



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1217124  
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: \_\_\_\_\_

1217124

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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	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

<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> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	Erb Unit 1-24
Doc ID	1217124

All Electric Logs Run

CDL/CNL/PE
DIL
MEL
Sonic

Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	Erb Unit 1-24
Doc ID	1217124

Tops

Name	Top	Datum
Heebner	3691	- 1457
Lansing	3737	- 1503
Stark	4025	- 1791
B/KC	4084	- 1850
Marmaton	4117	- 1883
Ft. Scott	4249	- 2015
Cherokee Shale	4272	- 2038
Cherokee Sand	4345	- 2111
Mississippian	4394	- 2160







CHARGE TO: MULL Drilling  
 ADDRESS  
 CITY, STATE, ZIP CODE

TICKET 26215

PAGE 1 OF 1

1. SERVICE LOCATIONS Am lgs KS WELL/PROJECT NO. 1-24 LEASE ERTD UNIT COUNTY/PARISH nevo STATE KS CITY Ness City DATE 18 MAY 14 OWNER  
 2. TICKET TYPE  SERVICE  SALES CONTRACTOR  
 3. WELL TYPE WILD WEST RIG NAME NO. Development JOB PURPOSE cement put collar SHIPPED via CT DELIVERED TO location WELL PERMIT NO.  
 4. REFERRAL LOCATION 071 INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575		1			MILEAGE	10	mi				
576D		1			Pump charge	1	ea				
330		1			SMB cement	165	sk				
276		1			Florde	50	lb				
290		1			D-AIR	2	gal				
581		1			Severe charge			175	sk		
<del>582</del> 582		1			Drage - minimum	1	ea				

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY**, and **LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS  
 DATE SIGNED [Signature] TIME SIGNED  A.M.  P.M.

REMIT PAYMENT TO:

SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

**SURVEY**

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?  YES  NO

WE UNDERSTOOD AND MET YOUR NEEDS?  YES  NO

OUR SERVICE WAS PERFORMED WITHOUT DELAY?  YES  NO

WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?  YES  NO

ARE YOU SATISFIED WITH OUR SERVICE?  YES  NO

CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL

TOTAL

7855  
 TAX  
 60157

SWIFT OPERATOR \_\_\_\_\_ APPROVAL \_\_\_\_\_  
 CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.  
 Thank You

JOB LOG

SWIFT Services, Inc.

DATE: 16 MAY 14 PAGE NO.

CUSTOMER: MULL DRILLING WELL NO. 1-24 LEASE: ERB Unit JOB TYPE: cement port collar TICKET NO. 26215

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								175 sk SMD cement w/ 1/4" Flocote 2 1/2" x 5 1/2" port collar - 1537
	0800							on loc TRK 114
	0808					1000	1000	test to 1000 psi - held open port collar
	0813	2 1/2	2			300		inj rate 2 1/2 bpm @ 300 psi
	0815	3 1/2				200		mix SMD cement @ 11.2 ppg
		3 1/2	2			200		core fluid to surface
		3 1/2	90			400		— cement to surface —
								165 sk 15 top. +
			8					8 bbl H <sub>2</sub> O
	0857							close port collar
	0853					1000	1000	test to 1000 psi - held
	0855							Run 4 joints
	0859							Reverse hole clean - 2 cement plugs -
	0905							Wash truck Back p
	0935							Job complete
								4 checks Blow, Flint, & ROB





CHARGE TO: Ma 1 Dr 19 Co. Inc

TICKET 2549

ADDRESS: Ma 1 Dr 19 Co. Inc  
CITY, STATE, ZIP CODE

PAGE 1 OF 2

1. SERVICE LOCATIONS: Hayes, Ks. WELLS PROJECT NO. #1-24 LEASE Exh Unit COUNTY/PARISH Ness STATE Ks CITY Leoti DATE 5-14-14 OWNER SCORR

2. Ness Co, Ks. TICKET TYPE  SERVICE  SALES CONTRACTOR W W H C RIG NAME NO. W W H C SHIPPED VIA Truck ORDER NO. 5-14-14

3. WELLS TYPE Oil WELL CATEGORY Development JOB PURPOSE Logstring WELL PERMIT NO. Leoti WELLS LOCATION Leoti

4. REFERRAL LOCATION Oil INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
5-25-		1			MILEAGE	10	mi				
5-28		1			Permp Charge (Logstring)	1	ea	44.25			
224		1			KCE	4	ea				
280		1			Flocke - 21	1	ea				
290		1			D-Air	2	ea				
402		1			Catalyzers	4	ea	5.25			
403		1			Booster	1	ea				
404		1			Part. Collar	1	ea				
400		1			Guide Shot	1	ea				
405		1			Insert Plat Collar w/ Pill	1	ea				
413		1			Rotavall Superbars	15	ea				
419		1			Rotating Head	1	ea				

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MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED 5-14-14 TIME SIGNED 16:15  A.M.  P.M.

