



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1203398  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

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       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- 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 ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

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
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1203398

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  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				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 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)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR: \_\_\_\_\_ Producing Method:  
 Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	Rufenacht 1-11
Doc ID	1203398

All Electric Logs Run

CDL/CNL/PE
DIL
MEL
Sonic

Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	Rufenacht 1-11
Doc ID	1203398

Tops

Name	Top	Datum
Anhydrite	1778	+ 710
B/Anhydrite	1810	+ 678
Heebner Shale	3830	- 1342
Lansing	3872	- 1384
Stark Shale	4110	- 1622
B/KC	4198	- 1710
Pawnee	4280	- 1792
Ft. Scott	4366	- 1878
Cherokee Shale	4390	- 1902
Cherokee Sand	4453	- 1965
Mississippian	4486	- 1998





# DIAMOND TESTING

## General Information Report

### General Information

**Company Name** MULL DRILLING COMPANY, INC.  
**Contact** MARK SHREVE  
**Well Name** RUFENACHT #1-11  
**Unique Well ID** DST #1, FT. SCOTT, 4340-4400  
**Surface Location** SEC 11-17S-24W, NESS CO. KS.  
**Field** YOST  
**Well Type** Vertical  
**Test Type** CONVENTIONAL  
**Formation** DST #1, FT. SCOTT, 4340-4400  
**Well Fluid Type** 01 Oil

**Start Test Date** 2014/02/13  
**Final Test Date** 2014/02/13

**Representative** TIM VENTERS  
**Well Operator** MULL DRILLING COMPANY, INC.  
**Report Date** 2014/02/13  
**Prepared By** TIM VENTERS  
**Qualified By** KEVIN KESSLER

**Start Test Time** 06:25:00  
**Final Test Time** 13:18:00

### Test Recovery:

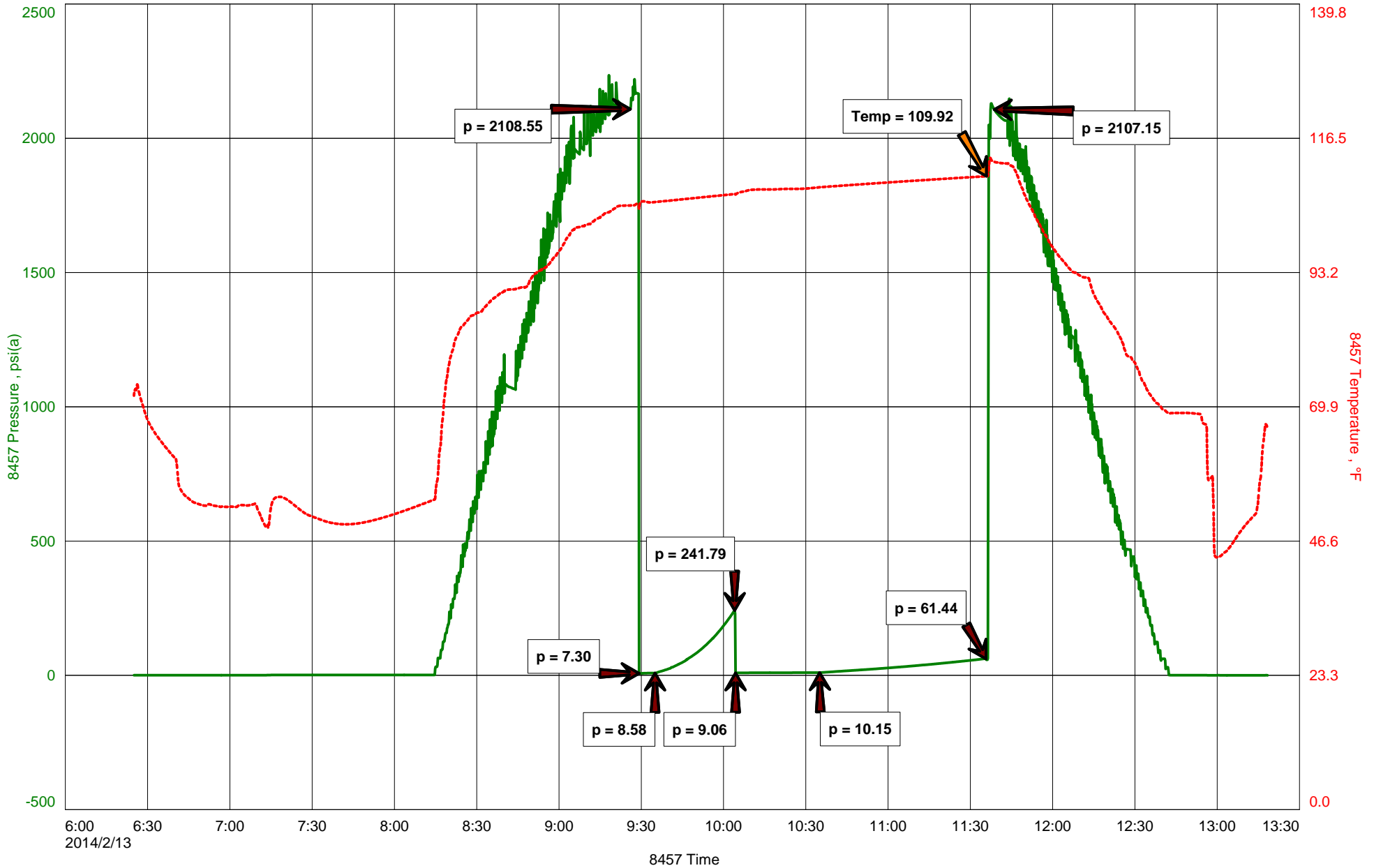
RECOVERED: 5' M W/SP. O, SPOTTY OIL, 100% MUD

