

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

**WELL COMPLETION FORM**  
**WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to [kcc-well-logs@kcc.ks.gov](mailto:kcc-well-logs@kcc.ks.gov). Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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**Scale 1:240 (5"=100') Imperial**  
**Measured Depth Log**

**Well Name:** #1 Luebbers Unit  
**Well Id:**  
**Location:** 95' FSL, 1,580' FEL, SECTION 26-155-36W  
**License Number:** API: 15-109-21478 **Region:** Logan County  
**Spud Date:** 08/31/2016 **Drilling Completed:** 09/10/2016  
**Surface Coordinates:** LAT 38.7160198  
 LONG -101.2857350  
**Bottom Hole Coordinates:** Vertical hole  
 1 Degree Deviation  
**Ground Elevation (ft):** 3271' **K.B. Elevation (ft):** 3276'  
**Logged Interval (ft):** 3700' **To:** RTD **Total Depth (ft):** 4860'  
**Formation:** Mississippian at RTD  
**Type of Drilling Fluid:** Chemical

**OPERATOR**

**Company:** Ritchie Exploration Inc.  
**Address:** 8100 E. 22nd St. N. Bldg. #700  
 Wichita, KS 67278-3188  
 (316) 691-9500

**GEOLOGIST**

**Name:** John Goldsmith  
**Company:** Website Services LLC  
**Address:** 427 Roosevelt St  
 Cheney, KS 67025  
 (316) 640-0236

**RIG AND BIT RECORDS**

**Contractor:** WW Drilling Rig #2 **Collar Tally:** 475'  
**Pusher:** Lonnie Lang **Pump:** National K-380  
**Liner & Stroke:** 6 x 14

**Bit Record**

Size	Type	Footage	Condition	Hours	Serial #
12 1/4	Sm-tooth	0-229'	RR	2.5	RD 6072
7/8	Sm-F 27	229'-4860'	New	115.5	RH 5179

**COMMENTS**

Surface Casing: 5 joints of 8 5/8" set at 229'  
 Production Casing: After multiple formation tests, no production casing was installed.  
 Mud by: MudCo  
 DST's by: Diamond Testing  
 Logs by: Pioneer Energy Services (DIL, CN-CD, ML)  
 RTD=4860' LTD=4857'

**FORMATION TOPS**

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Heebner Shale	3957'	-681	3955'	-679
Toronto	3972'	-696	3969'	-693
Lansing	4007'	-731	4004'	-728
Muncie Creek Shale	4178'	-902	4174'	-898
Stark Shale	4269'	-993	4265'	-989
Hushpuckney Shale	4309'	-1033	4307'	-1031
Way of KC	4354'	-1078	4350'	-1074
Marmaton	4398'	-1122	4397'	-1121
Altamont	4412'	-1136	4410'	-1134
Pawnee	4483'	-1207	4481'	-1205
Myrick Station	4528'	-1252	4524'	-1248
Fi Scott	4544'	-1268	4540'	-1264
Cherokee Shale	4570'	-1294	4567'	-1291
Johnson Zone	4635'	-1359	4632'	-1356
Morrow	4708'	-1432	4704'	-1428
Mississippian	4800'	-1504	4777'	-1501
RTD	4860'	-1584		
LTD			4857'	-1581

**ROCK TYPES**

Anhy	Dol	Siltst	Gry sh
Cht	Lmst	Ss	Sandylms
Congl	Shale	Carb sh	Siltyls

**ACCESSORIES**

Circ	Foram	MINERAL	Chalky
Conn	Fossil	Calc	Crslxn
FOSSIL	Gastro	Chltd	Chltn
Brach	Oolite	Glau	Finexln
Bryozoa	Ostra	Nodule	Microxln
Crin	Plant	Pyr	
	Fuss	Sil	
	Oomold		

**DSTs**

**DST #1 "Toronto" 3938'-3992' 9-4-16 30-45-45-60**  
 1st Blw: 1/4" blw bit to BOB in 15min (No BB)  
 2nd Blw: Wk surf blw bit to BOB in 18.5min (No BB)  
 IFP: 16-144# ISIP: 1054# FFP: 148-271# FSP: 1024#  
 Hyd: 1840-1839#  
 Rec: 65'HMCWw/trO (59%Wtr), 350'MCW (71%Wtr), 50'SMCW (90%Wtr).

**DST #2 "LKC C" 4032'-4060' 9-5-16 30-45-45-60**  
 1st Blw: 1/4" blw bit to BOB in 21min (No BB)  
 2nd Blw: Wk surf blw bit to BOB in 23.5min (No BB)  
 IFP: 13-126# ISIP: 1087# FFP: 129-238# FSP: 1046#  
 Hyd: 1897-1892#  
 Rec: 5'HMCWw/trO (56%Wtr), 190'MCW (68%Wtr), 310'SMCW (96%Wtr).

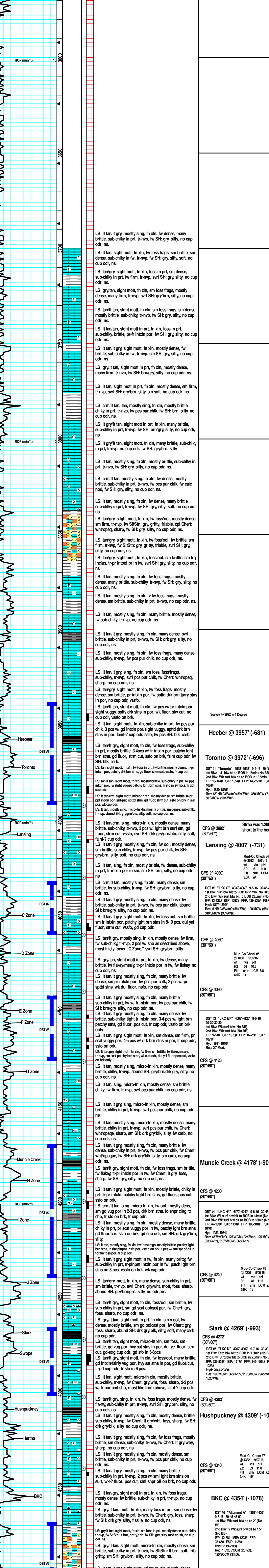
**DST #3 "LKC E/F" 4092'-4126' 9-5-16 30-30-30-30**  
 1st Blw: Wk surf blw bit to BOB (No BB)  
 2nd Blw: Wk surf blw bit to BOB (No BB)  
 IFP: 9-14# ISIP: 1073# FFP: 16-22# FSP: 1071#  
 Hyd: 1911-1910#  
 Rec: 20' Mud.

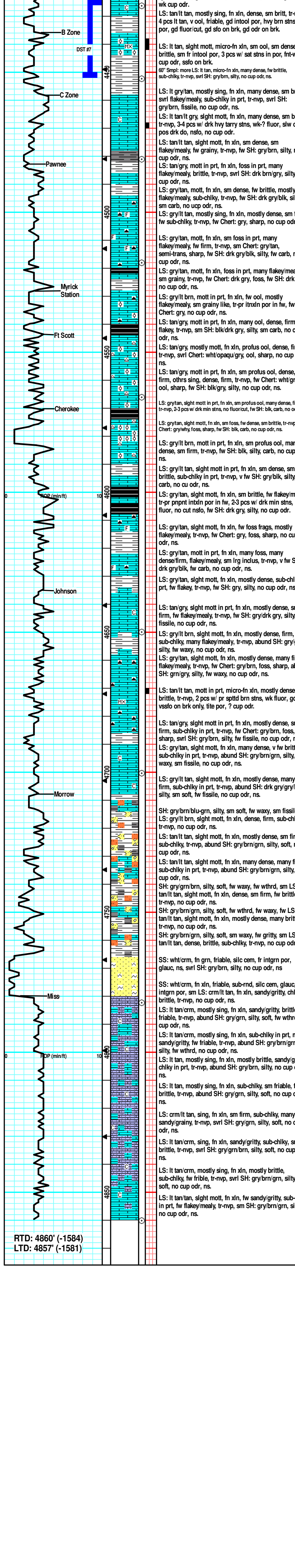
**DST #4 "LKC H/I" 4170'-4240' 9-6-16 30-45-45-60**  
 1st Blw: Wk surf blw bit to BOB in 14min (No BB)  
 2nd Blw: Wk surf blw bit to BOB in 18min (No BB)  
 IFP: 47-183# ISIP: 1131# FFP: 185-310# FSP: 1040#  
 Hyd: 1983-1974#  
 Rec: 45'Mw/TrO, 125'WCM (22%Wtr), 125'MCW (63%Wtr), 310'SMCW (86%Wtr).