**REMIT PAYMENT TO:**  
SWIFT SERVICES, INC.  
P.O. BOX 466  
NESS CITY, KS 67560  
785-798-2300

**SURVEY**

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?

WE UNDERSTOOD AND MET YOUR NEEDS?

OUR SERVICE WAS PERFORMED WITHOUT DELAY?

WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?

ARE YOU SATISFIED WITH OUR SERVICE?  YES  NO

CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL 1  
Subtotal 1  
TAX 0.15  
TOTAL 1.15

SWIFT OPERATOR Ma 1 Dr 19 Co. Inc APPROVAL Ma 1 Dr 19 Co. Inc

Thank You







**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: erb1-24dst1

TIME ON: 14:45  
 TIME OFF: 23:09

Company Mull Drilling Company Inc. Lease & Well No. Erb Unit #1-24  
 Contractor WW Rig #6 Charge to Mull Drilling Company Inc.  
 Elevation 2234 KB Formation Cher Snd Effective Pay \_\_\_\_\_ Ft. Ticket No. S0450  
 Date 5-12-14 Sec. 24 Twp. 19 S Range 23 W County Ness State KANSAS  
 Test Approved By Kevin Kessler Diamond Representative Jacob McCallie

Formation Test No. 1 Interval Tested from 4270 ft. to 4355 ft. Total Depth 4355 ft.

Packer Depth 4265 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

Packer Depth 4270 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

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

Top Recorder Depth (Inside) 4251 ft. Recorder Number 5515 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 4335 ft. Recorder Number 5586 Cap. 5,000 P.S.I.

Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type Chem Viscosity 65 Drill Collar Length 121 ft. I.D. 2 1/4 in.

Weight 9.5 Water Loss 7.6 cc. Weight Pipe Length -- ft. I.D. 2 7/8 in.

Chlorides 5,000 P.P.M. Drill Pipe Length 4116 ft. I.D. 3 1/2 in.

Jars: Make STERLING Serial Number 4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.

Did Well Flow? NA Reversed Out NA Anchor Length 85 (22A) ft. Size 4 1/2-FH in.

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: 1/4" Blow- Built to 1" in 5 min **NOBB**

2nd Open: No Blow- Built to 2 3/4" in 60 min **NOBB**

Recovered 10 ft. of CO 100% O GRAVITY: 33.5 @ 60 degrees F

Recovered 121 ft. of SLOCM 10% O 90% M

Recovered 131 ft. of TOTAL FLUID

Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Recovered \_\_\_\_\_ ft. of \_\_\_\_\_ Price Job

Recovered \_\_\_\_\_ ft. of \_\_\_\_\_ Other Charges

Remarks: \_\_\_\_\_ Insurance

TOOL SAMPLE: 15% O 85% M Total

Time Set Packer(s) 5:10 PM A.M. P.M. Time Started Off Bottom 8:45 PM A.M. P.M. Maximum Temperature 116

Initial Hydrostatic Pressure..... (A) 2064 P.S.I.

Initial Flow Period..... Minutes 5 (B) 15 P.S.I. to (C) 26 P.S.I.

Initial Closed In Period..... Minutes 30 (D) 1331 P.S.I.

Final Flow Period..... Minutes 60 (E) 29 P.S.I. to (F) 69 P.S.I.

Final Closed In Period..... Minutes 120 (G) 1340 P.S.I.

