



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1175379  
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: \_\_\_\_\_

1175379

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> _____
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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	Brown Trust 1-12
Doc ID	1175379

All Electric Logs Run

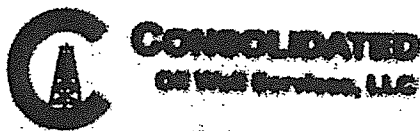
CDL/CNL/PE
DIL
MEL
SONIC

Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	Brown Trust 1-12
Doc ID	1175379

Tops

Name	Top	Datum
Anhydrite	2346	+ 599
B/Anhydrite	2366	+ 579
Heebner Shale	3911	- 966
Lansing	3949	- 1004
Stark Shale	4218	- 1273
B/KC	4300	- 1355
Ft. Scott	4477	- 1532
Cherokee Shale	4501	- 1556
Johnson	4542	- 1597
Morrow Shale	4575	- 1600
Mississippian	4590	- 1645





PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

262444

TICKET NUMBER 38095  
LOCATION Darkey KS  
FOREMAN Damon - Trainor  
Fuzzy

FIELD TICKET & TREATMENT REPORT  
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY	
9-19-13	5659	Brown Trust 1-12	12	165	32W	Scott	
CUSTOMER Mull Dms		SEARCH N- R-280 3 1/2 IN		TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS				399	Jordan L		
CITY		STATE		460	Jeremy S		
ZIP CODE					STEVEN		

JOB TYPE SURFACE HOLE SIZE 12 1/4 HOLE DEPTH 210' CASING SIZE & WEIGHT 8 5/8  
CASING DEPTH 210' DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
SLURRY WEIGHT 14.8 SLURRY VOL 1.36 WATER gal/sk 6.5 CEMENT LEFT IN CASING 20'  
DISPLACEMENT 12.1 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting on Darkey. Risup and circulate. Mix  
165sks Class A 390cc 290cc. Drop plug and displace 12 65L  
Cement did circulate in cellar

Thanks Damon & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
54015	1	PUMP CHARGE	1150.00	1150.00 ✓
5406	35	MILEAGE	5.22	183.22 ✓
5407A	7.8 Ton	Ton mileage delivery	1.25	477.25 ✓
11045	165sks	Class A cement	18.52	3060.22 ✓
1102	465*	Calcium chloride	.94	437.10 ✓
1118B	310*	Berolite	.27	83.70 ✓
4432	1	8 5/8 wood cup plug	100.25	100.25 ✓
		subtotal		5493.80
		less 1090		5493.80 ✓
		subtotal		4944.43
		<b>completed</b>		
		8.15%	SALES TAX	270.09 ✓
			ESTIMATED TOTAL	5214.51 ✓

AUTHORIZATION Heidi H 10/13

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, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



**CONSOLIDATED**  
Oil Well Services, LLC

262851

TICKET NUMBER 44270

LOCATION Oakley, KS

FOREMAN Jerry Fuzzy

PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

**FIELD TICKET & TREATMENT REPORT**  
**CEMENT**

KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
10-1-13	5659	Brown Trust 1-12	12	165	32W	Scott
CUSTOMER						
MAILING ADDRESS			TRUCK #	DRIVER	TRUCK #	DRIVER
Mall Dr leg			399	Tim W		
			397	Cody R		
CITY	STATE	ZIP CODE				

JOB TYPE long string HOLE SIZE 7 7/8 HOLE DEPTH 4700 CASING SIZE & WEIGHT 5 1/2 14 #  
 CASING DEPTH 4699 DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER part collar @ 2345  
 SLURRY WEIGHT 14.5 SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 42'  
 DISPLACEMENT 113.6 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting on Durat 4 float equip turbolizer on 1,2,3,4,5,7,9,11,13,15,17,57, basket at bottom of 58 part collar on top of 58 @ 2345' run casing to bottom break circulation on pump ball thru circ. vis down to 38 hook up to truck pump 15 bbl KCL, pump Flo check, & 5 bbl KCL behind mix 30 sks Rh mix 170 sks 50/50 poz 108 salt, 22 gal, 1/4 FL 115 shut down release plug, clean pump lines & displace w/ 110 bbl fresh water plug landed @ 1600' with a final lift of 700', released pack & float held

Thank you Jerry  
Fuzzy & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401c	1	PUMP CHARGE	3175.00	3175.00
5406	35	MILEAGE	5.25	183.75
5407A	8.4	ton mileage delivery	1.75	514.50
1124	200 sks	50/50 poz mix	13.81	2762.00
1111	956 #	salt	.50	478.00
1186b	336 #	barite	.27	90.72
1102	240 #	calcium chloride	.94	225.60
1111A	200 #	metast/lacate	2.52	504.00
1135A	42 #	CFL-115	11.08	465.36
1142A	4 gal	KCL	41.10	164.40
4159	1	5 1/2 AFU float shoe w	433.25	433.25
4454	1	5 1/2 Yatch down assy (w)	567.00	567.00
4136	10	5 1/2 turbolizers	75.75	757.50
4106a	1	5 1/2 basket	290.00	290.00
4285	1	5 1/2 part collar	2178.75	2178.75
4310	1	5 1/2 rotating head	150.00	150.00
		subtotal		12940.33
		less 1090		11850.33
		sub total - 11646.30	8.15%	12311.39
		SALES TAX		665.09
		ESTIMATED TOTAL		12311.39

Ravin 3737

AUTHORIZATION [Signature]

TITLE 10-2-13 Prod. Foreman 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, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



262815

TICKET NUMBER: 44344  
 LOCATION OAKLEY KS.  
 FOREMAN DAMON M. TRAINING  
WALT DINKEL

PO Box 884, Chanute, KS 66720  
 620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT  
 CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
10-4-13	5659	BROWN TRUST 1-72	12	16S	32W	Scott
CUSTOMER <u>MULL DRLG</u>		OAKLEY S 20 280 3 1/2 E 1 N 20	TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS			399	Tim Wardham		
CITY			528-T127	Jeremy Stergen		
STATE						
ZIP CODE						

JOB TYPE P&T COLLAR HOLE SIZE \_\_\_\_\_ HOLE DEPTH 4696 CASING SIZE & WEIGHT 5 1/2 14 #  
 CASING DEPTH \_\_\_\_\_ DRILL PIPE \_\_\_\_\_ TUBING 2 7/8 OTHER P.C 2345'  
 SLURRY WEIGHT 11.5 # to 14 # SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING \_\_\_\_\_  
 DISPLACEMENT 13.5 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting Rig up on well  
Pressure Test casing to 1200#, held, release pressure, open Port Collar, Pump into  
2 3 1/2 BPM @ 300#, mix 275 sks cement 11.5 tail last 50 sks @ 14#.  
Displace 12 1/2 BBL H2O @ 600#, Shut Tool, Test to 1200#, held release  
Pressure, ran 4 JTs, reverse out clean.

Cement Did Cure

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401B	1	PUMP CHARGE	1785.00	1785.00 ✓
5406	35	MILEAGE	5.25	183.75 ✓
5407A	15.28	Tan mileage Delivery	1.75	9.35 ✓
11045	275 SKS	Class A Cement	18.55	6,028.75 ✓
1102	612 #	Calcium Chloride	.94	575.28 ✓
1111A	612 #	Sodium Metasilicate	2.52	1,542.24 ✓
1101	612 #	Cal Seal	.52	318.24 ✓
1187B	612 #	Gel	.27	165.24 ✓
1107	81	Flo-Sea I	2.97	240.57 ✓
1105	200 #	Cotton Seed Hulls	.58	116.00 ✓
		completed		11,890.97 ✓
		completed		1,189.10 ✓
				10,701.87 ✓
		8.15	SALES TAX	659.15 ✓
			ESTIMATED TOTAL	11361.02 ✓

Ravin 3737

AUTHORIZATION

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, at our office, and conditions of service on the back of this form are in effect for services identified on this form.





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: brownt1-12dst1

TIME ON: 10:18  
TIME OFF: 19:32

Company Mull Drilling Co Inc Lease & Well No. Brown Trust #1-12  
Contractor Duke Drilling - Rig #4 Charge to Mull Drilling Co Inc  
Elevation 2945 KB Formation \_\_\_\_\_ Lsg "D" zn Effective Pay \_\_\_\_\_ Ft. Ticket No. S0382  
Date 9-24-13 Sec. 12 Twp. 16 S Range 32 W County Scott State KANSAS  
Test Approved By Kevin Kessler Diamond Representative Jacob McCallie

Formation Test No. 1 Interval Tested from 4005 ft. to 4045 ft. Total Depth 4045 ft.