TOOL SAMPLE: TRACE OIL, 100% MUD

MULL DRILLING COMPANY, INC.  
DST #1, FT. SCOTT, 4340-4400  
Start Test Date: 2014/02/13  
Final Test Date: 2014/02/13

RUFENACHT #1-11  
Formation: DST #1, FT. SCOTT, 4340-4400  
Pool: YOST  
Job Number: T311

# RUFENACHT #1-11







**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: RUFENACHT1-11DST1

TIME ON: 06:25  
TIME OFF: 13:18

Company MULL DRILLING COMPANY, INC. Lease & Well No. RUFENACHT #1-11  
Contractor DUKE DRILLING COMPANY, INC. RIG #8 Charge to MULL DRILLING COMPANY, INC.  
Elevation 2488 KB Formation FT. SCOTT Effective Pay \_\_\_\_\_ Ft. Ticket No. T311  
Date 2-13-14 Sec. 11 Twp. 17 S Range 24 W County NESS State KANSAS  
Test Approved By KEVIN KESSLER Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 1 Interval Tested from 4340 ft. to 4400 ft. Total Depth 4400 ft.  
Packer Depth 4335 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 4340 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 4321 ft. Recorder Number 8457 Cap. 10,000 P.S.I.  
Bottom Recorder Depth (Outside) 4397 ft. Recorder Number 11029 Cap. 5,025 P.S.I.  
Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 61 Drill Collar Length 0 ft. I.D. 2 1/4 in.  
Weight 9.3 Water Loss 8.0 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 4,800 P.P.M. Drill Pipe Length 4307 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number 2 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 28 ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. <sup>32' DP IN ANCHOR</sup> Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: WEAK SURFACE BLOW, BUILDING TO 1/4 INCH. (NO BB)  
2nd Open: VERY WEAK SURFACE BLOW LASTING 3 MIN. (NO BB)

Recovered <u>5</u> ft. of <u>M W/SP. O, SPOTTY OIL, 100% MUD</u>	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: _____	Insurance
TOOL SAMPLE: <u>TRACE OIL, 100% MUD</u>	Total

Time Set Packer(s) 9:28 AM <sup>A.M.</sup> P.M. Time Started Off Bottom 11:33 AM <sup>A.M.</sup> P.M. Maximum Temperature 110 deg.

Initial Hydrostatic Pressure..... (A) 2109 P.S.I.  
Initial Flow Period..... Minutes 5 (B) 7 P.S.I. to (C) 9 P.S.I.  
Initial Closed In Period..... Minutes 30 (D) 242 P.S.I.  
Final Flow Period..... Minutes 30 (E) 9 P.S.I. to (F) 10 P.S.I.  
Final Closed In Period..... Minutes 60 (G) 61 P.S.I.  
Final Hydrostatic Pressure..... (H) 2107 P.S.I.

Diamond Testing shall not be liable for damages of any kind to 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 statement or opinion concerning the result 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.