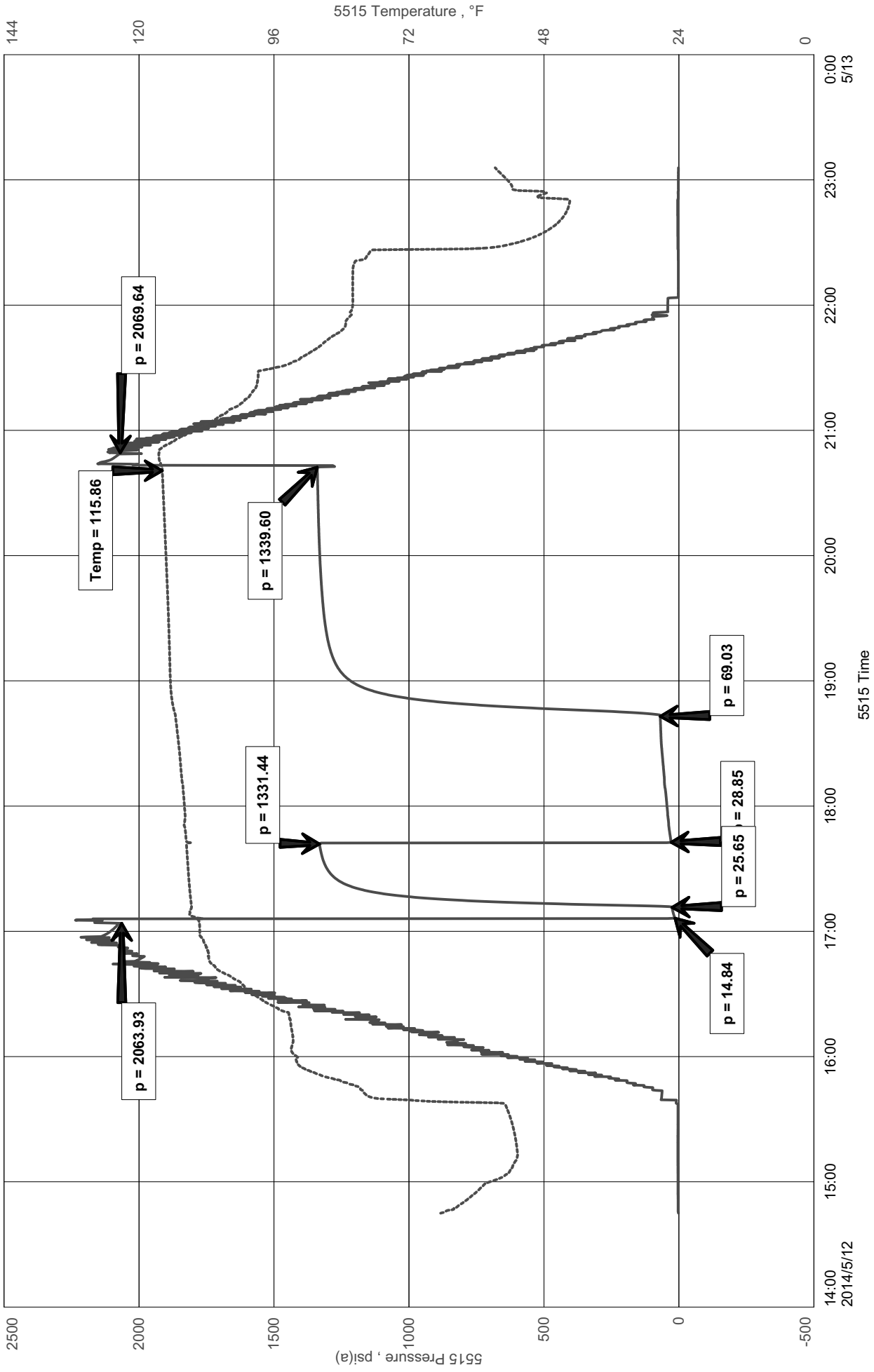
Final Hydrostatic Pressure..... (H) 2070 P.S.I.

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.

Mull Drilling Company Inc.  
DST #1 Cher Snd 4270-4355'  
Start Test Date: 2014/05/12  
Final Test Date: 2014/05/12

Erb Unit #1-24  
Formation: DST #1 Cher Snd 4270-4355'  
Pool: WC  
Job Number: S0450

# Erb Unit #1-24



# Diamond Testing

## General information Report

### General Information

Company Name Mull Drilling Company Inc.

