

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](mailto: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	LOBLOLLY UNIT 1-23
Doc ID	1508430

All Electric Logs Run

CDL/CNL/PE
DIL
MEL
SONIC

Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	LOBLOLLY UNIT 1-23
Doc ID	1508430

Tops

Name	Top	Datum
Anhydrite	2746	+ 451
B/Anhydrite	2774	+ 423
Heebner	4095	- 898
Lansing	4136	- 939
Stark	4357	- 1160
Marmaton	4440	- 1243
Pawnee	4550	- 1353
Ft. Scott	4612	- 1415
Cherokee	4644	- 1447
Mississippi	4768	- 1571



# GLOBAL OIL FIELD SERVICES, LLC

13891

REMIT TO 24 S. Lincoln  
Russell, KS 67665

SERVICE POINT: Russell KS

DATE <u>11-27-19</u>	SEC. <u>23</u>	TWP. <u>9</u>	RANGE <u>34W</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <u>3:17 PM</u>
LEASE <u>Lo holly</u>	WELL# <u>1-23</u>	LOCATION <u>6 miles south of Colm<sup>ts</sup> 1w</u>			COUNTY <u>Thomas</u>	STATE <u>KS</u>	
OLD OR NEW (CIRCLE ONE)				<u>15 1/2 w</u>			

CONTRACTOR W & W Drilling RIC #42  
 TYPE OF JOB Surface  
 HOLE SIZE 17 1/2 T.D.  
 CASING SIZE 2 3/4 DEPTH 700  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX. MINIMUM  
 MEAS. LINE SHOE JOINT  
 CEMENT LEFT IN CSG. 25'  
 PERFS  
 DISPLACEMENT

OWNER Mull Drilling CO. INC  
 CEMENT AMOUNT ORDERED 18000 6040 7000  
2 3/4 gal

COMMON	@	
POZMIX	@	
GEL	@	
CHLORIDE	@	
ASC	@	
	@	
	@	
	@	
	@	
	@	
	@	
	@	
	@	
HANDLING	@	
MILEAGE	@	
		TOTAL

EQUIPMENT  
 PUMP TRUCK CEMENTER Colm  
 # 409 HELPER Tom  
 BULK TRUCK  
 # 411 DRIVER Eddie  
 BULK TRUCK  
 # DRIVER

REMARKS:  
Run 6000 ft of 2 3/4 casing + bit hooked up  
Rig + Rig & cementation. Hooked on Truck + mixed  
18000 of cement + displaced 15000 gal of bit  
in chm. 17'

Cement DN capulure to surface

CHARGE TO: Mull Drilling CO INC  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

Global Oil Field Services, LLC  
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Colm Phares  
 SIGNATURE Colm Phares

SERVICE

DEPTH OF JOB		
PUMP TRUCK CHARGE		
EXTRA FOOTAGE	@	
MILEAGE	@	
MANIFOLD	@	
	@	
	@	
		TOTAL

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
		TOTAL

SALES TAX (If Any) \_\_\_\_\_  
 TOTAL CHARGES \_\_\_\_\_  
 DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS



## DRILL STEM TEST REPORT

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

1700 N Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206

ATTN: Kevin Kessler

### **Loblolly Unit #1-32**

#### **23-9s-34w Thomas,KS**

Start Date: 2019.11.27 @ 16:56:00

End Date: 2019.11.28 @ 01:18:30

Job Ticket #: 66156                      DST #: 1

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

Printed: 2019.12.02 @ 14:26:58



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Co, Inc  
1700 N Waterfront Pkw y  
Bldg 1200  
Wichita, KS 67206  
ATTN: Kevin Kessler

**23-9s-34w Thomas,KS**

**Loblolly Unit #1-32**

Job Ticket: 66156      **DST#: 1**  
Test Start: 2019.11.27 @ 16:56:00

## GENERAL INFORMATION:

Formation: **LKC- J**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 19:50:15  
Time Test Ended: 01:18:30  
Interval: **4310.00 ft (KB) To 4370.00 ft (KB) (TVD)**  
Total Depth: 4370.00 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: 3197.00 ft (KB)  
3189.00 ft (CF)  
KB to GR/CF: 8.00 ft

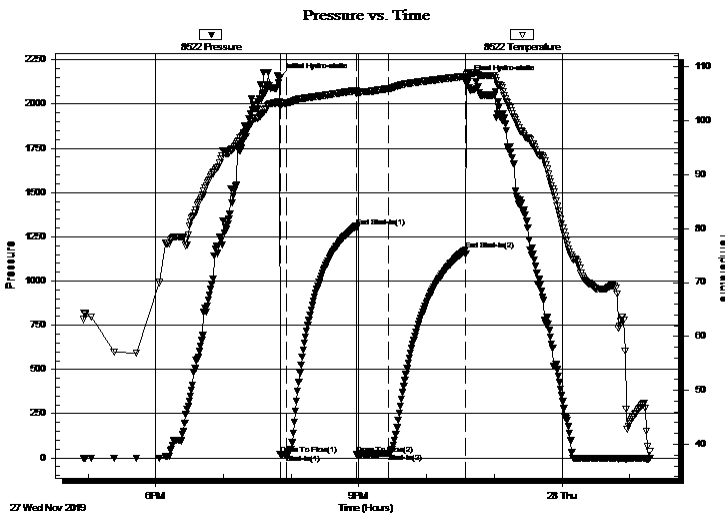
## Serial #: 8522

Inside

Press@RunDepth: 25.01 psig @ 4311.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2019.11.27      End Date: 2019.11.28      Last Calib.: 2019.11.28  
Start Time: 16:56:05      End Time: 01:18:29      Time On Btm: 2019.11.27 @ 19:50:00  
Time Off Btm: 2019.11.27 @ 22:36:30