# DIAMOND TESTING

## General Information Report

### General Information

**Company Name** MULL DRILLING COMPANY, INC.  
**Contact** MARK SHREVE  
**Well Name** RUFENACHT #1-11  
**Unique Well ID** DST #2, CHEROKEE SD., 4375-4460  
**Surface Location** SEC 11-17S-24W, NESS CO. KS.  
**Field** YOST  
**Well Type** Vertical  
**Test Type** CONVENTIONAL  
**Formation** DST #2, CHEROKEE SD., 4375-4460  
**Well Fluid Type** 01 Oil

**Representative** TIM VENTERS  
**Well Operator** MULL DRILLING COMPANY, INC.  
**Report Date** 2014/02/14  
**Prepared By** TIM VENTERS  
**Qualified By** KEVIN KESSLER

**Start Test Date** 2014/02/13  
**Final Test Date** 2014/02/14

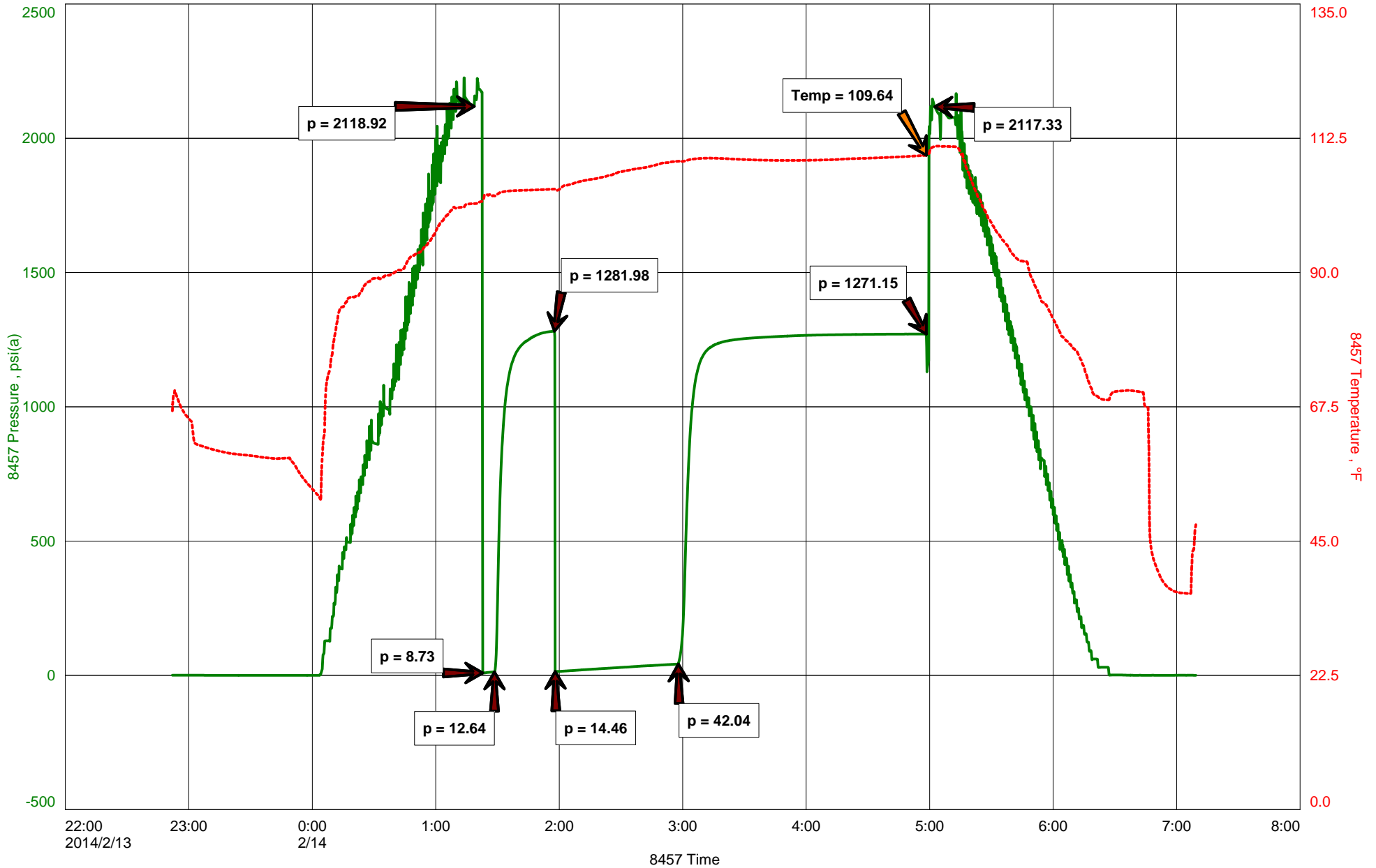
**Start Test Time** 22:52:00  
**Final Test Time** 07:10:00