Contact	Mark Shreve	Job Number	S0450
Well Name	Erb Unit #1-24	Representative	Jacob McCallie
Unique Well ID	DST #1 Cher Snd 4270-4355'	Well Operator	Mull Drilling Company Inc.
Surface Location	SEC 24-19S-23W Ness County	Report Date	2014/05/12
Well License Number		Prepared By	Jacob McCallie
Field	WC		
Well Type	Vertical		

Test Type	Drill Stem Test		
Formation	DST #1 Cher Snd 4270-4355'		
Well Fluid Type	01 Oil	Start Test Time	14:45:00
		Final Test Time	23:09:00
Start Test Date	2014/05/12		
Final Test Date	2014/05/12		
Gauge Name	5515		
Gauge Serial Number			

### Test Results

#### RECOVERED:

10'	CO	100% O	GRAVITY: 33.5 @ 60 degrees F
121'	SLOCM	10% O 90% M	
131'	TOTAL FLUID		

#### TOOL SAMPLE:

15% O 85% M



**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: erb1-24dst2

TIME ON: 04:57  
 TIME OFF: 14:44

Company Mull Drilling Company Inc. Lease & Well No. Erb Unit #1-24  
 Contractor WW Rig #6 Charge to Mull Drilling Company Inc.  
 Elevation 2234 KB Formation Cher Snd Effective Pay \_\_\_\_\_ Ft. Ticket No. S0451  
 Date 5-13-14 Sec. 24 Twp. 19 S Range 23 W County Ness State KANSAS  
 Test Approved By Kevin Kessler Diamond Representative Jacob McCallie

Formation Test No. 2 Interval Tested from 4295 ft. to 4365 ft. Total Depth 4365 ft.

Packer Depth 4290 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

Packer Depth 4295 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

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

Top Recorder Depth (Inside) 4276 ft. Recorder Number 5515 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 4328 ft. Recorder Number 5586 Cap. 5,000 P.S.I.

Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type Chem Viscosity 65 Drill Collar Length 121 ft. I.D. 2 1/4 in.

Weight 9.5 Water Loss 7.6 cc. Weight Pipe Length -- ft. I.D. 2 7/8 in

Chlorides 5,000 P.P.M. Drill Pipe Length 4141 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? NA Reversed Out YES Anchor Length 70 (40.5A) ft. Size 4 1/2-FH in

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in

Blow: 1st Open: 10" Blow- Built to BB in 45 seconds 3" BB

2nd Open: BB Blow 1/2" BB

Recovered 315 ft. of GIP

Recovered 219 ft. of CO 100% O GRAVITY: 30.5 @ 60 degrees F

Recovered 3402 ft. of CO 100% O (circ to truck)

Recovered 63 ft. of HMCO 60% O 40% M (below sub)

Recovered 61 ft. of SLMCO 90% O 10% M (below sub) Price Job

Recovered 61 ft. of VSLMCO 99% O 1% M (below sub) Other Charges

Remarks: 3806ft TOTAL FLUID Insurance

TOOL SAMPLE: 100% O Total

Time Set Packer(s) 7:00 AM A.M. P.M. Time Started Off Bottom 10:35 AM A.M. P.M. Maximum Temperature 128

Initial Hydrostatic Pressure..... (A) 2086 P.S.I.

Initial Flow Period..... Minutes 5 (B) 410 P.S.I. to (C) 574 P.S.I.

Initial Closed In Period..... Minutes 30 (D) 1362 P.S.I.

Final Flow Period..... Minutes 60 (E) 593 P.S.I. to (F) 1339 P.S.I.

Final Closed In Period..... Minutes 120 (G) 1364 P.S.I.