Packer Depth 4000 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

Packer Depth 4005 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

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

Top Recorder Depth (Inside) 3986 ft. Recorder Number 8471 Cap. 10,000 P.S.I.

Bottom Recorder Depth (Outside) 4042 ft. Recorder Number 3851 Cap. 5,700 P.S.I.

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

Mud Type CHEMICAL Viscosity 51 Drill Collar Length \_\_\_\_\_ ft. I.D. 2 1/4 in.

Weight 9.3 Water Loss 7.2 cc. Weight Pipe Length \_\_\_\_\_ ft. I.D. 2 7/8 in.

Chlorides 2,400 P.P.M. Drill Pipe Length 3972 ft. I.D. 3 1/2 in.

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

Did Well Flow? NO Reversed Out NO Anchor Length 40 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: 2 1/2" Blow- Built to BB in 3 1/4 min NOBB

2nd Open: 2 1/2" Blow- Built to BB in 3 1/2 min NOBB

Recovered 159 ft. of WM 50% W 50% M

Recovered 1323 ft. of SLMCW 93% W 7% W

Recovered 1482 ft. of TOTAL FLUID

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

Recovered \_\_\_\_\_ ft. of PH: 7 Price Job \_\_\_\_\_

Recovered \_\_\_\_\_ ft. of RW: .19 @ 82 degrees F Other Charges \_\_\_\_\_

Remarks: CHLORIDES: 32,000 ppm Insurance \_\_\_\_\_

Tool Sample: 3% O 52% W 45% M Total \_\_\_\_\_

Time Set Packer(s) 1:08 PM <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 4:43 PM <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 122

Initial Hydrostatic Pressure..... (A) 1950 P.S.I.

Initial Flow Period..... Minutes 5 (B) 46 P.S.I. to (C) 113 P.S.I.

Initial Closed In Period..... Minutes 30 (D) 1035 P.S.I.

Final Flow Period..... Minutes 60 (E) 131 P.S.I. to (F) 669 P.S.I.

Final Closed In Period..... Minutes 120 (G) 1034 P.S.I.

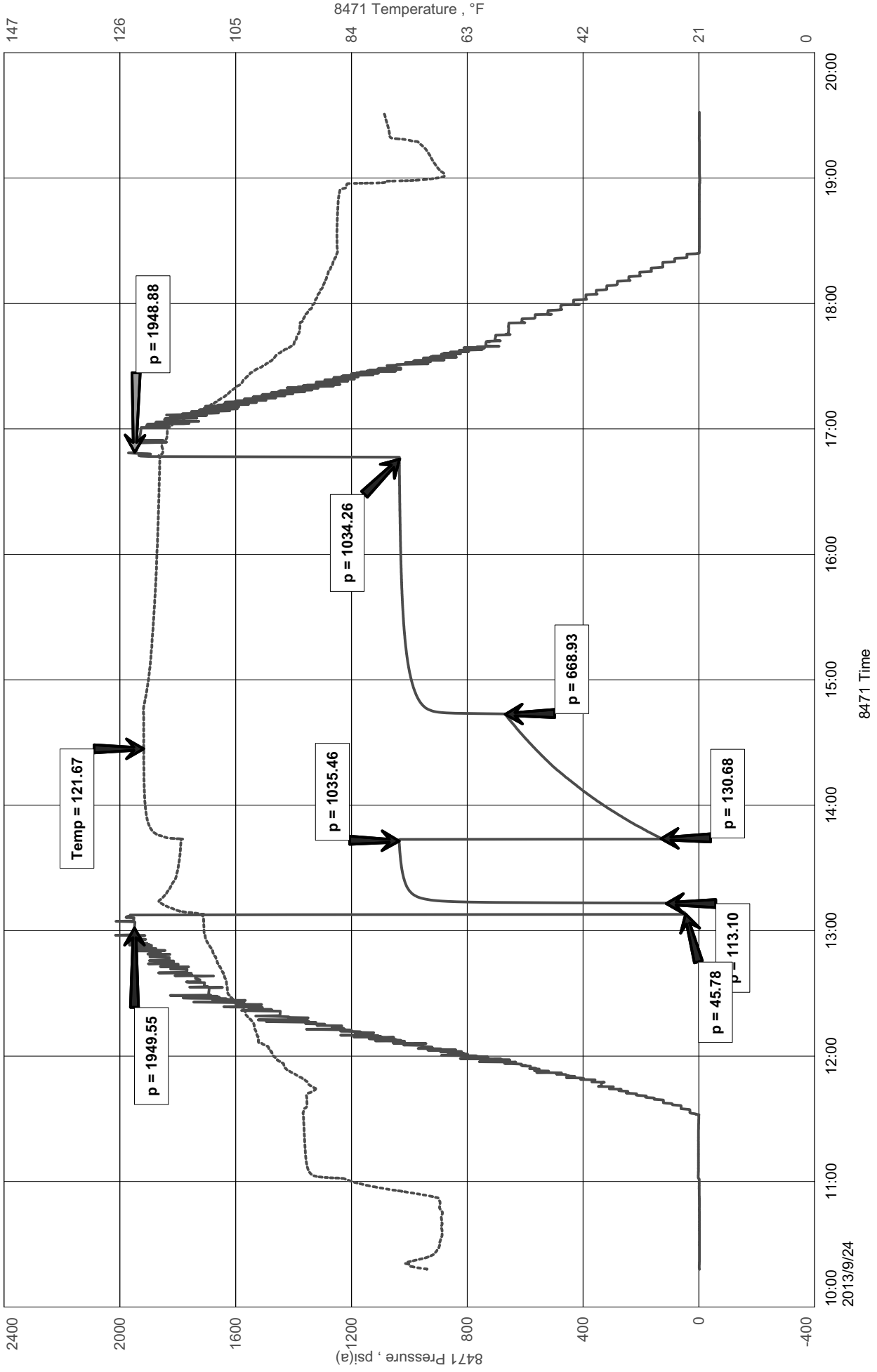
Final Hydrostatic Pressure..... (H) 1949 P.S.I.

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 Co Inc  
DST #1 4005-4045' Lsg "D" Zn  
Start Test Date: 2013/09/24  
Final Test Date: 2013/09/24

Brown Trust #1-12  
Formation: DST #1 4005-4045' Lsg "D" Zn  
Pool: Wildcat  
Job Number: S0382

# Brown Trust #1-12



# Diamond Testing

## General information Report

### General Information

Company Name Mull Drilling Co Inc

Contact	Mark Shreve	Job Number	S0382
Well Name	Brown Trust #1-12	Representative	Jacob McCallie
Unique Well ID	DST #1 4005-4045' Lsg "D" Zn	Well Operator	Mull Drilling Co Inc
Surface Location	SEC 12-16S-32W Scott County	Report Date	2013/09/24
Well License Number		Prepared By	Jacob McCallie
Field	Wildcat		
Well Type	Vertical		

Test Type	Drill Stem Test		
Formation	DST #1 4005-4045' Lsg "D" Zn		
Well Fluid Type	06 Water	Start Test Time	10:18:00
		Final Test Time	19:32:00
Start Test Date	2013/09/24		
Final Test Date	2013/09/24		
Gauge Name	8471		
Gauge Serial Number			

### Test Results

RECOVERED:

159'	WM	50% W 50% M
1323'	SLMCW	93% W 7% M
1482'	TOTAL FLUID	

PH: 7  
RW: .19 @ 82 degrees F  
Chlorides: 32,000 ppm

TOOL SAMPLE:  
3% O 52% W 45% M



**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: brownt1-12dst2

TIME ON: 9-24 20:37  
TIME OFF: 9-25 04:12

Company Mull Drilling Co Inc Lease & Well No. Brown Trust #1-12  
Contractor Duke Drilling - Rig #4 Charge to Mull Drilling Co Inc  
Elevation 2945 KB Formation Lsg "I" zn Effective Pay -- Ft. Ticket No. S0383  
Date 9-25-13 Sec. 12 Twp. 16 S Range 32 W County Scott State KANSAS  
Test Approved By Kevin Kessler Diamond Representative Jacob McCallie

Formation Test No. 2 Interval Tested from 4145 ft. to 4185 ft. Total Depth 4185 ft.  
Packer Depth 4140 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.  
Packer Depth 4145 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 4126 ft. Recorder Number 8471 Cap. 10,000 P.S.I.  
Bottom Recorder Depth (Outside) 4182 ft. Recorder Number 3851 Cap. 5,700 P.S.I.  
Below Straddle Recorder Depth          ft. Recorder Number          Cap.          P.S.I.