**DST #5 "LKC K" 4267'-4302' 9-7-16 30-30-30-30**  
 1st Blw: Strg blw bit to BOB in 1.5min (No BB)  
 2nd Blw: Strg blw bit to BOB in 2.5min (No BB)  
 IFP: 231-834# ISIP: 1217# FFP: 849-1101# FSP: 1223#  
 Hyd: 2041-2033#  
 Rec: 295'MCW (66%Wtr), 315'SMCW (94%Wtr), 1825'Wtr.

**DST #6 "Altamont A" 4369'-4426' 9-8-16 30-45-45-60**  
 1st Blw: Wk surf blw bit to 2" (No BB)  
 2nd Blw: V Wk surf blw bit to 1.5" (No BB)  
 IFP: 12-38# ISIP: 1223# FFP: 37-65# FSP: 1185#  
 Hyd: 2119-2113#  
 Rec: 1'CO, 5'OCM (25%O), 120'SOCM (3%O).

**DST #7 "Altamont B" 4424'-4452' 9-9-16 30-45-45-60**  
 1st Blw: Wk surf blw bit to 2.25" (No BB)  
 2nd Blw: V Wk surf blw bit to 4" (No BB)  
 IFP: 9-30# ISIP: 1244# FFP: 36-53# FSP: 1230#  
 Hyd: 2106-2106#  
 Rec: 65'GIP, 45'SGCMO (8%G, 83%O), 60'OM (50%O).





RTD: 4860' (-1584)  
LTD: 4857' (-1581)

<p>Mud-Co Check #9 @ 4428' (30°/60')</p> <p>wt vs pH 5.3 11.0 7.4K 1F</p> <p>2nd Blw: V Wk surf blw bit to 4" (No BB) IPF: 9-30# Hyd: 210-215# Rec: 65°GP, 45°SMCO (8%G, 83%O), 67°OMI (50%O).</p>	<p>CFS @ 4452' (30°/60')</p> <p>Mud-Co Check #9 @ 4428' (30°/60')</p> <p>wt vs pH 5.4 11.5 7.4K 2F</p>
<p>CFS @ 4481' (30°/60')</p> <p><b>Pawnee @ 4483' (-1207)</b></p>	
<p>CFS @ 4518' (30°/60')</p> <p><b>Myrick Station @ 4528' (-1252)</b></p>	
<p>CFS @ 4566' (30°/60')</p> <p><b>Cherokee @ 4570' (-1294)</b></p>	
<p>CFS @ 4635' (30°/60')</p> <p><b>Johnson @ 4635' (-1359)</b></p>	
<p>CFS @ 4667' (30°/60')</p> <p>Mud-Co Check #10 @ 4674' (30°/60')</p> <p>wt vs pH 9.4 11.0 7.4K 1.5F</p>	
<p>CFS @ 4700' (30°/60')</p> <p><b>Morrow @ 4708' (-1432)</b></p>	
<p>CFS @ 4782' (30°/60')</p> <p><b>Mississippi @ 4780' (-1504)</b></p>	
<p>Survey @ 4867' = 1 Degree</p> <p>CFS @ 4867' (30°/60')</p>	



**#1 Luebbers Unit**

95' FSL & 1580' FEL

235' S & 70' E of SE SW SE Section 26-15S-36W

Logan County, Kansas

API# 15-109-21478-0000

Elevation: GL: 3271', KB: 3276'

Sample Tops			Ref. Well
Anhydrite	2525'	+751	+18
B/Anhydrite	2543'	+733	+18
Heebner	3957'	-681	+17
Toronto	3977'	-701	+21
Lansing	4007'	-731	+20
Muncie Shale	4170'	-894	+24
Stark Shale	4269'	-993	+19
Hush	4313'	-1037	+22
BKC	4354'	-1078	+17
Marmaton	4396'	-1120	+19
Altamont	4406'	-1130	+17
Pawnee	4482'	-1206	+21
Cherokee Shale	4570'	-1294	+18
Morrow	4713'	-1437	+9
Mississippian	4780'	-1504	+17
RTD	4860'	-1584	



**CONSOLIDATED**  
Oil Well Services, LLC

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

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

TICKET NUMBER 51578  
LOCATION Oakley, KS  
FOREMAN Walt Dunkel

6557  
6458

**INVOICE # 808461**

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
8-31-16	7173	Luebbers Unit #1	26	15 <sup>s</sup>	36 W	Logan
CUSTOMER Ritchie Explorations			Dakota			
MAILING ADDRESS PO BOX 783188			RD #200			
CITY Wichita			L-5			
STATE KS			Cinto			
ZIP CODE 67218-3188			697			
TRUCK #	DRIVER	TRUCK #	DRIVER			
753	Miles Shaw					
460	Kieth Carswell					

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 229' CASING SIZE & WEIGHT 8 5/8-24#  
 CASING DEPTH 229' DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 15.2 SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT IN CASING 15-20'  
 DISPLACEMENT 13 1/4 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE 4.5 BPM

REMARKS: Safety Meeting Rig upon well #2, Circ casing on bottom.  
Mix 165 SKS cement, 3% CC = 2% led, Displace 13 1/4 BBL H<sub>2</sub>O, Shut in  
Cement Did Circ  
in Cellar

Thank You  
Walt & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
Co0471	1	PUMP CHARGE	1,150.00	1,150.00
Co0002	30	MILEAGE	7.15	214.50
Co0711	7.76	Tan Mileage Delivery	17.5	660.00
CC5871	165 SKs	Surface Blend II	23.00	3,795.00
				5,819.50
			Less 45% Disc	-2,618.98
				3,200.52
			SALES TAX	166.98
			ESTIMATED TOTAL	3367.71

Ravin 9737

AUTHORIZATION [Signature] 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

6616/6615

TICKET NUMBER 51558  
LOCATION Oakley Ks  
FOREMAN Jerry

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

**FIELD TICKET & TREATMENT REPORT**  
**CEMENT INVOICE # 808542**

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
9-11-16	7175	Luettgen #1	26	155	36W	Leavenworth
CUSTOMER			TRUCK #	DRIVER	TRUCK #	DRIVER
Ritchie Exp			753	Cory D		
MAILING ADDRESS			506	Keith C		
PO Box 783188						
CITY	STATE	ZIP CODE				
Wichita	KS	67278-3188				

JOB TYPE plug HOLE SIZE 7 7/8 HOLE DEPTH 4975 CASING SIZE & WEIGHT \_\_\_\_\_  
 CASING DEPTH \_\_\_\_\_ DRILL PIPE 4 1/2 TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 13.8 SLURRY VOL 1.42 WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING \_\_\_\_\_  
 DISPLACEMENT \_\_\_\_\_ DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Softly mixing 2 1/2 gal of water? plugs as ordered with 255 sks  
Lite bleed 1/4" @ 165 seal

50 sks @ 2550'  
100 sks @ 1425'  
50 sks @ 300'  
10 sks @ 40'  
155 sks mt 305 sks RH

Thank you  
Jerry - CCL

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0451	1	PUMP CHARGE	1900.00	1900.00
CE0002	30	MILEAGE	7.5	214.50
CE0714	10.97	drn mileage delivery	66.00	660.00
914	255 sks	Lite bleed	16.00	4080.00
CC5829	64 #	Flow seal	32.00	1920.00
CC6075	1	8 7/8 wooden plug	165.00	165.00
CP8228	1			
			subtotal	7211.50
			- 46%	3245.13
			subtotal	3966.37
			SALES TAX	195.23
			ESTIMATED TOTAL	4161.56

AVIM 3737

AUTHORIZATION [Signature] 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, LLC

TESTER : TIM VENTERS  
CELL # 620-388-6333

## General Information

Company Name	RITCHIE EXPLORATION, INC.	Job Number	T556
Contact	JUSTIN CLEGG	Representative	TIM VENTERS
Well Name	LUEBBERS UNIT #1	Well Operator	RITCHIE EXPLORATION, INC.
Unique Well ID	DST #1, TORONTO, 3938-3992	Report Date	2016/09/04
Surface Location	SEC 26-15S-36W, LOGAN CO. KS,	Prepared By	TIM VENTERS
Well License Number			
Field	WILDCAT		
Well Type	Vertical		

## Test Information

Test Type	CONVENTIONAL
Formation	DST #1, TORONTO, 3938-3992
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Start Test Date	2016/09/04	Start Test Time	12:01:00
Final Test Date	2016/09/04	Final Test Time	18:58:00

