

**CONFIDENTIAL**

KANSAS CORPORATION COMMISSION **ORIGINAL**  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
June 2009

Form Must Be Typed  
Form must be Signed  
All blanks must be Filled

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

4/21/13

OPERATOR: License # 4767  
Name: Ritchie Exploration, Inc.  
Address 1: P.O. Box 783188  
Address 2: \_\_\_\_\_  
City: Wichita State: KS Zip: 67278 + 3188  
Contact Person: John Niernberger  
Phone: ( 316 ) 691-500  
CONTRACTOR: License # 33575  
Name: WW Drilling, LLC  
Wellsite Geologist: Jeff Christian  
Purchaser: \_\_\_\_\_

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Designate Type of Completion:  
 New Well     Re-Entry     Workover  
 Oil     WSW     SWD     SLOW  
 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  
 Conv. to GSW  
 Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_  
 Commingled    Permit #: \_\_\_\_\_  
 Dual Completion    Permit #: \_\_\_\_\_  
 SWD    Permit #: \_\_\_\_\_  
 ENHR    Permit #: \_\_\_\_\_  
 GSW    Permit #: \_\_\_\_\_

1/12/11    1/19/11    1/30/11  
Spud Date or    Date Reached TD    Completion Date or  
Recompletion Date       Recompletion Date

API No. 15 - 137-20543-00-00  
Spot Description: 130' S & 160' W  
NW NE NW Sec. 34 Twp. 5 S. R. 23  East  West  
460 Feet from  North /  South Line of Section  
1,490 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE  NW  SE  SW  
County: Norton  
Lease Name: Circle Ranch 348 Well #: 1  
Field Name: \_\_\_\_\_  
Producing Formation: LKC  
Elevation: Ground: 2331 Kelly Bushing: 2336  
Total Depth: 3750 Plug Back Total Depth: 3710  
Amount of Surface Pipe Set and Cemented at: 216 Feet  
Multiple Stage Cementing Collar Used?  Yes  No  
If yes, show depth set: 1933 Feet  
If Alternate II completion, cement circulated from: 1933  
feet depth to: surface w/ 310 sx cmt.

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**Drilling Fluid Management Plan**  
(Data must be collected from the Reserve Pit)  
Chloride content: 1000 ppm Fluid volume: 1000 bbls  
Dewatering method used: evaporation  
Location of fluid disposal if hauled offsite: \_\_\_\_\_  
Operator Name: \_\_\_\_\_  
Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_  
Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West  
County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**INSTRUCTIONS:** An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information of side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

**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.  
Signature: \_\_\_\_\_  
Title: Production Manager Date: 4/21/11

**KCC Office Use ONLY**  
 Letter of Confidentiality Received  
Date: 4/21/11 - 4/21/13  
 Confidential Release Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution  
ALT  I  II  III Approved by: NS Date: 5-4-11

Operator Name: Ritchie Exploration, Inc. Lease Name: Circle Ranch 34B Well #: 1  
 Sec. 34 Twp. 5 S. R. 23  East  West County: Norton

**INSTRUCTIONS:** Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken  Yes  No  
 (Attach Additional Sheets)

Samples Sent to Geological Survey  Yes  No

Cores Taken  Yes  No

Electric Log Run  Yes  No

Electric Log Submitted Electronically  Yes  No  
 (If no, Submit Copy)

List All E. Logs Run:  
**Radiation Guard Log**

Log Formation (Top), Depth and Datum  Sample  
 Name Top Datum

SEE ATTACHED  
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CASING RECORD <input checked="" 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
Surface	12-1/4	8-5/8	23#	216	common	165	3% cc, 2% gel
Production	7-7/8	4-1/2	10.5#	3747	60/40 Poz	150	10% salt, 2% gel, 3/4% CD-31

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				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
4	3676.5' - 3678.5' (3/9/11)	500 gals 15% NE (3/10/11)	

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TUBING RECORD: Size: <u>2-3/8"</u> Set At: <u>3718'</u> Packer At: <u> </u> Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Date of First, Resumed Production, SWD or ENHR. <u>waiting on equipment</u>	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) <u> </u>
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 (If vented, Submit ACO-18.)	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled (Submit ACO-5) (Submit ACO-4) <input type="checkbox"/> Other (Specify) <u> </u>	PRODUCTION INTERVAL: <u> </u> <u> </u>
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**RITCHIE**

EXPLORATION, INC.  
Wichita, Kansas

**#1 Circle Ranch 34B**

460' FNL & 1490' FWL

130' S & 160' W of NW NE NW Section 34-5S-23W

Norton County, Kansas

API# 15-137-20543-0000

WW Drilling LLC Rig #6

Elevation: GL: 2331', KB: 2336'

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<u>Sample Tops</u>			<u>Ref.</u> <u>Well</u>
Anhydrite	1945'	+391	flat
B/Anhydrite	1976'	+360	+1
Topeka	3271'	-935	flat
Heebner	3472'	-1136	flat
Toronto	3497'	-1161	flat
Lansing	3514'	-1178	flat
LKC "C"	3542'	-1206	+1
LKC "D"	3558'	-1222	+5
Muncie Shale	3613'	-1277	+2
LKC "H"	3627'	-1291	+2
LKC "J"	3659'	-1323	+3
LKC "K"	3677'	-1341	flat
BKC	3700'	-1364	+2
RTD	3725'	-1389	
Final RTD	3750'	-1414	

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# ALLIED CEMENTING CO., LLC. 040816

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
Onsite

DATE <u>1-21-11</u>	SEC. <u>34</u>	TWP. <u>S</u>	RANGE <u>23</u>	CALLED OUT	ON LOCATION <u>5:00am</u>	JOB START <u>1:30pm</u>	JOB FINISH <u>2:00pm</u>
LEASE <u>Enoch</u>	WELL # <u>34-8+1</u>	LOCATION <u>Mudg Cr 283 Jct</u>			COUNTY <u>Graham</u>	STATE <u>Ks</u>	
OLD OR NEW (Circle one) <u>NEW</u>				<u>35-1w-5a</u>			

CONTRACTOR Express Well Service OWNER \_\_\_\_\_

TYPE OF JOB Part collar

HOLE SIZE \_\_\_\_\_ T.D. \_\_\_\_\_

CASING SIZE 4 1/2 DEPTH \_\_\_\_\_

TUBING SIZE 2 7/8 DEPTH 1933'

DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_

CEMENT LEFT IN CSG. \_\_\_\_\_

PERFS. \_\_\_\_\_

DISPLACEMENT 7.5 BBL

**EQUIPMENT**

PUMP TRUCK CEMENTER Fuzz

# 431 HELPER Darren

BULK TRUCK \_\_\_\_\_

# 394 DRIVER Jerry

BULK TRUCK \_\_\_\_\_

# \_\_\_\_\_ DRIVER \_\_\_\_\_

**REMARKS:**

Press closed tool @ 1200'  
Oper tool east circulation  
Mix 310 lbs cement / w 200' hails  
Displace 7 BBL close  
tools press to 1200'  
Reverse lbs clean  
cement did circulate  
Job complete @ 2:00pm  
Thanks Fuzz & crew