Mud Type CHEMICAL Viscosity 50 Drill Collar Length -- ft. I.D. 2 1/4 in.  
Weight 9.2 Water Loss 8.0 cc. Weight Pipe Length -- ft. I.D. 2 7/8 in.  
Chlorides 2,100 P.P.M. Drill Pipe Length 4112 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number 3 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 40 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: WSB- No Build **NOBB**  
2nd Open: No Blow- No Build **NOBB**

Recovered <u>2</u> ft. of <u>MUD</u> <u>100% M</u>	
Recovered <u>        </u> ft. of <u>        </u>	
Recovered <u>        </u> ft. of <u>        </u>	
Recovered <u>        </u> ft. of <u>        </u>	
Recovered <u>        </u> ft. of <u>        </u>	Price Job
Recovered <u>        </u> ft. of <u>        </u>	Other Charges
Remarks: <u>        </u>	Insurance
Tool Sample: <u>100% M</u>	Total

Time Set Packer(s) 12:07 AM <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 2:12 AM <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 117

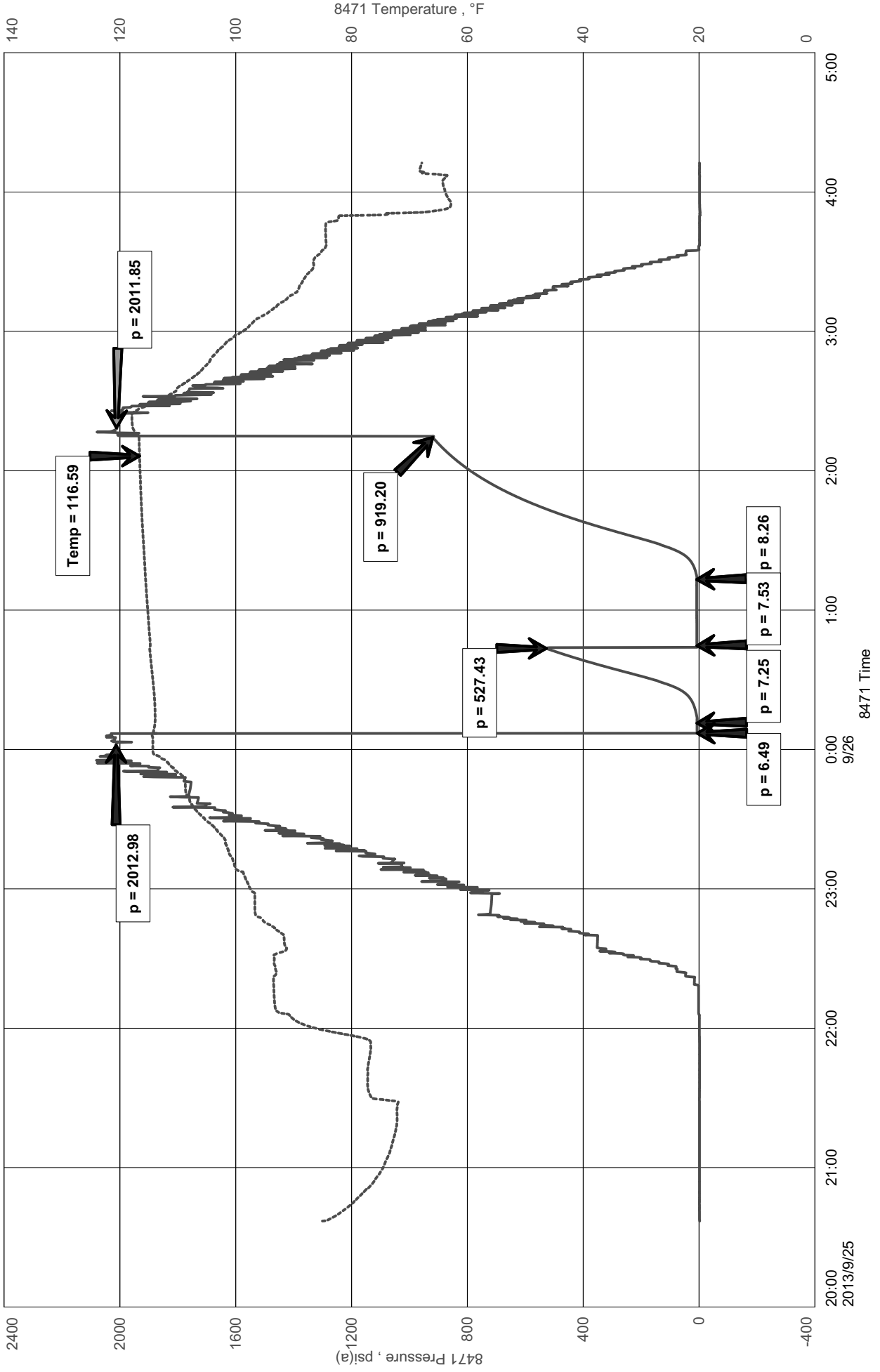
Initial Hydrostatic Pressure..... (A) 2013 P.S.I.  
Initial Flow Period..... Minutes 5 (B) 6 P.S.I. to (C) 7 P.S.I.  
Initial Closed In Period..... Minutes 30 (D) 527 P.S.I.  
Final Flow Period..... Minutes 30 (E) 8 P.S.I. to (F) 8 P.S.I.  
Final Closed In Period..... Minutes 60 (G) 919 P.S.I.  
Final Hydrostatic Pressure..... (H) 2012 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 Co. Inc.  
DST #2 Lan "1" 4145-4185'  
Start Test Date: 2013/09/24  
Final Test Date: 2013/09/25

Brown Trust #1-12  
Formation: DST #2 Lan "1" 4145-4185'  
Pool: Wildcat  
Job Number: S0383

# Brown Trust #1-12



# Diamond Testing

## General information Report

### General Information

Company Name Mull Drilling Co. Inc.

Contact	Mark Shreve	Job Number	S0383
Well Name	Brown Trust #1-12	Representative	Jacob McCallie
Unique Well ID	DST #2 Lan "I" 4145-4185'	Well Operator	Mull Drilling Co. Inc.
Surface Location	SEC 12-16S-32W Scott County	Report Date	2013/09/25
Well License Number		Prepared By	Jacob McCallie
Field	Wildcat		
Well Type	Vertical		

Test Type	Drill Stem Test		
Formation	DST #2 Lan "I" 4145-4185'		
Well Fluid Type	01 Oil	Start Test Time	20:37:00
		Final Test Time	04:12:00
Start Test Date	2013/09/24		
Final Test Date	2013/09/25		
Gauge Name	8471		
Gauge Serial Number			

### Test Results

RECOVERED:  
2' MUD 100% M

TOOL SAMPLE:  
100% M



**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: brownt1-12dst3

TIME ON: 14:44  
TIME OFF: 22:59

Company Mull Drilling Co Inc Lease & Well No. Brown Trust #1-12  
Contractor Duke Drilling - Rig #4 Charge to Mull Drilling Co Inc  
Elevation 2945 KB Formation \_\_\_\_\_ Lsg "J" zn Effective Pay \_\_\_\_\_ Ft. Ticket No. S0384  
Date 9-26-13 Sec. 12 Twp. 16 S Range 32 W County Scott State KANSAS  
Test Approved By Kevin Kessler Diamond Representative Jacob McCallie

Formation Test No. 3 Interval Tested from 4175 ft. to 4215 ft. Total Depth 4215 ft.

Packer Depth 4170 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

Packer Depth 4175 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

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

Top Recorder Depth (Inside) 4156 ft. Recorder Number 8471 Cap. 10,000 P.S.I.

Bottom Recorder Depth (Outside) 4212 ft. Recorder Number 3851 Cap. 5,700 P.S.I.

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

Mud Type CHEMICAL Viscosity 54 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 3,000 P.P.M. Drill Pipe Length 4142 ft. I.D. 3 1/2 in.

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

Did Well Flow? NO Reversed Out NO Anchor Length 40 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: 1/2" Blow- Built to 5 1/2" in 5 min **NOBB**

2nd Open: 1/2" Blow- Built to BB in 14 min **NOBB**

Recovered 253 ft. of HMCW 55% W 45% M

Recovered 315 ft. of SLMCW 83% W 17% M

Recovered 568 ft. of TOTAL FLUID

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

Recovered \_\_\_\_\_ ft. of PH: 7 Price Job \_\_\_\_\_

Recovered \_\_\_\_\_ ft. of RW: .2 @ 80 degrees F Other Charges \_\_\_\_\_

Remarks: CHLORIDES: 29,000 ppm Insurance \_\_\_\_\_

Tool Sample: 81% W 19% M Total \_\_\_\_\_

Time Set Packer(s) 4:43 PM A.M. P.M. Time Started Off Bottom 8:18 PM A.M. P.M. Maximum Temperature 123

Initial Hydrostatic Pressure..... (A) 2022 P.S.I.