Gauge Name	5504
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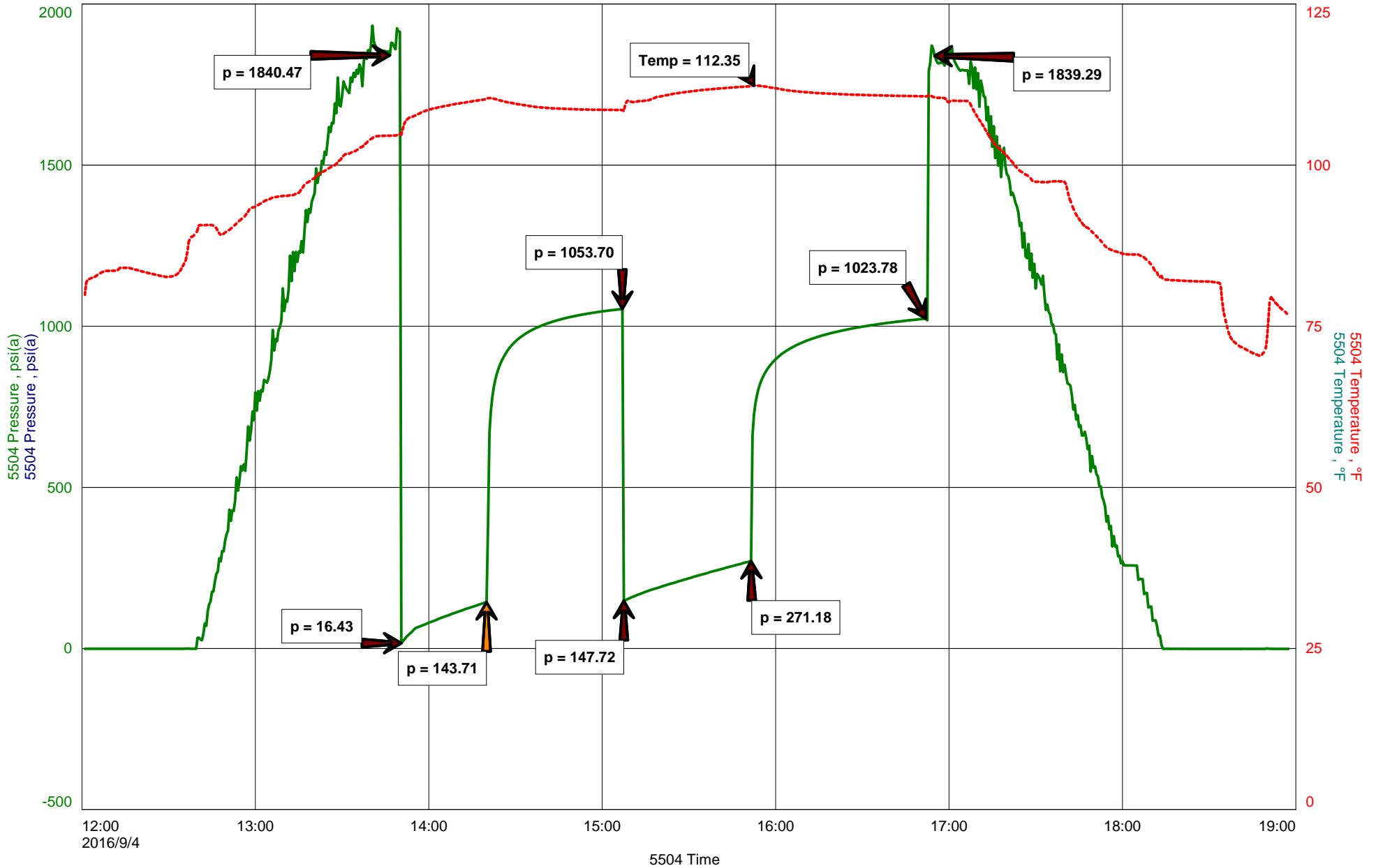
## Test Results

RECOVERED: 65' HMCW, W/TR. O, TRACE OIL, 59% WATER, 41% MUD  
250' MCW, 71% WATER, 29% MUD  
250' SMCW, 90% WATER, 10% MUD  
565' TOTAL FLUID

TOOL SAMPLE: TRACE OIL < 1%, 83% WATER. 17% MUD

CHLORIDES: 30,000 ppm  
PH: 7.0  
RW: .25 @ 70 deg.

# LUEBBERS UNIT #1





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: LUEBBERSUNIT1DST1

TIME ON: 12:01  
TIME OFF: 18:58

Company RITCHIE EXPLORATION, INC. Lease & Well No. LUEBBERS UNIT #1  
Contractor WW DRILLING, LLC RIG #2 Charge to RITCHIE EXPLORATION, INC.  
Elevation 3276 KB Formation TORONTO Effective Pay \_\_\_\_\_ Ft. Ticket No. T556  
Date 9-4-16 Sec. 26 Twp. \_\_\_\_\_ 15 S Range \_\_\_\_\_ 36 W County LOGAN State KANSAS  
Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 1 Interval Tested from 3938 ft. to 3992 ft. Total Depth 3992 ft.  
Packer Depth 3933 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 3938 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

Depth of Selective Zone Set \_\_\_\_\_  
Top Recorder Depth (Inside) 3919 ft. Recorder Number 5504 Cap. 5,000 P.S.I.  
Bottom Recorder Depth (Outside) 3989 ft. Recorder Number 11029 Cap. 5,000 P.S.I.  
Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 61 Drill Collar Length 119 ft. I.D. 2 1/4 in.  
Weight 8.9 Water Loss 7.2 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 3,500 P.P.M. Drill Pipe Length 3786 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? NO Reversed Out NO Anchor Length 22 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 1/4 INCH BLOW, BUILDING, REACHING BOB 15 MIN. (NO BB)  
2nd Open: WEAK SURFACE BLOW, BUILDING, REACHING BOB 18 1/2 MIN. (NO BB)

Recovered 65 ft. of HMCW W/TR. O, TRACE OIL, 59% WATER, 41% MUD  
Recovered 250 ft. of MCW, 71% WATER, 29% MUD  
Recovered 250 ft. of SMCW, 90% WATER, 10% MUD  
Recovered 565 ft. of TOTAL FLUID

Recovered _____ ft. of _____	CHLORIDES: 30,000 ppm	Price Job
Recovered _____ ft. of _____	PH: 7.0	Other Charges
Remarks: _____	RW: .25 @ 70 deg.	Insurance
TOOL SAMPLE: TRACE OIL, < 1%, 83% WATER, 17% MUD		Total

Time Set Packer(s) 1:50 PM <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 4:52 PM <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 112 deg.

Initial Hydrostatic Pressure..... (A) 1840 P.S.I.  
Initial Flow Period..... Minutes 30 (B) 16 P.S.I. to (C) 144 P.S.I.  
Initial Closed In Period..... Minutes 47 (D) 1054 P.S.I.  
Final Flow Period..... Minutes 45 (E) 148 P.S.I. to (F) 271 P.S.I.  
Final Closed In Period..... Minutes 60 (G) 1024 P.S.I.  
Final Hydrostatic Pressure..... (H) 1839 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, LLC

TESTER : TIM VENTERS  
CELL # 620-388-6333

## General Information

Company Name	RITCHIE EXPLORATION, INC.	Job Number	T557
Contact	JUSTIN CLEGG	Representative	TIM VENTERS
Well Name	LUEBBERS UNIT #1	Well Operator	RITCHIE EXPLORATION, INC.
Unique Well ID	DST #2, LKC "C", 4032-4060	Report Date	2016/09/05
Surface Location	SEC 26-15S-36W, LOGAN CO. KS.	Prepared By	TIM VENTERS
Well License Number			
Field	WILDCAT		
Well Type	Vertical		

## Test Information

Test Type	CONVENTIONAL
Formation	DST #2, LKC "C", 4032-4060
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Start Test Date	2016/09/05	Start Test Time	04:11:00
Final Test Date	2016/09/05	Final Test Time	10:58:00

Gauge Name	5504
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## Test Results

RECOVERED: 5' HMCW W/TR. O, TRACE OIL < 1%, 56% WATER, 44% MUD  
190' MCW, 68% WATER, 32% MUD  
310' SMCW, 96% WATER, 4% MUD  
505' TOTAL FLUID

