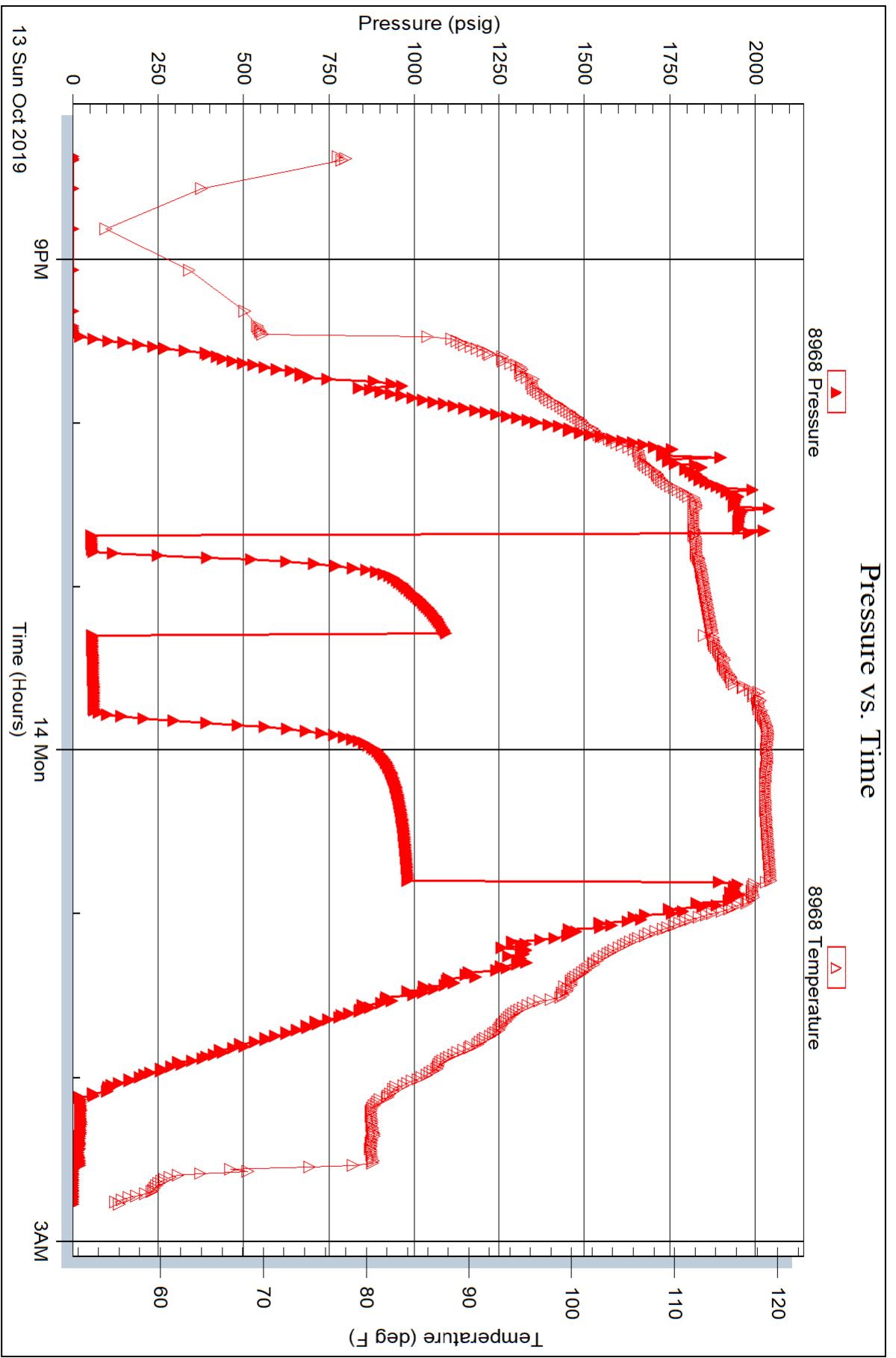
Printed: 2019.10.14 @ 07:56:19

Serial #: 8968

Outside Mull Drilling Company Inc.

Muchmore-Thornburg

DST Test Number: 1





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company Inc.
 1700 N Waterfront Pkw y
 Bldg 1200
 Wichita KS 67205
 ATTN: Phil Askey

34-15s-26w Gove Co KS

Muchmore-Thornburg

Job Ticket: 63935 **DST#: 2**

Test Start: 2019.10.15 @ 21:09:15

GENERAL INFORMATION:

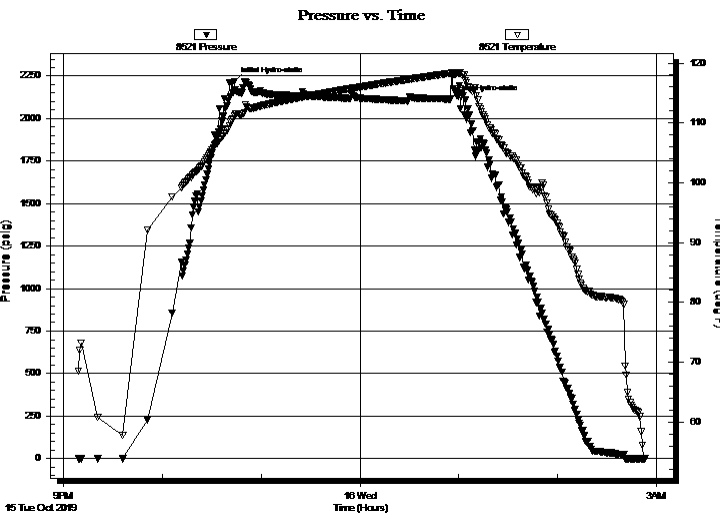
Formation: **Miss**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened:
 Time Test Ended: 02:52:45
 Interval: **4382.00 ft (KB) To 4479.00 ft (KB) (TVD)**
 Total Depth: 4479.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Mike Roberts
 Unit No: 81
 Reference Elevations: 2563.00 ft (KB)
 2558.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8521