TEST COMMENT: 5- IF: Surface blow .  
60- IS: No return.  
30- FF: Surface blow .  
60- FSI: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2150.68	103.45	Initial Hydro-static
1	19.80	102.73	Open To Flow (1)
6	20.43	103.29	Shut-In(1)
68	1308.52	105.59	End Shut-In(1)
68	21.84	105.09	Open To Flow (2)
96	25.01	105.95	Shut-In(2)
165	1175.31	108.24	End Shut-In(2)
167	2139.39	108.92	Final Hydro-static

## Recovery

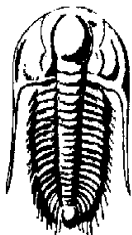
Length (ft)	Description	Volume (bbl)
5.00	Mud 100m	0.02

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Co, Inc  
1700 N Waterfront Pkw y  
Bldg 1200  
Wichita, KS 67206  
ATTN: Kevin Kessler

**23-9s-34w Thomas,KS**

**Loblolly Unit #1-32**

Job Ticket: 66156

**DST#: 1**

Test Start: 2019.11.27 @ 16:56:00

## GENERAL INFORMATION:

<b>Formation:</b>	<b>LKC- J</b>		<b>Test Type:</b>	Conventional Bottom Hole (Reset)
<b>Deviated:</b>	No Whipstock:	ft (KB)	<b>Tester:</b>	Bradley Walter
<b>Time Tool Opened:</b>	19:50:15		<b>Unit No:</b>	78
<b>Time Test Ended:</b>	01:18:30			
<b>Interval:</b>	<b>4310.00 ft (KB) To 4370.00 ft (KB) (TVD)</b>		<b>Reference Elevations:</b>	3197.00 ft (KB)
<b>Total Depth:</b>	4370.00 ft (KB) (TVD)			3189.00 ft (CF)
<b>Hole Diameter:</b>	7.88 inches	Hole Condition: Good	<b>KB to GR/CF:</b>	8.00 ft

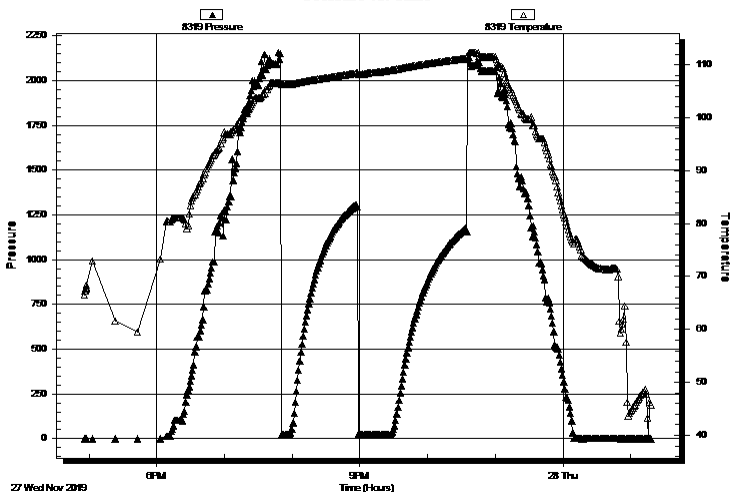
**Serial #: 8319**

**Outside**

<b>Press@RunDepth:</b>	psig @	4311.00 ft (KB)	<b>Capacity:</b>	8000.00 psig	
<b>Start Date:</b>	2019.11.27	<b>End Date:</b>	2019.11.28	<b>Last Calib.:</b>	2019.11.28
<b>Start Time:</b>	16:56:05	<b>End Time:</b>	01:18:29	<b>Time On Btm:</b>	
				<b>Time Off Btm:</b>	

**TEST COMMENT:** 5- IF: Surface blow.  
60- IS: No return.  
30- FF: Surface blow.  
60- FSI: No return.

**Pressure vs. Time**



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100m	0.02

## 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 Co, Inc  
1700 N Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Kevin Kessler

**23-9s-34w Thomas,KS**  
**Loblolly Unit #1-32**  
Job Ticket: 66156 **DST#: 1**  
Test Start: 2019.11.27 @ 16:56:00

## Tool Information

Drill Pipe:	Length: 4113.00 ft	Diameter: 3.80 inches	Volume: 57.69 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 188.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 58.61 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	4310.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	90.00 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			4281.00	
Shut In Tool	5.00		Fluid	4286.00	
Hydraulic tool	5.00			4291.00	
EM tool	3.00			4294.00	
Jars	5.00			4299.00	
Safety Joint	2.00			4301.00	
Packer	5.00		Inside	4306.00	30.00 Bottom Of Top Packer
Packer	4.00			4310.00	
Stubb	1.00			4311.00	
Recorder	0.00	8522	Inside	4311.00	
Recorder	0.00	8319	Outside	4311.00	
Perforations	23.00			4334.00	
Change Over Sub	1.00			4335.00	
Drill Pipe	31.00			4366.00	
Change Over Sub	1.00			4367.00	
Bullnose	3.00			4370.00	60.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>90.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drilling Co, Inc  
1700 N Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Kevin Kessler