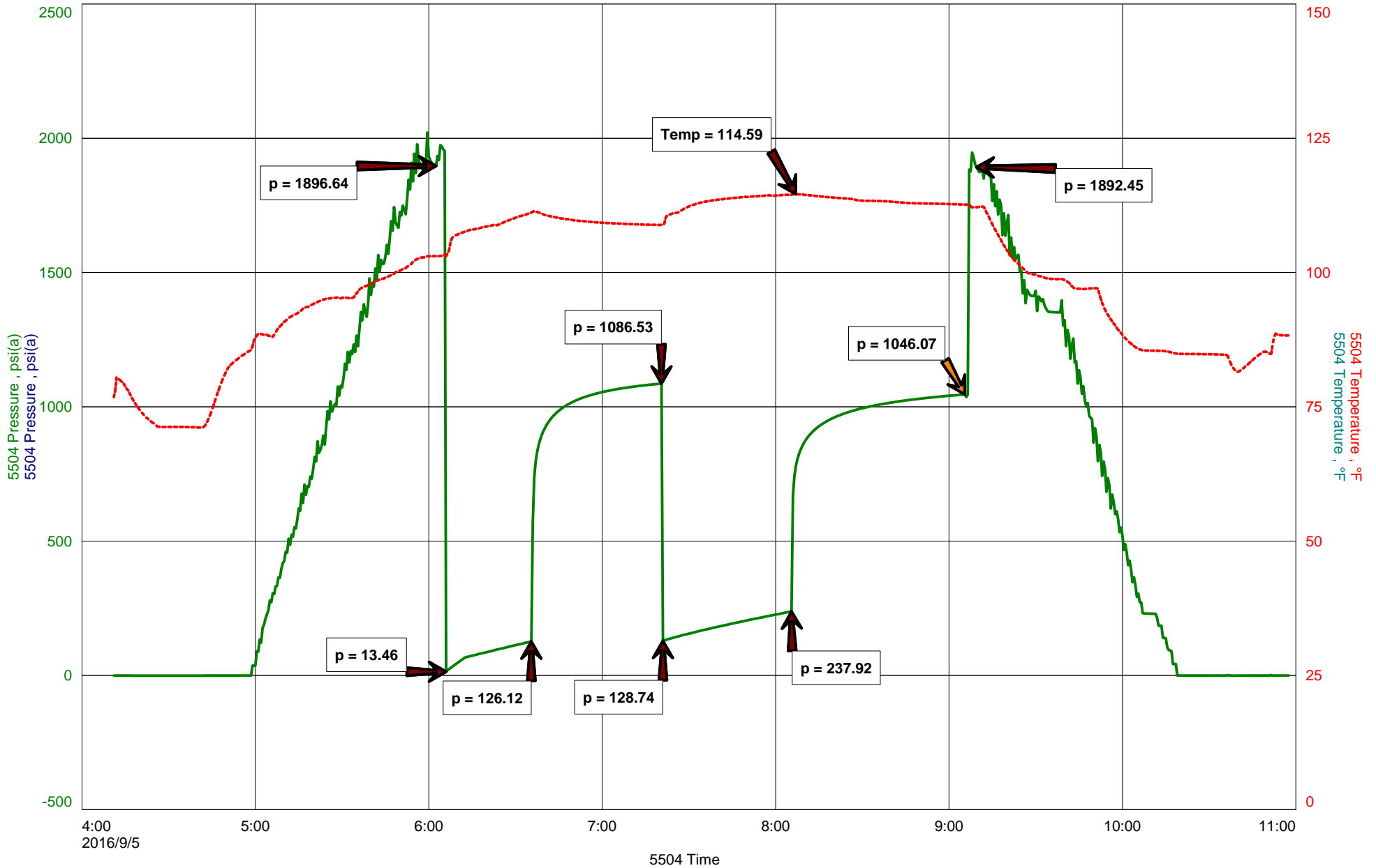
TOOL SAMPLE: TRACE OIL < 1%, 100% WATER

CHLORIDES: 27,000 ppm  
PH: 7.0  
RW: .26 @ 76 deg.

RITCHIE EXPLORATION, INC.  
DST #2, LKC "C", 4032-4060  
Start Test Date: 2016/09/05  
Final Test Date: 2016/09/05

LUEBBERS UNIT #1  
Formation: DST #2, LKC "C", 4032-4060  
Pool: WILDCAT  
Job Number: T557

# LUEBBERS UNIT #1





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: LUEBBERSUNIT1DST2

TIME ON: 04:01  
TIME OFF: 10:58

Company RITCHIE EXPLORATION, INC. Lease & Well No. LUEBBERS UNIT #1  
Contractor WW DRILLING, LLC RIG #2 Charge to RITCHIE EXPLORATION, INC.  
Elevation 3276 KB Formation LKC "C" Effective Pay \_\_\_\_\_ Ft. Ticket No. T557  
Date 9-5-16 Sec. 26 Twp. \_\_\_\_\_ 15 S Range \_\_\_\_\_ 36 W County LOGAN State KANSAS  
Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 2 Interval Tested from 4032 ft. to 4060 ft. Total Depth 4060 ft.  
Packer Depth 4027 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 4032 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

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

Top Recorder Depth (Inside) 4013 ft. Recorder Number 5504 Cap. 5,000 P.S.I.  
Bottom Recorder Depth (Outside) 4057 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 119 ft. I.D. 2 1/4 in.  
Weight 8.9 Water Loss 7.2 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 3,500 P.P.M. Drill Pipe Length 3880 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? 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. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: WEAK 1/4 INCH BLOW, BUILDING, REACHING BOB 21 MIN. (NO BB)  
2nd Open: WEAK SURFACE BLOW, BUILDING, REACHING BOB 23 1/2 MIN. (NO BB)

Recovered 5 ft. of HMCW W/TR. O, TRACE OIL < 1%, 56% WATER, 44% MUD  
Recovered 190 ft. of MCW, 68% WATER, 32% MUD  
Recovered 310 ft. of SMCW, 96% WATER, 4% MUD  
Recovered 505 ft. of TOTAL FLUID

Recovered _____ ft. of _____	CHLORIDES: 27,000 ppm	Price Job
Recovered _____ ft. of _____	PH: 7.0	Other Charges
Remarks: _____	RW: .26 @ 76 deg.	Insurance
TOOL SAMPLE: TRACE OIL, < 1%, 100% WATER		Total

Time Set Packer(s) 6:05 AM A.M. P.M. Time Started Off Bottom 9:05 AM A.M. P.M. Maximum Temperature 115 deg.

Initial Hydrostatic Pressure..... (A) 1897 P.S.I.  
Initial Flow Period..... Minutes 30 (B) 13 P.S.I. to (C) 126 P.S.I.  
Initial Closed In Period..... Minutes 45 (D) 1087 P.S.I.  
Final Flow Period..... Minutes 45 (E) 129 P.S.I. to (F) 238 P.S.I.  
Final Closed In Period..... Minutes 60 (G) 1046 P.S.I.  
Final Hydrostatic Pressure..... (H) 1892 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, LLC

TESTER : TIM VENTERS  
CELL # 620-388-6333

## General Information

Company Name	RITCHIE EXPLORATION, INC.	Job Number	T558
Contact	JUSTIN CLEGG	Representative	TIM VENTERS
Well Name	LUEBBERS UNIT #1	Well Operator	RITCHIE EXPLORATION, INC.
Unique Well ID	DST #3, LKC "E&F", 4092-4126	Report Date	2016/09/06
Surface Location	SEC 26-15S-36W, LOGAN CO. KS.	Prepared By	TIM VENTERS
Well License Number			
Field	WILDCAT		
Well Type	Vertical		

## Test Information

Test Type	CONVENTIONAL
Formation	DST #3, LKC "E&F", 4092-4126
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Start Test Date	2016/09/05	Start Test Time	17:47:00
Final Test Date	2016/09/06	Final Test Time	01:24:00

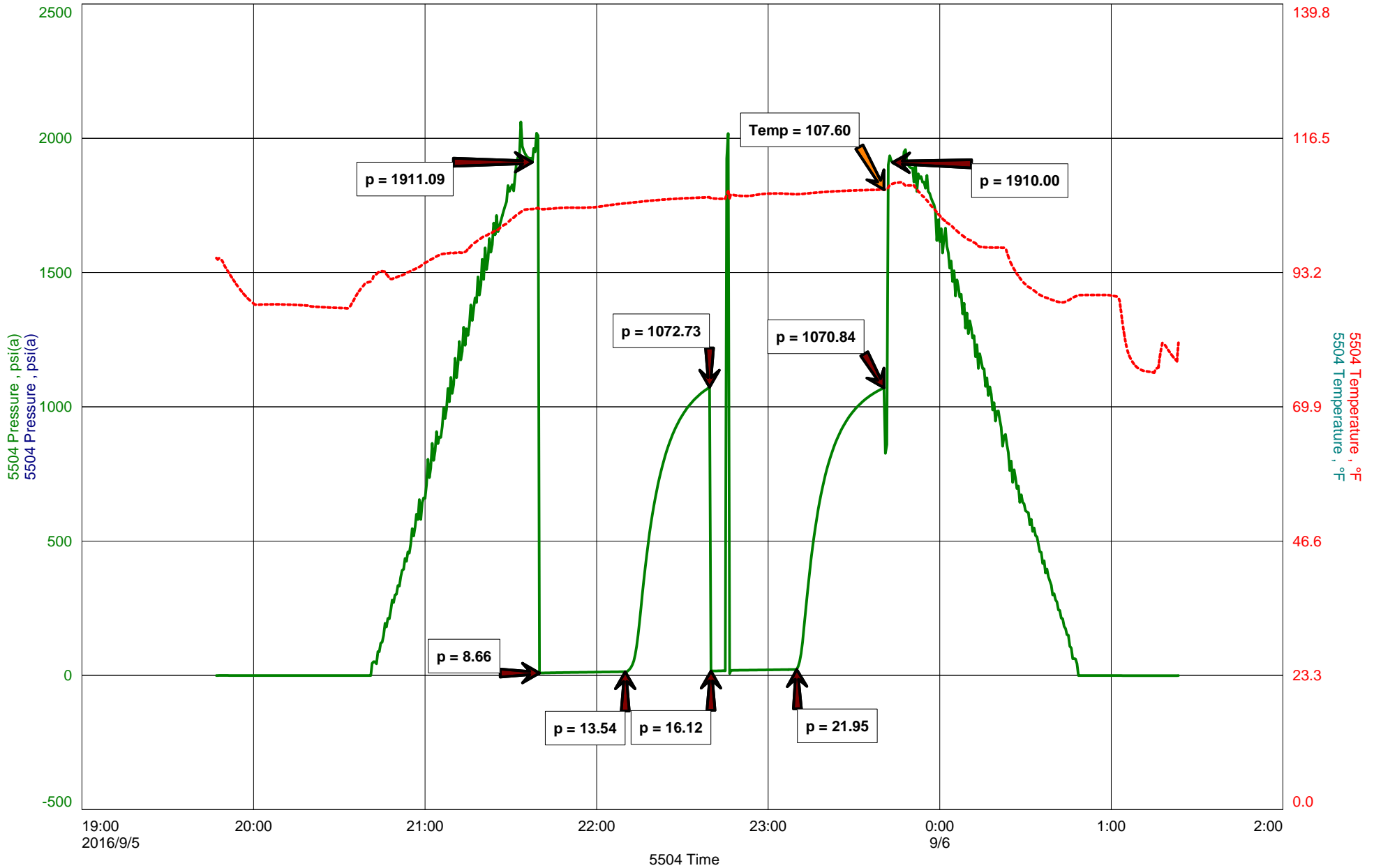
Gauge Name	5504
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## Test Results