Inside

Press@RunDepth: psig @ 4454.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.10.15 End Date: 2019.10.16 Last Calib.: 2019.10.16
 Start Time: 21:09:15 End Time: 02:52:45 Time On Btm: 2019.10.15 @ 22:43:45
 Time Off Btm: 2019.10.16 @ 00:55:00

TEST COMMENT: IF: Built to weak surface blow - tool didn't open
 IS: No return blow
 FF: Built to weak surface blow
 FS: No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2217.25	111.20	Initial Hydro-static
132	2113.57	118.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud 100% m	0.03

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company Inc.
1700 N Waterfront Pkw y
Bldg 1200
Wichita KS 67205
ATTN: Phil Askey

34-15s-26w Gove Co KS

Muchmore-Thornburg

Job Ticket: 63935

DST#: 2

Test Start: 2019.10.15 @ 21:09:15

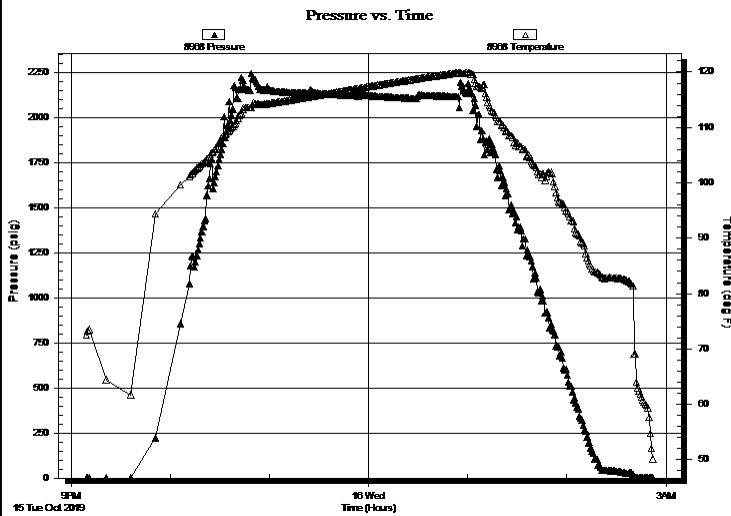
GENERAL INFORMATION:

Formation: **Miss**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 02:52:45
Interval: 4382.00 ft (KB) To 4479.00 ft (KB) (TVD)
Total Depth: 4479.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Reset)
Tester: Mike Roberts
Unit No: 81
Reference Elevations: 2563.00 ft (KB)
2558.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8968 Outside

Press@RunDepth: psig @ 4454.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2019.10.15 End Date: 2019.10.16 Last Calib.: 2019.10.16
Start Time: 21:09:15 End Time: 02:52:30 Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Built to weak surface blow - tool didn't open
IS: No return blow
FF: Built to weak surface blow
FS: No return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud 100% m	0.03

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company Inc.

34-15s-26w Gove Co KS

1700 N Waterfront Pkw y
Bldg 1200
Wichita KS 67205
ATTN: Phil Askey

Muchmore-Thornburg

Job Ticket: 63935 **DST#: 2**

Test Start: 2019.10.15 @ 21:09:15

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 76.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.37 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 2700.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	mud 100% m	0.028

Total Length: 2.00 ft Total Volume: 0.028 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Tool didnt open