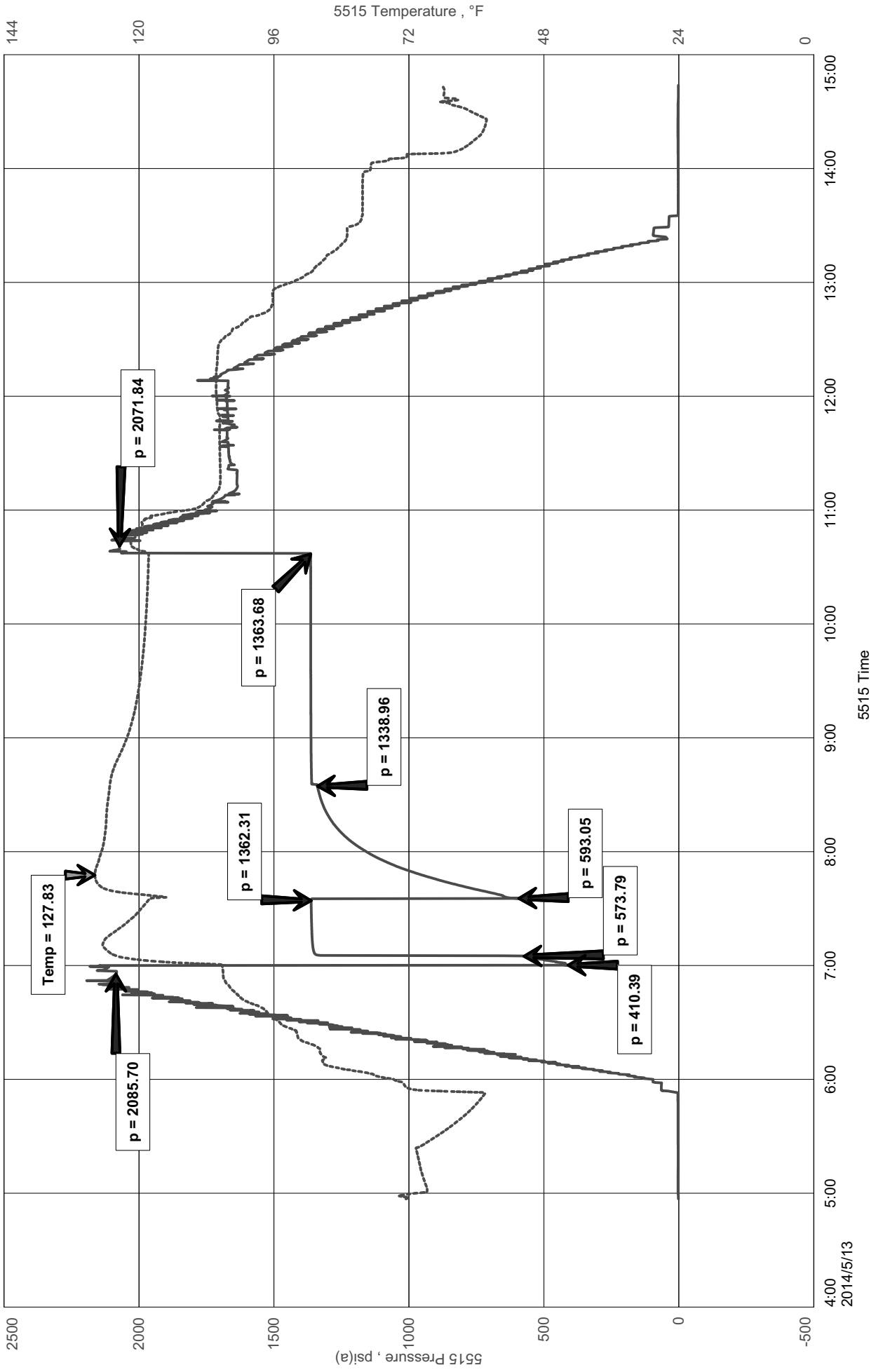
Final Hydrostatic Pressure..... (H) 2072 P.S.I.

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.

Mull Drilling Company Inc.  
DST #2 Cher Snd 4295-4365'  
Start Test Date: 2014/05/13  
Final Test Date: 2014/05/13

Erb Unit #1-24  
Formation: DST #2 Cher Snd 4295-4365'  
Pool: WC  
Job Number: S0450

# Erb Unit #1-24





# Diamond Testing

## General information Report

### General Information

Company Name Mull Drilling Company Inc.

Contact	Mark Shreve	Job Number	S0450
Well Name	Erb Unit #1-24	Representative	Jacob McCallie
Unique Well ID	DST #2 Cher Snd 4295-4365'	Well Operator	Mull Drilling Company Inc.
Surface Location	SEC 24-19S-23W Ness County	Report Date	2014/05/13
Well License Number		Prepared By	Jacob McCallie
Field	WC		
Well Type	Vertical		

Test Type	Drill Stem Test		
Formation	DST #2 Cher Snd 4295-4365'		
Well Fluid Type	01 Oil	Start Test Time	04:57:00
		Final Test Time	14:44:00
Start Test Date	2014/05/13		
Final Test Date	2014/05/13		
Gauge Name	5515		
Gauge Serial Number			