Initial Flow Period..... Minutes 5 (B) 14 P.S.I. to (C) 38 P.S.I.

Initial Closed In Period..... Minutes 30 (D) 1109 P.S.I.

Final Flow Period..... Minutes 60 (E) 45 P.S.I. to (F) 262 P.S.I.

Final Closed In Period..... Minutes 120 (G) 1103 P.S.I.

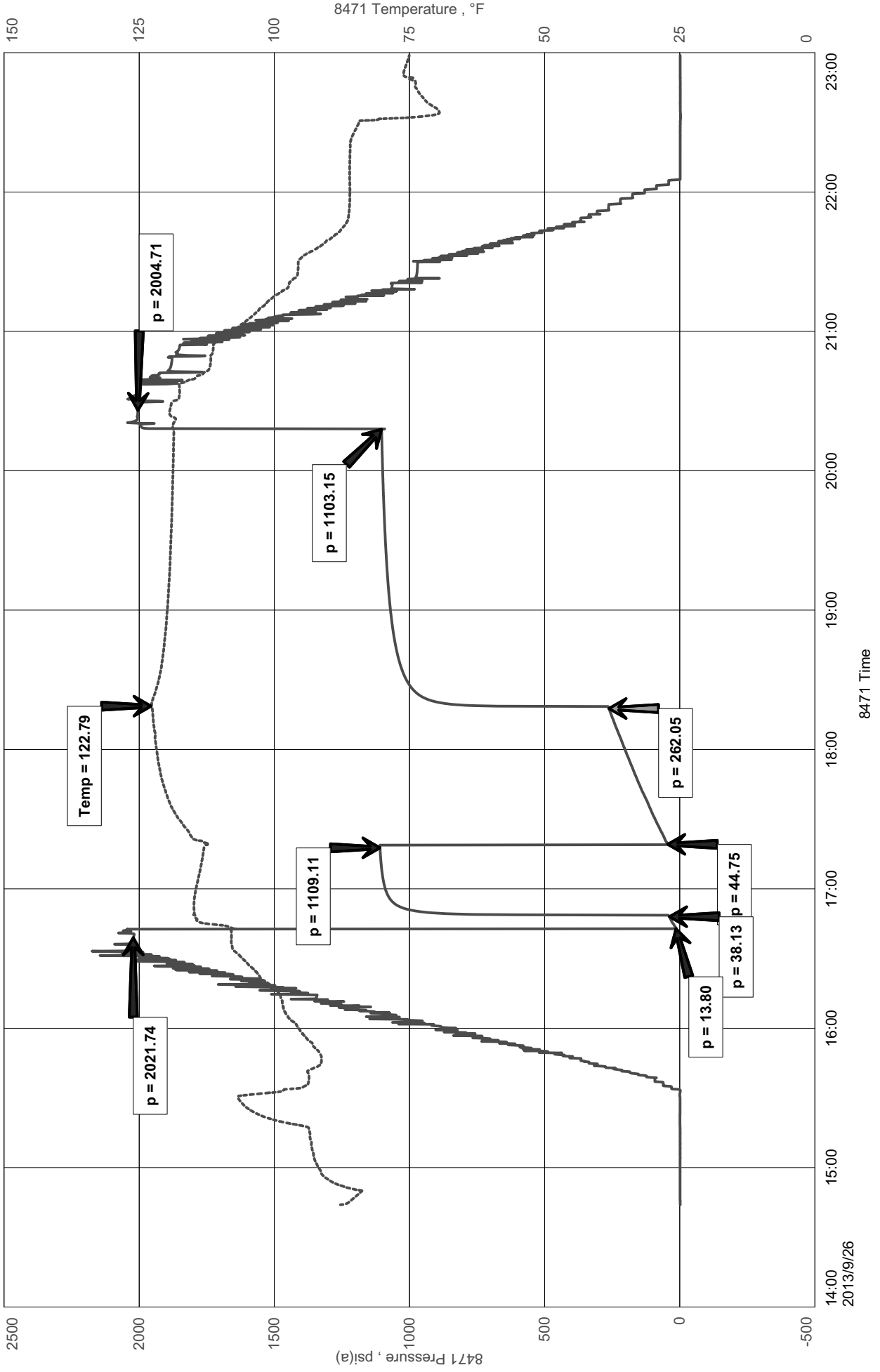
Final Hydrostatic Pressure..... (H) 2005 P.S.I.

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 Co. Inc.  
DST #3 Lan J 4175-4215'  
Start Test Date: 2013/09/26  
Final Test Date: 2013/09/26

Brown Trust #1-12  
Formation: DST #3 Lan J 4175-4215'  
Pool: Wildcat  
Job Number: S0384

# Brown Trust #1-12





# Diamond Testing

## General information Report

### General Information

Company Name Mull Drilling Co. Inc.

Contact	Mark Shreve	Job Number	S0384
Well Name	Brown Trust #1-12	Representative	Jacob McCallie
Unique Well ID	DST #3 Lan J 4175-4215'	Well Operator	Mull Drilling Co. Inc.
Surface Location	SEC 12-16S-32W Scott County	Report Date	2013/09/26
Well License Number		Prepared By	Jacob McCallie
Field	Wildcat		
Well Type	Vertical		

Test Type	Drill Stem Test		
Formation	DST #3 Lan J 4175-4215'		
Well Fluid Type	06 Water	Start Test Time	14:44:00
		Final Test Time	22:59:00
Start Test Date	2013/09/26		
Final Test Date	2013/09/26		
Gauge Name	8471		
Gauge Serial Number			

### Test Results

#### RECOVERED:

253'	HMCW	55% W 45% M
315'	SLMCW	83% W 17% M
568'	TOTAL FLUID	

PH: 7

RW: .2 @ 80 degrees F

Chlorides: 29,000 ppm

#### TOOL SAMPLE:

81% W 19% M



**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: brownt1-12dst4

TIME ON: 9-27 17:47  
TIME OFF: 9-28 01:48

Company Mull Drilling Co Inc Lease & Well No. Brown Trust #1-12  
Contractor Duke Drilling - Rig #4 Charge to Mull Drilling Co Inc  
Elevation 2945 KB Formation Lsg 'L' - Marm Effective Pay -- Ft. Ticket No. S0385  
Date 9-27-13 Sec. 12 Twp. 16 S Range 32 W County Scott State KANSAS  
Test Approved By Kevin Kessler Diamond Representative Jacob McCallie

Formation Test No. 4 Interval Tested from 4250 ft. to 4350 ft. Total Depth 4350 ft.  
Packer Depth 4245 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.  
Packer Depth 4250 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

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

Top Recorder Depth (Inside) 4231 ft. Recorder Number 8471 Cap. 10,000 P.S.I.  
Bottom Recorder Depth (Outside) 4347 ft. Recorder Number 3851 Cap. 5,700 P.S.I.  
Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 58 Drill Collar Length -- ft. I.D. 2 1/4 in.  
Weight 9.3 Water Loss 6.4 cc. Weight Pipe Length -- ft. I.D. 2 7/8 in.  
Chlorides 3,000 P.P.M. Drill Pipe Length 4217 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number 3 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 100 (38.5') 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: 1/2" Blow- Built to 2 1/2" in 5 min **NOBB**  
2nd Open: 1/4" Blow- Built to BB in 40 1/2 min **NOBB**

Recovered 123 ft. of WCM 22% W 78% M  
Recovered 126 ft. of SLMCW 82% W 18% M  
Recovered 249 ft. of TOTAL FLUID

Recovered _____ ft. of <u>PH: 7</u>	
Recovered _____ ft. of <u>RW: .3 @ 55 degrees F</u>	Price Job
Recovered _____ ft. of <u>Chlorides: 26,000 ppm</u>	Other Charges
Remarks: _____	Insurance
<u>Tool Sample: 60% W 30% M</u>	Total

Time Set Packer(s) 7:27 PM A.M. P.M. Time Started Off Bottom 11:02 PM A.M. P.M. Maximum Temperature 121