**CEMENT**

AMOUNT ORDERED 450 60/40 690

gel 114# Closeal

500' hails on side

(used 310 + 200#)

COMMON 186 @ 15.45 2873.70

POZMIX 124 @ 8.00 992.00

GEL 16 @ 20.00 332.80

CHLORIDE \_\_\_\_\_ @ \_\_\_\_\_

ASC \_\_\_\_\_ @ \_\_\_\_\_

Closeal 78# @ 2.50 195.00

\_\_\_\_\_ @ \_\_\_\_\_

Hails 4 sets @ 31.95 127.80

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

HANDLING 477 @ 2.40 1144.80

MILEAGE 102.5 mile 3339.00

TOTAL 9005.10

**SERVICE**

DEPTH OF JOB 1933

PUMP TRUCK CHARGE 1185.00

EXTRA FOOTAGE @ \_\_\_\_\_

MILEAGE 70 @ 7.00 490.00

MANIFOLD @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

TOTAL 1675.00

CHARGE TO: Artie Exploration

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**PLUG & FLOAT EQUIPMENT**

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

TOTAL \_\_\_\_\_

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES \_\_\_\_\_

DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

PRINTED NAME Gary Rowe

SIGNATURE Gary Rowe

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# ALLIED CEMENTING CO., LLC. 040981

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
Oakley

DATE <u>1-19-11</u>	SEC <u>24</u>	TWP <u>35</u>	RANGE <u>23W</u>	CALLED OUT	ON LOCATION	JOB START <u>12:00 AM</u>	JOB FINISH <u>12:00 AM</u>
<u>Circle</u> LEASE <u>Ranch</u>	WELL # <u>348 #1</u>	LOCATION <u>283+9 Jct 35 1W</u>			COUNTY <u>Worton</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)			<u>S into</u>				

CONTRACTOR W tw Drilling Rig Co OWNER Same

TYPE OF JOB Production

HOLE SIZE 7/8 T.D. 3750'

CASING SIZE 4 1/2 DEPTH 3750'

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL Port collar DEPTH 1933'

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT 20'

CEMENT LEFT IN CSG. 20

PERFS.

DISPLACEMENT 59.30 BBL

EQUIPMENT

PUMP TRUCK CEMENTER Andrew

# 423-281 HELPER Larene

BULK TRUCK

# 410 DRIVER woody

BULK TRUCK

# DRIVER

CEMENT

AMOUNT ORDERED 180 sbs 60 gal

10% salt 34 of 1% CD-31

500 gal WFR-2

COMMON 108 sbs @ 15.45 1681.60

POZMIX 72 sbs @ 8.00 576.00

GEL @

CHLORIDE @

ASC @

salt 15 sbs @ 23.95 359.25

WFR-2 500 gal @ 1.27 635.00

CD-31 116 # @ 9.25 1084.60

HANDLING 197 sbs @ 2.10 413.80

MILEAGE 104 sbs/mile 1379.00

TOTAL 6751.25

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REMARKS:

pump 500 gal WFR-2 plug bot hole 30 sbs, mix 150 sbs down 4 1/2 casing wash pump and lines clean Displace plug 650 # lift pressure tag plug 1100 # float held.

thank you

CHARGE TO: Ritchie Exploration

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE

DEPTH OF JOB 3750'

PUMP TRUCK CHARGE 2011.00

EXTRA FOOTAGE @

MILEAGE 20 miles @ 21.00 420.00

MANIFOLD @

TOTAL 2501.00

PLUG & FLOAT EQUIPMENT

4 1/2

1 Guide shoe @ 23.00

1 API Nsert @ 101.00

3 washets @ 147.00 441.00

5 Carbolizers @ 39.00 195.00

1 Rubber plug @ 62.00

1 Port collar 1678.00

TOTAL 2545.00

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

PRINTED NAME \_\_\_\_\_

SIGNATURE Thomas A. A. A.

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES \_\_\_\_\_

DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

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TR

# ALLIED CEMENTING CO., LLC. 040806

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:

Oakley KS

DATE	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
1-12-11	34	S	23		11:30am	7:30pm	8:00pm
Circle						COUNTY	STATE
LEASE	Ranch	WELL #34.5 #1	LOCATION Hwy 283 - Hwy 9 Jct			Wagon	KS
OLD OR NEW (Circle one)		35.314 W 51-					

CONTRACTOR W-W #6  
 TYPE OF JOB Surface  
 HOLE SIZE 12 1/4 T.D. 217'  
 CASING SIZE 8 1/8 DEPTH 217'  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX MINIMUM  
 MEAS. LINE SHOE JOINT  
 CEMENT LEFT IN CSG. 15'  
 PERFS.  
 DISPLACEMENT 12.8 BBL

OWNER  
 CEMENT  
 AMOUNT ORDERED 165 cum 390  
cc 290 gal

**EQUIPMENT**

PUMP TRUCK CEMENTER Fuzzy  
 # 431 HELPER Darren  
 BULK TRUCK  
 # 396 DRIVER Jerry  
 BULK TRUCK  
 # DRIVER

COMMON	<u>165</u>	@ <u>15.45</u>	<u>2549.25</u>
POZMIX		@ <u>80</u>	<u>40</u>
GEL	<u>3</u>	@ <u>20.20</u>	<u>62.40</u>
CHLORIDE	<u>6</u>	@ <u>58.20</u>	<u>349.20</u>
ASC		@	
		@	
		@	
		@	
		@	
		@	
		@	
HANDLING	<u>174</u>	@ <u>2.40</u>	<u>417.60</u>
MILEAGE	<u>10 x 5 = 50 mile</u>	@	<u>1218.00</u>
			TOTAL <u>4596.45</u>

**REMARKS:**

Cement did circulate  
Job complete @ 8:00pm  
Thanks Fuzzy crew

**SERVICE**

DEPTH OF JOB	<u>217'</u>		
PUMP TRUCK CHARGE			<u>1018.00</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>70</u>	@ <u>7.00</u>	<u>490.00</u>
MANIFOLD		@	
		@	
		@	
			TOTAL <u>1508.00</u>

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**APR 21 2011**  
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CHARGE TO: Ritchie Exploration  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**PLUG & FLOAT EQUIPMENT**

	@		
	@		
	@		
	@		
	@		
TOTAL			_____

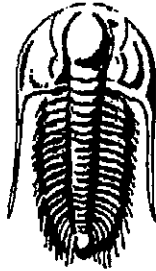
To Allied Cementing Co., LLC.  
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL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

PRINTED NAME Mark Bigge  
 SIGNATURE Mark Bigge

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

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**KCC WICHITA**

*[Handwritten initials]*



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Prepared For: **Ritchie Exploration Inc.**

PO Box 783188  
Wichita KS 67278-3188

ATTN: Jeff Christian

**34 5 23w Norton KS**

**Circle Ranch 34B#1**

Start Date: 2011.01.16 @ 05:35:00

End Date: 2011.01.16 @ 11:31:30

Job Ticket #: 040038      DST #: 1

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Trilobite Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

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Ritchie Exploration Inc.