### Test Results

#### RECOVERED:

315'	GIP		
219'	CO	100% O	Gravity: 30.5 @ 60 degrees F
3,402	CO	100% O (circ to truck)	

#### BELOW SUB

63'	HMCO	60% O 40% M
DC 61'	SLMCO	90% O 10% M
DC 61'	VSLMCO	99% O 1% M
3806'	TOTAL FLUID	

#### TOOL SAMPLE:

100% O



**DIAMOND TESTING**  
 P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: erb1-24dst2

TIME ON: 04:57  
 TIME OFF: 14:44

Company Mull Drilling Company Inc. Lease & Well No. Erb Unit #1-24  
 Contractor WW Rig #6 Charge to Mull Drilling Company Inc.  
 Elevation 2234 KB Formation Cher Snd Effective Pay \_\_\_\_\_ Ft. Ticket No. S0451  
 Date 5-13-14 Sec. 24 Twp. 19 S Range 23 W County Ness State KANSAS  
 Test Approved By Kevin Kessler Diamond Representative Jacob McCallie

Formation Test No. 2 Interval Tested from 4295 ft. to 4365 ft. Total Depth 4365 ft.  
 Packer Depth 4290 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.  
 Packer Depth 4295 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

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

Top Recorder Depth (Inside) 4276 ft. Recorder Number 5515 Cap. 5,000 P.S.I.  
 Bottom Recorder Depth (Outside) 4328 ft. Recorder Number 5586 Cap. 5,000 P.S.I.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type Chem Viscosity 65 Drill Collar Length 121 ft. I.D. 2 1/4 in.  
 Weight 9.5 Water Loss 7.6 cc. Weight Pipe Length -- ft. I.D. 2 7/8 in.  
 Chlorides 5,000 P.P.M. Drill Pipe Length 4141 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number 4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
 Did Well Flow? NA Reversed Out YES Anchor Length 70 (40.5A) ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: 10" Blow- Built to BB in 45 seconds 3" BB  
 2nd Open: BB Blow 1/2" BB

Recovered <u>315</u> ft. of <u>GIP</u>	
Recovered <u>219</u> ft. of <u>CO</u> <u>100% O</u> <u>GRAVITY: 30.5 @ 60 degrees F</u>	
Recovered <u>3402</u> ft. of <u>CO</u> <u>100% O</u> <u>(circ to truck)</u>	
Recovered <u>63</u> ft. of <u>HMCO</u> <u>60% O 40% M</u> <u>(below sub)</u>	
Recovered <u>61</u> ft. of <u>SLMCO</u> <u>90% O 10% M</u> <u>(below sub)</u>	Price Job
Recovered <u>61</u> ft. of <u>VSLMCO</u> <u>99% O 1% M</u> <u>(below sub)</u>	Other Charges
Remarks: <u>3806ft TOTAL FLUID</u>	Insurance
<b>TOOL SAMPLE: 100% O</b>	Total

Time Set Packer(s) 7:00 AM <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 10:35 AM <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 128

