

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	R & M MILLER 1-14
Doc ID	1416267

All Electric Logs Run

CDL/CNL/PE
DIL
MEL
Sonic

Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	R & M MILLER 1-14
Doc ID	1416267

Tops

Name	Top	Datum
Anhydrite	2552	+ 800
B/Anhydrite	2572	+ 780
Heebner	3998	- 646
Lansing	4049	- 697
Stark	4323	- 971
Marmaton	4462	- 1110
Pawnee	4559	- 1207
Ft. Scott	4590	- 1238
Cherokee	4608	- 1256
Morrow	4779	- 1447
Mississippian	4897	- 1545



PRESSURE PUMPING LLC
 P.O. Box 884, Chanute, KS 66720
 620-431-9210 or 800-467-8676

10279
 10171

TICKET NUMBER 55085
 LOCATION Oakley KS
 FOREMAN Miles Shivers

FIELD TICKET & TREATMENT REPORT
 CEMENT

Invoice #812715 *KS*

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY	
3-23-18	5659	RJM Miller 1-14	14	16S	37 W	Wichita	
CUSTOMER Mull drilling		Russell Springs South of CRD		TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS 1700N. Waterfront Pkwy, Bldg. 1200		24 N.S.		753	Traws		
CITY Wichita		STATE KS	ZIP CODE 67206-6637	77617-12	Keith C		

JOB TYPE Surfing HOLE SIZE 12.25" HOLE DEPTH 267 CASING SIZE & WEIGHT 8 5/8" 23#
 CASING DEPTH 267' DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 14.8 SLURRY VOL 1.36 WATER gal/sk _____ CEMENT LEFT in CASING 20'
 DISPLACEMENT 15.5 bbls DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting and R.O.S. on Duke drilling R.S. #1 circulate casing
Mix 180 SR Surfing blend II Class A cement w/ 3% calcium 2% gal desalator 15.5
bbls water shut in cement did circulate cellar only

Thanks Miles & Crew!

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0471	1	PUMP CHARGE	1150. ⁰⁰	1150. ⁰⁰
CE0007	50	MILEAGE	7.15	357.50
CE0710	8.46 TO	Tan mileage change	1.75	740.25
CC5871	180 SR	Surfing blend II	24. ⁰⁰	4320. ⁰⁰
			Subtotal	6567.75
			1855 30% discount	1970.32
			Subtotal	4597.43
			SALES TAX <u>8.5%</u>	257.04
			ESTIMATED TOTAL	4854.47

Ravin 3737

AUTHORIZATION Miles Shivers TITLE _____ DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, are as follows: Net 30 days.



DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company Inc.**

1700 N Waterfront Pkwy Bldg1200
Wichita, KS 67206+6637

ATTN: Kevin Kessler

R&M Miller #1-14

14-16S-37W Wichita,KS

Start Date: 2018.03.27 @ 07:47:00

End Date: 2018.03.27 @ 15:17:02

Job Ticket #: 63068 DST #: 1

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

Printed: 2018.04.04 @ 15:08:29



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company Inc.
 1700 N Waterfront Pkwy Bldg1200
 Wichita, KS 67206+6637
 ATTN: Kevin Kessler

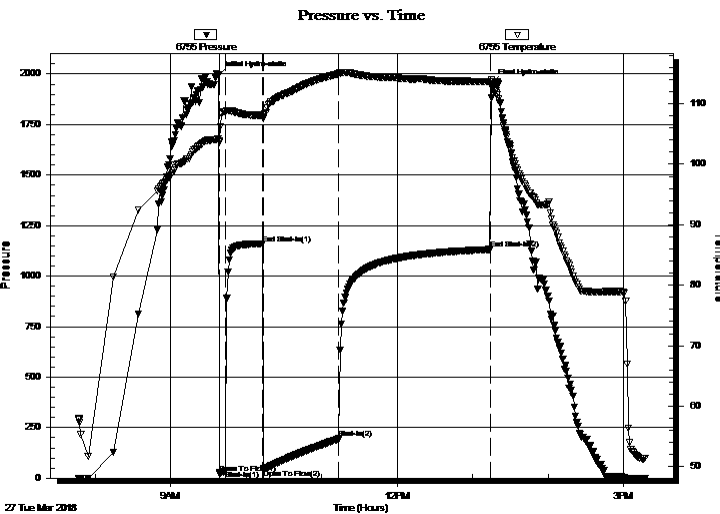
14-16S-37W Wichita, KS
R&M Miller #1-14
 Job Ticket: 63068 **DST#: 1**
 Test Start: 2018.03.27 @ 07:47:00

GENERAL INFORMATION:

Formation: **LKC C**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 09:39:02 Tester: Ken Swinney
 Time Test Ended: 15:17:02 Unit No: 72
 Interval: **4080.00 ft (KB) To 4130.00 ft (KB) (TVD)** Reference Elevations: 3352.00 ft (KB)
 Total Depth: 4130.00 ft (KB) (TVD) 3340.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 12.00 ft

Serial #: 6755 Inside
 Press@RunDepth: 194.95 psig @ 4081.00 ft (KB) Capacity: psig
 Start Date: 2018.03.27 End Date: 2018.03.27 Last Calib.: 2018.03.27
 Start Time: 07:47:01 End Time: 15:17:02 Time On Btm: 2018.03.27 @ 09:38:02
 Time Off Btm: 2018.03.27 @ 13:15:02

TEST COMMENT: IF 5 Minutes Blow built to 1/2"
 ISI 30 Minutes No blow back
 FF 60 Minutes Blow built to BOB in 22 minutes
 FSI 120 Minutes No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1991.54	104.18	Initial Hydro-static
1	23.62	103.92	Open To Flow (1)
6	37.47	108.67	Shut-In(1)
36	1160.35	108.10	End Shut-In(1)
36	43.45	107.90	Open To Flow (2)
96	194.95	114.95	Shut-In(2)
216	1132.32	113.67	End Shut-In(2)
217	1952.39	113.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
387.00	MW w/few spots of oil Mud 10% Water	5.43

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company Inc.
 1700 N Waterfront Pkwy Bldg1200
 Wichita, KS 67206+6637
 ATTN: Kevin Kessler

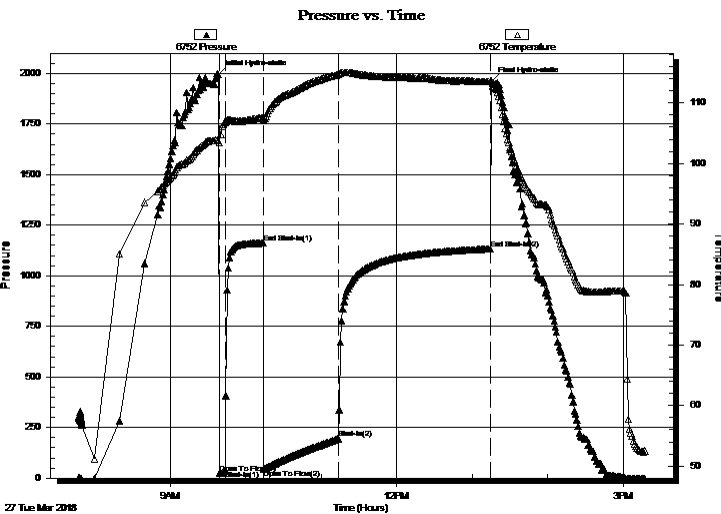
14-16S-37W Wichita, KS
R&M Miller #1-14
 Job Ticket: 63068 **DST#: 1**
 Test Start: 2018.03.27 @ 07:47:00

GENERAL INFORMATION:

Formation: **LKC C**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 09:39:02 Tester: Ken Swinney
 Time Test Ended: 15:17:02 Unit No: 72
 Interval: **4080.00 ft (KB) To 4130.00 ft (KB) (TVD)** Reference Elevations: 3352.00 ft (KB)
 Total Depth: 4130.00 ft (KB) (TVD) 3340.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 12.00 ft

Serial #: 6752 Outside
 Press@RunDepth: 1133.16 psig @ 4082.00 ft (KB) Capacity: psig
 Start Date: 2018.03.27 End Date: 2018.03.27 Last Calib.: 2018.03.27
 Start Time: 07:47:01 End Time: 15:17:02 Time On Btm: 2018.03.27 @ 09:38:02
 Time Off Btm: 2018.03.27 @ 13:15:02

TEST COMMENT: IF 5 Minutes Blow built to 1/2"
 ISI 30 Minutes No blow back
 FF 60 Minutes Blow built to BOB in 22 minutes
 FSI 120 Minutes No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1992.56	103.81	Initial Hydro-static
1	24.61	103.41	Open To Flow (1)
6	37.84	106.84	Shut-In(1)
36	1161.09	107.52	End Shut-In(1)
36	44.72	107.22	Open To Flow (2)
96	195.02	114.73	Shut-In(2)
217	1133.16	113.55	End Shut-In(2)
217	1957.70	113.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
387.00	MW w/few spots of oil Mud 10% Water	5.43

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company Inc.

14-16S-37W Wichita,KS

1700 N Waterfront Pkw y Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

Job Ticket: 63068

DST#: 1

ATTN: Kevin Kessler

Test Start: 2018.03.27 @ 07:47:00

Tool Information

Drill Pipe:	Length: 4064.00 ft	Diameter: 3.80 inches	Volume: 57.01 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 57.01 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4080.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.36 ft			
Tool Length:	78.36 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			4057.00	
Hydraulic tool	5.00			4062.00	
Jars	6.00			4068.00	
Safety Joint	2.00			4070.00	
Top Packer	5.00			4075.00	
Packer	5.00			4080.00	28.00 Bottom Of Top Packer
Recorder	1.00	6755	Inside	4081.00	
Recorder	1.00	6752	Outside	4082.00	
Anchor	12.00			4094.00	
Change Over Sub	1.00			4095.00	
Drill Pipe	31.36			4126.36	
Change Over Sub	1.00			4127.36	
Bullnose	3.00			4130.36	50.36 Anchor Tool

Total Tool Length: 78.36



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company Inc.