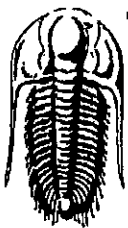
Circle Ranch 34B#1

34 5 23w Norton KS

DST # 1

Toronto, LKCA

2011.01.16



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188  
Wichita KS 67278-3188

ATTN: Jeff Christian

Circle Ranch 34B#1

34 5 23w Norton KS

Job Ticket: 040038 DST#: 1

Test Start: 2011.01.16 @ 05:35:00

## GENERAL INFORMATION:

Formation: **Toronto,LKC-A**  
 Deviated: **No Whipstock** ft (KB)  
 Time Tool Opened: **07:50:30**  
 Time Test Ended: **11:31:30**

Test Type: **Conventional Bottom Hole**  
 Tester: **Chuck Kreutzer Jr.**  
 Unit No: **36**

Interval: **3470.00 ft (KB) To 3525.00 ft (KB) (TVD)**  
 Total Depth: **3525.00 ft (KB) (TVD)**  
 Hole Diameter: **7.80 inches** Hole Condition: **Good**

Reference Elevations: **2336.00 ft (KB)**  
**2331.00 ft (CF)**  
 KB to GR/CF: **5.00 ft**

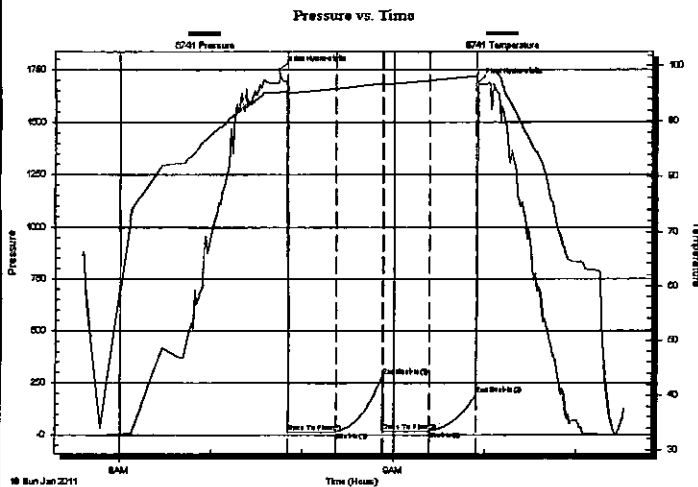
## Serial #: 6741

Inside

Press@RunDepth: **18.99 psig @ 3492.00 ft (KB)**  
 Start Date: **2011.01.16** End Date: **2011.01.16**  
 Start Time: **05:35:01** End Time: **11:31:30**

Capacity: **8000.00 psig**  
 Last Calib.: **2011.01.16**  
 Time On Btm: **2011.01.16 @ 07:45:00**  
 Time Off Btm: **2011.01.16 @ 09:55:30**

**TEST COMMENT:** IF: Weak surface blow , built to 1/2 in. over 30 mins.  
 IS: No blow back over 30 mins.  
 FF: No blow over 30 mins.  
 FS: No blow back over 30 mins.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1749.72	95.34	Initial Hydro-static
6	13.62	95.12	Open To Flow (1)
37	16.43	95.92	Shut-In(1)
68	281.27	96.88	End Shut-In(1)
68	17.26	96.74	Open To Flow (2)
99	18.99	97.41	Shut-In(2)
130	195.91	98.24	End Shut-In(2)
131	1691.33	99.23	Final Hydro-static

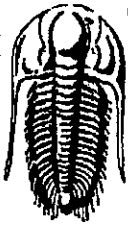
## Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud with oil specs	0.02

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Ritchie Exploration Inc.

**Circle Ranch 34B#1**

PO Box 783188  
Wichita KS 67278-3188

**34 5 23w Norton KS**

Job Ticket: 040038

**DST#: 1**

ATTN: Jeff Christian

Test Start: 2011.01.16 @ 05:35:00

**Tool Information**

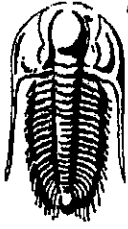
Drill Pipe:	Length: 3346.00 ft	Diameter: 3.80 inches	Volume: 46.94 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 36000.00 lb
			<u>Total Volume: 47.55 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3470.00 ft			Final 34000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.00 ft			
Tool Length:	75.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3455.00	
Hydraulic tool	5.00			3460.00	
Recorder	5.00			3465.00	
Packer	5.00			3470.00	20.00 Bottom Of Top Packer
Stubb	1.00			3471.00	
Perforations	20.00			3491.00	
Change Over Sub	1.00			3492.00	
Recorder	0.00	6752	Inside	3492.00	
Recorder	0.00	6741	Inside	3492.00	
Blank Spacing	29.00			3521.00	
Change Over Sub	1.00			3522.00	
Bullnose	3.00			3525.00	55.00 Anchor Tool

**Total Tool Length: 75.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Ritchie Exploration Inc.  
PO Box 783188  
Wichita KS 67278-3188  
ATTN: Jeff Christian

Circle Ranch 34B#1  
34 5 23w Norton KS  
Job Ticket: 040038      DST#: 1  
Test Start: 2011.01.16 @ 05:35:00