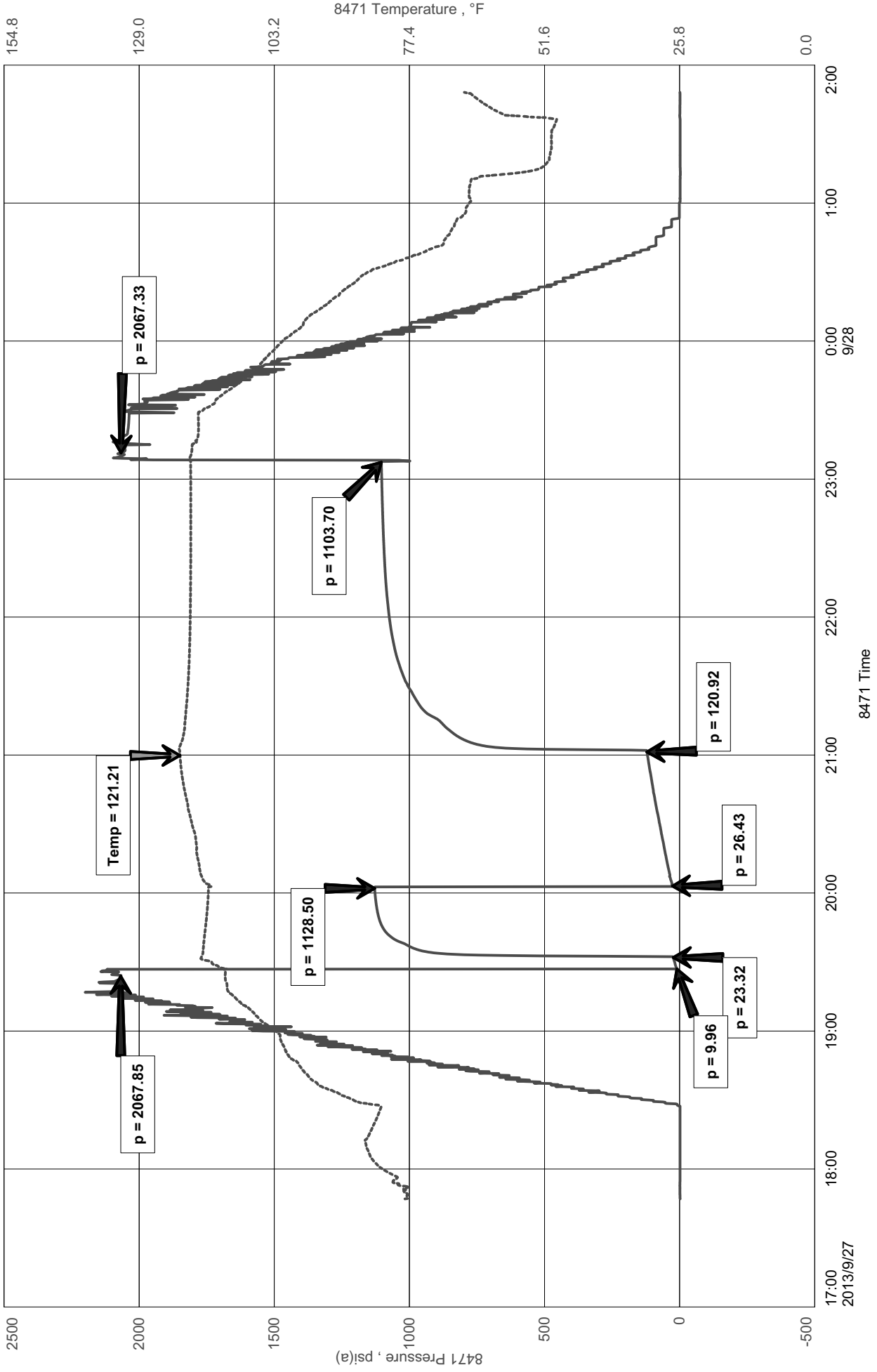
Initial Hydrostatic Pressure..... (A) 2068 P.S.I.  
Initial Flow Period..... Minutes 5 (B) 10 P.S.I. to (C) 23 P.S.I.  
Initial Closed In Period..... Minutes 30 (D) 1129 P.S.I.  
Final Flow Period..... Minutes 60 (E) 26 P.S.I. to (F) 121 P.S.I.  
Final Closed In Period..... Minutes 120 (G) 1104 P.S.I.  
Final Hydrostatic Pressure..... (H) 2067 P.S.I.

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Mull Drilling Co. Inc.  
DST #4 Lan 'L'-Marm 4250-4350'  
Start Test Date: 2013/09/27  
Final Test Date: 2013/09/28

Brown Trust #1-12  
Formation: DST #4 Lan 'L'-Marm 4250-4350'  
Pool: Wildcat  
Job Number: S0385

# Brown Trust #1-12



# Diamond Testing

## General information Report

### General Information

Company Name Mull Drilling Co. Inc.

Contact	Mark Shreve	Job Number	S0385
Well Name	Brown Trust #1-12	Representative	Jacob McCallie
Unique Well ID	DST #4 Lan 'L'-Marm 4250-4350'	Well Operator	Mull Drilling Co. Inc.
Surface Location	SEC 12-16S-32W Scott County	Report Date	2013/09/27
Well License Number		Prepared By	Jacob McCallie
Field	Wildcat		
Well Type	Vertical		

Test Type	Drill Stem Test		
Formation	DST #4 Lan 'L'-Marm 4250-4350'		
Well Fluid Type	06 Water	Start Test Time	17:47:00
		Final Test Time	01:48:00
Start Test Date	2013/09/27		
Final Test Date	2013/09/28		
Gauge Name	8471		
Gauge Serial Number			

### Test Results

RECOVERED:  
123' WCM 22% W 78% M  
126' SLMCW 82% W 18% M

PH: 7  
RW: .3 @ 55 degrees F  
Chlorides: 26,000 ppm

TOOL SAMPLE:  
60% W 30% M



**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: brownt1-12dst5

TIME ON: 9-28 18:24  
TIME OFF: 9-29 01:15

Company Mull Drilling Co Inc Lease & Well No. Brown Trust #1-12  
Contractor Duke Drilling - Rig #4 Charge to Mull Drilling Co Inc  
Elevation 2945 KB Formation Altamont/Pawnee Effective Pay -- Ft. Ticket No. S0386  
Date 9-28-13 Sec. 12 Twp. 16 S Range 32 W County Scott State KANSAS  
Test Approved By Kevin Kessler Diamond Representative Jacob McCallie

Formation Test No. 5 Interval Tested from 4370 ft. to 4450 ft. Total Depth 4450 ft.  
Packer Depth 4365 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.  
Packer Depth 4370 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

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

Top Recorder Depth (Inside) 4351 ft. Recorder Number 8471 Cap. 10,000 P.S.I.  
Bottom Recorder Depth (Outside) 4447 ft. Recorder Number 3851 Cap. 5,700 P.S.I.  
Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 45 Drill Collar Length -- ft. I.D. 2 1/4 in.  
Weight 9.3 Water Loss 6.4 cc. Weight Pipe Length -- ft. I.D. 2 7/8 in.  
Chlorides 3,000 P.P.M. Drill Pipe Length 4337 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number 3 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
Did Well Flow? NO Reversed Out NO Anchor Length 80 (18.5p) 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-No build. **NOBB**  
2nd Open: No blow. No build. **NOBB**

Recovered <u>5</u> ft. of <u>SLOCM</u>	<u>18% O 82% M</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>23% O 77% M</u>	Total