**23-9s-34w Thomas,KS**  
**Loblolly Unit #1-32**  
Job Ticket: 66156      **DST#: 1**  
Test Start: 2019.11.27 @ 16:56:00

## 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: 63.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4000.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

Serial #: 8522

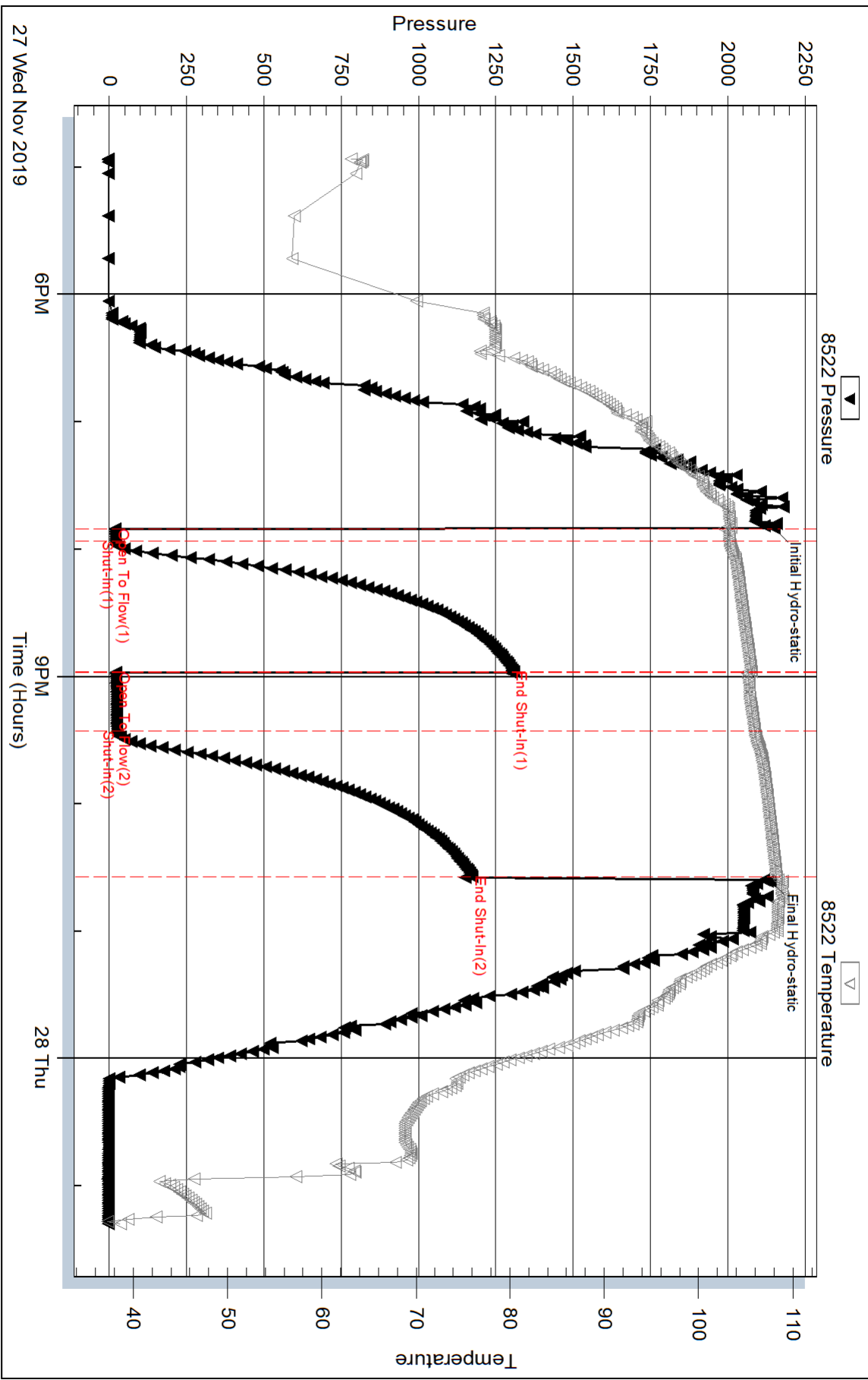
Inside

Mull Drilling Co. Inc

Loblolly Unit #1-32

DST Test Number: 1

# Pressure vs. Time



Triobite Testing, Inc

Ref. No: 66156

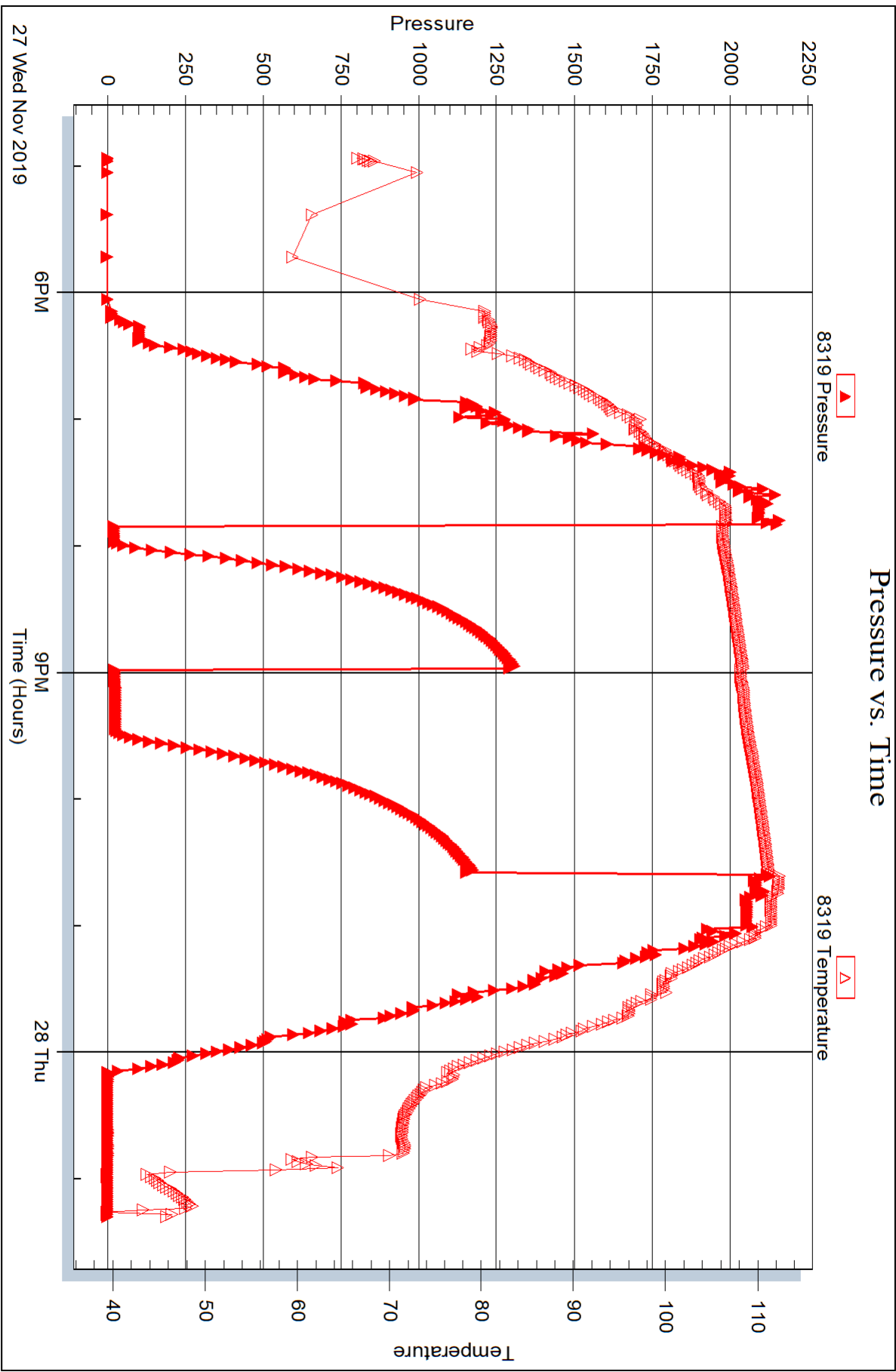
Printed: 2019.12.02 @ 14:27:00

Serial #: 8319

Outside Mull Drilling Co. Inc

Loblolly Unit #1-32

DST Test Number: 1





## DRILL STEM TEST REPORT

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

1700 N Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206

ATTN: Kevin Kessler

### **Loblolly Unit #1-32**

#### **23-9s-34w Thomas,KS**

Start Date: 2019.11.29 @ 10:55:00

End Date: 2019.11.29 @ 18:13:45

Job Ticket #: 66157                      DST #: 2

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

Printed: 2019.12.02 @ 14:24:33



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Co, Inc  
1700 N Waterfront Pkw y  
Bldg 1200  
Wichita, KS 67206  
ATTN: Kevin Kessler

**23-9s-34w Thomas,KS**

**Loblolly Unit #1-32**

Job Ticket: 66157

**DST#: 2**

Test Start: 2019.11.29 @ 10:55:00

## GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:28:00

Time Test Ended: 18:13:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

**Interval: 4640.00 ft (KB) To 4720.00 ft (KB) (TVD)**

Total Depth: 4720.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3197.00 ft (KB)

3189.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 8522**

**Inside**

Press@RunDepth: 23.73 psig @ 4641.00 ft (KB)

Start Date: 2019.11.29

End Date:

2019.11.29

Start Time: 10:55:05

End Time:

18:13:44

Capacity: 8000.00 psig

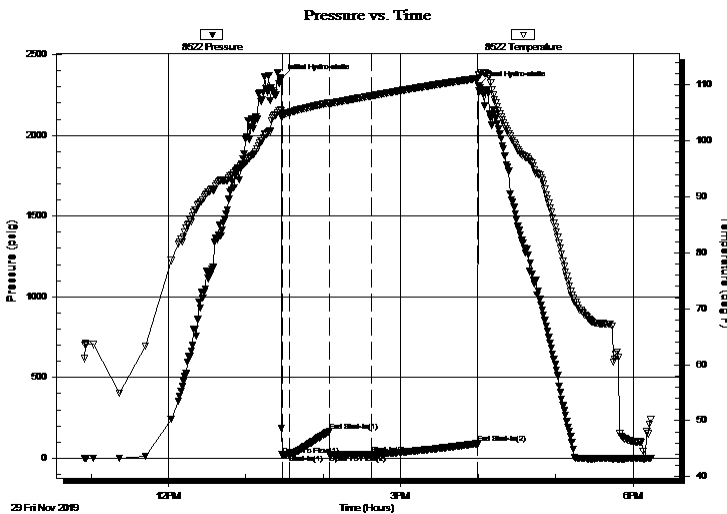
Last Calib.: 2019.11.29

Time On Btm: 2019.11.29 @ 13:27:30

Time Off Btm: 2019.11.29 @ 16:00:30

**TEST COMMENT:** 5- IF: 1" blow .  
30- IS: No return  
30- FF: No blow .  
60- FSI: No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2351.08	105.41	Initial Hydro-static
1	20.78	104.42	Open To Flow (1)
7	21.97	105.08	Shut-In(1)
38	166.51	106.81	End Shut-In(1)
38	22.55	106.62	Open To Flow (2)
70	23.73	108.04	Shut-In(2)
152	89.66	111.15	End Shut-In(2)
153	2308.93	111.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100m	0.02

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mull Drilling Co, Inc  
1700 N Waterfront Pkw y  
Bldg 1200  
Wichita, KS 67206  
ATTN: Kevin Kessler

**23-9s-34w Thomas,KS**

**Loblolly Unit #1-32**

Job Ticket: 66157

**DST#: 2**

Test Start: 2019.11.29 @ 10:55:00

## GENERAL INFORMATION:

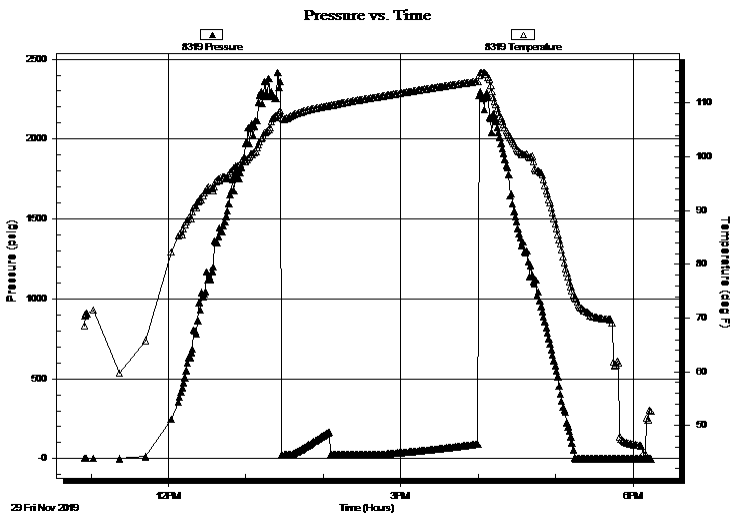
Formation: **Johnson**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 13:28:00  
Time Test Ended: 18:13:45  
Interval: **4640.00 ft (KB) To 4720.00 ft (KB) (TVD)**  
Total Depth: 4720.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches  
Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Bradley Walter  
Unit No: 78  
Reference Elevations: 3197.00 ft (KB)  
3189.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 8319      Outside**

Press@RunDepth:                      psig @ 4641.00 ft (KB)  
Start Date: 2019.11.29      End Date: 2019.11.29  
Start Time: 10:55:05      End Time: 18:13:44  
Capacity: 8000.00 psig  
Last Calib.: 2019.11.29  
Time On Btm:  
Time Off Btm:

**TEST COMMENT:** 5- IF: 1" blow .  
30- ISI: No return  
30- FF: No blow .  
60- FSI: No return

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100m	0.02

\* 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  
1700 N Waterfront Pkwy  
Bldg 1200  
Wichita, KS 67206  
ATTN: Kevin Kessler

**23-9s-34w Thomas,KS**  
**Loblolly Unit #1-32**  
Job Ticket: 66157 **DST#: 2**  
Test Start: 2019.11.29 @ 10:55:00

## Tool Information

Drill Pipe:	Length: 4426.00 ft	Diameter: 3.80 inches	Volume: 62.09 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 188.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 80000.00 lb
		Total Volume: 63.01 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4640.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	110.00 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			4611.00	
Shut In Tool	5.00		Fluid	4616.00	
Hydraulic tool	5.00			4621.00	
EM tool	3.00			4624.00	
Jars	5.00			4629.00	
Safety Joint	2.00			4631.00	
Packer	5.00		Inside	4636.00	30.00 Bottom Of Top Packer
Packer	4.00			4640.00	
Stubb	1.00			4641.00	
Recorder	0.00	8522	Inside	4641.00	
Recorder	0.00	8319	Outside	4641.00	
Perforations	11.00			4652.00	
Change Over Sub	1.00			4653.00	
Drill Pipe	63.00			4716.00	
Change Over Sub	1.00			4717.00	
Bullnose	3.00			4720.00	80.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>110.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mull Drilling Co, Inc  
1700 N Waterfront Pkw y  
Bldg 1200  
Wichita, KS 67206  
ATTN: Kevin Kessler

**23-9s-34w Thomas,KS**  
**Loblolly Unit #1-32**  
Job Ticket: 66157      **DST#: 2**  
Test Start: 2019.11.29 @ 10:55:00