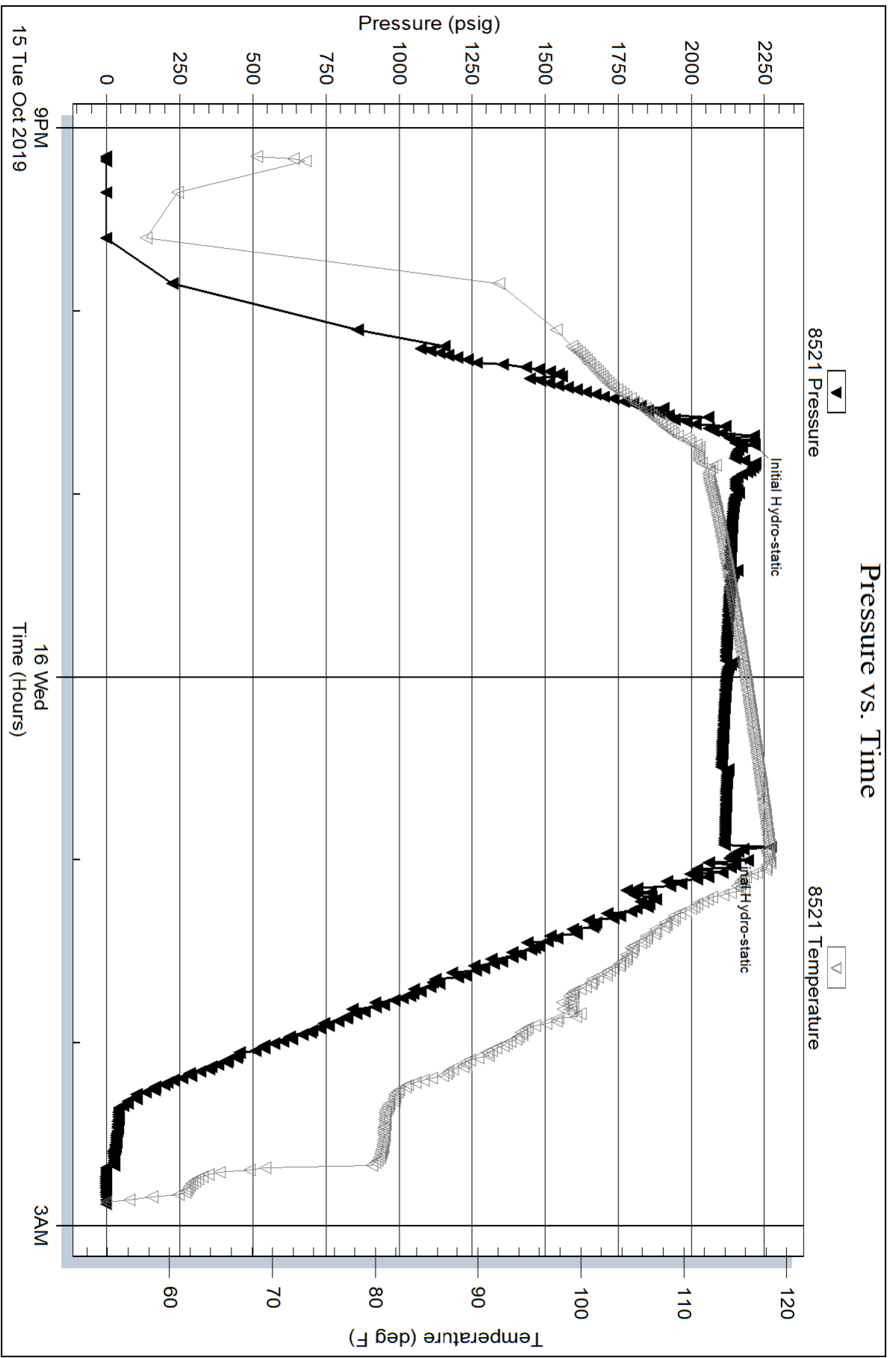
Serial #: 8521

Inside

Mull Drilling Company Inc.

Muchmore-Thornburg

DST Test Number: 2

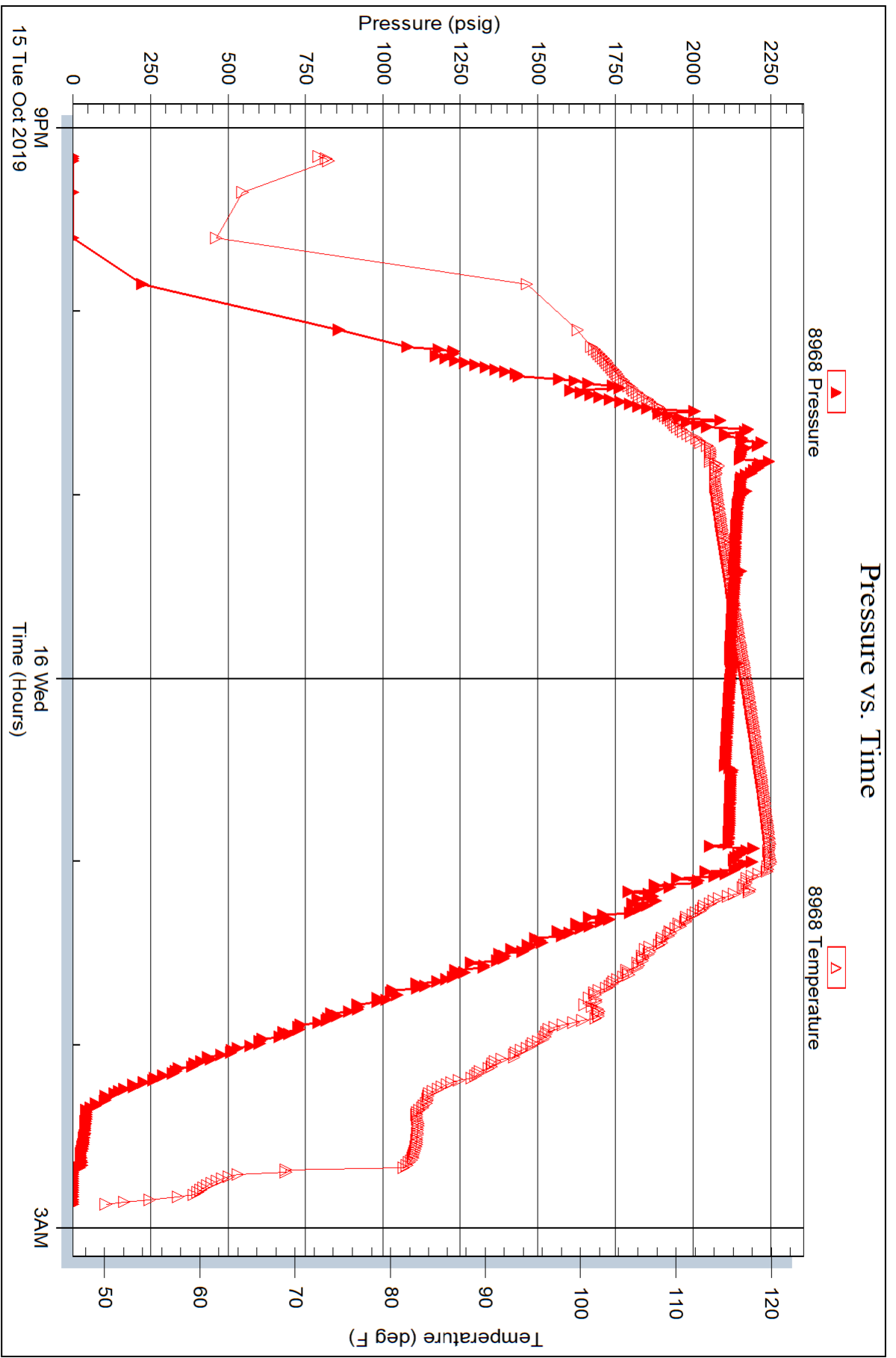


Serial #: 8968

Outside Mull Drilling Company Inc.