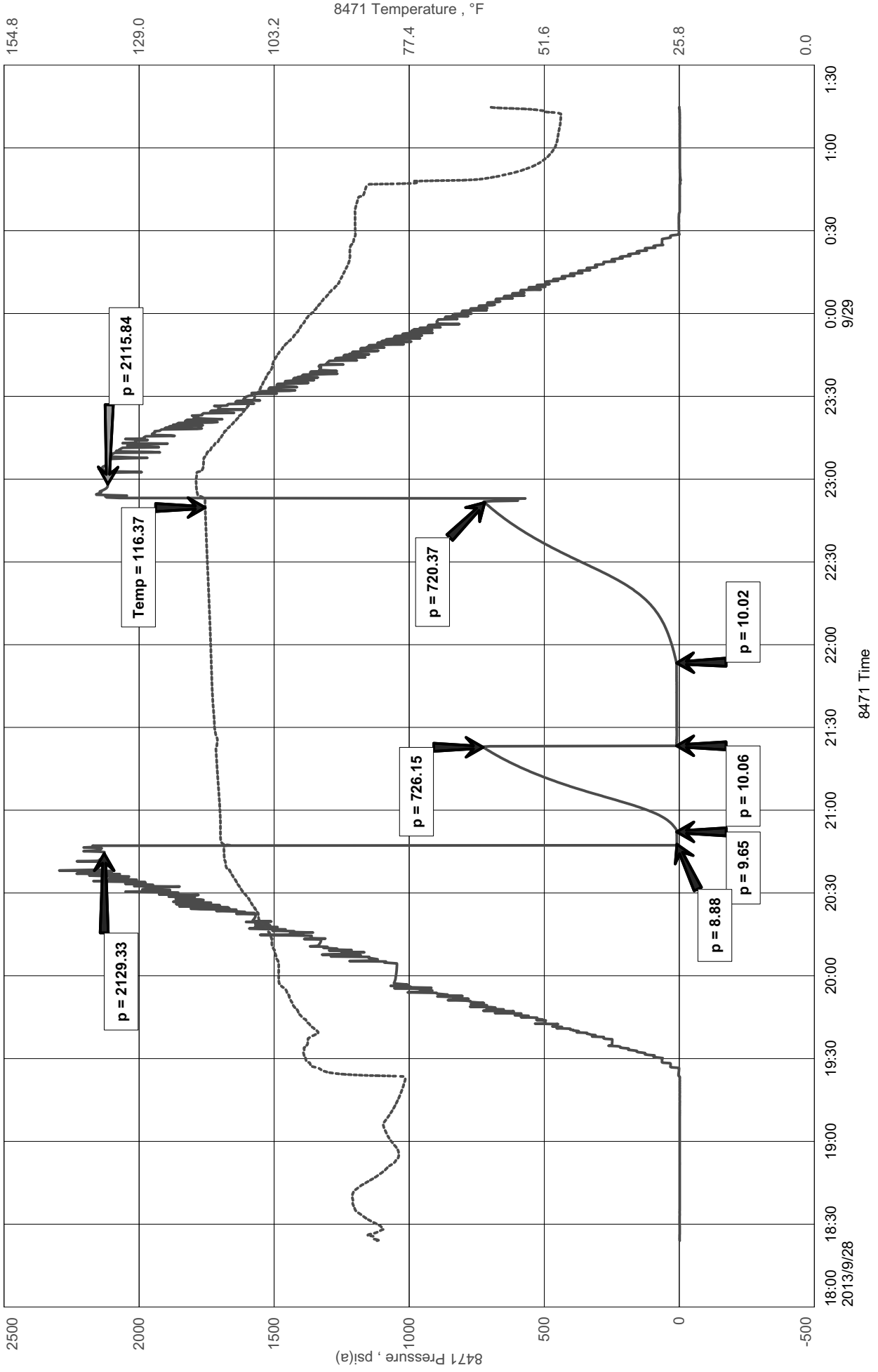
Time Set Packer(s) 8:47 P.M. <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 10:52 PM <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 116  
Initial Hydrostatic Pressure..... (A) 2129 P.S.I.  
Initial Flow Period..... Minutes 5 (B) 8 P.S.I. to (C) 10 P.S.I.  
Initial Closed In Period..... Minutes 30 (D) 726 P.S.I.  
Final Flow Period..... Minutes 30 (E) 10 P.S.I. to (F) 10 P.S.I.  
Final Closed In Period..... Minutes 60 (G) 720 P.S.I.  
Final Hydrostatic Pressure..... (H) 2116 P.S.I.

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Mull Drilling Co. Inc.  
DST #5 Altamont/Pawnee 4370-4450'  
Start Test Date: 2013/09/28  
Final Test Date: 2013/09/29

Brown Trust #1-12  
Formation: DST #5 Altamont/Pawnee 4370-4450'  
Pool: Wildcat  
Job Number: S0386

# Brown Trust #1-12



# Diamond Testing

## General information Report

### General Information

Company Name Mull Drilling Co. Inc.

Contact	Kevin Kessler	Job Number	S0386
Well Name	Brown Trust #1-12	Representative	Jacob McCallie
Unique Well ID	DST #5 Altamont/Pawnee 4370-4450'	Well Operator	Mull Drilling Co. Inc.
Surface Location	SEC 12-16S-32W Scott County	Report Date	
Well License Number		Prepared By	Jacob McCallie
Field	Wildcat		
Well Type	Vertical		

Test Type	Drill Stem Test		
Formation	DST #5 Altamont/Pawnee 4370-4450'		
Well Fluid Type	01 Oil	Start Test Time	18:24:00
		Final Test Time	01:15:00
Start Test Date	2013/09/28		
Final Test Date	2013/09/29		
Gauge Name	8471		
Gauge Serial Number			

### Test Results

RECOVERED:  
5' SLOCM 18% O 82% M

TOOL SAMPLE:  
23% O 77% M



**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: brownt1-12dst6

TIME ON: 13:09  
TIME OFF: 19:48

Company Mull Drilling Co Inc Lease & Well No. Brown Trust #1-12  
Contractor Duke Drilling - Rig #4 Charge to Mull Drilling Co Inc  
Elevation 2945 KB Formation Myrick Station / Ft. Scott Effective Pay -- Ft. Ticket No. S0386  
Date 9-29-13 Sec. 12 Twp. 16 S Range 32 W County Scott State KANSAS  
Test Approved By Kevin Kessler Diamond Representative Jacob McCallie

Formation Test No. 6 Interval Tested from 4440 ft. to 4510 ft. Total Depth 4510 ft.

Packer Depth 4435 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

Packer Depth 4440 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

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

Top Recorder Depth (Inside) 4421 ft. Recorder Number 8471 Cap. 10,000 P.S.I.

Bottom Recorder Depth (Outside) 4507 ft. Recorder Number 3851 Cap. 5,700 P.S.I.

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

Mud Type CHEMICAL Viscosity 58 Drill Collar Length -- ft. I.D. 2 1/4 in.

Weight 9.4 Water Loss 6.4 cc. Weight Pipe Length -- ft. I.D. 2 7/8 in.

Chlorides 3,000 P.P.M. Drill Pipe Length 4407 ft. I.D. 3 1/2 in.

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

Did Well Flow? NO Reversed Out NO Anchor Length 70 (39.5p) 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: WSB- No Build NOBB

2nd Open: No blow. No build. NOBB

Recovered 3 ft. of VSLOSM 1% O 99% M

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

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

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

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

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

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

Tool Sample: 100% M Total \_\_\_\_\_

Time Set Packer(s) 3:42 PM A.M. P.M. Time Started Off Bottom 5:47 PM A.M. P.M. Maximum Temperature 116

Initial Hydrostatic Pressure..... (A) 2159 P.S.I.

Initial Flow Period..... Minutes 5 (B) 6 P.S.I. to (C) 9 P.S.I.

Initial Closed In Period..... Minutes 30 (D) 60 P.S.I.

Final Flow Period..... Minutes 30 (E) 9 P.S.I. to (F) 9 P.S.I.

Final Closed In Period..... Minutes 60 (G) 76 P.S.I.

Final Hydrostatic Pressure..... (H) 2152 P.S.I.

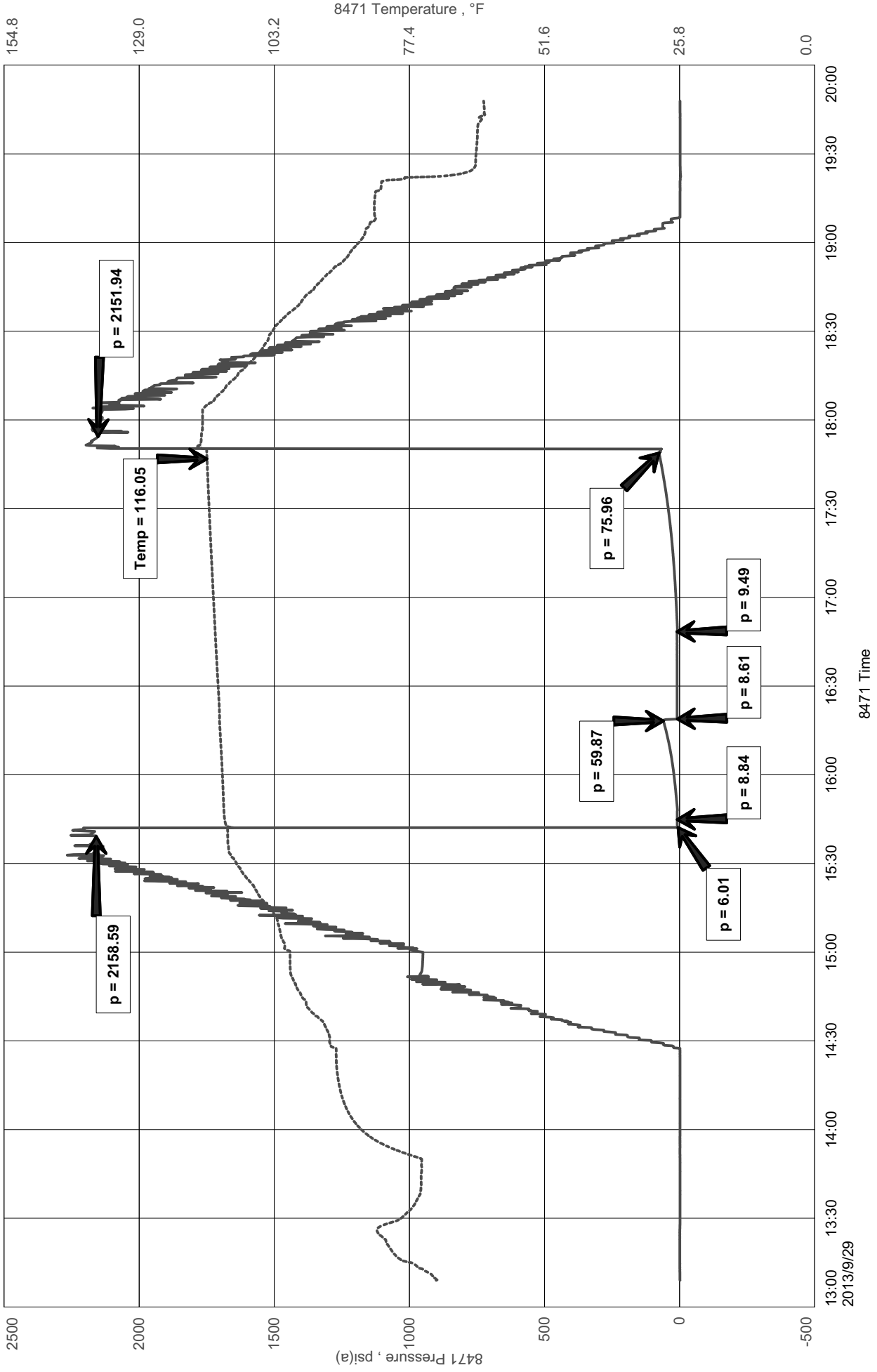
Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