### Test Recovery:

RECOVERED: 25' CO, 100% OIL, GRAVITY: 33  
60' OCM, 37% OIL, 63% MUD  
85' TOTAL FEET

TOOL SAMPLE: 25% OIL, 75% MUD

# RUFENACHT #1-11





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: RUFENACHT1-11DST2

TIME ON: 22:52 2-13-14  
TIME OFF: 07:10 2-14-14

Company MULL DRILLING COMPANY, INC. Lease & Well No. RUFENACHT #1-11  
Contractor DUKE DRILLING COMPANY, INC. RIG #8 Charge to MULL DRILLING COMPANY, INC.  
Elevation 2488 KB Formation CHEROKEE SD. Effective Pay \_\_\_\_\_ Ft. Ticket No. T312  
Date 2-14-14 Sec. 11 Twp. \_\_\_\_\_ 17 S Range \_\_\_\_\_ 24 W County NESS State KANSAS  
Test Approved By KEVIN KESSLER Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 2 Interval Tested from 4375 ft. to 4460 ft. Total Depth 4460 ft.  
Packer Depth 4370 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 4375 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

Depth of Selective Zone Set \_\_\_\_\_  
Top Recorder Depth (Inside) 4356 ft. Recorder Number 8457 Cap. 10,000 P.S.I.  
Bottom Recorder Depth (Outside) 4457 ft. Recorder Number 11029 Cap. 5,025 P.S.I.  
Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 44 Drill Collar Length \_\_\_\_\_ ft. I.D. 2 1/4 in.  
Weight 9.3 Water Loss 8.0 cc. Weight Pipe Length \_\_\_\_\_ ft. I.D. 2 7/8 in.  
Chlorides 5,300 P.P.M. Drill Pipe Length 4342 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number 2 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 21 ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. <sup>64' DP IN ANCHOR</sup> Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: WEAK 1/4 INCH BLOW, BUILDING TO 1 INCH. (NO BB)  
2nd Open: WEAK SURFACE BLOW, BUILDING TO 7 1/2 INCHES. (NO BB)

Recovered 25 ft. of CO, 100% OIL, GRAVITY: 33  
Recovered 60 ft. of OCM, 37% OIL, 63% MUD  
Recovered 85 ft. of TOTAL FEET

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Recovered _____ ft. of _____	Insurance
Remarks: _____	
TOOL SAMPLE: <u>25% OIL, 75% MUD</u>	Total

Time Set Packer(s) 1:22 AM <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 4:57 AM <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 110 deg.

Initial Hydrostatic Pressure..... (A) 2119 P.S.I.  
Initial Flow Period..... Minutes 5 (B) 9 P.S.I. to (C) 13 P.S.I.  
Initial Closed In Period..... Minutes 30 (D) 1282 P.S.I.  
Final Flow Period..... Minutes 60 (E) 14 P.S.I. to (F) 42 P.S.I.  
Final Closed In Period..... Minutes 120 (G) 1271 P.S.I.  
Final Hydrostatic Pressure..... (H) 2117 P.S.I.

Diamond Testing shall not be liable for damages of any kind to 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 statement or opinion concerning the result 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.

# DIAMOND TESTING

## General Information Report

### General Information

**Company Name** MULL DRILLING COMPANY, INC.  
**Contact** MARK SHREVE  
**Well Name** RUFENACHT #1-11  
**Unique Well ID** DST #3, CHEROKEE, 4380-4475  
**Surface Location** SEC 11-17S-24W, NESS CO. KS.  
**Field** YOST  
**Well Type** Vertical  
**Test Type** CONVENTIONAL  
**Formation** DST #3, CHEROKEE, 4380-4475  
**Well Fluid Type** 01 Oil

**Representative** TIM VENTERS  
**Well Operator** MULL DRILLING COMPANY, INC.  
**Report Date** 2014/02/14  
**Prepared By** TIM VENTERS  
**Qualified By** KEVIN KESSLER