14-16S-37W Wichita,KS

1700 N Waterfront Pkw y Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

Job Ticket: 63068

DST#: 1

ATTN: Kevin Kessler

Test Start: 2018.03.27 @ 07:47:00

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:

13000 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
387.00	MW w/few spots of oil Mud 10% Water 90%	5.429

Total Length: 387.00 ft Total Volume: 5.429 bbl

Num Fluid Samples: 0

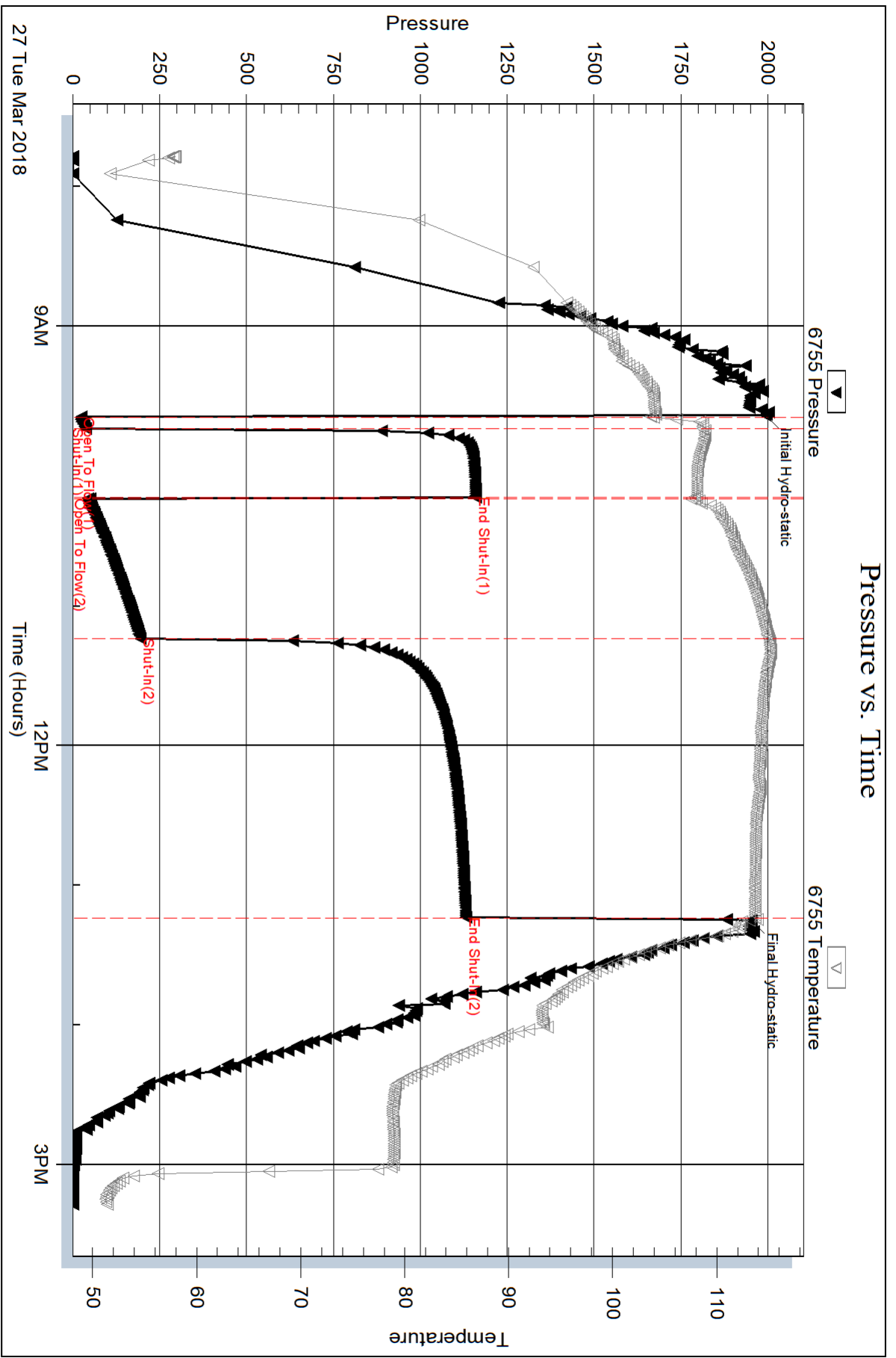
Num Gas Bombs: 0

Serial #:

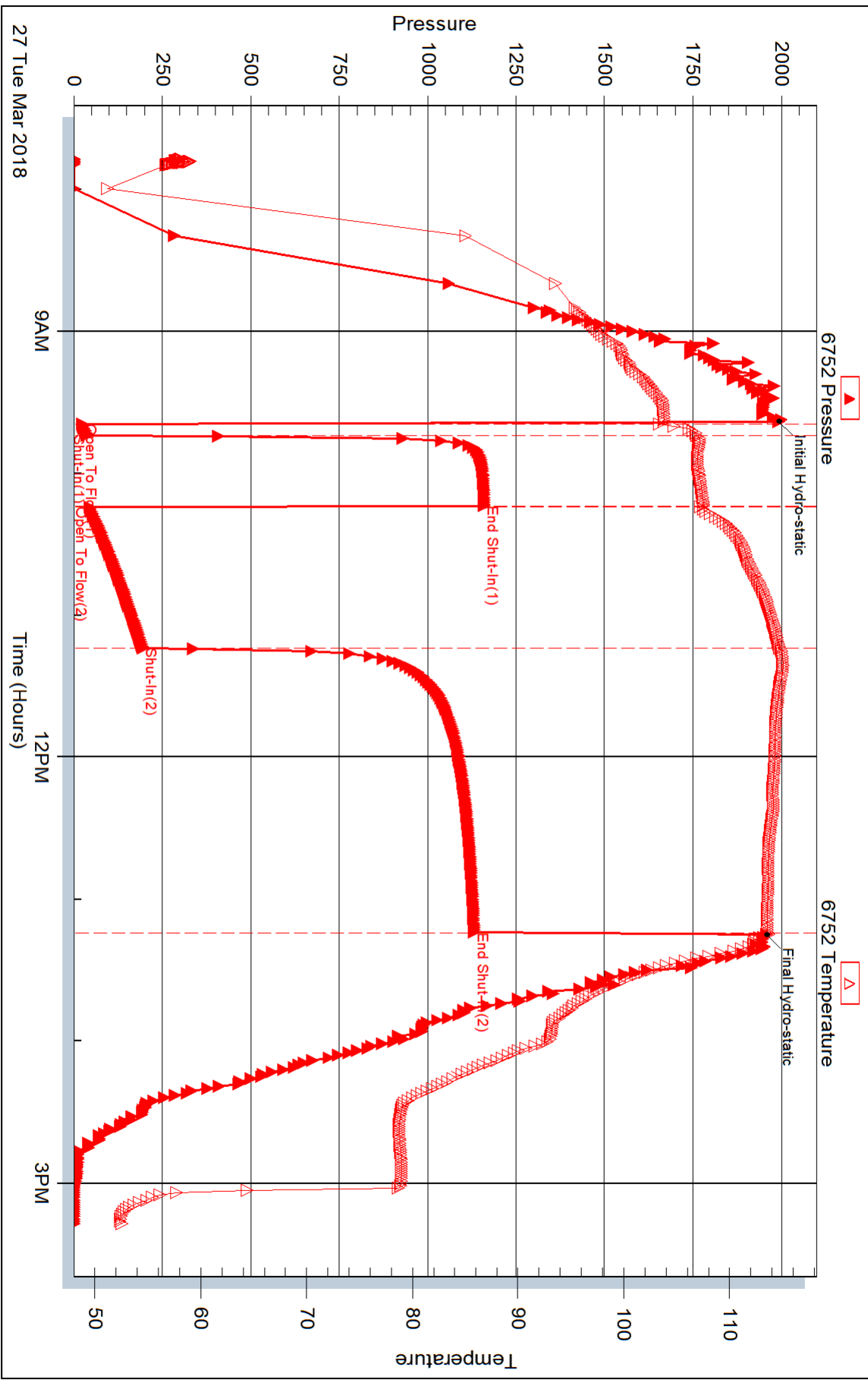
Laboratory Name:

Laboratory Location:

Recovery Comments: Recovery Resistivity .57 ohms @ 61 deg.



Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company Inc.**

1700 N Waterfront Pkwy Bldg1200
Wichita, KS 67206+6637

ATTN: Kevin Kessler

R&M Miller #1-14

14-16S-37W Wichita,KS

Start Date: 2018.03.28 @ 11:19:00

End Date: 2018.03.28 @ 18:23:02

Job Ticket #: 63069 DST #: 2

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

Printed: 2018.04.04 @ 15:08:03

Mull Drilling Company Inc. 14-16S-37W Wichita,KS R&M Miller #1-14 DST # 2 LKC I - J 2018.03.28



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company Inc.

14-16S-37W Wichita, KS

1700 N Waterfront Pkwy Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

Job Ticket: 63069

DST#: 2

ATTN: Kevin Kessler

Test Start: 2018.03.28 @ 11:19:00

GENERAL INFORMATION:

Formation: **LKC I - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:46:47

Time Test Ended: 18:23:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

Interval: 4270.00 ft (KB) To 4325.00 ft (KB) (TVD)

Reference Elevations: 3352.00 ft (KB)

Total Depth: 4325.00 ft (KB) (TVD)

3340.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

Serial #: 6755

Inside

Press@RunDepth: 96.65 psig @ 4271.00 ft (KB)

Capacity: psig

Start Date: 2018.03.28

End Date:

2018.03.28

Last Calib.:

2018.03.28

Start Time: 11:19:01

End Time:

18:23:02

Time On Btm:

2018.03.28 @ 12:46:32

Time Off Btm:

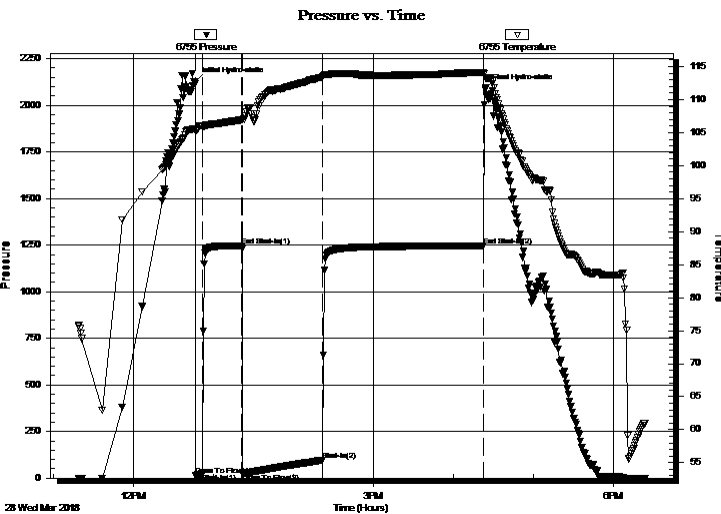
2018.03.28 @ 16:23:32

TEST COMMENT: IF 5 Minutes Blow built to 1 1/2"

ISI 30 Minutes No blow back

FF 60 Minutes Blow built to 3 1/2"

FSI 120 Minutes No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2125.58	105.57	Initial Hydro-static
1	16.92	105.27	Open To Flow (1)
6	23.28	105.86	Shut-In(1)
35	1247.01	106.92	End Shut-In(1)
36	24.89	106.98	Open To Flow (2)
96	96.65	113.47	Shut-In(2)
216	1246.37	114.09	End Shut-In(2)
217	2091.51	113.35	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
169.00	VSOCWM Oil 2% Water 43% Mud 55%	2.37

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mull Drilling Company Inc.