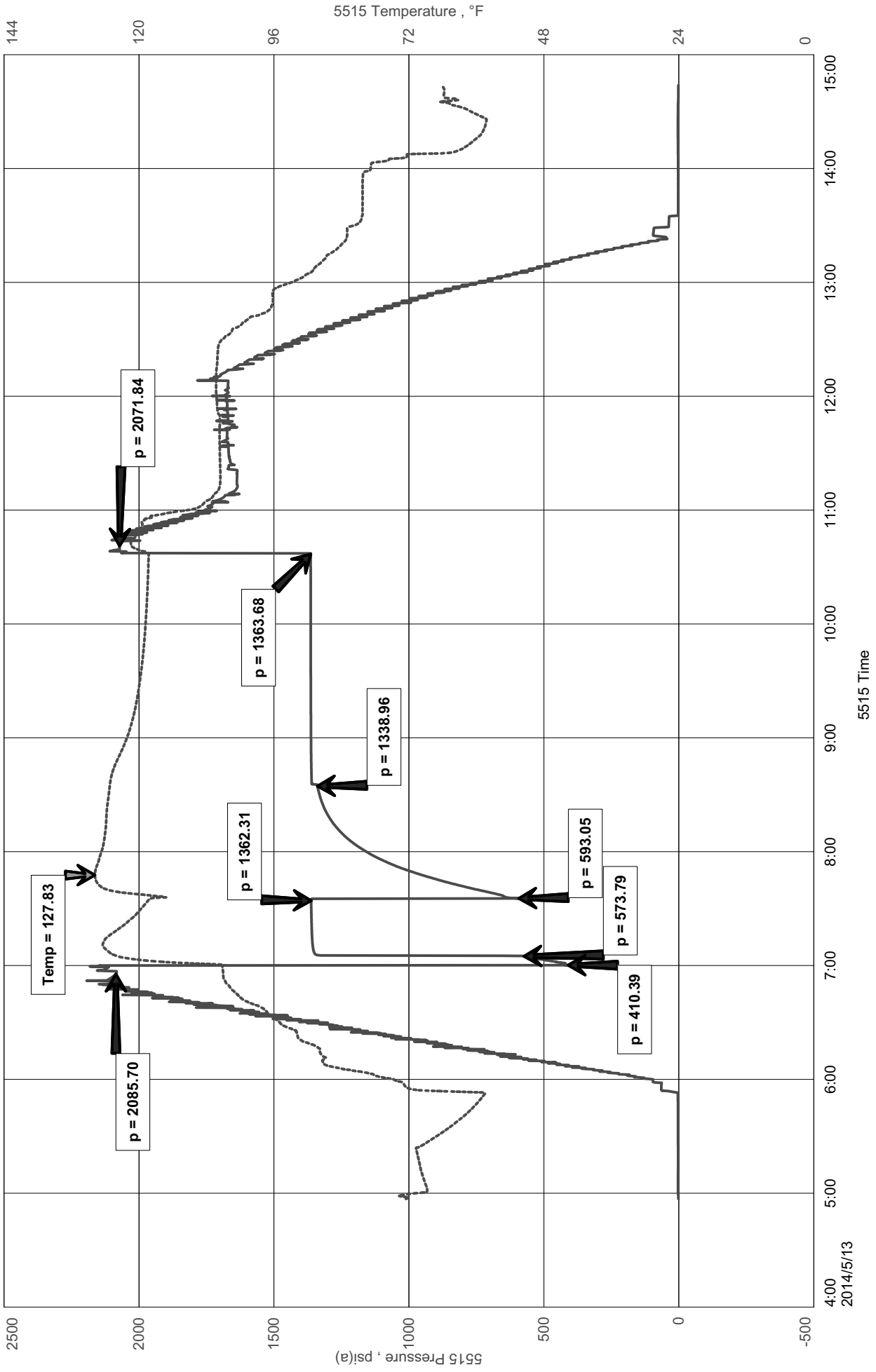
Initial Hydrostatic Pressure..... (A) 2086 P.S.I.  
 Initial Flow Period..... Minutes 5 (B) 410 P.S.I. to (C) 574 P.S.I.  
 Initial Closed In Period..... Minutes 30 (D) 1362 P.S.I.  
 Final Flow Period..... Minutes 60 (E) 593 P.S.I. to (F) 1339 P.S.I.  
 Final Closed In Period..... Minutes 120 (G) 1364 P.S.I.  
 Final Hydrostatic Pressure..... (H) 2072 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.

Mull Drilling Company Inc.  
DST #2 Cher Snd 4295-4365'  
Start Test Date: 2014/05/13  
Final Test Date: 2014/05/13

Erb Unit #1-24  
Formation: DST #2 Cher Snd 4295-4365'  
Pool: WC  
Job Number: S0450

# Erb Unit #1-24



# Diamond Testing

## General information Report

### General Information

Company Name Mull Drilling Company Inc.

Contact	Mark Shreve	Job Number	S0450
Well Name	Erb Unit #1-24	Representative	Jacob McCallie
Unique Well ID	DST #2 Cher Snd 4295-4365'	Well Operator	Mull Drilling Company Inc.
Surface Location	SEC 24-19S-23W Ness County	Report Date	2014/05/13
Well License Number		Prepared By	Jacob McCallie
Field	WC		
Well Type	Vertical		

Test Type	Drill Stem Test		
Formation	DST #2 Cher Snd 4295-4365'		
Well Fluid Type	01 Oil	Start Test Time	04:57:00
		Final Test Time	14:44:00
Start Test Date	2014/05/13		
Final Test Date	2014/05/13		
Gauge Name	5515		
Gauge Serial Number			