**Start Test Date** 2014/02/14  
**Final Test Date** 2014/02/14

**Start Test Time** 13:21:00  
**Final Test Time** 22:21:00

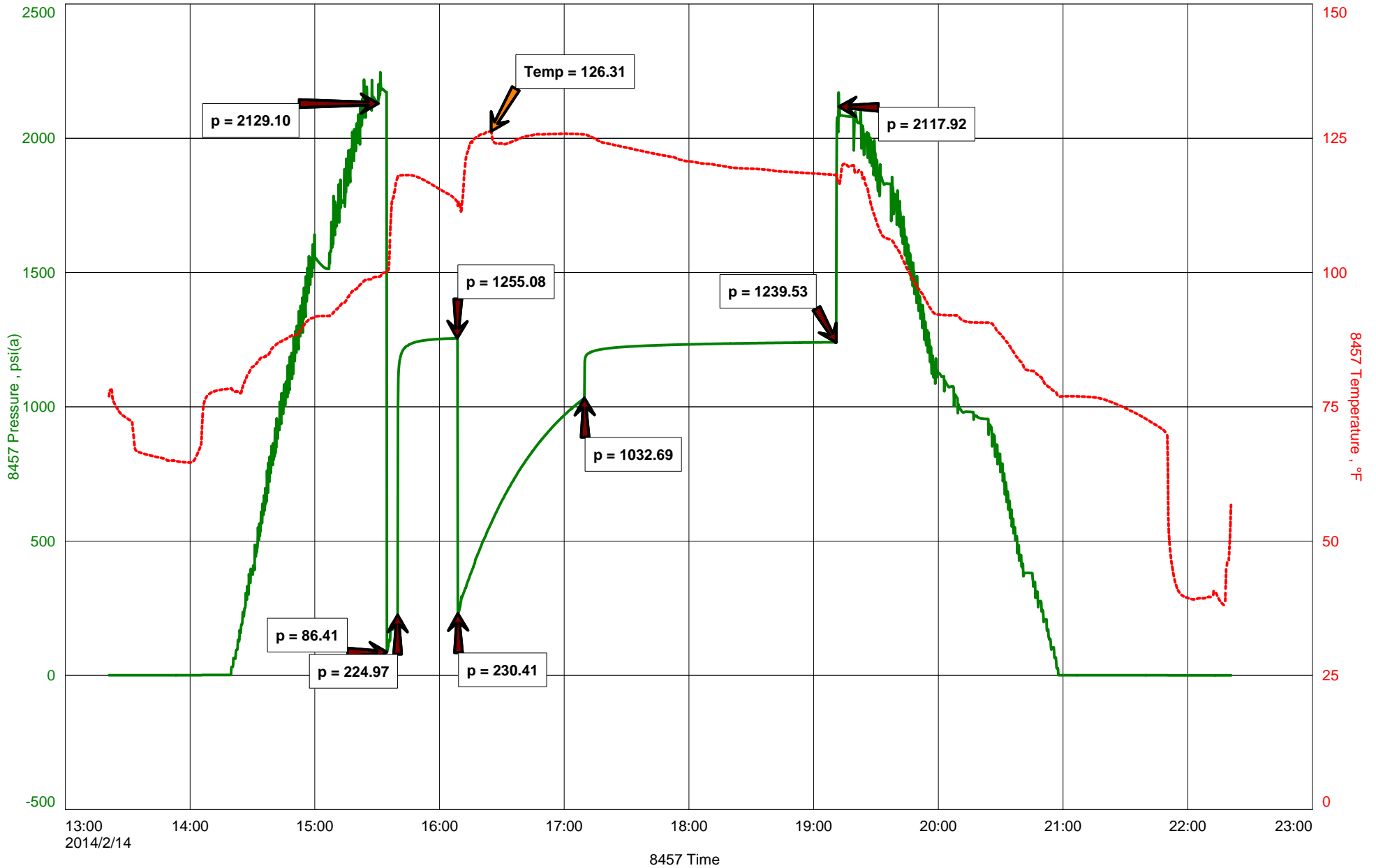
### Test Recovery:

RECOVERED: 870' HMCW W/TR. O, TRACE OIL, 55% WATER, 45% MUD  
1410' SMCW W/TR. O, TRACE OIL, 96% WATER, 4% MUD  
2280' TOTAL FLUID

TOOL SAMPLE: 3% OIL, 82% WATER, 15% MUD

CHLORIDES: 14,000 ppm  
PH: 7.0  
RW: .42 @ 68 deg.

# RUFENACHT #1-11





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: RUFENACHT1-11DST3

TIME ON: 13:21  
TIME OFF: 22:21

Company MULL DRILLING COMPANY, INC. Lease & Well No. RUFENACHT #1-11  
Contractor DUKE DRILLING COMPANY, INC. RIG #8 Charge to MULL DRILLING COMPANY, INC.  
Elevation 2488 KB Formation CHEROKEE Effective Pay \_\_\_\_\_ Ft. Ticket No. T313  
Date 2-14-14 Sec. 11 Twp. 17 S Range 24 W County NESS State KANSAS  
Test Approved By KEVIN KESSLER Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 3 Interval Tested from 4380 ft. to 4475 ft. Total Depth 4475 ft.  
Packer Depth 4375 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 4380 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 4361 ft. Recorder Number 8457 Cap. 10,000 P.S.I.  
Bottom Recorder Depth (Outside) 4472 ft. Recorder Number 11029 Cap. 5,025 P.S.I.  
Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 57 Drill Collar Length 0 ft. I.D. 2 1/4 in.  
Weight 9.5 Water Loss 8.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 5,000 P.P.M. Drill Pipe Length 4347 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number 2 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 31 ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. <sup>64' DP IN ANCHOR</sup> Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: GOOD 2 INCH BLOW, BUILDING, REACHING BOB 2 MIN. (NO BB)  
2nd Open: GOOD 2 INCH BLOW, BUILDING, REACHING BOB 2 MIN. (NO BB)

Recovered 870 ft. of HMCW W/TR. O, TRACE OIL, 55% WATER, 45% MUD  
Recovered 1410 ft. of SMCW W/TR. O, TRACE OIL, 96% WATER, 4% MUD  
Recovered 2280 ft. of TOTAL FEET

Recovered _____ ft. of _____	CHLORIDES: 14,000 ppm	Price Job
Recovered _____ ft. of _____	PH: 7.0	Other Charges
Remarks: _____	RW: .42 @ 68 deg.	Insurance
TOOL SAMPLE: 3% OIL, 82% WATER, 15% MUD		Total

Time Set Packer(s) 3:34 PM <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 7:09 PM <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 126 deg.