## 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: 58.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.39 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6000.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

Serial #: 8522

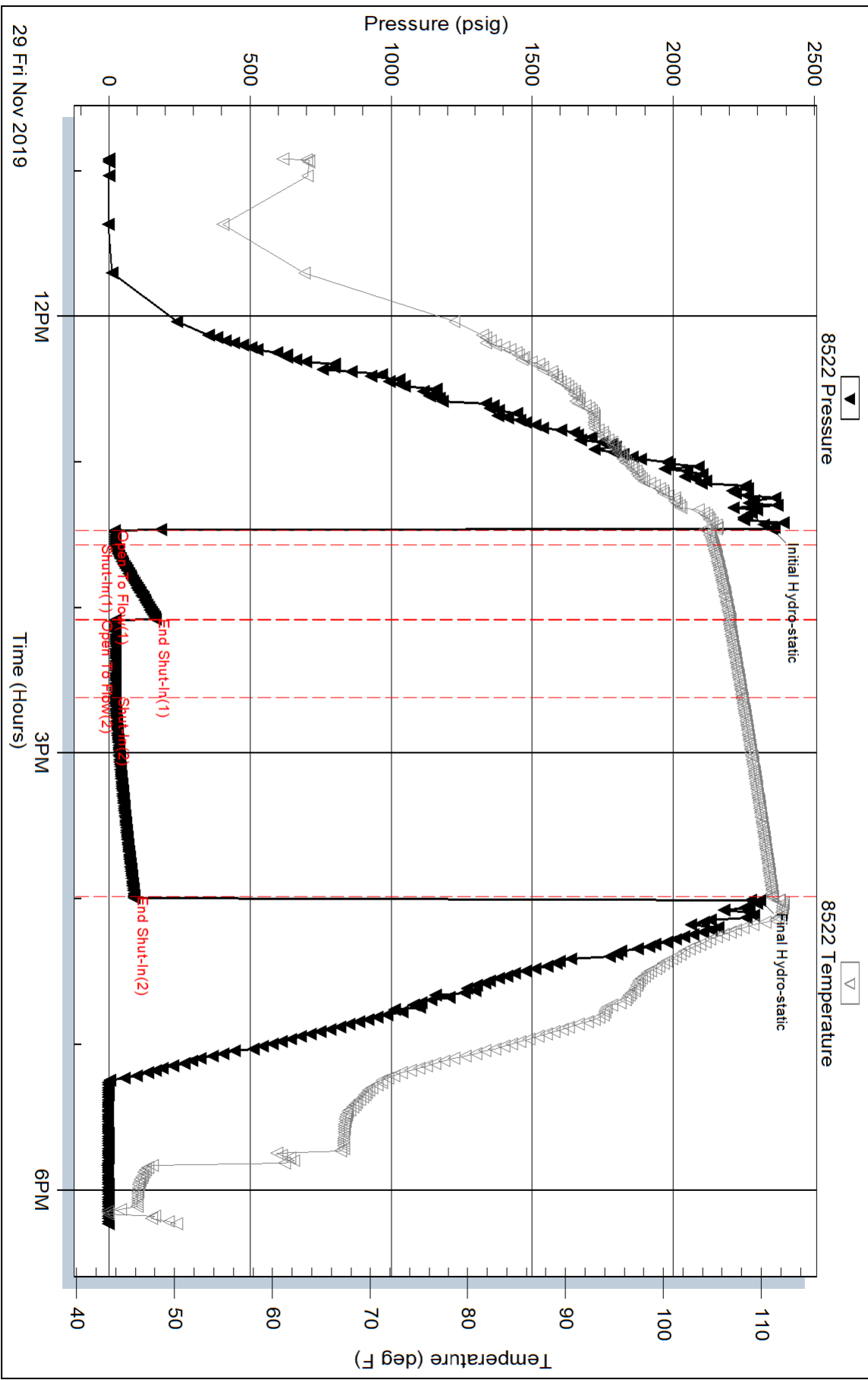
Inside

Mull Drilling Co. Inc

Loblolly Unit #1-32

DST Test Number: 2

### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 66157

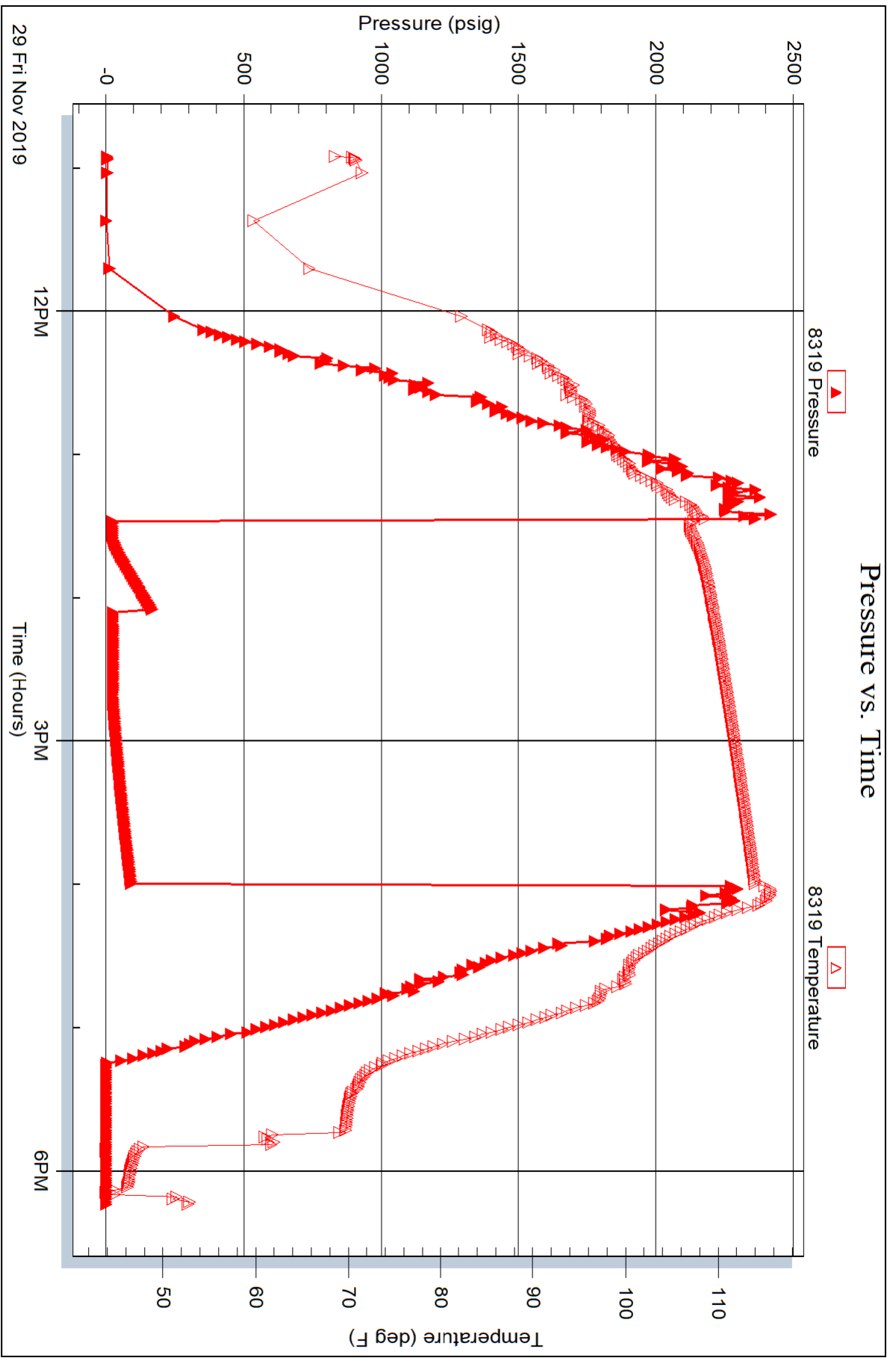
Printed: 2019.12.02 @ 14:24:35

Serial #: 8319

Outside Mull Drilling Co. Inc

Loblolly Unit #1-32

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 66157

Printed: 2019.12.02 @ 14:24:35



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 66156

NO.

Well Name & No. Loblolly Unit # 1-32 Test No. 1 Date 11/27/2019  
 Company Mull Drilling Co, Inc Elevation 3197 KB 3189 GL  
 Address 1700 N Waterfront Bldg 1200 Wichita, Ks 67206  
 Co. Rep / Geo. Kevin Kessler Rig Martin 112  
 Location: Sec. 23 Twp 9S Rge. 34W Co. Thomas State Ks

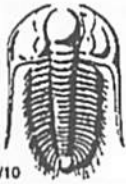
Interval Tested 4310-4370 Zone Tested LKC J  
 Anchor Length 60 Drill Pipe Run 4113 Mud Wt. 9.3  