Muchmore-Thornburg

DST Test Number: 2





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mull Drilling Company Inc.
1700 N Waterfront Pkw y
Bldg 1200
Wichita KS 67205
ATTN: Phil Askey

34-15s-26w Gove Co KS

Muchmore-Thornburg

Job Ticket: 63936

DST#: 3

Test Start: 2019.10.16 @ 08:45:15

GENERAL INFORMATION:

Formation: **Miss**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:53:45

Time Test Ended: 16:18:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

Interval: 4382.00 ft (KB) To 4479.00 ft (KB) (TVD)

Reference Elevations: 2563.00 ft (KB)

Total Depth: 4479.00 ft (KB) (TVD)

2558.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8521 Inside

Press@RunDepth: 59.60 psig @ 4454.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.10.16

End Date:

2019.10.16

Last Calib.:

2019.10.16

Start Time:

08:45:15

End Time:

16:18:15

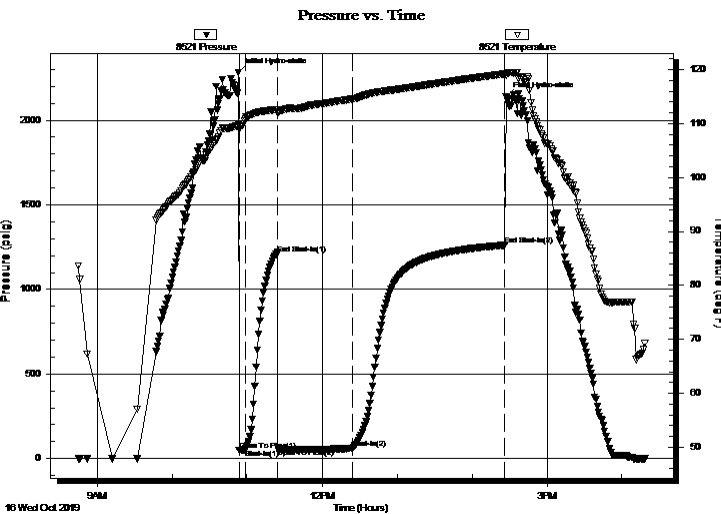
Time On Btm:

2019.10.16 @ 10:53:15

Time Off Btm:

2019.10.16 @ 14:27:15

TEST COMMENT: IF: Built to 1" blow
IS: Built to 1/2" blow
FF: BOB in 35 min. Built to 17 1/2" blow
FS: Built to weak surface blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2282.18	109.68	Initial Hydro-static
1	49.49	108.83	Open To Flow (1)
6	53.02	110.95	Shut-In(1)
32	1208.34	112.61	End Shut-In(1)
32	63.45	112.00	Open To Flow (2)
91	59.60	114.52	Shut-In(2)
213	1261.18	119.22	End Shut-In(2)
214	2136.87	118.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	gcom 10%g 30%o 60%m	0.42
0.00	216 ft GIP=	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company Inc.

34-15s-26w Gove Co KS

1700 N Waterfront Pkw y
Bldg 1200
Wichita KS 67205
ATTN: Phil Askey

Muchmore-Thornburg

Job Ticket: 63936 **DST#: 3**

Test Start: 2019.10.16 @ 08:45:15

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 76.00 sec/qt
Water Loss: 8.38 in³
Resistivity: 0.00 ohm.m
Salinity: 2700.00 ppm
Filter Cake: 1.00 inches

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

Oil API: 0 deg API
Water Salinity: 0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	gcom 10%g 30%o 60%m	0.421
0.00	216 ft GIP=	0.000

Total Length: 30.00 ft Total Volume: 0.421 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