14-16S-37W Wichita, KS

1700 N Waterfront Pkwy Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

ATTN: Kevin Kessler

Job Ticket: 63069

DST#: 2

Test Start: 2018.03.28 @ 11:19:00

GENERAL INFORMATION:

Formation: **LKC I - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:46:47

Time Test Ended: 18:23:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

Interval: 4270.00 ft (KB) To 4325.00 ft (KB) (TVD)

Reference Elevations: 3352.00 ft (KB)

Total Depth: 4325.00 ft (KB) (TVD)

3340.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

Serial #: 6752 Outside

Press@RunDepth: 1247.26 psig @ 4272.00 ft (KB)

Capacity: psig

Start Date: 2018.03.28

End Date:

2018.03.28

Last Calib.:

2018.03.28

Start Time:

11:19:01

End Time:

18:23:02

Time On Btm:

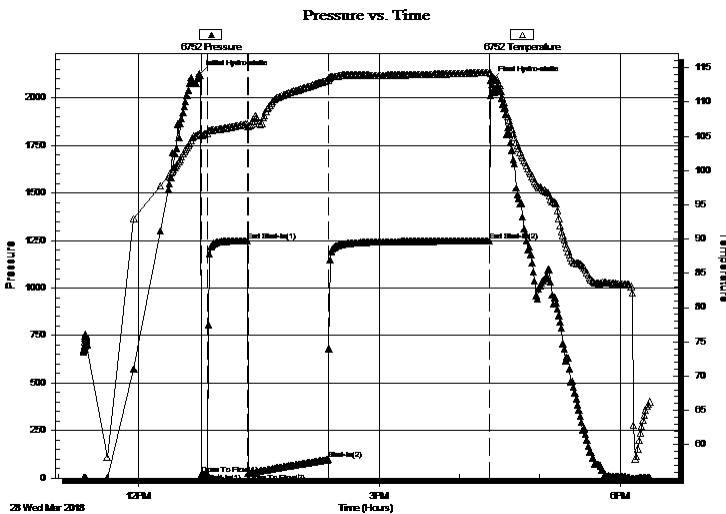
2018.03.28 @ 12:45:47

Time Off Btm:

2018.03.28 @ 16:23:32

TEST COMMENT: IF 5 Minutes Blow built to 1 1/2"
ISI 30 Minutes No blow back
FF 60 Minutes Blow built to 3 1/2"
FSI 120 Minutes No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2122.80	105.39	Initial Hydro-static
1	18.23	105.08	Open To Flow (1)
6	24.27	105.46	Shut-In(1)
36	1247.90	106.75	End Shut-In(1)
37	26.18	106.45	Open To Flow (2)
96	97.77	113.20	Shut-In(2)
217	1247.26	114.30	End Shut-In(2)
218	2092.42	114.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
169.00	VSOCWM Oil 2% Water 43% Mud 55%	2.37

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company Inc.

14-16S-37W Wichita,KS

1700 N Waterfront Pkw y Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

Job Ticket: 63069

DST#: 2

ATTN: Kevin Kessler

Test Start: 2018.03.28 @ 11:19:00

Tool Information

Drill Pipe:	Length: 4252.00 ft	Diameter: 3.80 inches	Volume: 59.64 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 59.64 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4270.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.36 ft			
Tool Length:	83.36 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			4247.00	
Hydraulic tool	5.00			4252.00	
Jars	6.00			4258.00	
Safety Joint	2.00			4260.00	
Top Packer	5.00			4265.00	
Packer	5.00			4270.00	28.00 Bottom Of Top Packer
Recorder	1.00	6755	Inside	4271.00	
Recorder	1.00	6752	Outside	4272.00	
Anchor	17.00			4289.00	
Change Over Sub	1.00			4290.00	
Drill Pipe	31.36			4321.36	
Change Over Sub	1.00			4322.36	
Bullnose	3.00			4325.36	55.36 Anchor Tool

Total Tool Length: 83.36



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company Inc.

14-16S-37W Wichita,KS

1700 N Waterfront Pkw y Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

Job Ticket: 63069

DST#: 2

ATTN: Kevin Kessler

Test Start: 2018.03.28 @ 11:19:00

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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
169.00	VSOCWM Oil 2% Water 43% Mud 55%	2.371

Total Length: 169.00 ft Total Volume: 2.371 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6755

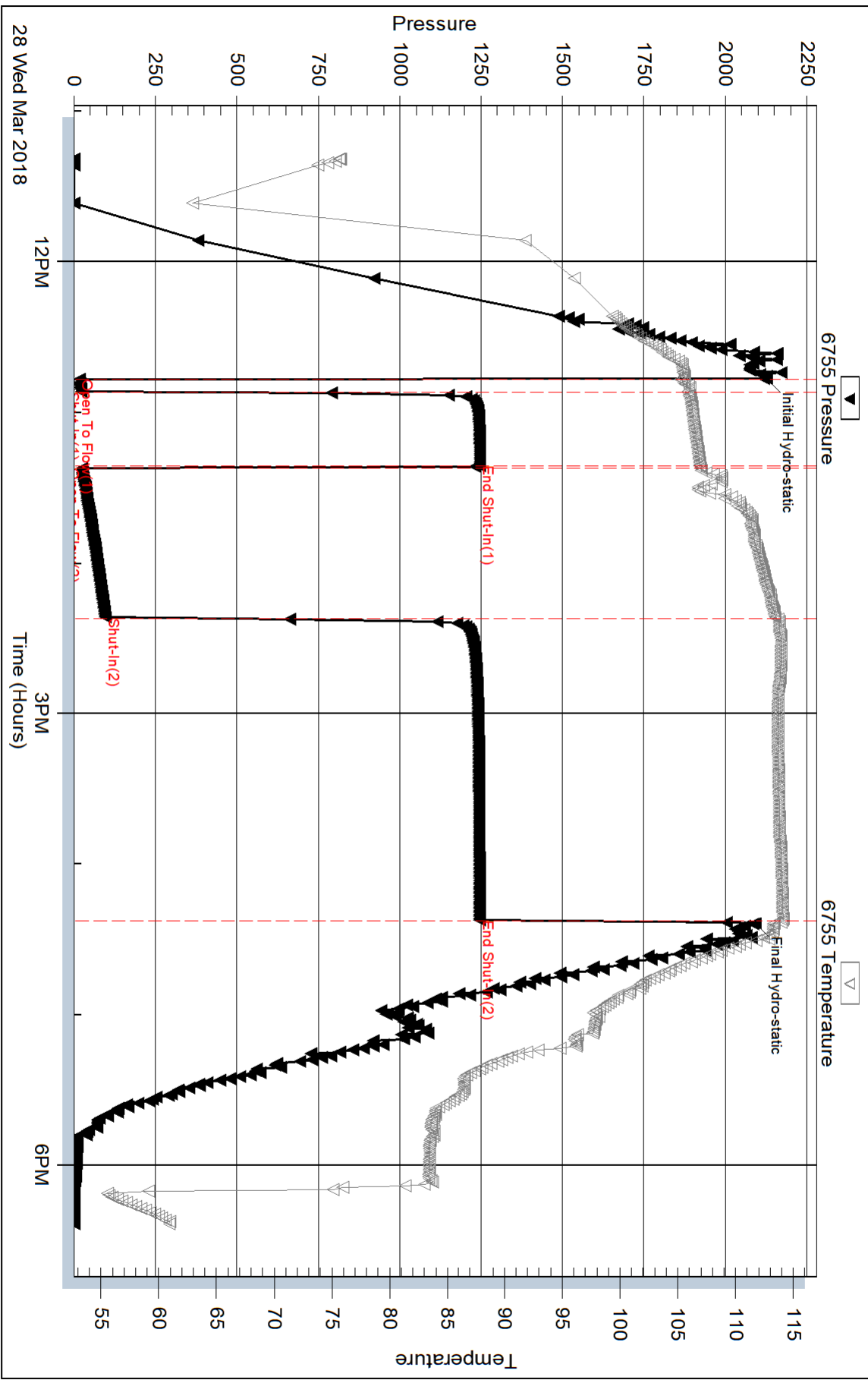
Inside

Mull Drilling Company Inc.

R&M Miller #1-14

DST Test Number: 2

Pressure vs. Time



28 Wed Mar 2018

12PM

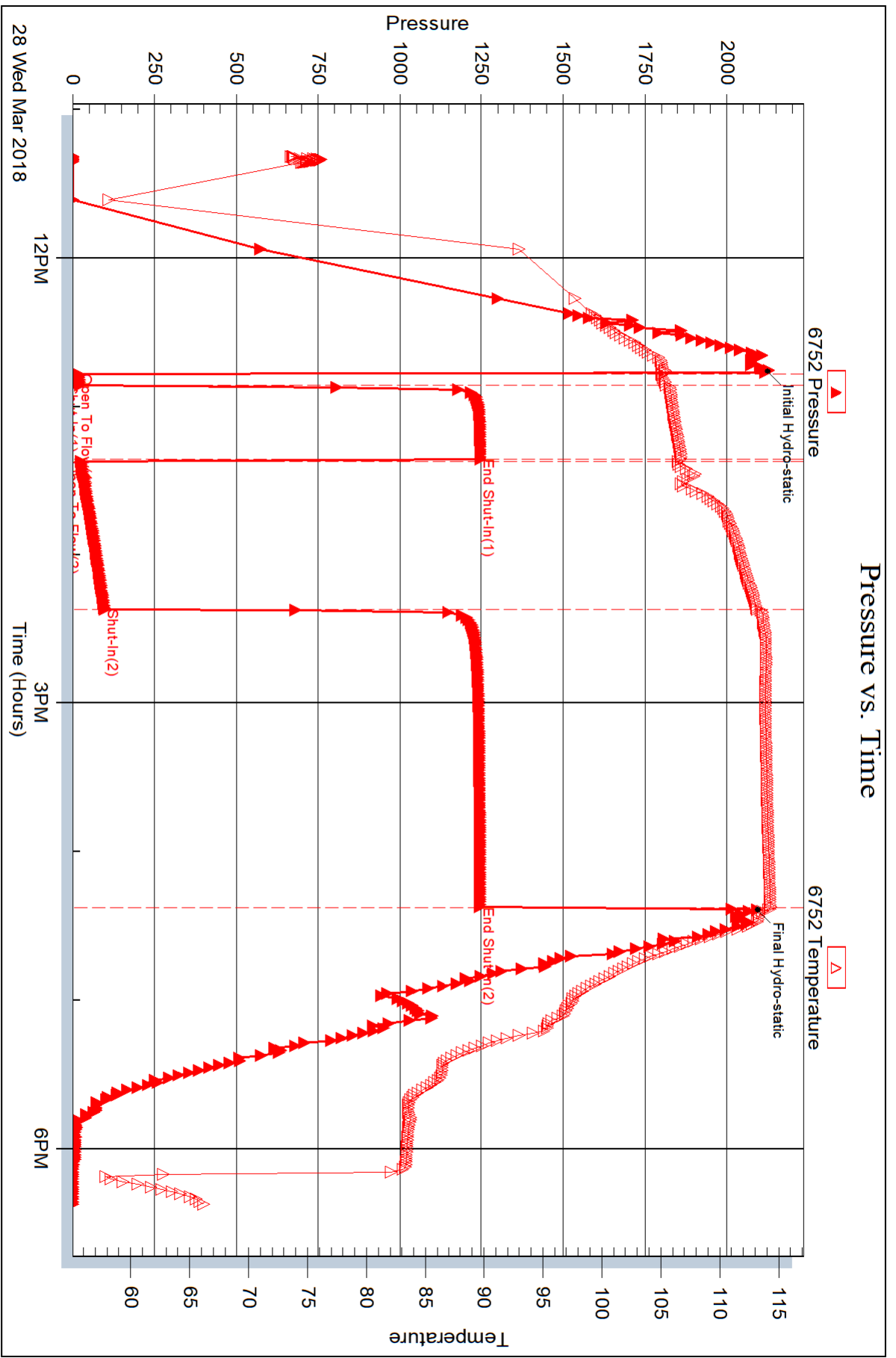
3PM

6PM

Triobite Testing, Inc

Ref. No: 63069

Printed: 2018.04.04 @ 15:08:04





DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company Inc.**

1700 N Waterfront Pkwy Bldg1200
Wichita, KS 67206+6637

ATTN: Kevin Kessler

R&M Miller #1-14

14-16S-37W Wichita,KS

Start Date: 2018.03.29 @ 02:46:00

End Date: 2018.03.29 @ 11:54:00

Job Ticket #: 65298 DST #: 3

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

Printed: 2018.04.04 @ 15:07:39



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company Inc.
 1700 N Waterfront Pkwy Bldg1200
 Wichita, KS 67206+6637
 ATTN: Kevin Kessler