 Top Packer Depth 4305 Drill Collars Run 188 Vis 63  
 Bottom Packer Depth 4310 Wt. Pipe Run 0 WL 9.6  
 Total Depth 4370 Chlorides 4000 ppm System LCM 2#  
 Blow Description IF Surface blow  
ISI No return.  
FF Surface blow  
FSE No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mod</u>			<u>100</u>	

Rec Total 5 BHT 108 Gravity 1300 API RW — @ — °F Chlorides — ppm  
 (A) Initial Hydrostatic 2151  Test 1430  
 (B) First Initial Flow 20  Jars 250 T-Started 1656  
 (C) First Final Flow 20  Safety Joint 75 T-Open 1951  
 (D) Initial Shut-In 1309  Circ Sub MC T-Pulled 2126  
 (E) Second Initial Flow 22  Hourly Standby — T-Out 0119  
 (F) Second Final Flow 25  Mileage 145KT 145 Comments —  
 (G) Final Shut-In 1175  Sampler —  
 (H) Final Hydrostatic 2139  Straddle —  EM Tool 350  
 Ruined Shale Packer —  
 Extra Packer —  Ruined Packer —  
 Extra Recorder —  Extra Copies 350  
 Day Standby — Sub Total 2370  
 Accessibility — Total 2370  
 Sub Total 2020 MP/DST Disc'l —

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

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 66157

NO.