Mull Drilling Co. Inc.  
 DST #6 Myrick Station / Ft. Scott 4440-4510'  
 Start Test Date: 2013/09/29  
 Final Test Date: 2013/09/29

Brown Trust #1-12  
 Formation: DST #6 Myrick Station / Ft. Scott 4440-4510'  
 Pool: Wildcat  
 Job Number: S0386

# Brown Trust #1-12



# Diamond Testing

## General information Report

### General Information

Company Name Mull Drilling Co. Inc.

Contact	Mark Shreve	Job Number	S0386
Well Name	Brown Trust #1-12	Representative	Jacob McCallie
Unique Well ID	DST #6 Myrick Station / Ft. Scott 4440-4510'	Well Operator	Mull Drilling Co. Inc.
Surface Location	SEC 12-16S-32W Scott County	Report Date	2013/09/29
Well License Number		Prepared By	Jacob McCallie
Field	Wildcat		
Well Type	Vertical		

Test Type	Drill Stem Test		
Formation	DST #6 Myrick Station / Ft. Scott 4440-4510'		
Well Fluid Type	01 Oil	Start Test Time	13:09:00
		Final Test Time	19:48:00
Start Test Date	2013/09/29		
Final Test Date	2013/09/29		
Gauge Name	8471		
Gauge Serial Number			

### Test Results

RECOVERED:  
3' VSLOSM 1% O 99% M

TOOL SAMPLE:  
100% M



**DIAMOND TESTING**  
 P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: brownt1-12dst7

TIME ON: 06:41  
 TIME OFF: 15:54

Company Mull Drilling Co Inc Lease & Well No. Brown Trust #1-12  
 Contractor Duke Drilling - Rig #4 Charge to Mull Drilling Co Inc  
 Elevation 2945 KB Formation Johnson Zn Effective Pay -- Ft. Ticket No. S0387  
 Date 9-30-13 Sec. 12 Twp. 16 S Range 32 W County Scott State KANSAS  
 Test Approved By Kevin Kessler Diamond Representative Jacob McCallie

Formation Test No. 7 Interval Tested from 4500 ft. to 4580 ft. Total Depth 4580 ft.  
 Packer Depth 4495 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.  
 Packer Depth 4500 ft. Size 6 3/4 in. Packer depth -- ft. Size 6 3/4 in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 4481 ft. Recorder Number 8471 Cap. 10,000 P.S.I.  
 Bottom Recorder Depth (Outside) 4577 ft. Recorder Number 3851 Cap. 5,700 P.S.I.  
 Below Straddle Recorder Depth          ft. Recorder Number          Cap.          P.S.I.

Mud Type CHEMICAL Viscosity 60 Drill Collar Length -- ft. I.D. 2 1/4 in.  
 Weight 9.3 Water Loss 4.8 cc. Weight Pipe Length -- ft. I.D. 2 7/8 in.  
 Chlorides 2,600 P.P.M. Drill Pipe Length 4467 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number 3 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.  
 Did Well Flow? NO Reversed Out NO Anchor Length 80 (18.5p) 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 1/4" Blow- Built to BB in 4 3/4 min NOBB  
 2nd Open: 2" Blow- Built to BB in 2 1/2 min BBBB

Recovered 1512 ft. of GIP  
 Recovered 239 ft. of CO 100% O GRAVITY: 28.5 @ 60 degrees F  
 Recovered 441 ft. of HMCO 62% O 38% M  
 Recovered 680 ft. of TOTAL FLUID

Recovered <u>        </u> ft. of <u>        </u>	Price Job
Recovered <u>        </u> ft. of <u>        </u>	Other Charges
Remarks: <u>        </u>	Insurance
Tool Sample: <u>90% O 10% M</u>	Total

Time Set Packer(s) 9:02 AM <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 12:37 PM <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 127

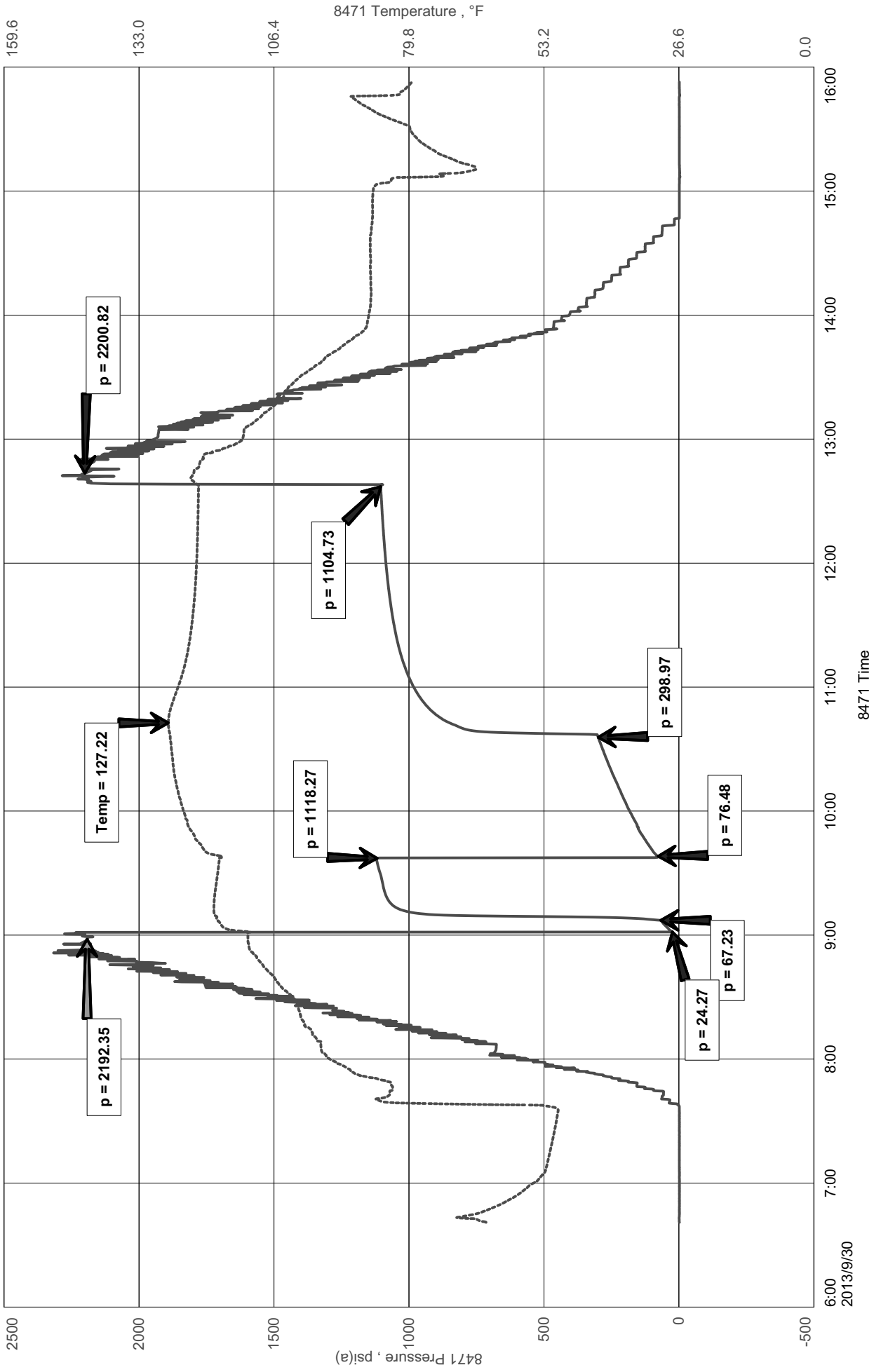
Initial Hydrostatic Pressure..... (A) 2192 P.S.I.  
 Initial Flow Period..... Minutes 5 (B) 24 P.S.I. to (C) 67 P.S.I.  
 Initial Closed In Period..... Minutes 30 (D) 1118 P.S.I.  
 Final Flow Period..... Minutes 60 (E) 76 P.S.I. to (F) 299 P.S.I.  
 Final Closed In Period..... Minutes 120 (G) 1105 P.S.I.  
 Final Hydrostatic Pressure..... (H) 2201 P.S.I.