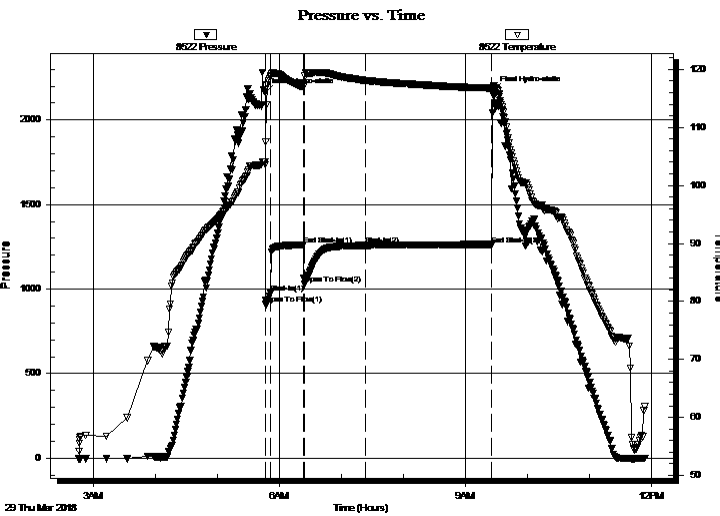
14-16S-37W Wichita, KS
R&M Miller #1-14
 Job Ticket: 65298 **DST#: 3**
 Test Start: 2018.03.29 @ 02:46:00

GENERAL INFORMATION:

Formation: **LKC K**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:47:15
 Time Test Ended: 11:54:00
 Interval: **4320.00 ft (KB) To 4365.00 ft (KB) (TVD)**
 Total Depth: 4365.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 3352.00 ft (KB)
 3340.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 8522 Inside
 Press@RunDepth: 1258.83 psig @ 4321.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.03.29 End Date: 2018.03.29 Last Calib.: 2018.03.29
 Start Time: 02:46:05 End Time: 11:54:00 Time On Btm: 2018.03.29 @ 05:46:30
 Time Off Btm: 2018.03.29 @ 09:27:15

TEST COMMENT: IF: BOB @ 30 sec.
 IS: No return.
 FF: BOB @ 40 sec, receded to 3" blow.
 FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2163.44	104.06	Initial Hydro-static
1	910.65	107.52	Open To Flow (1)
6	974.40	118.96	Shut-In(1)
37	1261.60	116.94	End Shut-In(1)
38	1027.65	117.31	Open To Flow (2)
98	1258.83	118.08	Shut-In(2)
220	1264.17	116.78	End Shut-In(2)
221	2172.49	117.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2770.00	smcw 2m 98w	38.86
0.00	oil spots on top	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 Company Inc.

14-16S-37W Wichita,KS

1700 N Waterfront Pkw y Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

Job Ticket: 65298

DST#: 3

ATTN: Kevin Kessler

Test Start: 2018.03.29 @ 02:46:00

Tool Information

Drill Pipe:	Length: 4316.00 ft	Diameter: 3.80 inches	Volume: 60.54 bbl	Tool Weight: 2000.00 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: 85000.00 lb
			<u>Total Volume: 60.54 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4320.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	72.00 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			4294.00	
Shut In Tool	5.00			4299.00	
Hydraulic tool	5.00			4304.00	
Jars	5.00			4309.00	
Safety Joint	2.00			4311.00	
Packer	5.00			4316.00	27.00 Bottom Of Top Packer
Packer	4.00			4320.00	
Stubb	1.00			4321.00	
Recorder	0.00	8522	Inside	4321.00	
Recorder	0.00	8319	Outside	4321.00	
Perforations	8.00			4329.00	
Change Over Sub	1.00			4330.00	
Drill Pipe	31.00			4361.00	
Change Over Sub	1.00			4362.00	
Bullnose	3.00			4365.00	45.00 Bottom Packers & Anchor

Total Tool Length: 72.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company Inc.

14-16S-37W Wichita,KS

1700 N Waterfront Pkw y Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

Job Ticket: 65298

DST#: 3

ATTN: Kevin Kessler

Test Start: 2018.03.29 @ 02:46:00

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:

60000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2770.00	smcw 2m 98w	38.856
0.00	oil spots on top	0.000

Total Length: 2770.00 ft Total Volume: 38.856 bbl

Num Fluid Samples: 0

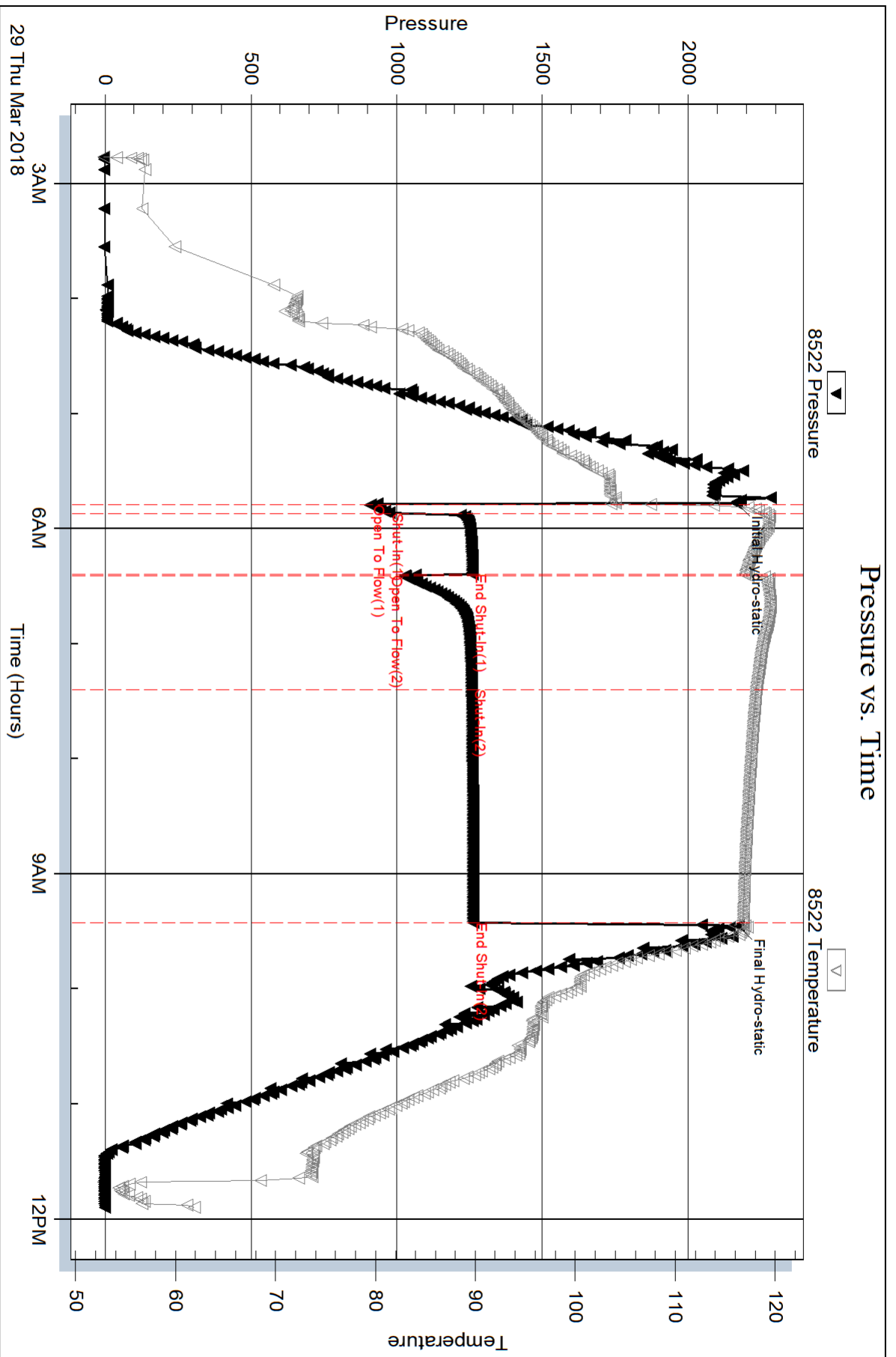
Num Gas Bombs: 0

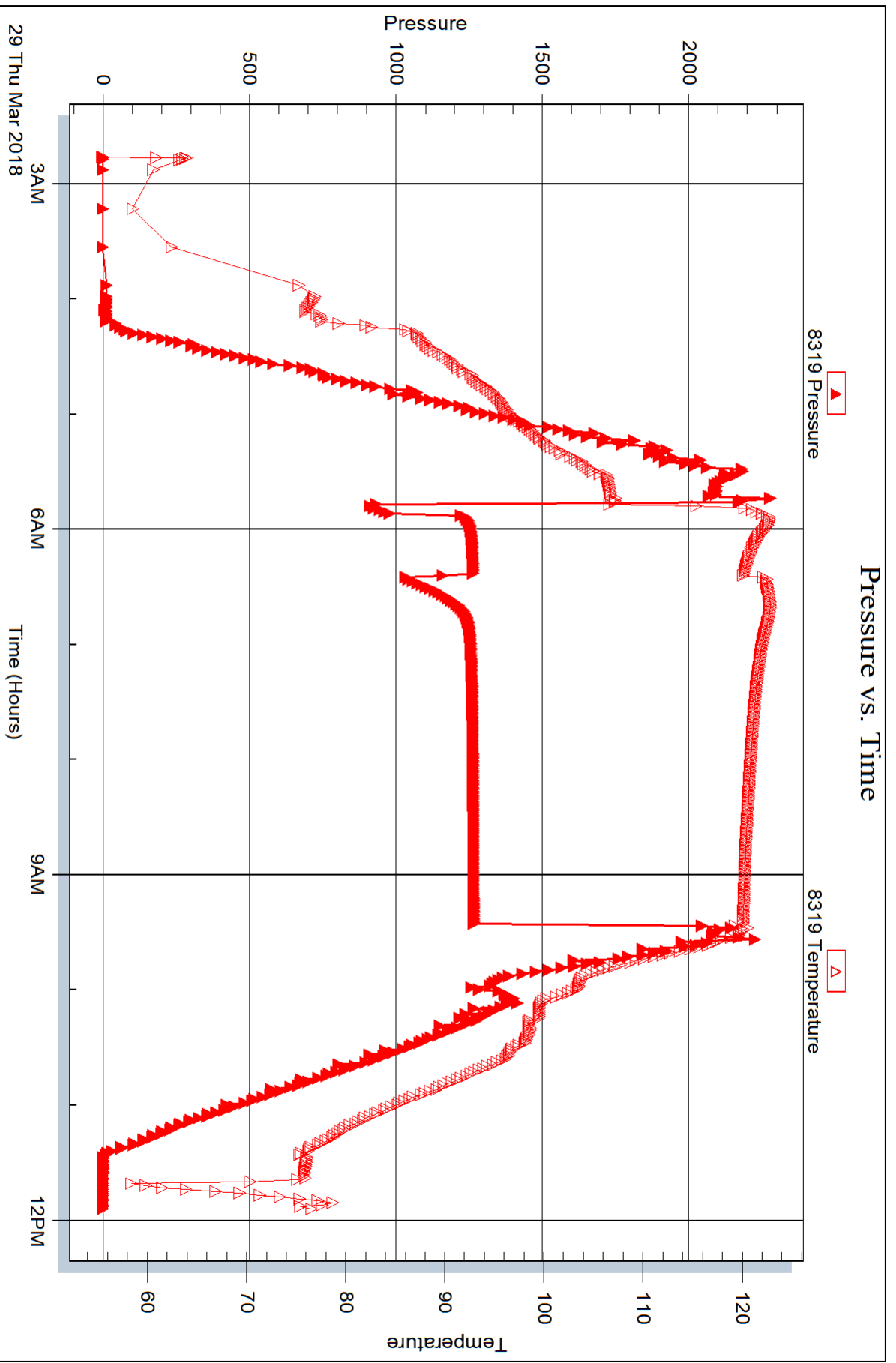
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .202 @ 44.5F = 60000ppm







DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company Inc.**

1700 N Waterfront Pkwy Bldg1200
Wichita, KS 67206+6637

ATTN: Kevin Kessler

R&M Miller #1-14

14-16S-37W Wichita,KS

Start Date: 2018.03.30 @ 04:20:00

End Date: 2018.03.30 @ 12:11:15

Job Ticket #: 65299 DST #: 4

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

Printed: 2018.04.04 @ 15:07:15



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mull Drilling Company Inc.

14-16S-37W Wichita, KS

1700 N Waterfront Pkwy Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

ATTN: Kevin Kessler

Job Ticket: 65299

DST#: 4

Test Start: 2018.03.30 @ 04:20:00

GENERAL INFORMATION:

Formation: **Marmaton A - B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:49:00

Time Test Ended: 12:11:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: 4440.00 ft (KB) To 4520.00 ft (KB) (TVD)

Reference Elevations: 3352.00 ft (KB)

Total Depth: 4520.00 ft (KB) (TVD)

3340.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

Serial #: 8522

Inside

Press@RunDepth: 60.25 psig @ 4441.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.30

End Date:

2018.03.30

Last Calib.:

2018.03.30

Start Time:

04:20:05

End Time:

12:11:14

Time On Btm:

2018.03.30 @ 06:48:45

Time Off Btm:

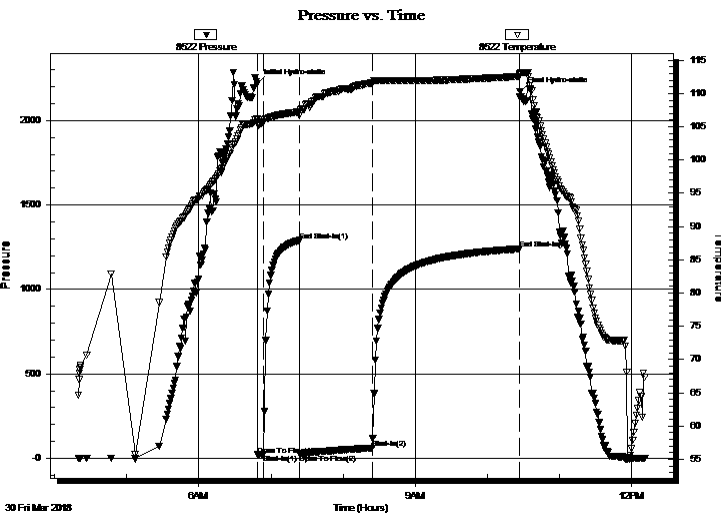
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TEST COMMENT: IF: 1" blow .

IS: No return.

FF: 3 1/2" blow .

FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2218.15	106.14	Initial Hydro-static
1	20.37	105.40	Open To Flow (1)
6	24.18	105.66	Shut-In(1)
35	1289.49	107.23	End Shut-In(1)
35	25.89	106.69	Open To Flow (2)
96	60.25	111.58	Shut-In(2)
218	1239.97	112.55	End Shut-In(2)
219	2169.65	112.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	w cm 15w 85m (Oil spots)	1.26

* 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.

14-16S-37W Wichita, KS

1700 N Waterfront Pkwy Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

ATTN: Kevin Kessler

Job Ticket: 65299

DST#: 4

Test Start: 2018.03.30 @ 04:20:00

GENERAL INFORMATION:

Formation: **Marmaton A - B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:49:00

Time Test Ended: 12:11:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: **4440.00 ft (KB) To 4520.00 ft (KB) (TVD)**

Reference Elevations: 3352.00 ft (KB)

Total Depth: 4520.00 ft (KB) (TVD)

3340.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 12.00 ft

Serial #: 8319 Outside

Press@RunDepth: psig @ 4441.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.30

End Date: 2018.03.30

Last Calib.: 2018.03.30

Start Time: 04:20:05

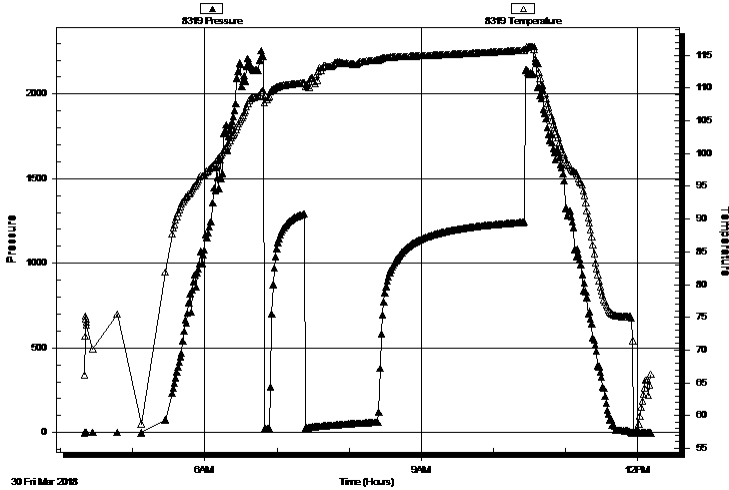
End Time: 12:11:14

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1" blow .
IS: No return.
FF: 3 1/2" blow .
FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
90.00	w cm 15w 85m (Oil spots)	1.26

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Company Inc.

14-16S-37W Wichita,KS

1700 N Waterfront Pkwy Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

Job Ticket: 65299

DST#: 4

ATTN: Kevin Kessler

Test Start: 2018.03.30 @ 04:20:00

Tool Information

Drill Pipe:	Length: 4443.00 ft	Diameter: 3.80 inches	Volume: 62.32 bbl	Tool Weight: 2000.00 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: 80000.00 lb
			<u>Total Volume: 62.32 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 67000.00 lb
Depth to Top Packer:	4440.00 ft			Final 67000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	107.00 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			4414.00	
Shut In Tool	5.00			4419.00	
Hydraulic tool	5.00			4424.00	
Jars	5.00			4429.00	
Safety Joint	2.00			4431.00	
Packer	5.00			4436.00	27.00 Bottom Of Top Packer
Packer	4.00			4440.00	
Stubb	1.00			4441.00	
Recorder	0.00	8522	Inside	4441.00	
Recorder	0.00	8319	Outside	4441.00	
Perforations	12.00			4453.00	
Change Over Sub	1.00			4454.00	
Drill Pipe	62.00			4516.00	
Change Over Sub	1.00			4517.00	
Bullnose	3.00			4520.00	80.00 Bottom Packers & Anchor

Total Tool Length: 107.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company Inc.

14-16S-37W Wichita,KS

1700 N Waterfront Pkw y Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

Job Ticket: 65299

DST#: 4

ATTN: Kevin Kessler

Test Start: 2018.03.30 @ 04:20:00

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
90.00	w cm 15w 85m (Oil spots)	1.262

Total Length: 90.00 ft Total Volume: 1.262 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