Initial Hydrostatic Pressure..... (A) 2129 P.S.I.  
Initial Flow Period..... Minutes 5 (B) 86 P.S.I. to (C) 225 P.S.I.  
Initial Closed In Period..... Minutes 30 (D) 1255 P.S.I.  
Final Flow Period..... Minutes 60 (E) 230 P.S.I. to (F) 1033 P.S.I.  
Final Closed In Period..... Minutes 120 (G) 1240 P.S.I.  
Final Hydrostatic Pressure..... (H) 2118 P.S.I.

Diamond Testing shall not be liable for damages of any kind to 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 statement or opinion concerning the result 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.

# DIAMOND TESTING

## General Information Report

### General Information

**Company Name** MULL DRILLING COMPANY, INC.  
**Contact** MARK SHREVE  
**Well Name** RUFENACHT #1-11  
**Unique Well ID** DST #4, CHEROKEE SD., 4408-4463  
**Surface Location** SEC 11-17S-24W, NESS CO. KS.  
**Field** YOST  
**Well Type** Vertical  
**Test Type** STRADDLE  
**Formation** DST #4, CHEROKEE SD., 4408-4463  
**Well Fluid Type** 01 Oil

**Representative** TIM VENTERS  
**Well Operator** MULL DRILLING COMPANY, INC.  
**Report Date** 2014/02/15  
**Prepared By** TIM VENTERS  
**Qualified By** KEVIN KESSLER

**Start Test Date** 2014/02/15  
**Final Test Date** 2014/02/16

**Start Test Time** 16:13:00  
**Final Test Time** 00:06:00

### Test Recovery:

RECOVERED: 145' OCM, 27% OIL, 78% MUD  
190' SO,WCM, 13% OIL, 35% WATER, 52% MUD  
190' SO&MCW, 6% OIL, 78% WATER, 16% MUD  
525' TOTAL FLUID

TOOL SAMPLE: 6% OIL, 90% WATER, 4% MUD

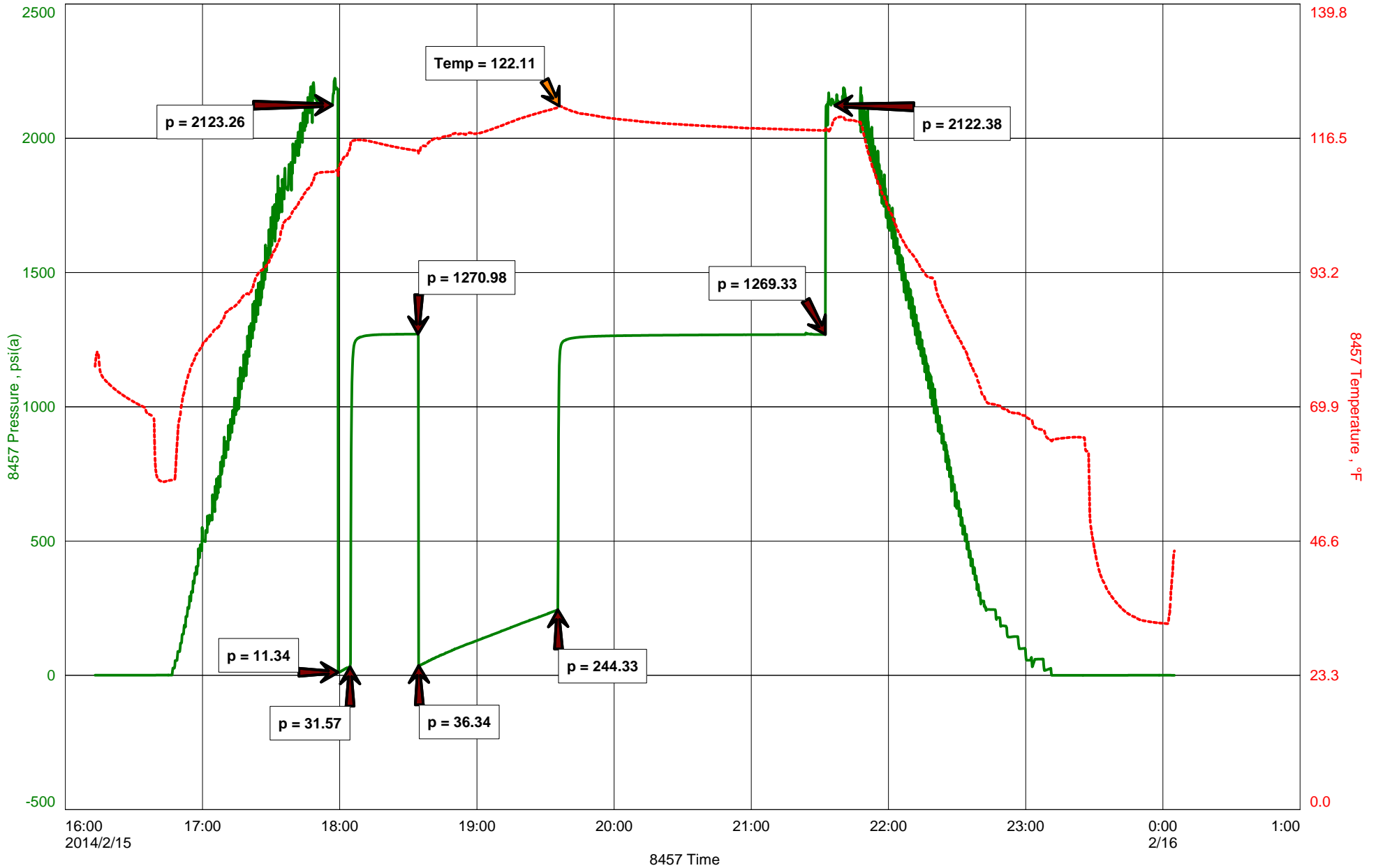
CHLORIDES: 17,000 ppm  
PH: 7.0  
RW: .43 @ 72 deg.