RECOVERED: 20' DRILLING MUD

TOOL SAMPLE: 100% DRILLING MUD

# LUEBBERS UNIT #1







**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: LUEBBERSUNIT1DST3

TIME ON: 17:47 9-5-16  
TIME OFF: 01:24 9-6-16

Company RITCHIE EXPLORATION, INC. Lease & Well No. LUEBBERS UNIT #1  
Contractor WW DRILLING, LLC RIG #2 Charge to RITCHIE EXPLORATION, INC.  
Elevation 3276 KB Formation LKC "E&F" Effective Pay \_\_\_\_\_ Ft. Ticket No. T558  
Date 9-5-16 Sec. 26 Twp. \_\_\_\_\_ 15 S Range \_\_\_\_\_ 36 W County LOGAN State KANSAS  
Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 3 Interval Tested from 4092 ft. to 4126 ft. Total Depth 4126 ft.  
Packer Depth 4087 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 4092 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

Depth of Selective Zone Set \_\_\_\_\_  
Top Recorder Depth (Inside) 4073 ft. Recorder Number 5504 Cap. 5,000 P.S.I.  
Bottom Recorder Depth (Outside) 4123 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 54 Drill Collar Length 119 ft. I.D. 2 1/4 in.  
Weight 9.2 Water Loss 8.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 4,500 P.P.M. Drill Pipe Length 3940 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? NO Reversed Out NO Anchor Length 34 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: VERY WEAK SURFACE BLOW THOUGHOUT PERIOD. (NO BB)  
2nd Open: NO BLOW THROUGHOUT PERIOD. (NO BB)

Recovered 20 ft. of DRILLING MUD  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Price Job
Other Charges
Insurance
Total

Remarks: WE FLUSHED TOOL 5 MIN. INTO FINAL FLOW PERIOD AND JUST GOT THE SURGE BLOW.  
TOOL SAMPLE: 100% DRILLING MUD

Time Set Packer(s) 9:39 PM <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 11:39 PM <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 108 deg.  
Initial Hydrostatic Pressure..... (A) 1911 P.S.I.  
Initial Flow Period..... Minutes 30 (B) 9 P.S.I. to (C) 14 P.S.I.  
Initial Closed In Period..... Minutes 30 (D) 1073 P.S.I.  
Final Flow Period..... Minutes 30 (E) 16 P.S.I. to (F) 22 P.S.I.  
Final Closed In Period..... Minutes 30 (G) 1071 P.S.I.  
Final Hydrostatic Pressure..... (H) 1910 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, LLC

TESTER : TIM VENTERS  
CELL # 620-388-6333

## General Information

Company Name	RITCHIE EXPLORATION, INC.	Job Number	T559
Contact	JUSTIN CLEGG	Representative	TIM VENTERS
Well Name	LUEBBERS UNIT #1	Well Operator	RITCHIE EXPLORATION, INC.
Unique Well ID	DST #4, LKC "H&I", 4170-4240	Report Date	2016/09/06
Surface Location	SEC 26-15S-36W, LOGAN CO. KS.	Prepared By	TIM VENTERS
Well License Number			
Field	WILDCAT		
Well Type	Vertical		

## Test Information

Test Type	CONVENTIONAL
Formation	DST #4, LKC "H&I", 4170-4240
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Start Test Date	2016/09/06	Start Test Time	14:35:00
Final Test Date	2016/09/06	Final Test Time	21:39:00

Gauge Name	5504
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## Test Results

RECOVERED: 45' M W/TR. O, TRACE OIL <1%, 100% MUD  
125' WCM, 22% WATER, 78% MUD  
125' MCW, 63% WATER, 37% MUD  
310' SMCW, 86% WATER, 14% MUD  
605' TOTAL FLUID

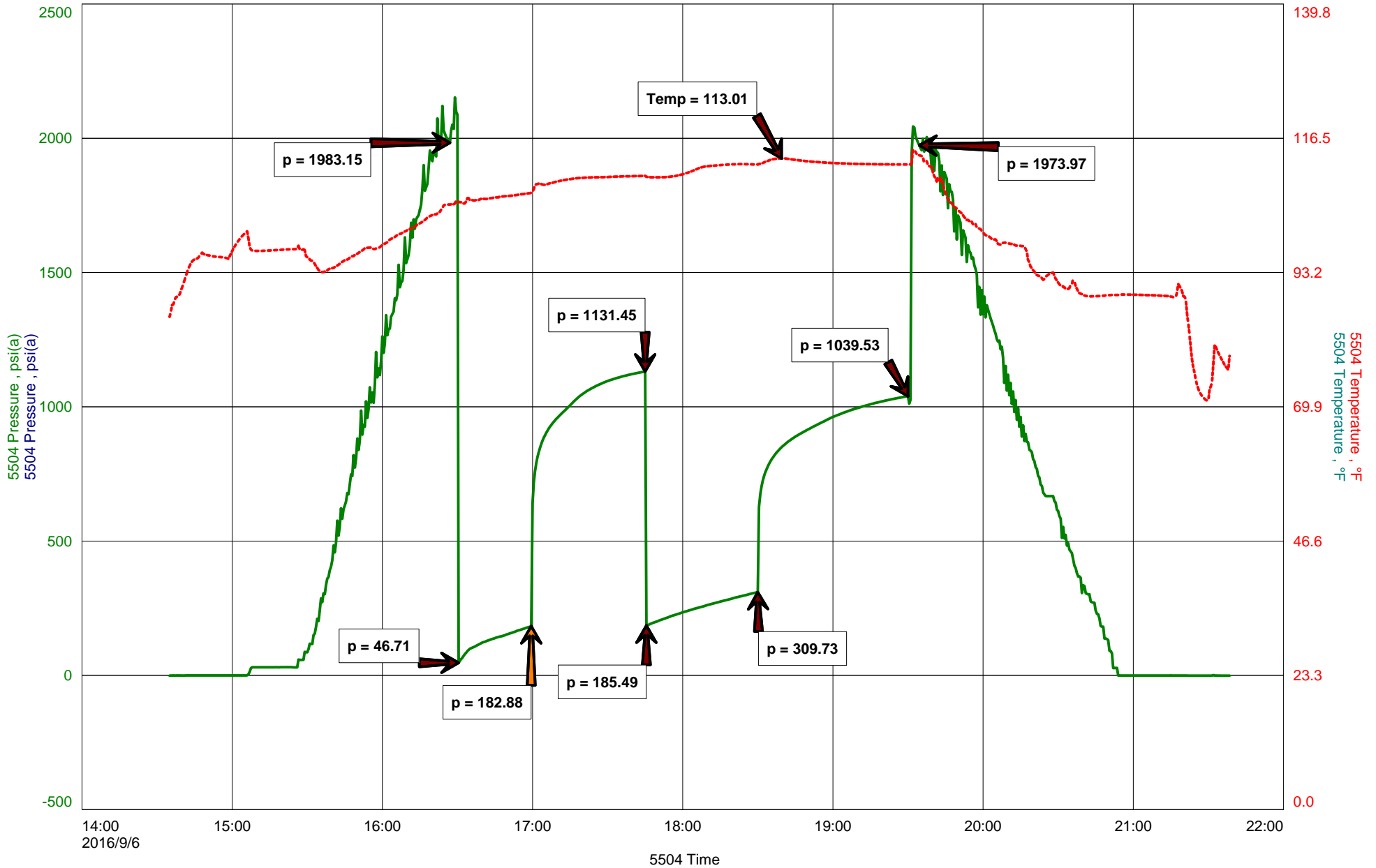
TOOL SAMPLE: 97% WATER, 3% MUD

CHLORIDES: 27,000 ppm  
PH: 7.5  
RW: .30 @ 76 deg.