**Mud and Cushion Information**

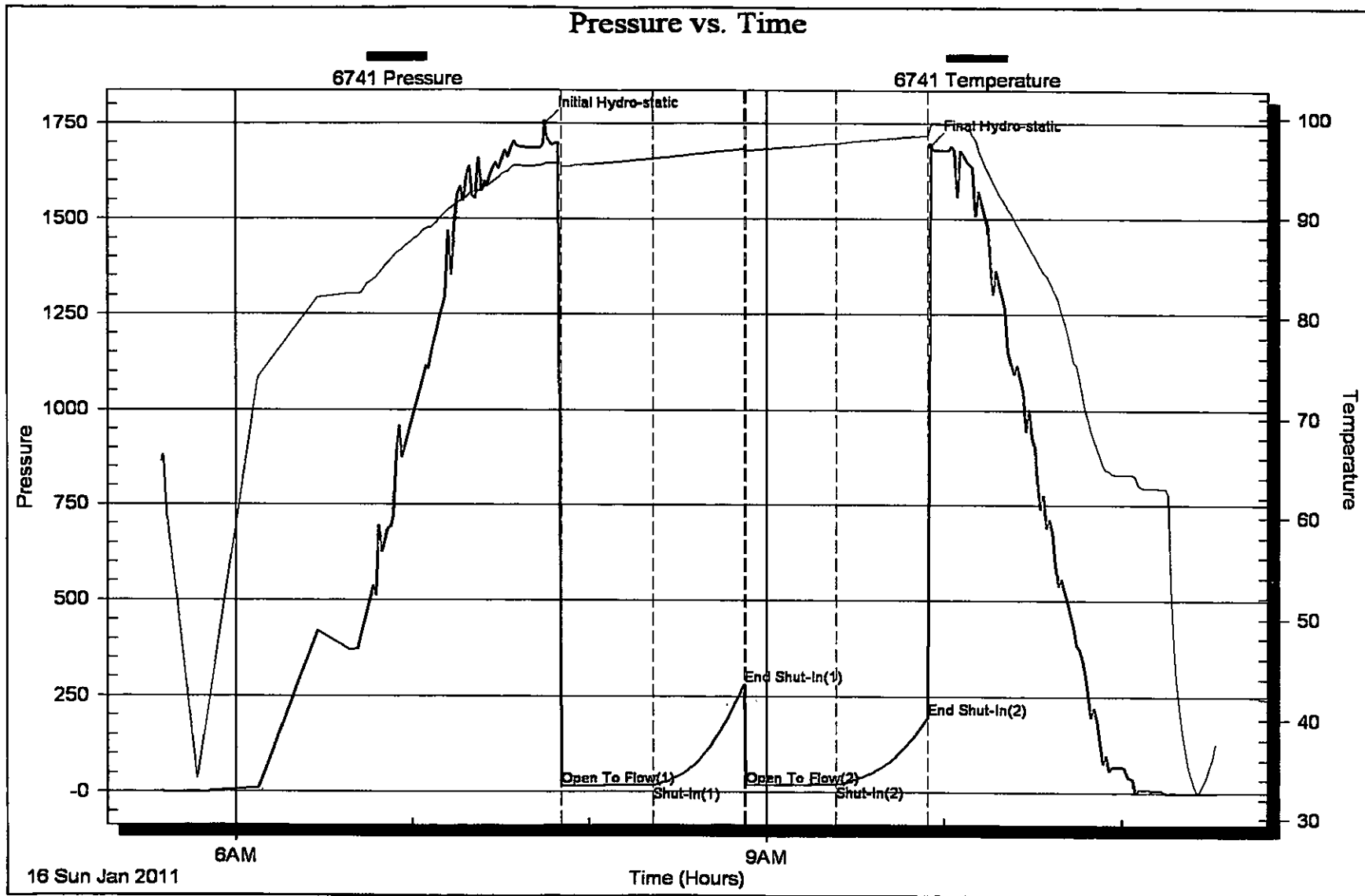
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 69.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.17 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 700.00 ppm			
Filter Cake: 2.00 inches			

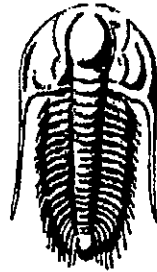
**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
5.00	mud with oil specs	0.025

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





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc.**

PO Box 783188  
Wichita KS 67278-3188

ATTN: Jeff Christian

**34 5 23w Norton KS**

**Circle Ranch 34B#1**

Start Date: 2011.01.16 @ 17:20:00

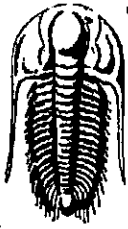
End Date: 2011.01.16 @ 23:50:00

Job Ticket #: 040039      DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc.  
PO Box 783188  
Wichita KS 67278-3188  
ATTN: Jeff Christian

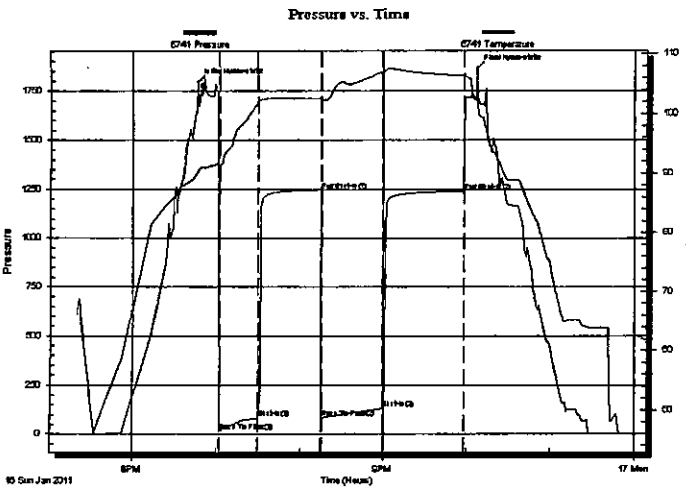
**Circle Ranch 34B#1**  
**34 5 23w Norton KS**  
Job Ticket: 040039      DST#: 2  
Test Start: 2011.01.16 @ 17:20:00

## GENERAL INFORMATION:

Formation: **LKC-C**  
 Deviated: No      Whipstock:      ft (KB)  
 Time Tool Opened: 19:01:30  
 Time Test Ended: 23:50:00  
 Interval: **3528.00 ft (KB) To 3552.00 ft (KB) (TVD)**  
 Total Depth: **3552.00 ft (KB) (TVD)**  
 Hole Diameter: **7.80 inches** Hole Condition: **Good**  
 Test Type: **Conventional Bottom Hole**  
 Tester: **Chuck Kreuzer Jr.**  
 Unit No: **36**  
 Reference Elevations: **2336.00 ft (KB)**  
**2331.00 ft (CF)**  
 KB to GR/CF: **5.00 ft**

**Serial #: 6741**      Inside  
 Press@RunDepth: **130.54 psig @ 3529.00 ft (KB)**      Capacity: **8000.00 psig**  
 Start Date: **2011.01.16**      End Date: **2011.01.16**      Last Calib.: **2011.01.16**  
 Start Time: **17:20:01**      End Time: **23:50:00**      Time On Btm: **2011.01.16 @ 18:46:00**  
 Time Off Btm: **2011.01.16 @ 22:07:00**

**TEST COMMENT:** IF: Weak blow built to 5 in. over 30 mins.  
 IS: No blow back over 45 mins.  
 FF: Weak blow built to 5 in. over 45 mins.  
 FS: No blow back over 60 mins.



## PRESSURE SUMMARY

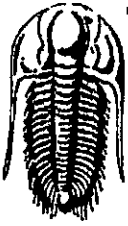
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1796.32	90.07	Initial Hydro-static
16	14.21	91.13	Open To Flow (1)
44	81.54	101.92	Shut-In(1)
89	1245.91	102.57	End Shut-In(1)
89	85.28	102.08	Open To Flow (2)
134	130.54	106.90	Shut-In(2)
192	1240.13	106.36	End Shut-In(2)
201	1863.23	102.56	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
124.00	mcw -20% m80%w	0.61
31.00	w cm-50%w 50%m	0.43
5.00	mud w ith oil specs	0.07

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Ritchie Exploration Inc.