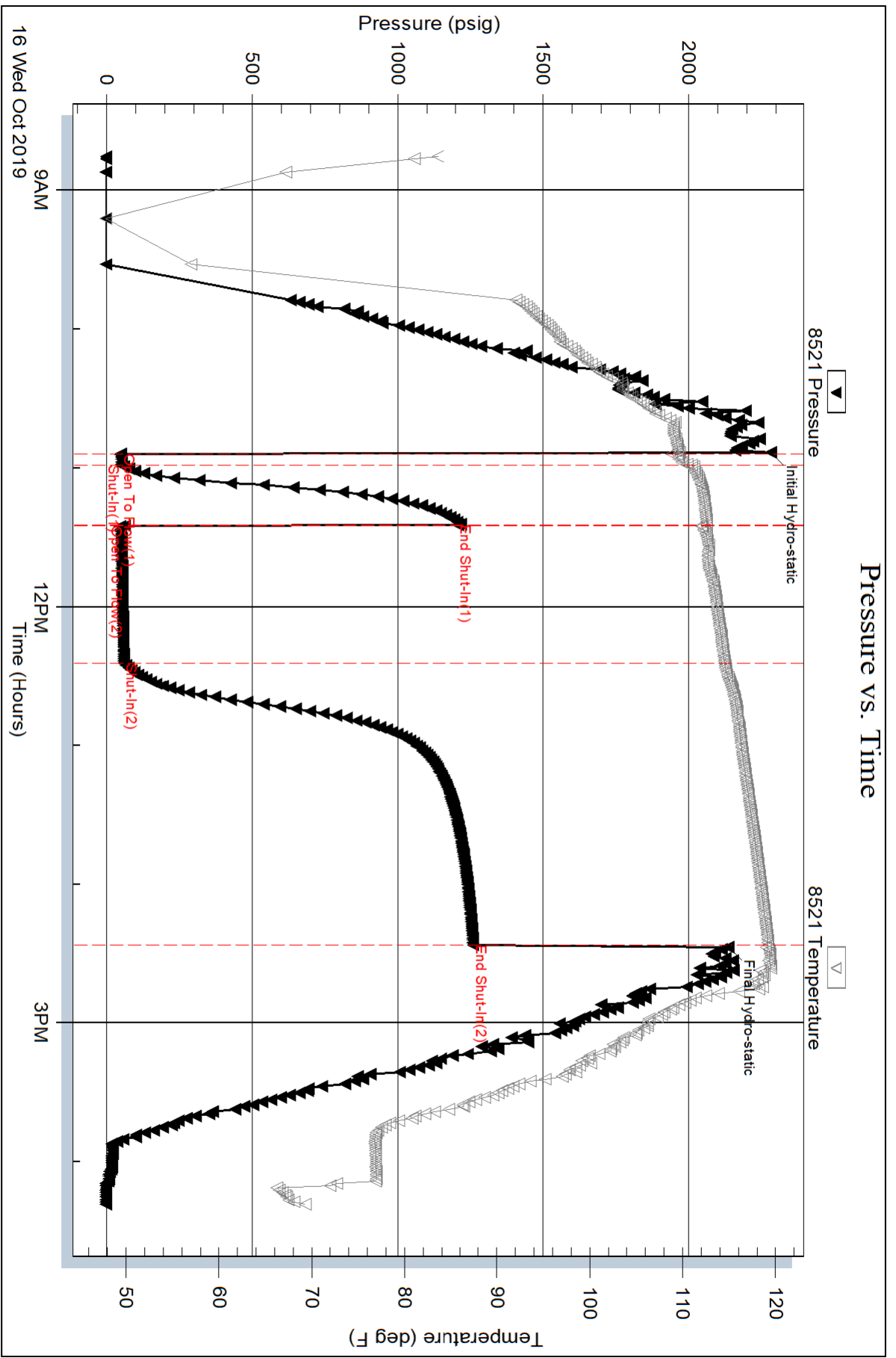
Serial #: 8521

Inside

Mull Drilling Company Inc.

Muchmore-Thornburg

DST Test Number: 3

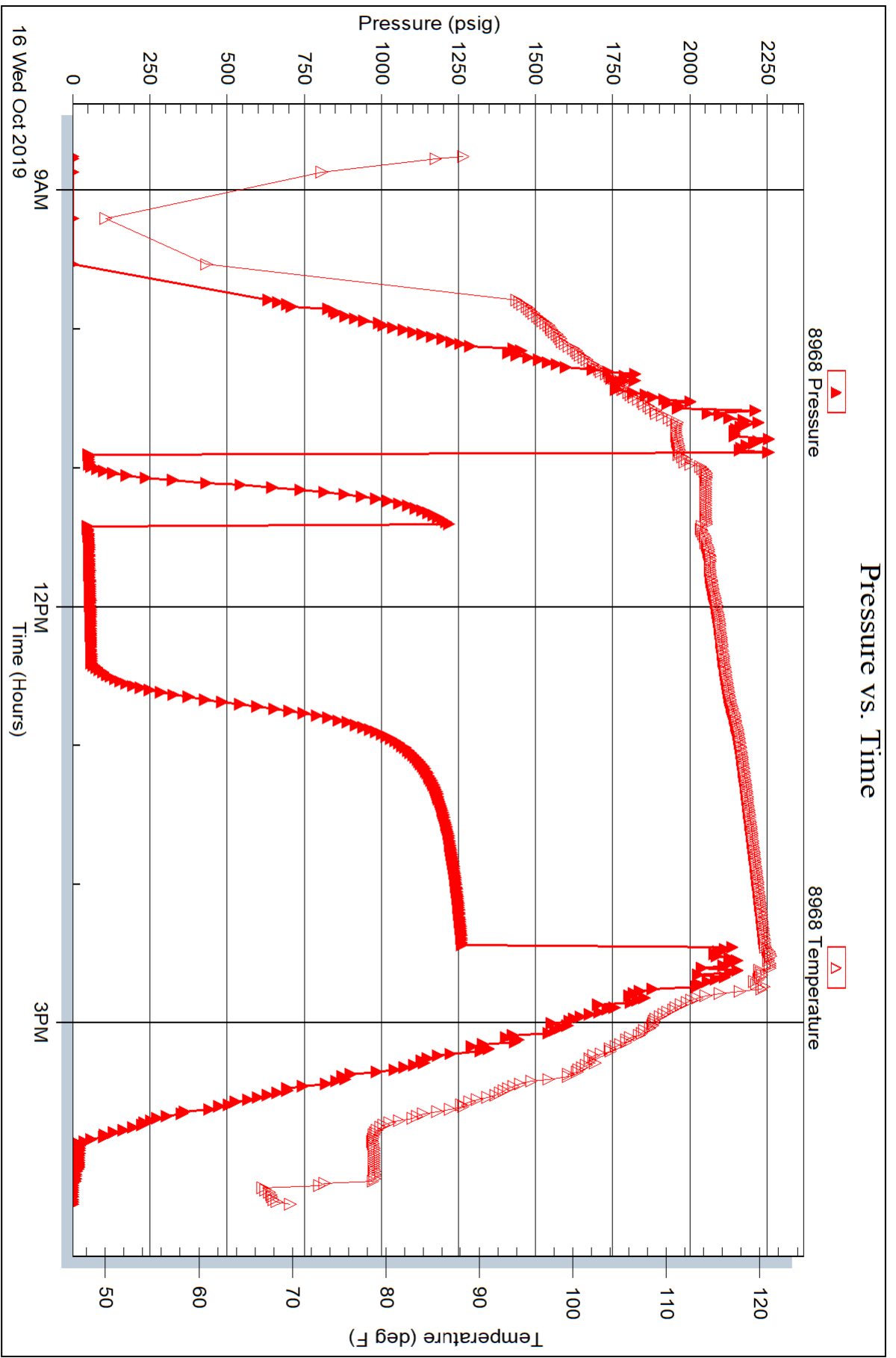


Serial #: 8968

Outside Mull Drilling Company Inc.