Well Name & No. Loblolly Unit #1-32 Test No. 2 Date 11/29/2019  
 Company Mull Drilling Co, Inc Elevation 3197 KB 3189 GL  
 Address 1700 N Waterfront Pkwy Bldg 1200 Wichita, KS 67206  
 Co. Rep / Geo. Kevin Kessler Rig Martin 112  
 Location: Sec. 23 Twp 9s Rge. 34w Co. Thomas State Ks

Interval Tested 4640-4720 Zone Tested Johnson  
 Anchor Length 80' Drill Pipe Run 4426 Mud Wt. 9.4  
 Top Packer Depth 4635 Drill Collars Run 188 Vis 58  
 Bottom Packer Depth 4640 Wt. Pipe Run Ø WL 10.4  
 Total Depth 4720 Chlorides 6000 ppm System LCM 2#  
 Blow Description IF 1" blow

TST No return.  
FF No blow  
FSI No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mad</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 Total 5 BHT 111 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2351</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>0930</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1055</u>
(C) First Final Flow <u>22</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1338</u>
(D) Initial Shut-In <u>167</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1540</u>
(E) Second Initial Flow <u>23</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1814</u>
(F) Second Final Flow <u>24</u>	<input checked="" type="checkbox"/> Mileage <u>145 RT x 2</u> 145+145	Comments <u>P/O</u>
(G) Final Shut-In <u>90</u>	<input type="checkbox"/> Sampler	<u>Tools 11/30</u>
(H) Final Hydrostatic <u>2309</u>	<input type="checkbox"/> Straddle	<u>1400</u>
Initial Open <u>5</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input checked="" type="checkbox"/> EM Tool <u>350</u> didn't work
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Shale Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Ruined Packer
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	<input type="checkbox"/> Extra Copies
	<input type="checkbox"/> Accessibility	Sub Total
	Sub Total <u>2165</u>	Total <u>2165</u>
		MP/DST Disc't

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

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# KEVIN L. KESSLER

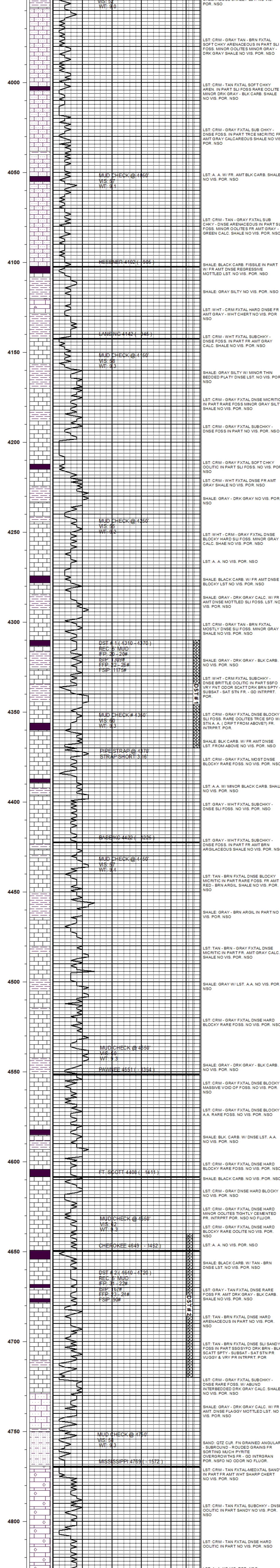
## CONSULTING PETROLEUM GEOLOGIST

( 316 ) 522 - 7338

<b>OPERATOR :</b> MULL DRILLING COMPANY INC.		<b>ELEVATION</b>	
<b>LEASE :</b> LOBLOLLY UNIT	<b>WELL # :</b> 1 - 32	<b>KB:</b> 3197'	
<b>LOCATION :</b> 330' FNL & 2600' FWL		<b>GL:</b> 3188'	
<b>SEC :</b> 23	<b>TWP :</b> 09 S	<b>RGE :</b> 34 W	<b>MEASUREMENTS FROM:</b>
<b>COUNTY :</b> THOMAS	<b>STATE :</b> KANSAS		<b>KB</b>
<b>CONTRACTOR:</b> MURFIN RIG # 112		<b>CASING RECORD:</b>	
<b>COMM:</b> 11 - 22 - 2019	<b>COMP:</b> 11 - 30 - 2019	<b>SURFACE:</b>	
<b>RTD:</b> 4830'	<b>LTD:</b> 4824'	8 5/8" @ 265'	
<b>GEOLOGICAL SUPERVISION FROM:</b> 3700'		<b>PRODUCTION:</b>	
<b>SAMPLES SAVED FROM:</b> 3700'		NONE	

FORMATION:	TOP	LOG DATUM	TOP	SAMPLE DATUM	COMP.	ELECTRICAL SURVEYS:
HEEBNER	4095	- 898	4102	- 905	- 11	DIL CNL/CDL MICRO SONIC
LANSING	4142	- 945	4242	- 945	- 20	
BASE/KC	4422	- 1225	4422	- 1225	- 15	
PAWNEE	4549	- 1352	4551	- 1354	- 20	
FORT SCOTT	4608	- 1411	4608	- 1411	- 14	
CHEROKEE	4644	- 1447	4649	- 1452	- 17	
MISSISSIPPI	4769	- 1572	4769	- 1472	- 41	

**REFERENCE WELL FOR STRUCTURAL COMPARISON:**  
**DUNE OIL # 1-15 KELLY 15-9S-34W THOMAS COUNTY KANSAS**



**COMMENTS :**  
 DUE TO NEGATIVE DST RESULTS THIS WELL WAS PLUGGED AND ABANDONED