RITCHIE EXPLORATION, INC.  
DST #4, LKC "H&I", 4170-4240  
Start Test Date: 2016/09/06  
Final Test Date: 2016/09/06

LUEBBERS UNIT #1  
Formation: DST #4, LKC "H&I", 4170-4240  
Pool: WILDCAT  
Job Number: T559

# LUEBBERS UNIT #1





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: LUEBBERSUNIT1DST4

TIME ON: 14:35  
TIME OFF: 21:39

Company RITCHIE EXPLORATION, INC. Lease & Well No. LUEBBERS UNIT #1  
Contractor WW DRILLING, LLC RIG #2 Charge to RITCHIE EXPLORATION, INC.  
Elevation 3276 KB Formation LKC "H&I" Effective Pay \_\_\_\_\_ Ft. Ticket No. T559  
Date 9-6-16 Sec. 26 Twp. \_\_\_\_\_ 15 S Range \_\_\_\_\_ 36 W County LOGAN State KANSAS  
Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 4 Interval Tested from 4170 ft. to 4240 ft. Total Depth 4240 ft.  
Packer Depth 4165 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 4170 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

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

Top Recorder Depth (Inside) 4151 ft. Recorder Number 5504 Cap. 5,000 P.S.I.  
Bottom Recorder Depth (Outside) 4237 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 48 Drill Collar Length 119 ft. I.D. 2 1/4 in.  
Weight 9.1 Water Loss 9.6 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 5,000 P.P.M. Drill Pipe Length 4018 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? NO Reversed Out NO Anchor Length 38 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, REACHING BOB 14 MIN. (NO BB)  
2nd Open: WEAK SURFACE BLOW, BUILDING, REACHING BOB 18 MIN. (NO BB)

Recovered 45 ft. of M W/TR. O, TRACE OIL < 1%, 100% MUD  
Recovered 125 ft. of WCM, 22% WATER, 78% MUD  
Recovered 125 ft. of MCW, 63% WATER, 37% MUD  
Recovered 310 ft. of SMCW, 86% WATER, 14% MUD  
Recovered 605 ft. of TOTAL FLUID

Recovered _____ ft. of _____	CHLORIDES: 27,000 ppm	Price Job
Remarks: _____	PH: 7.5	Other Charges
_____	RW: .30 @ 76 deg.	Insurance
TOOL SAMPLE: 97% WATER, 3% MUD		Total

Time Set Packer(s) 4:30 PM <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 7:30 PM <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 113 deg.

Initial Hydrostatic Pressure..... (A) 1983 P.S.I.  
Initial Flow Period..... Minutes 30 (B) 47 P.S.I. to (C) 183 P.S.I.  
Initial Closed In Period..... Minutes 45 (D) 1131 P.S.I.  
Final Flow Period..... Minutes 45 (E) 185 P.S.I. to (F) 310 P.S.I.  
Final Closed In Period..... Minutes 60 (G) 1040 P.S.I.  
Final Hydrostatic Pressure..... (H) 1974 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, LLC

TESTER : TIM VENTERS  
CELL # 620-388-6333

## General Information

Company Name	RITCHIE EXPLORATION, INC	Job Number	T560
Contact	JUSTIN CLEGG	Representative	TIM VENTERS
Well Name	LUEBBERS UNIT #1	Well Operator	RITCHIE EXPLORATION, INC.
Unique Well ID	DST #5, LKC "K", 4267-4302	Report Date	2016/09/07
Surface Location	SEC 26-15S-36W, LOGAN CO. KS.	Prepared By	TIM VENTERS
Well License Number			
Field	WILDCAT		
Well Type	Vertical		

## Test Information

Test Type	CONVENTIONAL
Formation	DST #5, LKC "K", 4267-4302
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Start Test Date	2016/09/07	Start Test Time	06:56:00
Final Test Date	2016/09/07	Final Test Time	13:50:00

Gauge Name	5504
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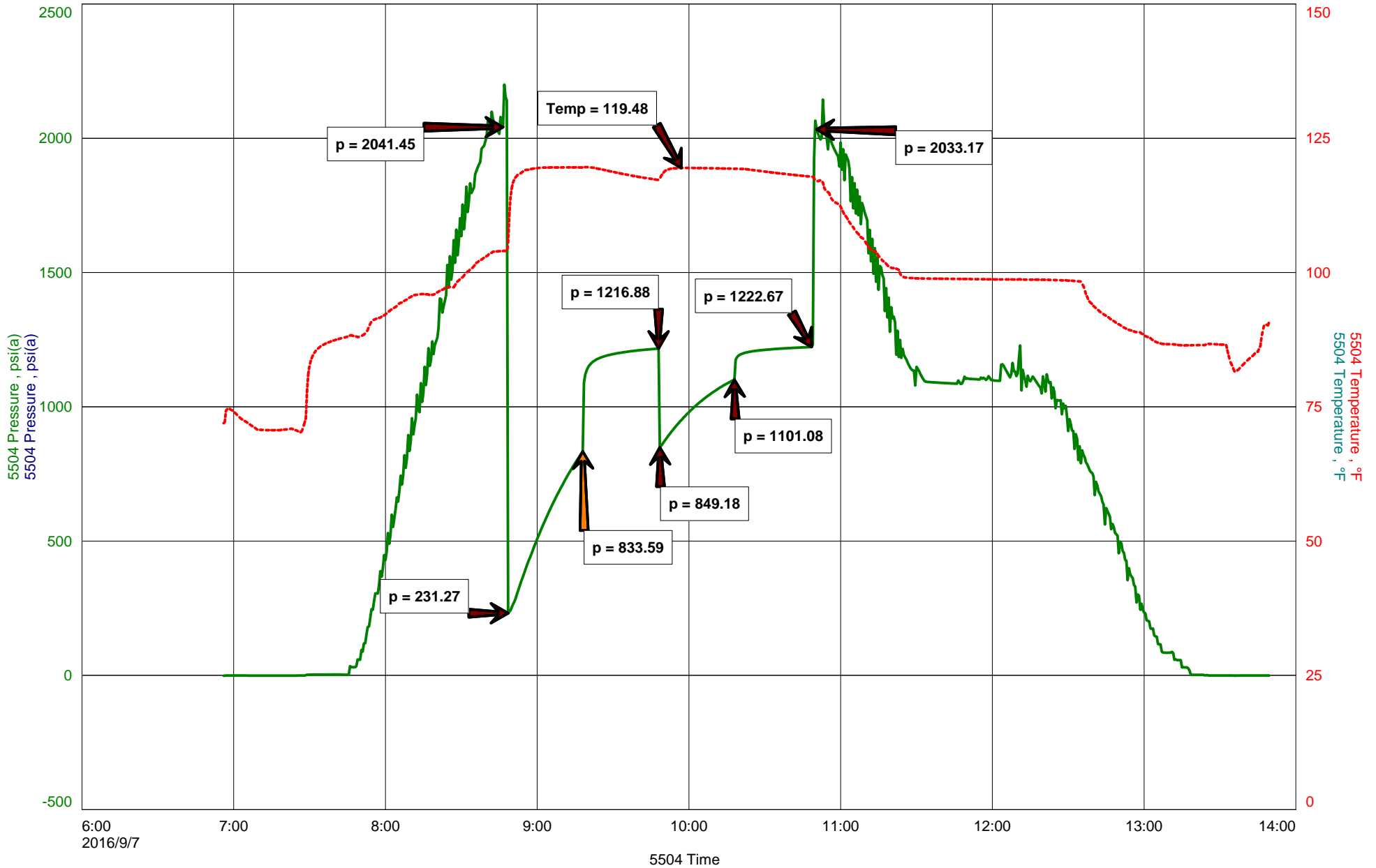
## Test Results

RECOVERED: 295' MCW, 66% WATER, 34% MUD  
315' SMCW, 94% WATER, 6% MUD  
1825' WATER, 100% WATER  
2435' TOTAL FLUID

TOOL SAMPLE: 100% WATER

CHLORIDES: 26,000 ppm  
PH: 7.0  
RW: .25 @ 78 deg.