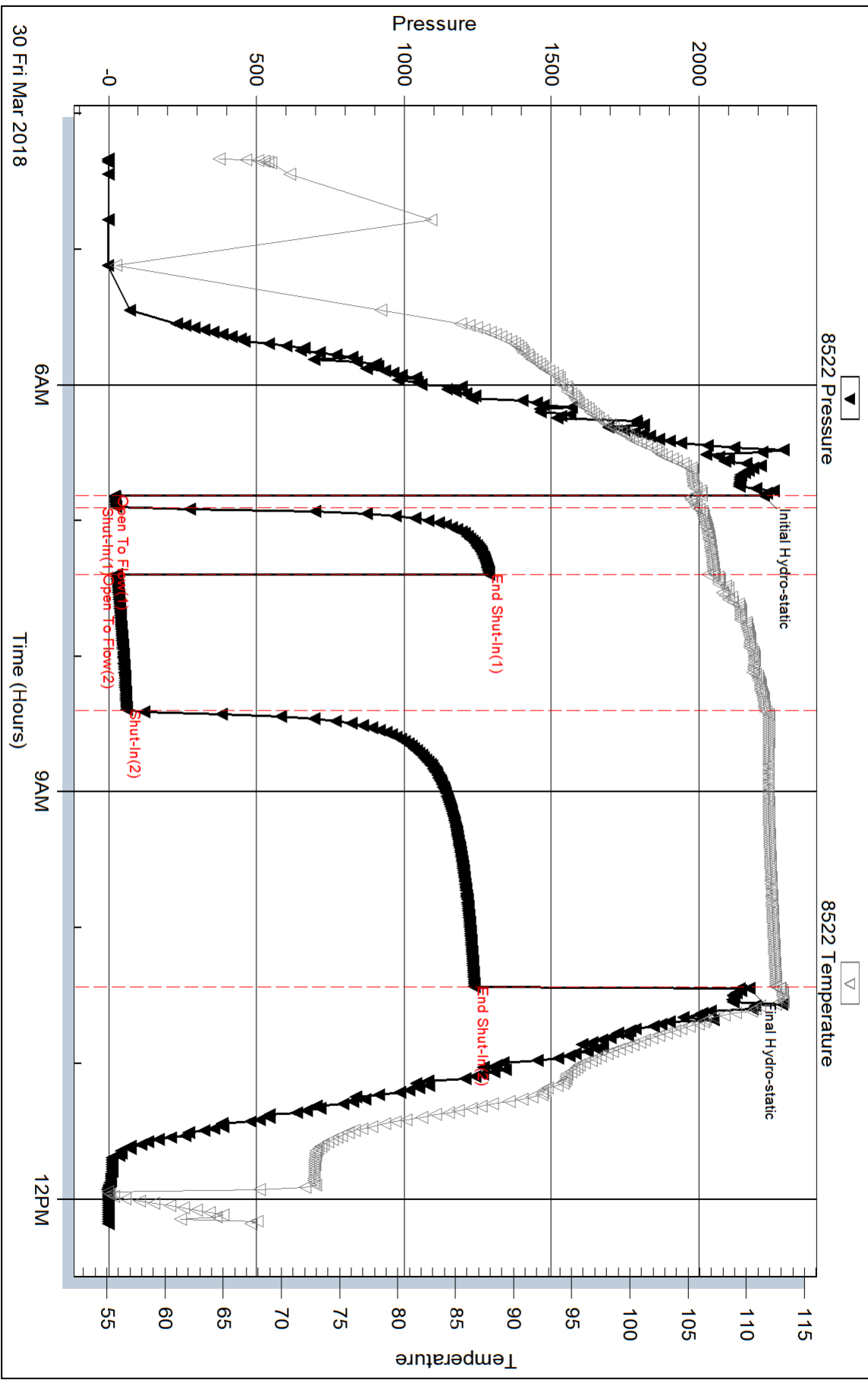
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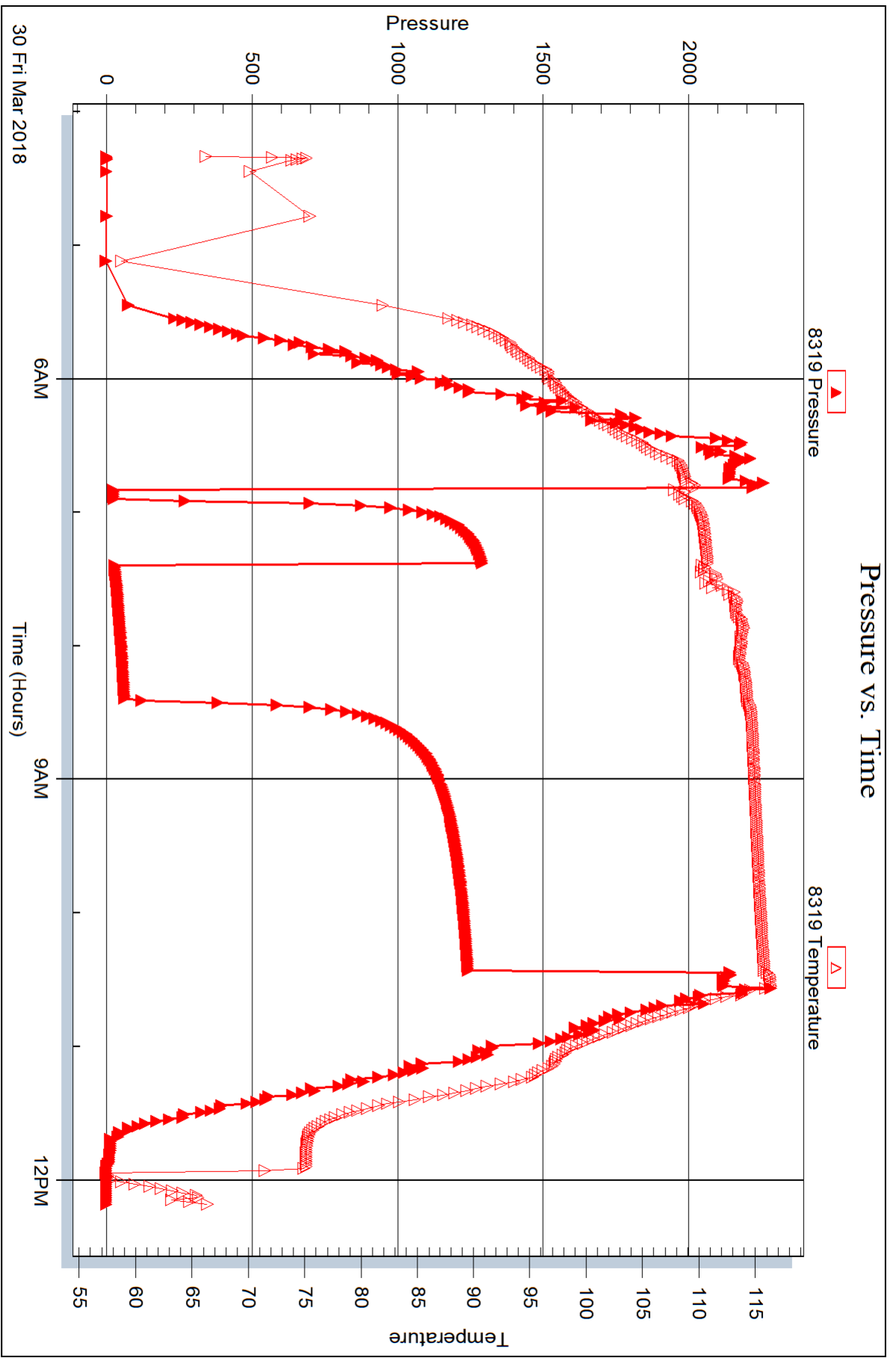
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Company Inc.**

1700 N Waterfront Pkwy Bldg1200
Wichita, KS 67206+6637

ATTN: Kevin Kessler

R&M Miller #1-14

14-16S-37W Wichita,KS

Start Date: 2018.04.01 @ 04:56:00

End Date: 2018.04.01 @ 11:58:15

Job Ticket #: 65300 DST #: 5

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

Printed: 2018.04.04 @ 15:05:21



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mull Drilling Company Inc.
 1700 N Waterfront Pkwy Bldg1200
 Wichita, KS 67206+6637
 ATTN: Kevin Kessler

14-16S-37W Wichita, KS
R&M Miller #1-14
 Job Ticket: 65300 **DST#: 5**
 Test Start: 2018.04.01 @ 04:56:00

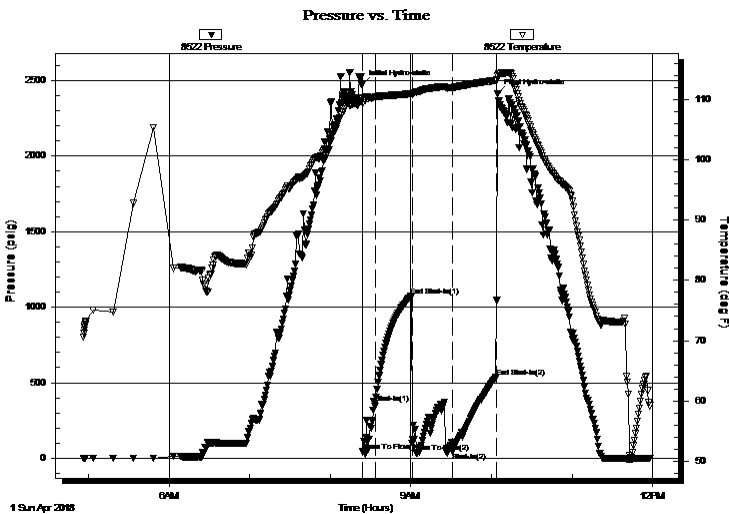
GENERAL INFORMATION:

Formation: **Morrow Sand**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:24:15
 Time Test Ended: 11:58:15
 Interval: **4790.00 ft (KB) To 4900.00 ft (KB) (TVD)**
 Total Depth: 4900.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 3352.00 ft (KB)
 3340.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 8522 Inside
 Press@RunDepth: 42.79 psig @ 4791.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.04.01 End Date: 2018.04.01 Last Calib.: 2018.04.01
 Start Time: 04:56:05 End Time: 11:58:14 Time On Btm: 2018.04.01 @ 08:24:00
 Time Off Btm: 2018.04.01 @ 10:04:45

TEST COMMENT: IF: 1" blow.
 IS: No return.
 FF: Surface blow, Died @ 15 min.
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2472.53	110.09	Initial Hydro-static
1	45.60	109.39	Open To Flow (1)
10	366.25	110.37	Shut-In(1)
36	1072.89	110.92	End Shut-In(1)
37	99.55	110.79	Open To Flow (2)
67	42.79	111.91	Shut-In(2)
100	535.06	113.13	End Shut-In(2)
101	2411.95	113.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
35.00	sw cm 5w 95m	0.49

* 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 Pkwy Bldg1200
 Wichita, KS 67206+6637
 ATTN: Kevin Kessler

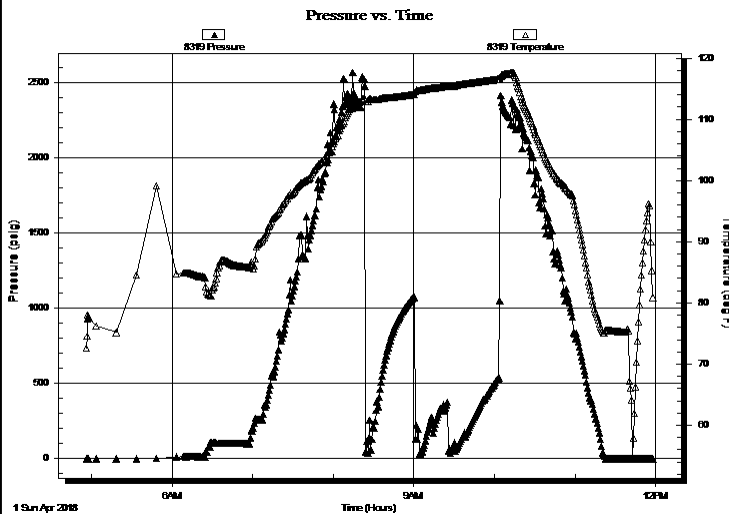
14-16S-37W Wichita, KS
R&M Miller #1-14
 Job Ticket: 65300 **DST#: 5**
 Test Start: 2018.04.01 @ 04:56:00

GENERAL INFORMATION:

Formation: **Morrow Sand**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:24:15
 Time Test Ended: 11:58:15
 Interval: **4790.00 ft (KB) To 4900.00 ft (KB) (TVD)**
 Total Depth: 4900.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 3352.00 ft (KB)
 3340.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 8319 Outside
 Press@RunDepth: psig @ 4791.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.04.01 End Date: 2018.04.01 Last Calib.: 2018.04.01
 Start Time: 04:56:05 End Time: 11:58:29 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: 1" blow.
 IS: No return.
 FF: Surface blow, Died @ 15 min.
 FS: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
35.00	sw cm 5w 95m	0.49

* 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 Company Inc.

14-16S-37W Wichita,KS

1700 N Waterfront Pkwy Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

Job Ticket: 65300

DST#: 5

ATTN: Kevin Kessler

Test Start: 2018.04.01 @ 04:56:00

Tool Information

Drill Pipe:	Length: 4790.00 ft	Diameter: 3.80 inches	Volume: 67.19 bbl	Tool Weight: 2000.00 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: 85000.00 lb
			<u>Total Volume: 67.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4790.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	110.00 ft			
Tool Length:	137.00 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			4764.00	
Shut In Tool	5.00			4769.00	
Hydraulic tool	5.00			4774.00	
Jars	5.00			4779.00	
Safety Joint	2.00			4781.00	
Packer	5.00			4786.00	27.00 Bottom Of Top Packer
Packer	4.00			4790.00	
Stubb	1.00			4791.00	
Recorder	0.00	8522	Inside	4791.00	
Recorder	0.00	8319	Outside	4791.00	
Perforations	10.00			4801.00	
Change Over Sub	1.00			4802.00	
Drill Pipe	94.00			4896.00	
Change Over Sub	1.00			4897.00	
Bullnose	3.00			4900.00	110.00 Bottom Packers & Anchor

Total Tool Length: 137.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mull Drilling Company Inc.