**Circle Ranch 34B#1**

PO Box 783188  
Wichita KS 67278-3188

**34 5 23w Norton KS**

ATTN: Jeff Christian

Job Ticket: 040039

**DST#: 2**

Test Start: 2011.01.16 @ 17:20:00

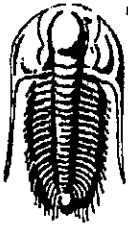
**Tool Information**

Drill Pipe:	Length: 3415.00 ft	Diameter: 3.80 inches	Volume: 47.90 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 48.51 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 36000.00 lb
Depth to Top Packer:	3528.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3513.00	
Hydraulic tool	5.00			3518.00	
Packer	5.00			3523.00	20.00 Bottom Of Top Packer
Packer	5.00			3528.00	
Stubb	1.00			3529.00	
Recorder	0.00	6752	Inside	3529.00	
Recorder	0.00	6741	Inside	3529.00	
Perforations	20.00			3549.00	
Bullnose	3.00			3552.00	24.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>44.00</b>				



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Ritchie Exploration Inc.  
PO Box 783188  
Wichita KS 67278-3188  
ATTN: Jeff Christian

Circle Ranch 34B#1  
34 5 23w Norton KS  
Job Ticket: 040039      DST#: 2  
Test Start: 2011.01.16 @ 17:20:00

**Mud and Cushion Information**

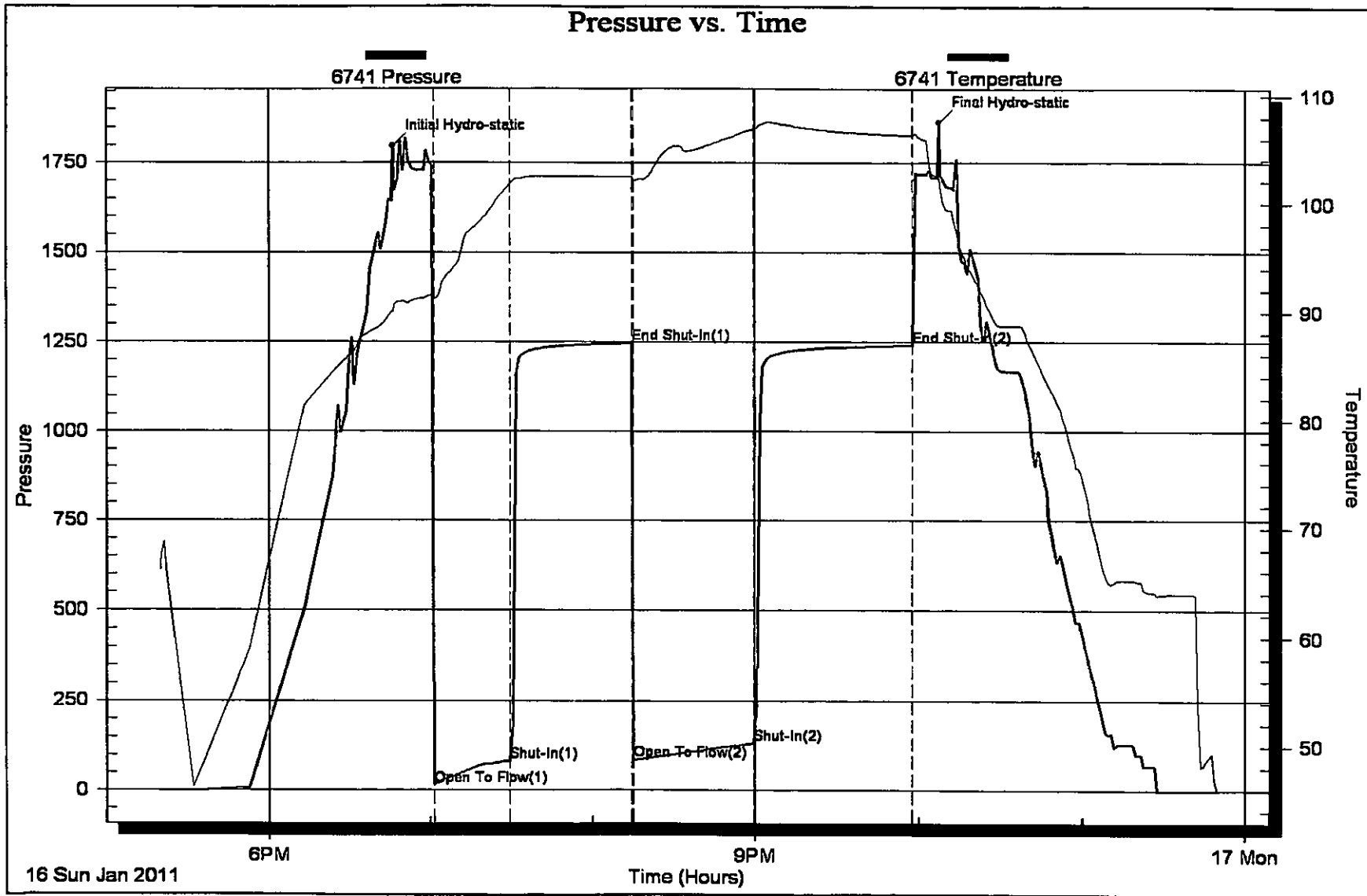
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	14000 ppm
Viscosity: 68.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.18 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.60 ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: 2.00 inches			

**Recovery Information**

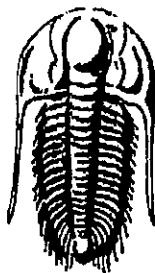
Recovery Table

Length ft	Description	Volume bbl
124.00	mcw -20% m80%w	0.610
31.00	w cm-50%w 50%m	0.435
5.00	mud with oil specs	0.070

Total Length: 160.00 ft      Total Volume: 1.115 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: RW .6 @ 62F = 14000 chlorides







**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Prepared For: **Ritchie Exploration Inc.**

PO Box 783188  
Wichita KS 67278-3188

ATTN: Jeff Christian

**34 5 23w Norton KS**

**Circle Ranch 34B#1**

Start Date: 2011.01.17 @ 05:15:00

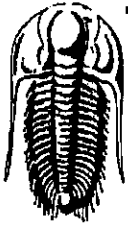
End Date: 2011.01.17 @ 11:19:30

Job Ticket #: 040040                      DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc.

Circle Ranch 34B#1

PO Box 783188  
Wichita KS 67278-3188

34 5 23w Norton KS

Job Ticket: 040040

DST#: 3

ATTN: Jeff Christian

Test Start: 2011.01.17 @ 05:15:00

## GENERAL INFORMATION:

Formation: LKC-D

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:40:30

Time Test Ended: 11:19:30

Test Type: Conventional Bottom Hole

Tester: Chuck Kreutzer Jr.