# LUEBBERS UNIT #1





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: LUEBBERSUNIT1DST5

TIME ON: 06:56  
TIME OFF: 13:50

Company RITCHIE EXPLORATION, INC. Lease & Well No. LUEBBERS UNIT #1  
Contractor WW DRILLING, LLC RIG #2 Charge to RITCHIE EXPLORATION, INC.  
Elevation 3276 KB Formation LKC "K" Effective Pay \_\_\_\_\_ Ft. Ticket No. T560  
Date 9-7-16 Sec. 26 Twp. \_\_\_\_\_ 15 S Range \_\_\_\_\_ 36 W County LOGAN State KANSAS  
Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 5 Interval Tested from 4267 ft. to 4302 ft. Total Depth 4302 ft.  
Packer Depth 4262 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 4267 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

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

Top Recorder Depth (Inside) 4248 ft. Recorder Number 5504 Cap. 5,000 P.S.I.  
Bottom Recorder Depth (Outside) 4299 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 53 Drill Collar Length 119 ft. I.D. 2 1/4 in.  
Weight 9.2 Water Loss 7.2 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 5,400 P.P.M. Drill Pipe Length 4115 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? NO Reversed Out YES Anchor Length 35 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: **STRONG 3 INCH BLOW, BUILDING, REACHING BOB 1 1/2 MIN. (NO BB)**  
2nd Open: **STRONG 2 INCH BLOW, BUILDING, REACHING BOB 2 1/2 MIN. (NO BB)**

Recovered 295 ft. of MCW, 66% WATER, 34% MUD  
Recovered 315 ft. of SMCW, 94% WATER, 6% MUD  
Recovered 1825 ft. of WATER, 100% WATER  
Recovered 2435 ft. of TOTAL FLUID

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: _____	Insurance
_____	Total

Time Set Packer(s) 8:48 AM A.M. P.M. Time Started Off Bottom 10:48 AM A.M. P.M. Maximum Temperature 119 deg.

Initial Hydrostatic Pressure..... (A) 2041 P.S.I.  
Initial Flow Period..... Minutes 30 (B) 231 P.S.I. to (C) 834 P.S.I.  
Initial Closed In Period..... Minutes 30 (D) 1217 P.S.I.  
Final Flow Period..... Minutes 30 (E) 849 P.S.I. to (F) 1101 P.S.I.  
Final Closed In Period..... Minutes 30 (G) 1223 P.S.I.  
Final Hydrostatic Pressure..... (H) 2033 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, LLC

TESTER : TIM VENTERS  
CELL # 620-388-6333

## General Information

Company Name	RITCHIE EXPLORATION, INC.	Job Number	T561
Contact	JUSTIN CLEGG	Representative	TIM VENTERS
Well Name	LUEBBERS UNIT #1	Well Operator	RITCHIE EXPLORATION, INC.
Unique Well ID	DST #6, ALTAMONT, 4369-4426	Report Date	2016/09/08
Surface Location	SEC 26-15S-36W, LOGAN CO. KS.	Prepared By	TIM VENTERS
Well License Number			
Field	WILDCAT		
Well Type			

## Test Information

Test Type	CONVENTIONAL
Formation	DST #6, ALTAMONT, 4369-4426
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Start Test Date	2016/09/08	Start Test Time	08:57:00
Final Test Date	2016/09/08	Final Test Time	15:33:00

Gauge Name	5504
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## Test Results

RECOVERED: 1' CLEAN OIL  
5' OCM, 25% OIL, 75% MUD  
120' SOCM, 3% OIL, 97% MUD  
126' TOTAL FLUID

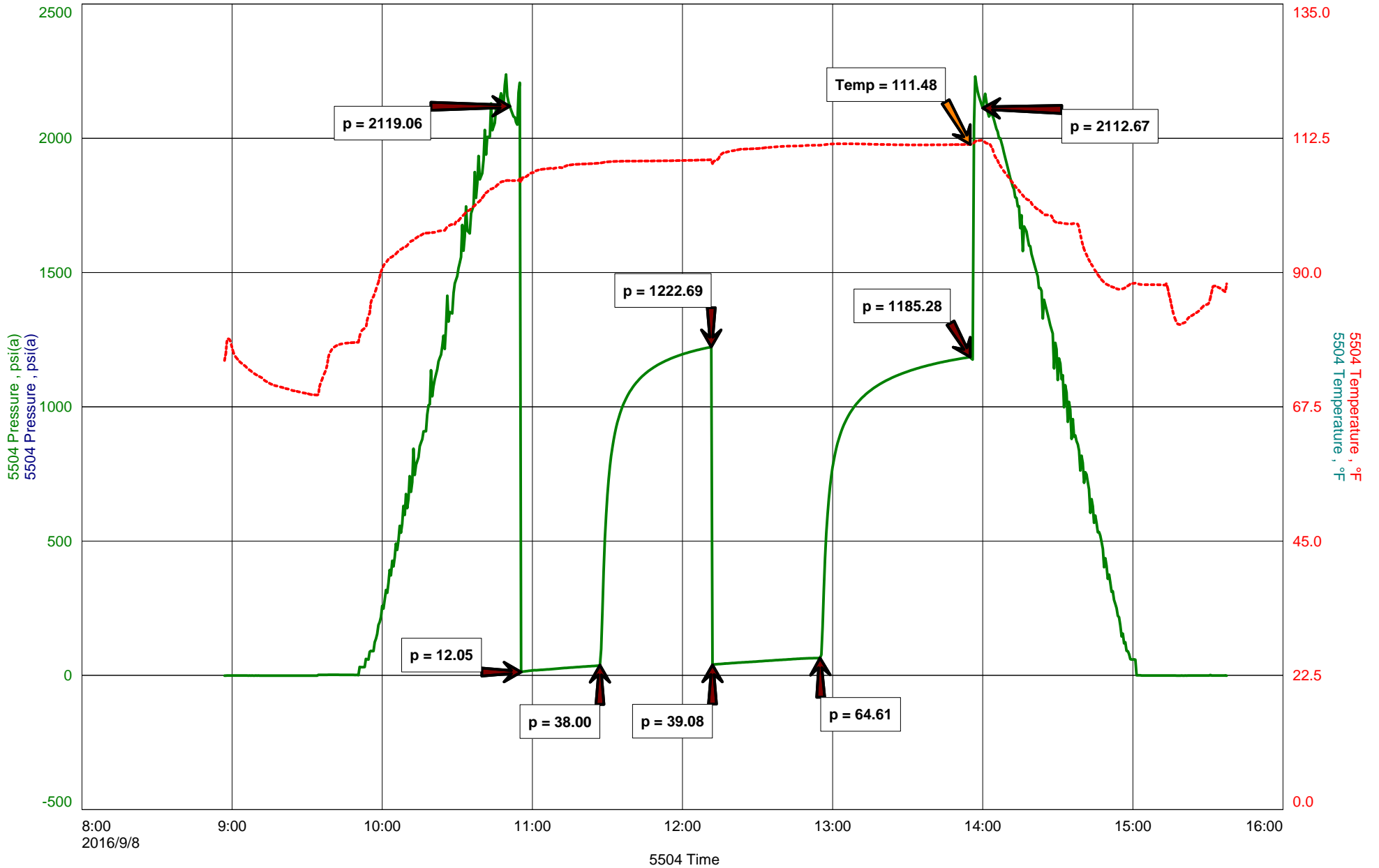
TOOL SAMPLE: 6% OIL, 94% MUD



RITCHIE EXPLORATION, INC.  
DST #6, ALTAMONT, 4369-4426  
Start Test Date: 2016/09/08  
Final Test Date: 2016/09/08

LUEBBERS UNIT #1  
Formation: DST #6, ALTAMONT, 4369-4426  
Pool: WILDCAT  
Job Number: T561

# LUEBBERS UNIT #1





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: LUEBBERSUNIT1DST6

TIME ON: 08:57  
TIME OFF: 15:33

Company RITCHIE EXPLORATION, INC. Lease & Well No. LUEBBERS UNIT #1  
Contractor WW DRILLING, LLC RIG #2 Charge to RITCHIE EXPLORATION, INC.  
Elevation 3276 KB Formation ALTAMONT Effective Pay \_\_\_\_\_ Ft. Ticket No. T561  
Date 9-8-16 Sec. 26 Twp. \_\_\_\_\_ 15 S Range \_\_\_\_\_ 36 W County LOGAN State KANSAS  
Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 6 Interval Tested from 4369 ft. to 4426 ft. Total Depth 4426 ft.  
Packer Depth 4364 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 4369 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

Depth of Selective Zone Set \_\_\_\_\_  
Top Recorder Depth (Inside) 4350 ft. Recorder Number 5504 Cap. 5,000 P.S.I.  
Bottom Recorder Depth (Outside) 4423 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 119 ft. I.D. 2 1/4 in.  
Weight 9.3 Water Loss 8.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 7,400 P.P.M. Drill Pipe Length 4217 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? NO Reversed Out NO Anchor Length 25 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 2 INCHES. (NO BB)  
2nd Open: VERY WEAK SURFACE BLOW BUILDING TO 1 1/2 INCHES. (NO BB)

Recovered 1 ft. of CLEAN OIL  
Recovered 5 ft. of OCM, 25% OIL, 75% MUD  
Recovered 120 ft. of SOCM, 3% OIL, 97% MUD  
Recovered 126 ft. of TOTAL FLUID

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: _____	Insurance
TOOL SAMPLE: 6% OIL, 94% MUD	Total

Time Set Packer(s) 10:50 AM <sup>A.M.</sup> P.M. Time Started Off Bottom 1:50 PM <sup>A.M.</sup> P.M. Maximum Temperature 111 deg.