### Test Results

#### RECOVERED:

315'	GIP		
219'	CO	100% O	Gravity: 30.5 @ 60 degrees F
3,402	CO	100% O (circ to truck)	

#### BELOW SUB

63'	HMCO	60% O 40% M
DC 61'	SLMCO	90% O 10% M
DC 61'	VSLMCO	99% O 1% M
3806'	TOTAL FLUID	

#### TOOL SAMPLE:

100% O

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

**OPERATOR : MULL DRILLING COMPANY INC.**  
**LEASE : ERB UNIT WELL # : 1 - 24**  
**LOCATION : 105' FNL & 1535' FWL**  
**SEC: 24 TWP : 19 S RGE : 23 W**  
**COUNTY : NESS STATE : KANSAS**

**ELEVATION**  
**KB : 2234'**  
**GL : 2229'**  
 MEASUREMENTS FROM  
**KB**

**CONTRACTOR : WW DRILLING RIG # 6**  
**COMM : 05 / 07 / 2014 COMP : 05 / 14 / 2014**  
**RTD : 4475 LOG TD : 4476**  
**SAMPLES SAVED FROM : 3600 TO : RTD**  
**GEOLOGICAL SUPERVISION FROM : 3600 TO : RTD**  
**MUD UP : 3500 TYPE MUD : CHEMICAL**

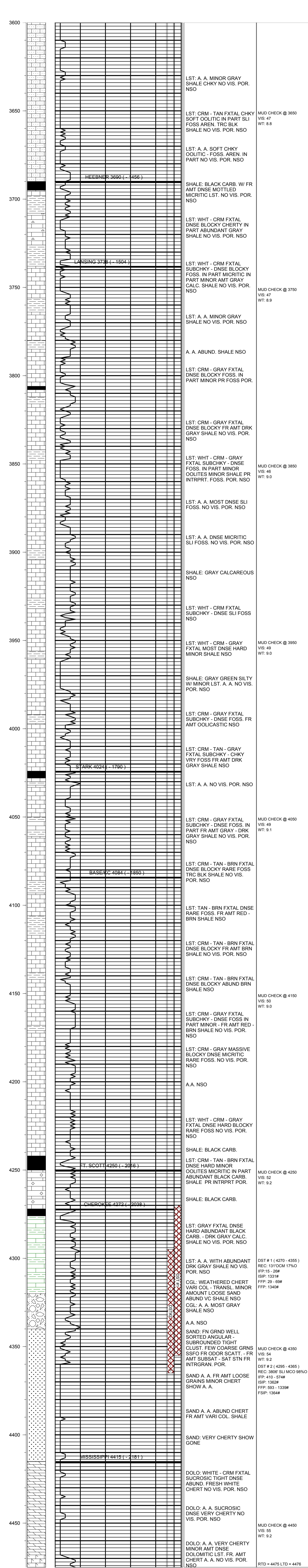
**CASING RECORD**  
**SURFACE :**  
**8 5/8" @ 216'**  
**PRODUCTION :**  
**5 1/2" @ 4475'**

**ELECTRICAL SURVEYS:**

FORMATION	TOP	SAMPLE	DATUM	TOP	LOG	DATUM	STRUCT. COMP.
HEEBNER	3690	- 1456	3690	- 1456		- 1456	+ 07
LANSING	3738	- 1504	3738	- 1504		- 1504	+ 06
STARK	4024	- 1790	4024	- 1790		- 1790	+ 07
BASE/KC	4084	- 1850	4084	- 1850		- 1850	+ 10
FORT SCOTT	4250	- 2016	4250	- 2016		- 2016	+ 10
CHEROKEE	4272	- 2038	4272	- 2038		- 2038	+ 13
MISSISSIPPI	4415	- 2118	4415	- 2118		- 2118	- 25

REFERENCE WELL FOR STRUCTURAL COMPARISON :  
**MULL DRLG CO INC # 1 - 23 BYRD SEC 23 - T 19 S - R 23 W NESS COUNTY KANSAS**

**CDL/CNL**  
**DIL**  
**MICRO**  
**SONIC**



**COMMENTS:**  
 5 1/2" PRODUCTION CASING WAS SET TO FURTHER TEST  
 THE PRODUCTIVITY OF THIS WELL

**KEVIN L. KESSLER**