Unit No: 36

Interval: 3550.00 ft (KB) To 3570.00 ft (KB) (TVD)

Total Depth: 3570.00 ft (KB) (TVD)

Hole Diameter: 7.80 inches Hole Condition: Good

Reference Elevations: 2336.00 ft (KB)

2331.00 ft (CF)

KB to GRVCF: 5.00 ft

Serial #: 6741

Inside

Press@RunDepth: 73.37 psig @ 3551.00 ft (KB)

Start Date: 2011.01.17

End Date:

2011.01.17

Start Time: 05:15:01

End Time:

11:19:30

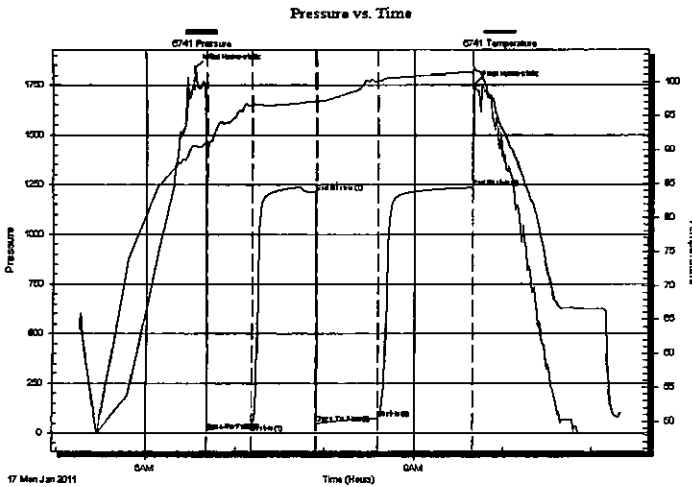
Capacity: 8000.00 psig

Last Calb.: 2011.01.17

Time On Btm: 2011.01.17 @ 06:32:30

Time Off Btm: 2011.01.17 @ 09:40:30

**TEST COMMENT:** IF: Weak blow, built to 2 1/2 in. over 30 mins.  
IS: No blow back over 45 mins.  
FF: Weak blow, built to 1 in. Started to die dead in 45 mins.  
FS: No blow back over 60 mins.



## PRESSURE SUMMARY

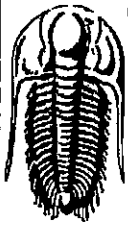
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1838.51	90.59	Initial Hydro-static
8	11.96	89.86	Open To Flow (1)
39	44.43	96.69	Shut-In(1)
82	1213.08	97.10	End Shut-In(1)
82	48.79	96.86	Open To Flow (2)
124	73.37	100.08	Shut-In(2)
187	1235.36	101.38	End Shut-In(2)
188	1753.07	102.05	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Oil	0.02
62.00	ocm-15%o85%m	0.30
62.00	vsocmw-5%o30%m65%w	0.35

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Ritchie Exploration Inc.

Circle Ranch 34B#1

PO Box 783188  
Wichita KS 67278-3188

34 5 23w Norton KS

Job Ticket: 040040

DST#: 3

ATTN: Jeff Christian

Test Start: 2011.01.17 @ 05:15:00

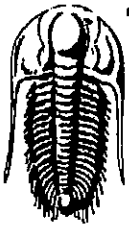
**Tool Information**

Drill Pipe:	Length: 3414.00 ft	Diameter: 3.80 inches	Volume: 47.89 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 40000.00 lb
		<b>Total Volume:</b>	<b>48.50 bbl</b>	Tool Chased 2.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 36000.00 lb
Depth to Top Packer:	3550.00 ft			Final 36000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	40.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3535.00	
Hydraulic tool	5.00			3540.00	
Packer	5.00			3545.00	20.00 Bottom Of Top Packer
Packer	5.00			3550.00	
Stubb	1.00			3551.00	
Recorder	0.00	6752	Inside	3551.00	
Recorder	0.00	6741	Inside	3551.00	
Perforations	16.00			3567.00	
Bullnose	3.00			3570.00	20.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>40.00</b>				



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Ritchie Exploration Inc.

Circle Ranch 34B#1

PO Box 783188  
Wichita KS 67278-3188

34 5 23w Norton KS

Job Ticket: 040040

DST#: 3

ATTN: Jeff Christian

Test Start: 2011.01.17 @ 05:15:00

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 68.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbf
5.00	Oil	0.025
62.00	ocm-15%o85%m	0.305
62.00	vsocmw-5%o30%m65%w	0.350