14-16S-37W Wichita,KS

1700 N Waterfront Pkw y Bldg1200
Wichita, KS 67206+6637

R&M Miller #1-14

Job Ticket: 65300

DST#: 5

ATTN: Kevin Kessler

Test Start: 2018.04.01 @ 04:56:00

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: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
35.00	sw cm 5w 95m	0.491

Total Length: 35.00 ft Total Volume: 0.491 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

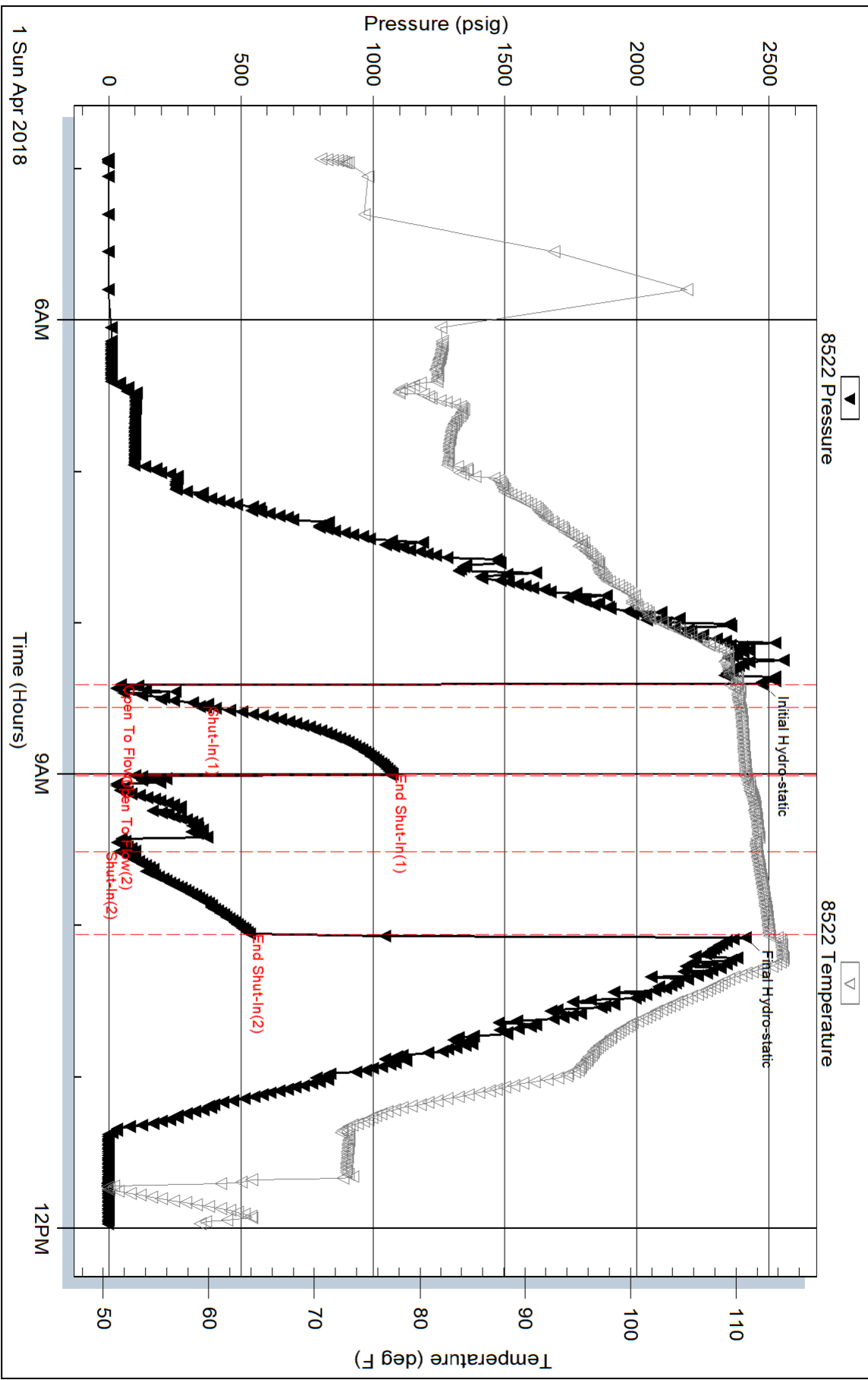
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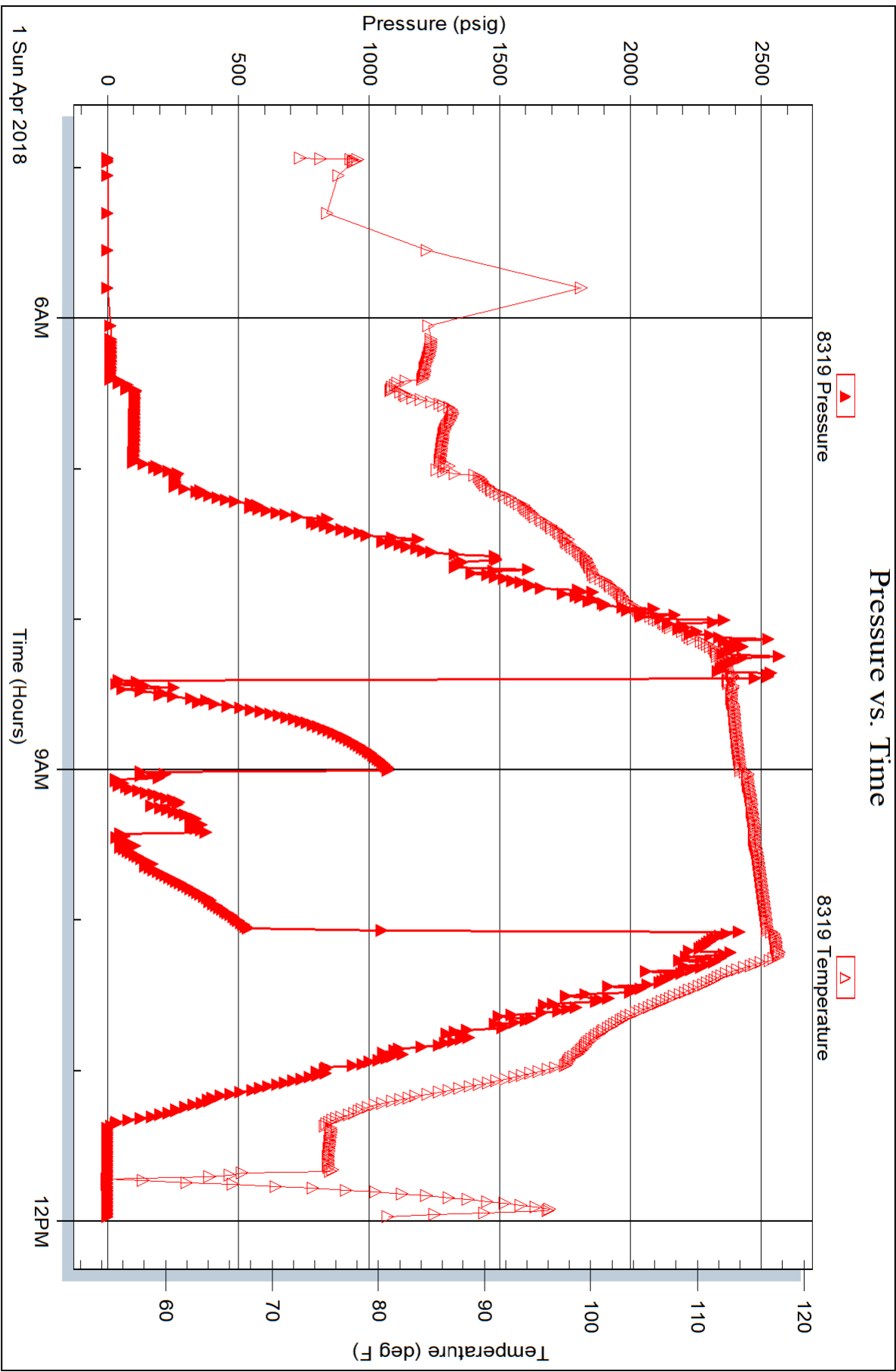
Laboratory Name:

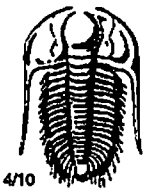
Laboratory Location:

Recovery Comments:

Pressure vs. Time







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63068

Well Name & No. R4M Miller #1-14 Test No. 1 Date 27 MAR 18
 Company Mull Drilling Company Inc. Elevation 3352 KB 3340 GL
 Address 1700 N WaterPlant Parkway Bldg 1200 Wichita Kansas 67206+6637
 Co. Rep / Geo. Kevin Kessler Rig Duke Rig 2
 Location: Sec. 14 Twp. 16S Rge. 37W Co. Wichita State KS

Interval Tested 4080-4130 Zone Tested Lansing C
 Anchor Length 50 Drill Pipe Run 4064 Mud Wt. 8.6
 Top Packer Depth 4075 Drill Collars Run — Vis 63
 Bottom Packer Depth 4080 Wt. Pipe Run — WL 6.4
 Total Depth 3130 Chlorides 3000 ppm System LCM 2#

Blow Description I.F. Blow built to 1/2 inch
I.S.I No blow back
F.F. Blow built to BOB in 22 minutes
F.S.I No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>387</u>	<u>Muddy Water w/ few spots of oil</u>			<u>90</u>	<u>10</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 387 BHT 113 Gravity — API RW .570 @ 61 °F Chlorides 13000 ppm

- (A) Initial Hydrostatic 1991
- (B) First Initial Flow 23
- (C) First Final Flow 37
- (D) Initial Shut-In 1160
- (E) Second Initial Flow 43
- (F) Second Final Flow 194
- (G) Final Shut-In 1132
- (H) Final Hydrostatic 1952

- Test 1150
- Jars 250
- Safety Joint 75
- Circ Sub
- Hourly Standby
- Mileage 76 76
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1551

T-On Location 7:47 am
 T-Started 8:49 am
 T-Open 10:40 am
 T-Pulled 2:15 pm
 T-Out 4:19 pm

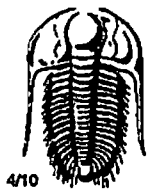
Comments _____
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1551
 MP/DST Disc't _____

Initial Open 5
 Initial Shut-In 30
 Final Flow 60
 Final Shut-In 120

Approved By Kevin Kessler

Our Representative

[Signature]



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63069

Well Name & No. R4M Miller #1-14 Test No. 2 Date 28 MAR 18
 Company Mull Drilling Company Inc Elevation 3352 KB 3340 GL
 Address 1700 N Waterfront Parkway Bldg 1700 Wichita Kansas 67206+6657
 Co. Rep / Geo. Kevin Kessler Rig Duke Rig 2
 Location: Sec. 14 Twp. 16S Rge. 37W Co. Wichita State KS