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Mull Drilling Co. Inc.  
DST #7 Johnson Zn 4500-4580'  
Start Test Date: 2013/09/30  
Final Test Date: 2013/09/30

Brown Trust #1-12  
Formation: DST #7 Johnson Zn 4500-4580'  
Pool: Wildcat  
Job Number: S0387

# Brown Trust #1-12



# Diamond Testing

## General information Report

### General Information

Company Name Mull Drilling Co. Inc.

Contact	Mark Shreve	Job Number	S0387
Well Name	Brown Trust #1-12	Representative	Jacob McCallie
Unique Well ID	DST #7 Johnson Zn 4500-4580'	Well Operator	Mull Drilling Co. Inc.
Surface Location	SEC 12-16S-32W Scott County	Report Date	2013/09/30
Well License Number		Prepared By	Jacob McCallie
Field	Wildcat		
Well Type	Vertical		

Test Type	Drill Stem Test		
Formation	DST #7 Johnson Zn 4500-4580'		
Well Fluid Type	01 Oil	Start Test Time	06:41:00
		Final Test Time	15:54:00
Start Test Date	2013/09/30		
Final Test Date	2013/09/30		
Gauge Name	8471		
Gauge Serial Number			

### Test Results

#### RECOVERED:

1512'	GIP			
239'	CO	100% O		GRAVITY: 28.5 @ 60 degrees F
441'	HMCO	62% O 38% M		
680'	TOTAL FLUID			

#### TOOL SAMPLE:

90% O 10% M

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

**OPERATOR : MULL DRILLING COMPANY, INC.**  
**LEASE : BROWN TRUST WELL # : 1 - 12**  
**LOCATION : 922' FSL & 494' FEL**  
**SEC: 12 TWP : 16 S RGE : 32 W**  
**COUNTY : SCOTT STATE : KANSAS**

**ELEVATION**  
**KB : 2945'**  
**GL : 2936'**  
MEASUREMENTS FROM  
**KB**

**CONTRACTOR : DUKE DRILLING RIG # 4**  
**COMM : 09 / 19 / 2013** **COMP : 10 / 01 / 2013**  
**RTD : 4700** **LOG TD : 4699**  
**SAMPLES SAVED FROM : 3800 TO : RTD**  
**GEOLOGICAL SUPERVISION FROM : 3800 TO : RTD**  
**MUD UP : 3700 TYPE MUD : CHEMICAL**

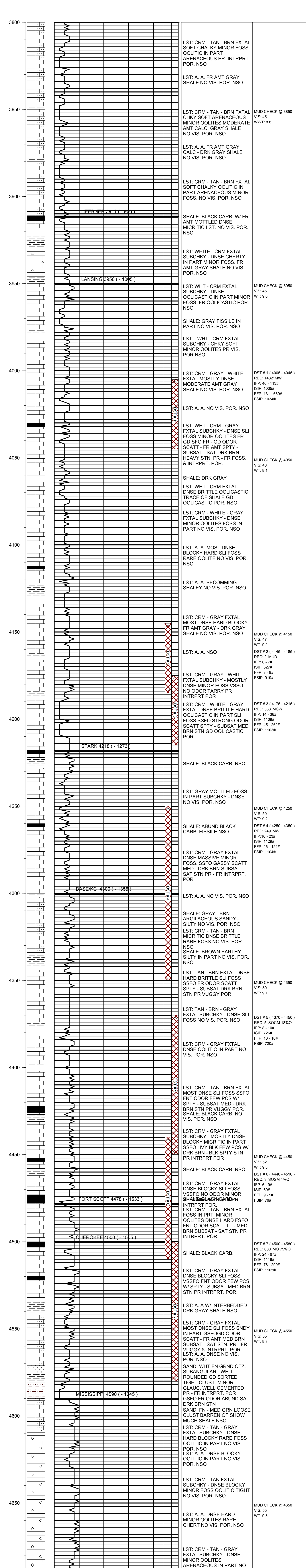
**CASING RECORD**  
**SURFACE :**  
**8 5/8" @ 210'**  
**PRODUCTION :**  
**5 1/2" @ 4700'**

**ELECTRICAL SURVEYS:**

FORMATION	TOP	LOG	DATUM	TOP	SAMPLE	DATUM	STRUCT. COMP.
HEEBNER	3911		- 966	3911		- 966	+ 08
LANSING	3950		- 1005	3950		- 1005	+ 08
STARK	4218		- 1273	4218		- 1273	+ 11
BASE/ KC	4300		- 1355	4300		- 1355	+ 11
FORT SCOTT	4478		- 1533	4478		- 1533	+ 16
CHEROKEE	4500		- 1555	4500		- 1555	+ 18
MISSISSIPPI	4590		- 1645	4590		- 1645	+ 27

REFERENCE WELL FOR STRUCTURAL COMPARISON :  
**RITCHIE EXPLORATION # 1 - 13 'A' CARPENTER SEC 13 - T 16 S - R 32 W SCOTT COUNTY KANSAS**

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



MUD CHECK @ 3850  
VIS: 45  
WWT: 8.8

MUD CHECK @ 3950  
VIS: 46  
WWT: 9.0

DST # 1 ( 4005 - 4045 )  
REC: 1482' MW  
IFP: 46 - 113#  
ISIP: 1035#  
FFP: 131 - 669#  
FSIP: 1034#

MUD CHECK @ 4050  
VIS: 48  
WT: 9.1

MUD CHECK @ 4150  
VIS: 47  
WT: 9.2

DST # 2 ( 4145 - 4185 )  
REC: 2' MUD  
IFP: 6 - 7#  
ISIP: 527#  
FFP: 8 - 8#  
FSIP: 919#

DST # 3 ( 4175 - 4215 )  
REC: 568' MCW  
IFP: 14 - 38#  
ISIP: 1109#  
FFP: 45 - 262#  
FSIP: 1103#

MUD CHECK @ 4250  
VIS: 50  
WT: 9.2

DST # 4 ( 4250 - 4350 )  
REC: 249' MW  
IFP: 10 - 23#  
ISIP: 1129#  
FFP: 26 - 121#  
FSIP: 1104#

MUD CHECK @ 4350  
VIS: 50  
WT: 9.1

DST # 5 ( 4370 - 4450 )  
REC: 5' SOM 18%O  
IFP: 8 - 10#  
ISIP: 726#  
FFP: 10 - 10#  
FSIP: 720#

MUD CHECK @ 4450  
VIS: 52  
WT: 9.3

DST # 6 ( 4440 - 4510 )  
REC: 3' SOM 1%O  
IFP: 6 - 9#  
ISIP: 60#  
FFP: 9 - 9#  
FSIP: 76#

DST # 7 ( 4500 - 4580 )  
REC: 680' MO 75%O  
IFP: 24 - 67#  
ISIP: 1118#  
FFP: 76 - 299#  
FSIP: 1105#

MUD CHECK @ 4550  
VIS: 55  
WT: 9.3

MUD CHECK @ 4650  
VIS: 55  
WT: 9.3

RTD = 4700 LTD = 4699

**COMMENTS:**

5 1/2" PRODUCTION CASING WAS SET  
TO  
FURTHER EVALUATE THE PRODUCTIVITY OF THIS WELL

KEVIN L. KESSLER