Muchmore-Thornburg

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 63936

Printed: 2019.10.16 @ 16:48:06



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company Inc.
 1700 N Waterfront Pkw y
 Bldg 1200
 Wichita KS 67205
 ATTN: Phil Askey

34-15s-26w Gove Co KS

Muchmore-Thornburg

Job Ticket: 63937 **DST#: 4**

Test Start: 2019.10.16 @ 22:29:15

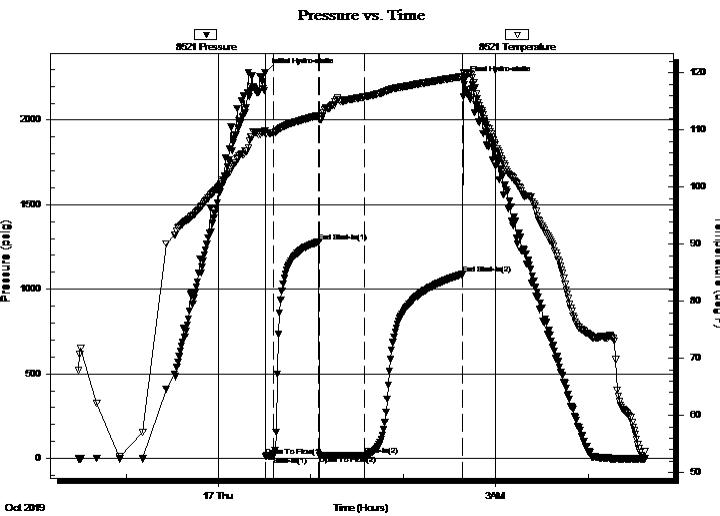
GENERAL INFORMATION:

Formation: **Miss**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:30:45
 Time Test Ended: 04:37:00
 Interval: **4479.00 ft (KB) To 4494.00 ft (KB) (TVD)**
 Total Depth: 4494.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Mike Roberts
 Unit No: 81
 Reference Elevations: 2563.00 ft (KB)
 2558.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8521

Press@RunDepth: 18.92 psig @ ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.10.16 End Date: 2019.10.17 Last Calib.: 2019.10.17
 Start Time: 22:29:15 End Time: 04:37:00 Time On Btm: 2019.10.17 @ 00:30:15
 Time Off Btm: 2019.10.17 @ 02:39:15

TEST COMMENT: IF: Built to 3/4" blow
 IS: Very weak surface blow
 FF: Built to 1 1/2" blow
 FS: No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2281.56	109.92	Initial Hydro-static
1	14.03	109.28	Open To Flow (1)
6	15.10	109.49	Shut-In(1)
35	1280.58	112.57	End Shut-In(1)
36	16.75	111.87	Open To Flow (2)
65	18.92	115.82	Shut-In(2)
128	1088.15	119.37	End Shut-In(2)
129	2232.17	120.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	free oil 100%o	0.04
20.00	mco 20%m 80%o	0.28

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company Inc.
 1700 N Waterfront Pkw y
 Bldg 1200
 Wichita KS 67205
 ATTN: Phil Askey

34-15s-26w Gove Co KS

Muchmore-Thornburg

Job Ticket: 63937 **DST#: 4**

Test Start: 2019.10.16 @ 22:29:15

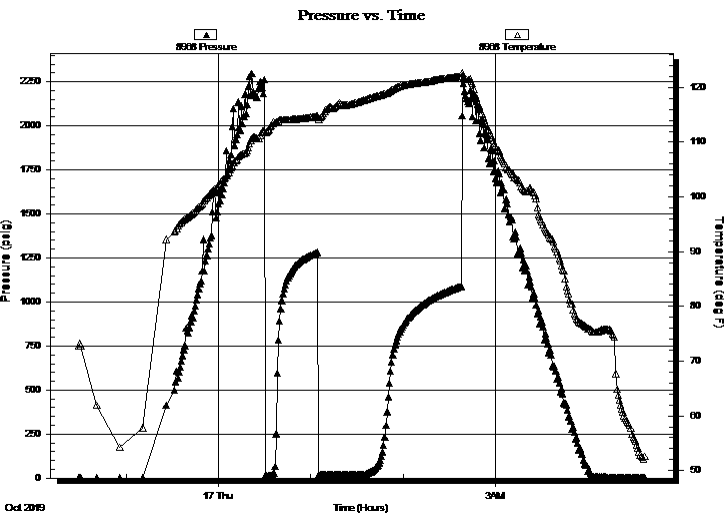
GENERAL INFORMATION:

Formation: **Miss**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:30:45
 Time Test Ended: 04:37:00
 Interval: **4479.00 ft (KB) To 4494.00 ft (KB) (TVD)**
 Total Depth: 4494.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Mike Roberts
 Unit No: 81
 Reference Elevations: 2563.00 ft (KB)
 2558.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8968

Press@RunDepth: psig @ ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.10.16 End Date: 2019.10.17 Last Calib.: 2019.10.17
 Start Time: 22:29:15 End Time: 04:36:45 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: Built to 3/4" blow
 IS: Very weak surface blow
 FF: Built to 1 1/2" blow
 FS: No return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
3.00	free oil 100%o	0.04
20.00	mco 20% m 80%o	0.28

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company Inc.