Total Length: 129.00 ft

Total Volume: 0.680 bbf

Num Fluid Samples: 0

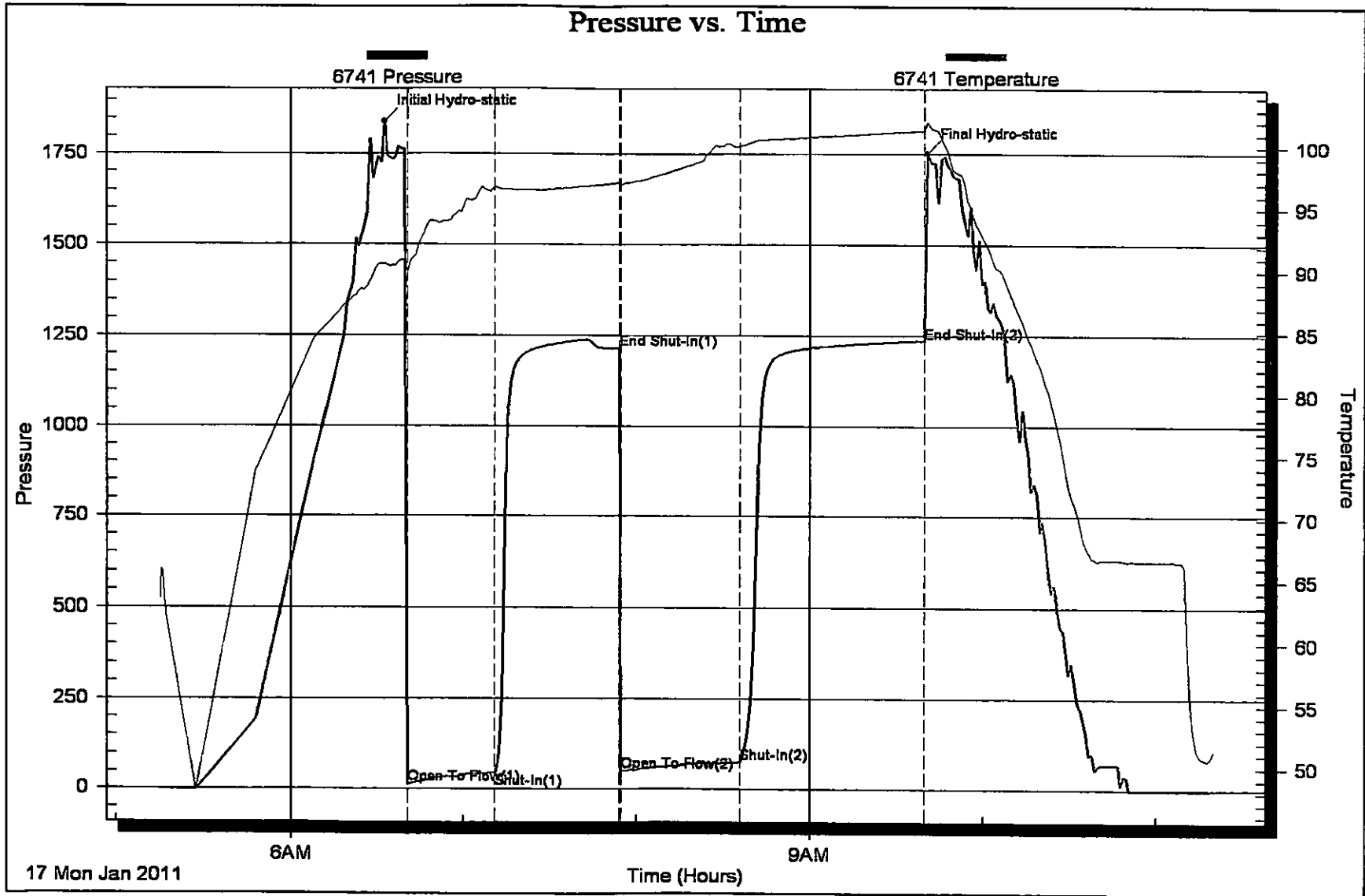
Num Gas Bombs: 0

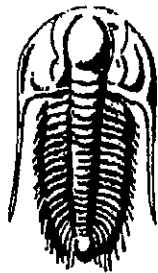
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc.**

PO Box 783188  
Wichita KS 67278-3188

ATTN: Jeff Christian

**34 5 23w Norton KS**

**Circle Ranch 34B#1**

Start Date: 2011.01.17 @ 21:30:00

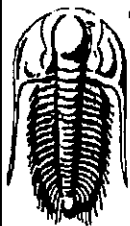
End Date: 2011.01.18 @ 03:46:30

Job Ticket #: 040041      DST #: 4

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188  
Wichita KS 67278-3188

ATTN: Jeff Christian

Circle Ranch 34B#1

34 5 23w Norton KS

Job Ticket: 040041 DST#: 4

Test Start: 2011.01.17 @ 21:30:00

### GENERAL INFORMATION:

Formation: LKC-H

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:17:30

Time Test Ended: 03:46:30

Test Type: Conventional Bottom Hole

Tester: Chuck Kreutzer Jr.

Unit No: 36

Interval: 3612.00 ft (KB) To 3637.00 ft (KB) (TVD)

Total Depth: 3637.00 ft (KB) (TVD)

Hole Diameter: 7.80 inches Hole Condition: Good

Reference Elevations: 2336.00 ft (KB)

2331.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6741

Inside

Press@RunDepth: 21.56 psig @ 3613.00 ft (KB)

Start Date: 2011.01.17

End Date: 2011.01.18

Start Time: 21:30:01

End Time: 03:46:30

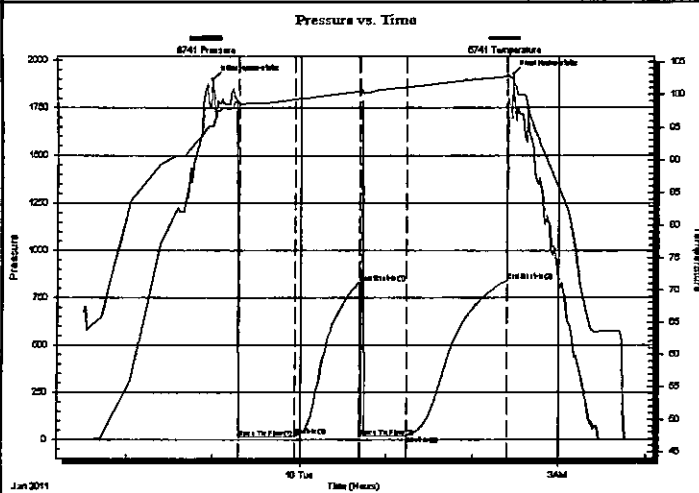
Capacity: 8000.00 psig

Last Calib.: 2011.01.18

Time On Btm: 2011.01.17 @ 22:59:30

Time Off Btm: 2011.01.18 @ 02:28:00

**TEST COMMENT:** IF: Weak surface blow, Died in 20 mins.  
IS: No blow back over 45 mins.  
FF: No blow, flushed tool. weak blow died in 10 secs.  
FS: No blow back over 60 mins.



### PRESSURE SUMMARY

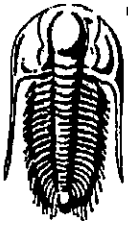
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1898.19	95.25	Initial Hydro-static
18	13.38	98.52	Open To Flow (1)
57	22.02	99.33	Shut-In(1)
102	830.27	100.51	End Shut-In(1)
103	18.63	100.05	Open To Flow (2)
135	21.56	101.17	Shut-In(2)
204	841.24	102.79	End Shut-In(2)
209	1924.28	102.34	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud-100%	0.05

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration Inc.

**Circle Ranch 34B#1**

PO Box 783188  
Wichita KS 67278-3188

**34 5 23w Norton KS**

Job Ticket: 040041

**DST#: 4**

ATTN: Jeff Christian

Test Start: 2011.01.17 @ 21:30:00

### Tool Information

Drill Pipe:	Length: 3489.00 ft	Diameter: 3.80 inches	Volume: 48.94 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 40000.00 lb
		<b>Total Volume:</b>	<b>49.55 bbl</b>	Tool Chased 10.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 37000.00 lb
Depth to Top Packer:	3612.00 ft			Final 37000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	45.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3597.00	
Hydraulic tool	5.00			3602.00	
Packer	5.00			3607.00	20.00 Bottom Of Top Packer
Packer	5.00			3612.00	
Stubb	1.00			3613.00	
Recorder	0.00	6752	Inside	3613.00	
Recorder	0.00	6741	Inside	3613.00	
Perforations	21.00			3634.00	
Bullnose	3.00			3637.00	25.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>45.00</b>				





**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Ritchie Exploration Inc.  
PO Box 783188  
Wichita KS 67278-3188  
ATTN: Jeff Christian

Circle Ranch 34B#1  
34 5 23w Norton KS  
Job Ticket: 040041      DST#: 4  
Test Start: 2011.01.17 @ 21:30:00