MULL DRILLING COMPANY, INC.  
DST #4, CHEROKEE SD., 4408-4463  
Start Test Date: 2014/02/15  
Final Test Date: 2014/02/16

RUFENACHT #1-11  
Formation: DST #4, CHEROKEE SD., 4408-4463  
Pool: YOST  
Job Number: T314

# RUFENACHT #1-11





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: RUFENACHT1-11DST4

TIME ON: 16:13 2-15-14  
TIME OFF: 00:06 2-16-14

Company MULL DRILLING COMPANY, INC. Lease & Well No. RUFENACHT #1-11  
Contractor DUKE DRILLING COMPANY, INC. RIG #8 Charge to MULL DRILLING COMPANY, INC.  
Elevation 2488 KB Formation CHEROKEE SD. Effective Pay \_\_\_\_\_ Ft. Ticket No. T314  
Date 2-15-14 Sec. 11 Twp. \_\_\_\_\_ 17 S Range \_\_\_\_\_ 24 W County NESS State KANSAS  
Test Approved By KEVIN KESSLER Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 4 Interval Tested from 4408 ft. to 4463 ft. Total Depth 4580 ft.  
Packer Depth 4403 ft. Size 6 3/4 in. Packer depth 4463 ft. Size 6 3/4 in.  
Packer Depth 4408 ft. Size 6 3/4 in. Packer depth 4468 ft. Size 6 3/4 in.

Depth of Selective Zone Set \_\_\_\_\_  
Top Recorder Depth (Inside) 4389 ft. Recorder Number 8457 Cap. 10,000 P.S.I.  
Bottom Recorder Depth (Outside) 4460 ft. Recorder Number 11030 Cap. 5,025 P.S.I.  
Below Straddle Recorder Depth 4577 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

Mud Type CHEMICAL Viscosity 56 Drill Collar Length 0 ft. I.D. 2 1/4 in.  
Weight 9.4 Water Loss 8.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 5,000 P.P.M. Drill Pipe Length 4375 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number 2 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 23 ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. <sup>32' DP IN ANCHOR</sup> Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: WEAK SURFACE BLOW, BUILDING TO 4 INCHES. (NO BB)  
2nd Open: VERY WEAK SURFACE BLOW, BUILDING, REACHING BOB 10 1/2 MIN. (NO BB)

Recovered 145 ft. of OCM, 27% OIL, 73% MUD  
Recovered 190 ft. of SO,WCM, 13% OIL, 35% WATER, 52% MUD  
Recovered 190 ft. of SO&MCW, 6% OIL, 78% WATER, 16% MUD  
Recovered 525 ft. of TOTAL FLUID