34-15s-26w Gove Co KS

1700 N Waterfront Pkw y
Bldg 1200
Wichita KS 67205
ATTN: Phil Askey

Muchmore-Thornburg

Job Ticket: 63937

DST#: 4

Test Start: 2019.10.16 @ 22:29:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

40 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	free oil 100%o	0.042
20.00	mco 20%m 80%o	0.281

Total Length: 23.00 ft Total Volume: 0.323 bbl

Num Fluid Samples: 0

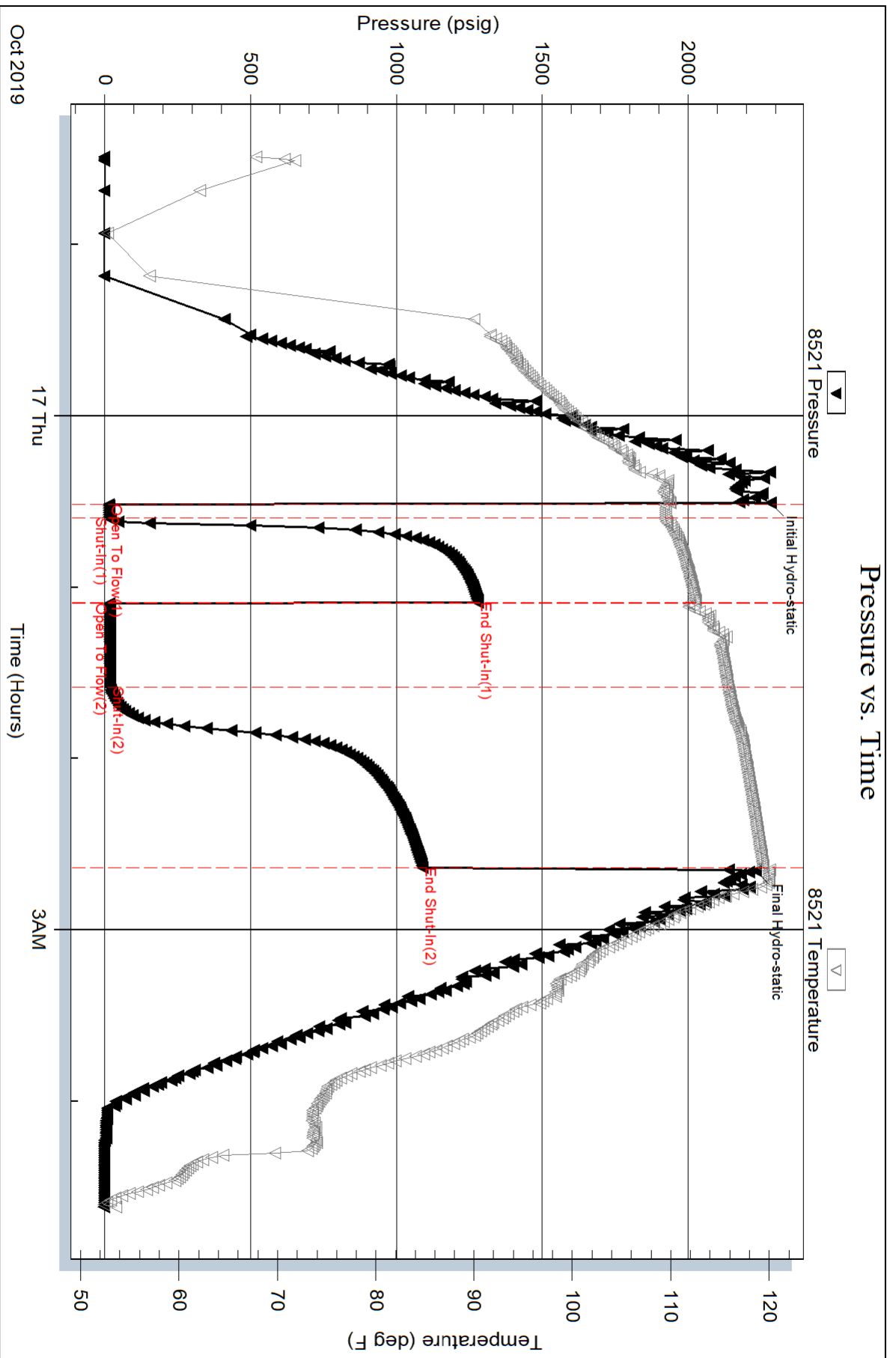
Num Gas Bombs: 0

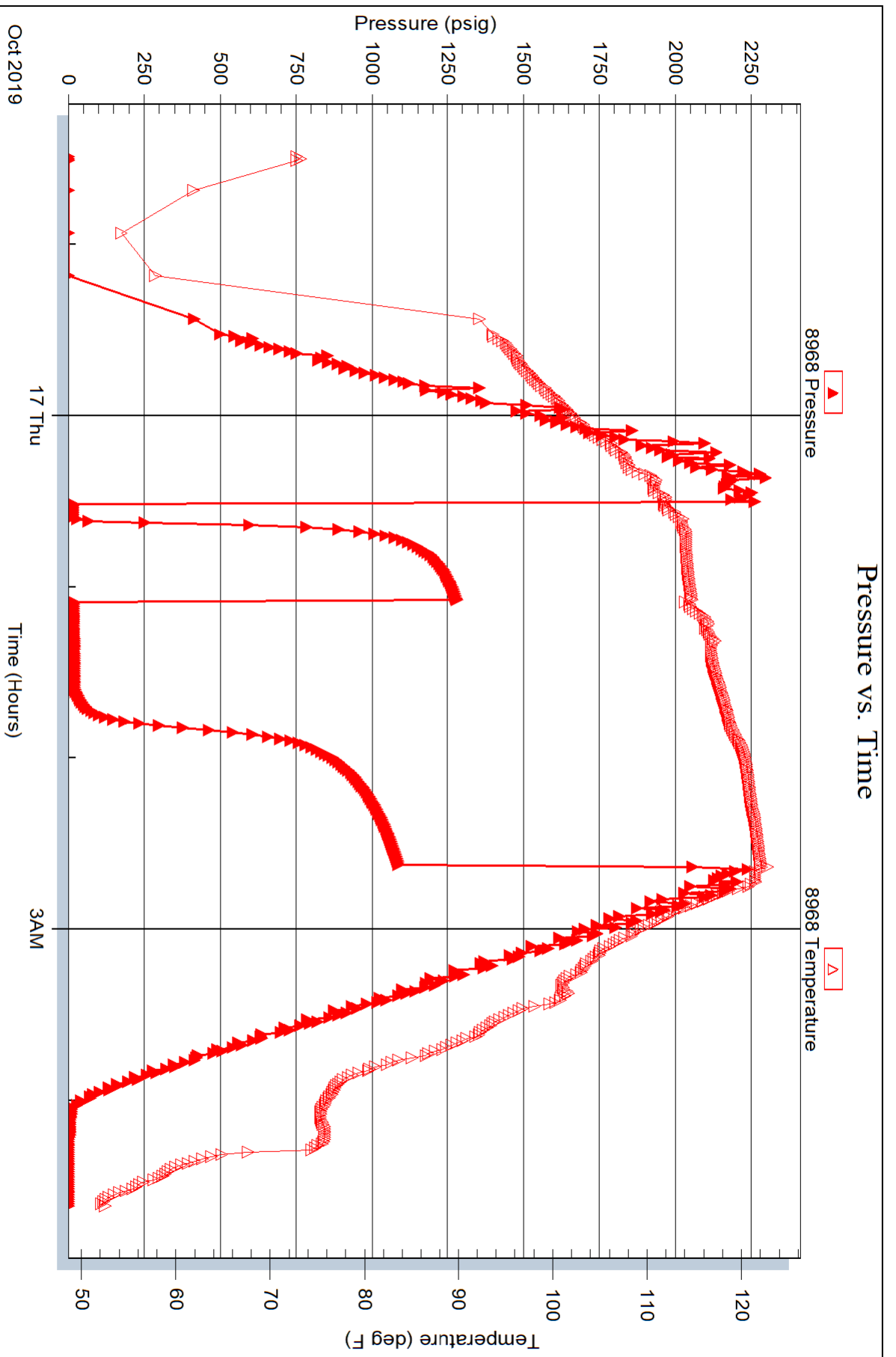
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API= 40 @ 60 corrected to 40







PHIL ASKEY
PETROLEUM GEOLOGIST

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY	Mull Drilling Co., Inc.	ELEVATIONS	2565'
LEASE	Muchmore-Thornburg Unit #1-34	FIELD	Clapham
LOCATION	24 1/2' EUL & 2130' FEL	SECTION	34
COUNTY	Gove	TWP	15 S
CONTRACTOR	Picfield Drilling Co. #10	RGE	26 W
SPUD	10-19-19	STATE	Kansas
RTD	4580'	API #	15-003-22366
MUD UP	3980'	CASING	8 1/2" x 22'