Interval Tested 4270-4325 Zone Tested Lansing I+J
 Anchor Length 55 Drill Pipe Run 4252 Mud Wt. 9.3
 Top Packer Depth 4265 Drill Collars Run - Vis 54
 Bottom Packer Depth 4270 Wt. Pipe Run - WL 7.2
 Total Depth 4325 Chlorides 4500 ppm System LCM 2#

Blow Description I.F. Blow built to 1 1/2 inch
I.S.I. No blow back
F.F. Blow built to 3 1/2 inches
F.S.I. No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>169</u>	<u>Slightly oil cut Watery Mud</u>	<u>2</u>	<u>4.3</u>	<u>55</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 169 BHT 114 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

- (A) Initial Hydrostatic 2125
- (B) First Initial Flow 16
- (C) First Final Flow 23
- (D) Initial Shut-In 1247
- (E) Second Initial Flow 24
- (F) Second Final Flow 96
- (G) Final Shut-In 1246
- (H) Final Hydrostatic 2091

- Test 1150
- Jars 250
- Safety Joint 75
- Circ Sub _____
- Hourly Standby _____
- Mileage 76 76
- Sampler _____
- Straddle _____
- Shale Packer _____
- Extra Packer _____
- Extra Recorder _____
- Day Standby _____
- Accessibility _____
- Sub Total 1551

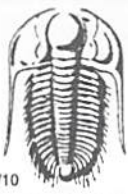
- T-On Location 10:09 am
- T-Started 11:19 am
- T-Open 12:19 pm
- T-Pulled 3:54 pm
- T-Out 5:56 pm
- Comments _____
- Ruined Shale Packer _____
- Ruined Packer _____
- Extra Copies _____
- Sub Total 0
- Total 1551
- MP/DST Disc't _____

Initial Open 5
 Initial Shut-In 30
 Final Flow 60
 Final Shut-In 120

Approved By Kevin Kessler

Our Representative

[Signature]



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65298**

Well Name & No. R & M Miller #1-14 Test No. 3 Date 3/29/2018
 Company Mull Drilling Co, Inc. Elevation 5352 KB 3340 GL
 Address 1700 N Waterfront Pkwy Bldg 1200 Wichita, KS 67206
 Co. Rep / Geo. Kevin Kessler Rig Pulke #1
 Location: Sec. 14 Twp. 16s Rge. 37w Co. Wichita State Ks

Interval Tested 4320 - 4365 Zone Tested LKC K
 Anchor Length 45' Drill Pipe Run 4316 Mud Wt. 9.3
 Top Packer Depth 4315 Drill Collars Run 0 Vis 54
 Bottom Packer Depth 4320 Wt. Pipe Run 0 WL 7.2
 Total Depth 4365 Chlorides 4500 ppm System LCM 2#

Blow Description IF BOB @ 30 sec
ISI No return.
RF BOB @ 40 sec, receded to 3"
FSI No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>2770</u>	<u>5 new</u>		<u>98</u>	<u>2</u>	
	<u>oil spots on top</u>				

Rec Total 2770 BHT 116 Gravity — API RW 202 @ 44.5° F Chlorides 60,000 ppm
 (A) Initial Hydrostatic 2163 Test 1150 T-On Location 0140
 (B) First Initial Flow 911 Jars 250 T-Started 0246
 (C) First Final Flow 974 Safety Joint 75 T-Open 0543
 (D) Initial Shut-In 1262 Circ Sub N/C T-Pulled 0918
 (E) Second Initial Flow 1028 Hourly Standby _____ T-Out 1154
 (F) Second Final Flow 1259 Mileage 80 ~~76~~ 76rt Comments ~~8/10 76/15 3/30~~
 (G) Final Shut-In 1264 Sampler _____
 (H) Final Hydrostatic 2172 Straddle _____
 Shale Packer _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Copies _____
 Initial Open 530 Extra Recorder _____
 Initial Shut-In 30 Day Standby _____
 Final Flow 60 Accessibility _____
 Final Shut-In 120 Sub Total 0
 Sub Total 1551 Total 1551
 MP/DST Disc't _____

Approved By _____ Our Representative

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. **65299**

Well Name & No. R & M Miller # 1-14 Test No. 4 Date 3/30/2018
 Company Mull Drilling Co, Inc Elevation 3352 KB 3340 GL
 Address 1700 N Waterfront Pkwy Bldg 1200 Wichita, KS 67206
 Co. Rep / Geo. Kevin Kessler Rig Duke #1
 Location: Sec. 14 Twp. 16S Rge. 37W Co. Wichita State KS

Interval Tested 4440 - 4520 Zone Tested Marmaton A & B
 Anchor Length 50' Drill Pipe Run 4443 Mud Wt. 9.4
 Top Packer Depth 4435 Drill Collars Run Ø Vis 60
 Bottom Packer Depth 4440 Wt. Pipe Run Ø WL 8.0
 Total Depth 4520 Chlorides 7000 ppm System LCM 2#
 Blow Description IF 1" blow
ISL No return
FP 3 1/2" blow
FSL No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>WCM</u>		<u>15</u>	<u>85</u>	
	<u>oil spots</u>				

Rec Total 90 BHT 113 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2218</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0330</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0420</u>
(C) First Final Flow <u>24</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0549</u>
(D) Initial Shut-In <u>1289</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1024</u>
(E) Second Initial Flow <u>26</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1211</u>
(F) Second Final Flow <u>60</u>	<input checked="" type="checkbox"/> Mileage <u>80</u> 5T <u>76</u>	Comments
(G) Final Shut-In <u>1240</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2170</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Open <u>5</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1551</u>
Final Flow <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
Final Shut-In <u>120</u>	Sub Total <u>1551</u>	

Approved By _____ Our Representative

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. **65300**

Well Name & No. R & M Miller # 1-14 Test No. 5 Date 4/1/2018
 Company Mall Drilling Co, Inc Elevation 3352 KB 3340 GL
 Address 1700 N Waterfront Plaza Bldg 1200 Wichita, KS 67206
 Co. Rep / Geo. Kevin Kessler Rig Duke #1
 Location: Sec. 4 Twp. 16s Rge. 37W Co. Wichita State Ks

Interval Tested 4790 - 4900 Zone Tested Marrow Sand
 Anchor Length 110 Drill Pipe Run 3790 Mud Wt. 9.4
 Top Packer Depth 4785 Drill Collars Run 0 Vis 6.2
 Bottom Packer Depth 4790 Wt. Pipe Run 0 WL 8.8
 Total Depth 4900 Chlorides 7400 ppm System LCM 5#

Blow Description IF 1" blow
ISI No return
FF Surface blow, died @ 15 min.
FSI No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>35</u>	<u>swc-m</u>		<u>5</u>	<u>95</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 35 BHT 113 Gravity — API RW — @ — °F Chlorides — ppm
 (A) Initial Hydrostatic 2473 46 Test 1150 T-On Location 0145
 (B) First Initial Flow 46 366 Jars 250 T-Started 0456
 (C) First Final Flow 366 1073 Safety Joint 75 T-Open 0825
 (D) Initial Shut-In 1073 100 Circ Sub N/C T-Pulled 1002
 (E) Second Initial Flow 100 43 Hourly Standby _____ T-Out 1159
 (F) Second Final Flow 43 Mileage 80 RT x 2 76+76 Comments Dy Tools 4/2
 (G) Final Shut-In 535 Sampler _____
 (H) Final Hydrostatic 2417 Straddle _____
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____

Initial Open 5
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30
 Sub Total 1877
 Total 1877
 MP/DST Disc't _____

Approved By _____ Our Representative _____

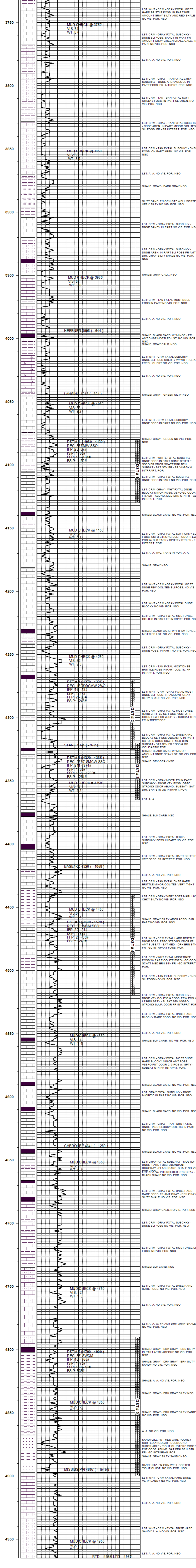
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KEVIN L. KESSLER

CONSULTING PETROLEUM GEOLOGIST

(316) 522 - 7338

OPERATOR : MULL DRILLING CO. INC.		ELEVATION	
LEASE : R & M MILLER	WELL # : 1 - 14	KB: 3352'	
LOCATION : 443' FSL & 2219' FEL		GL: 3340'	
SEC : 14	TWP : 16 S	RGE : 37 W	MEASUREMENTS FROM:
COUNTY : WICHITA	STATE : KANSAS		KB
CONTRACTOR: DUKE DRILLING RIG #1		CONTRACT RECORD:	
COMM: 03 - 22 - 2018	COMP: 04 - 02 - 2018	SURFACE:	
RTD: 4965'	LTD: 4960'	8 5/8" @ 267'	
GEOLOGICAL SUPERVISION FROM: 3700'	TO: RTD	PRODUCTION:	
SAMPLES SAVED FROM: 3700'	TO: RTD	NONE	



COMMENTS :

DUE TO NEGATIVE DST RESULTS THIS WELL WAS PLUGGED AND ABANDONED

KEVIN L. KESSLER

STATE OF KANSAS



CORPORATION COMMISSION
CONSERVATION DIVISION
266 N. MAIN ST., STE. 220
WICHITA, KS 67202-1513

PHONE: 316-337-6200
FAX: 316-337-6211
<http://kcc.ks.gov/>

GOVERNOR JEFF COLYER, M.D.

SHARI FEIST ALBRECHT, CHAIR | JAY SCOTT EMLER, COMMISSIONER | DWIGHT D. KEEN, COMMISSIONER

July 23, 2018

Mark Shreve
Mull Drilling Company, Inc.
1700 N WATERFRONT PKWY BLDG 1200
WICHITA, KS 67206-6637

Re: ACO-1
API 15-203-20331-00-00
R & M MILLER 1-14
SE/4 Sec.14-16S-37W
Wichita County, Kansas

Dear Mark Shreve:

K.A.R. 82-3-107 provides for all completion information to be filed within 120 days of the spud date. Subsection(e)(2) of that regulation states "All rights to confidentiality shall be lost if the filings are not timely."

The above referenced well was spudded on 03/22/2018 and the ACO-1 was received on July 23, 2018 (not within the 120 days timely requirement).

Therefore, your request for confidential treatment of data contained within the ACO-1 filing cannot be granted at this time.

If you should have any questions, please do not hesitate to contact me at (316)337-6200.

Sincerely,

Production Department