Recovered _____ ft. of _____	CHLORIDES: 17,000 ppm	Price Job
Recovered _____ ft. of _____	PH: 7.0	Other Charges
Remarks: _____	RW: .43 @ 72 deg.	Insurance
TOOL SAMPLE: 6% OIL, 90% WATER, 4% MUD		Total

Time Set Packer(s) 5:59 PM <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 9:34 PM <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 122 deg.  
Initial Hydrostatic Pressure..... (A) 2123 P.S.I.  
Initial Flow Period..... Minutes 5 (B) 11 P.S.I. to (C) 32 P.S.I.  
Initial Closed In Period..... Minutes 30 (D) 1271 P.S.I.  
Final Flow Period..... Minutes 60 (E) 36 P.S.I. to (F) 244 P.S.I.  
Final Closed In Period..... Minutes 120 (G) 1269 P.S.I.  
Final Hydrostatic Pressure..... (H) 2122 P.S.I.

Diamond Testing shall not be liable for damages of any kind to 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 statement or opinion concerning the result 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.

**KEVIN L. KESSLER**  
**CONSULTING PETROLEUM GEOLOGIST**  
**( 316 ) 522-7338**

**OPERATOR : MULL DRILLING COMPANY INC.**  
**LEASE : RUFENACHT WELL # : 1 - 11**  
**LOCATION : 1966' FNL & 1642' FEL**  
**SEC: 11 TWP : 17 S RGE : 24 W**  
**COUNTY : NESS STATE : KANSAS**

**ELEVATION**  
**KB : 2488**  
**GL : 2480**  
 MEASUREMENTS FROM  
**KB**

**CONTRACTOR : DUKE DRILLING RIG # 8**  
**COMM : 02 / 06 / 2014 COMP : 02 / 16 / 2014**  
**RTD : 4580 LOG TD : 4584**  
**SAMPLES SAVED FROM : 3700 TO : RTD**  
**GEOLOGICAL SUPERVISION FROM : 3700 TO : RTD**  
**MUD UP : 3500 TYPE MUD : CHEMICAL**

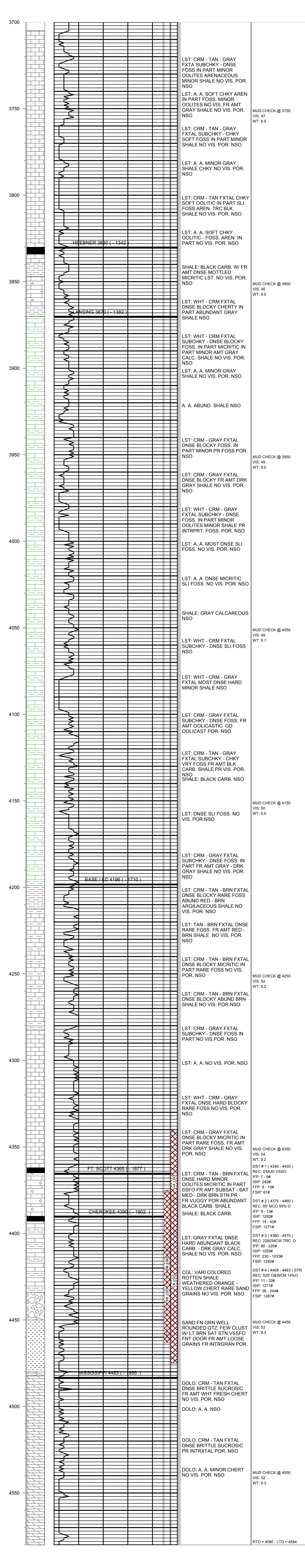
**CASING RECORD**  
**SURFACE :**  
**8 5/8" @ 219'**  
**PRODUCTION :**  
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**ELECTRICAL SURVEYS :**  
 CDL/CNL

FORMATION	TOP	SAMPLE	DATUM	TOP	LOG	DATUM	STRUCT. COMP.
HEEBNER	3830	- 1342	3830	- 1342			+ 07
LANSING	3870	- 1382	3870	- 1382			+ 09
BASE / KC	4198	- 1710	4198	- 1710			+ 09
FORT SCOTT	4365	- 1877	4365	- 1877			+ 03
CHEROKEE	4390	- 1902	4390	- 1902			+ 02
MISSISSIPPI	4483	- 1995	4483	- 1995			+ 12

REFERENCE WELL FOR STRUCTURAL COMPARISON :

**MULL # 1 - 11 SMITH - RUFENACHT SEC 11 - T 17 S - R 24 W NESS COUNTY KANSAS**



**COMMENTS:**

**DUE TO MARGINAL DST RESULTS & POOR LOG CALCULATIONS**

**THIS WELL WAS PLUGGED AS**

**D & A**

**KEVIN L. KESSLER**