SAMPLES EXAMINED FROM	3800'	PRODUCTION	
DRILLING TIME KEPT FROM 1906-2001, 3700'		TYPE MUD	Chemical And Co.
GEOLOGICAL SUPERVISION FROM 3700'		ELC:	Calc. Calc. Calc.
GEOLOGIST ON WELL	Phil Askey, G.S.		

REMARKS

The Mull Drilling Co., Inc. Muchmore-Thornburg Unit #1-34 showed 12' of thinning structurally between the Anhydrite and Miss 1836. Watered limits to be 6' high to the offset well, Donald Lawson, Deighan A #1, on the main target formation, fair to saw.

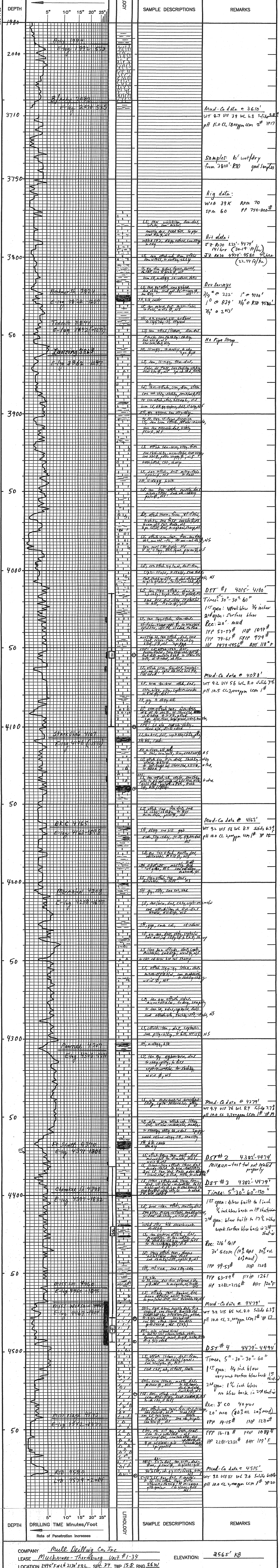
Sample shows in the casing H, J and J zones were DST'd with noncommercial results. The Miss Watery dolomite section had 21' of porosity and good sample shows but was DST'd with low recovery of fluid.

After careful review of the C-Log, it was decided to plug and abandon this well.

Phil Askey

LEGEND

Scale: 1" = 100'



COMPANY: Mull Drilling Co., Inc.
LEASE: Muchmore-Thornburg Unit #1-34
LOCATION: 24 1/2' EUL & 2130' FEL SEC 34 TWP 15 S RNG 26 W
COUNTY: Gove STATE: Kansas
ELEVATION: 2565' KB