Initial Hydrostatic Pressure..... (A) 2119 P.S.I.  
Initial Flow Period..... Minutes 30 (B) 12 P.S.I. to (C) 38 P.S.I.  
Initial Closed In Period..... Minutes 45 (D) 1223 P.S.I.  
Final Flow Period..... Minutes 45 (E) 39 P.S.I. to (F) 65 P.S.I.  
Final Closed In Period..... Minutes 60 (G) 1185 P.S.I.  
Final Hydrostatic Pressure..... (H) 2113 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, LLC

TESTER : TIM VENTERS  
CELL # 620-388-6333

## General Information

Company Name	RITCHIE EXPLORATION, INC.	Job Number	T562
Contact	JUSTIN CLEGG	Representative	TIM VENTERS
Well Name	LUEBBERS UNIT #1	Well Operator	RITCHIE EXPLORATION, INC.
Unique Well ID	DST #7, ALTAMONT "B", 4424-4452	Report Date	2016/09/09
Surface Location	SEC 26-15S-36W, LOGAN CO. KS.	Prepared By	TIM VENTERS
Well License Number			
Field	WILDCAT		
Well Type	Vertical		

## Test Information

Test Type	CONVENTIONAL
Formation	DST #7, ALTAMONT "B", 4424-4452
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Start Test Date	2016/09/09	Start Test Time	00:22:00
Final Test Date	2016/09/09	Final Test Time	07:25:00

Gauge Name	5504
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## Test Results

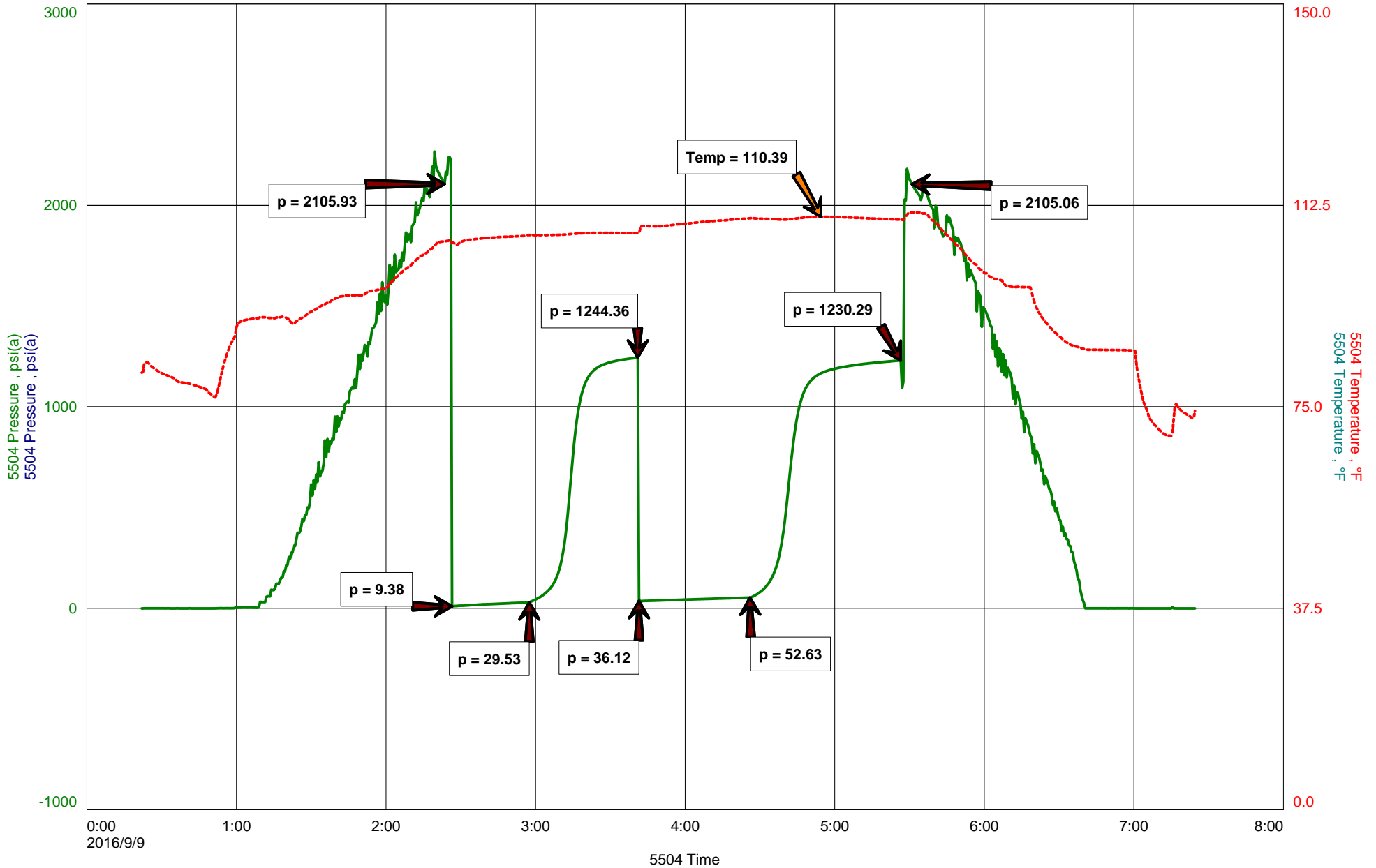
RECOVERED: 65' GAS IN PIPE  
45' G,SMCO, 8% GAS, 83% OIL, 9% MUD, GRAVITY: 24  
60' OM, 50% OIL, 50% MUD  
105' TOTAL FLUID

TOOL SAMPLE: 5% GAS, 37% OIL, 58% MUD

RITCHIE EXPLORATION, INC.  
DST #7, ALTAMONT "B", 4424-4452  
Start Test Date: 2016/09/09  
Final Test Date: 2016/09/09

LUEBBERS UNIT #1  
Formation: DST #7, ALTAMONT "B", 4424-4452  
Pool: WILDCAT  
Job Number: T562

# LUEBBERS UNIT #1





**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: LUEBBERSUNIT1DST7

TIME ON: 00:22  
TIME OFF: 07:25

Company RITCHIE EXPLORATION, INC. Lease & Well No. LUEBBERS UNIT #1  
Contractor WW DRILLING, LLC RIG #2 Charge to RITCHIE EXPLORATION, INC.  
Elevation 3276 KB Formation ALTAMONT "B" Effective Pay \_\_\_\_\_ Ft. Ticket No. T562  
Date 9-9-16 Sec. 26 Twp. \_\_\_\_\_ 15 S Range \_\_\_\_\_ 36 W County LOGAN State KANSAS  
Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 7 Interval Tested from 4424 ft. to 4452 ft. Total Depth 4452 ft.  
Packer Depth 4419 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 4424 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.

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

Top Recorder Depth (Inside) 4405 ft. Recorder Number 5504 Cap. 5,000 P.S.I.  
Bottom Recorder Depth (Outside) 4449 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 119 ft. I.D. 2 1/4 in.  
Weight 9.3 Water Loss 8.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.  
Chlorides 7,400 P.P.M. Drill Pipe Length 4272 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? 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. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

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

Recovered 65 ft. of GAS IN PIPE  
Recovered 45 ft. of G,SMCO, 8% GAS, 83% OIL, 9% MUD, GRAVITY: 24  
Recovered 60 ft. of OM, 50% OIL, 50% MUD  
Recovered 105 ft. of TOTAL FLUID

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: _____	Insurance
TOOL SAMPLE: 5% GAS, 37% OIL, 58% MUD	Total

Time Set Packer(s) 2:26 AM A.M. P.M. Time Started Off Bottom 5:26 AM A.M. P.M. Maximum Temperature 110 deg.

Initial Hydrostatic Pressure..... (A) 2106 P.S.I.  
Initial Flow Period..... Minutes 30 (B) 9 P.S.I. to (C) 30 P.S.I.  
Initial Closed In Period..... Minutes 45 (D) 1244 P.S.I.  
Final Flow Period..... Minutes 45 (E) 36 P.S.I. to (F) 53 P.S.I.  
Final Closed In Period..... Minutes 60 (G) 1230 P.S.I.  
Final Hydrostatic Pressure..... (H) 2105 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.