**Mud and Cushion Information**

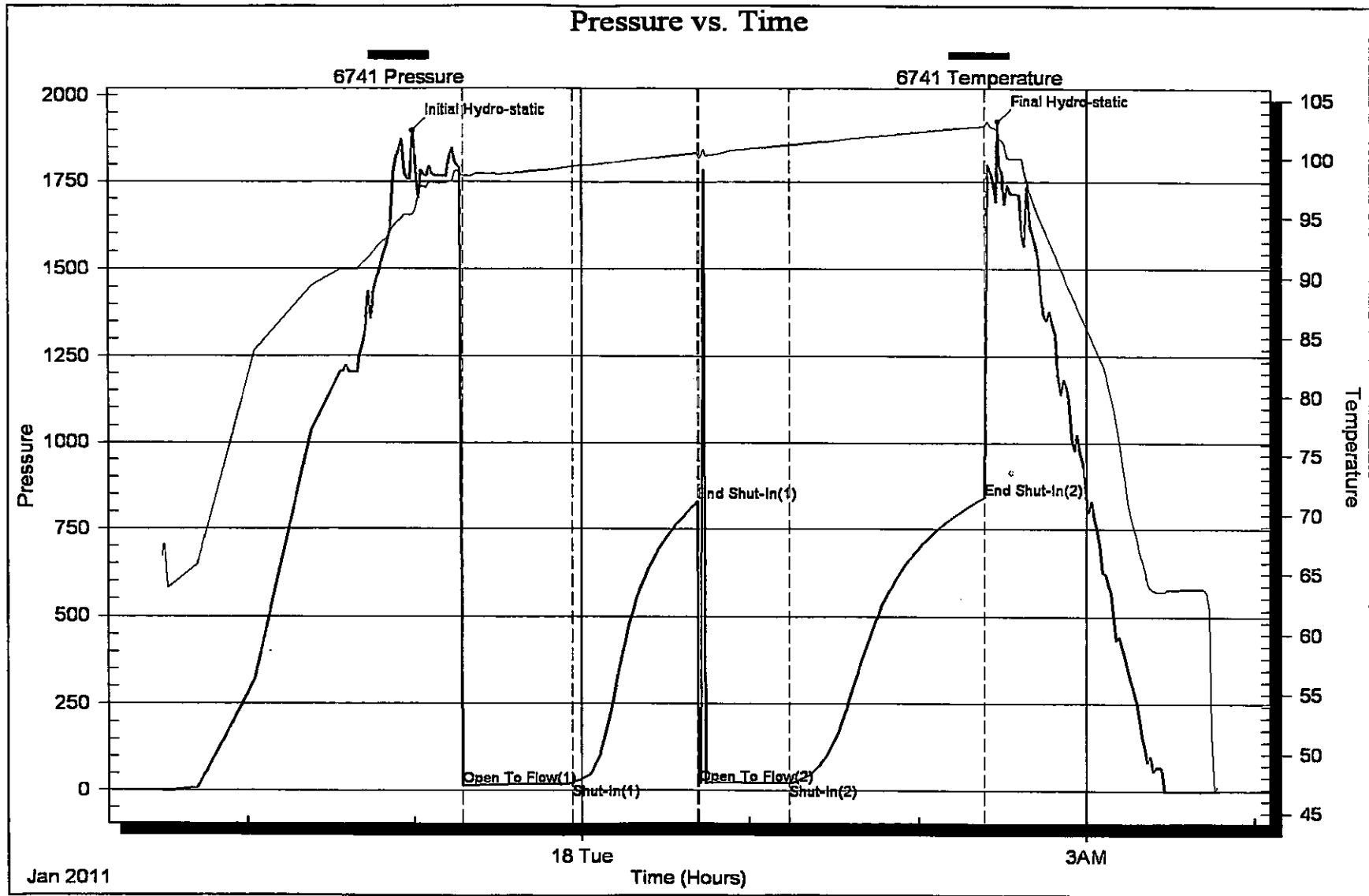
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 64.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.18 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1600.00 ppm			
Filter Cake: 2.00 inches			

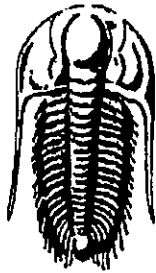
**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
10.00	mud-100%	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:





**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Prepared For: **Ritchie Exploration Inc.**  
PO Box 783188  
Wichita KS 67278-3188

ATTN: Jeff Christian

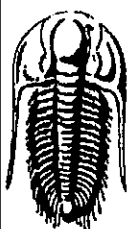
**34 5 23w Norton KS**

**Circle Ranch 34B#1**

Start Date: 2011.01.18 @ 09:15:00  
End Date: 2011.01.18 @ 15:44:30  
Job Ticket #: 040042          DST #: 5

Trilobite Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Ritchie Exploration Inc.  
Circle Ranch 34B#1  
34 5 23w Norton KS  
DST # 5  
LKC-J  
2011.01.18



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188  
Wichita KS 67278-3188

ATTN: Jeff Christian

Circle Ranch 34B#1

34 5 23w Norton KS

Job Ticket: 040042

DST#: 5

Test Start: 2011.01.18 @ 09:15:00

## GENERAL INFORMATION:

Formation: LKC-J

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:19:30

Time Test Ended: 15:44:30

Test Type: Conventional Bottom Hole

Tester: Chuck Kreutzer Jr.

Unit No: 36

Interval: 3637.00 ft (KB) To 3667.00 ft (KB) (TVD)

Total Depth: 3667.00 ft (KB) (TVD)

Hole Diameter: 7.80 inches Hole Condition: Good

Reference Elevations: 2336.00 ft (KB)

2331.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6741

Inside

Press@RunDepth: 20.58 psig @ 3638.00 ft (KB)

Start Date: 2011.01.18

End Date:

2011.01.18

Start Time: 09:15:01

End Time:

15:44:30

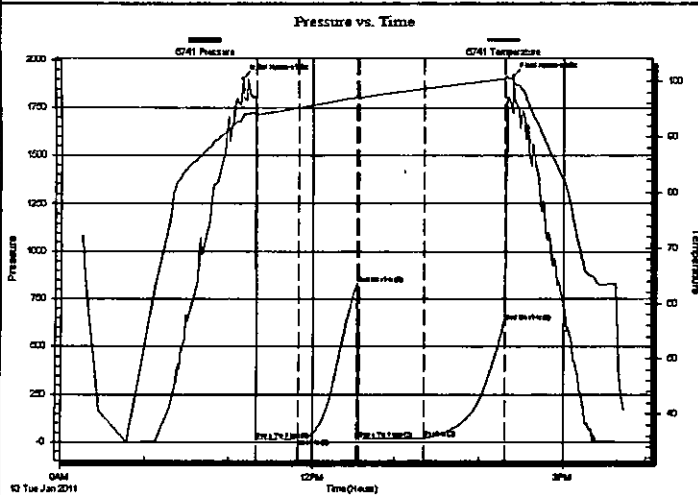
Capacity: 8000.00 psig

Last Calib.: 2011.01.18

Time On Btm: 2011.01.18 @ 11:09:30

Time Off Btm: 2011.01.18 @ 14:24:00

**TEST COMMENT:** IF: Weak blow built to 1 in. over 30 mins.  
IS: No blow back over 45 mins.  
FF: Weak blow built to 1 in. over 45 mins.  
FS: No blow back over 60 mins.



## PRESSURE SUMMARY

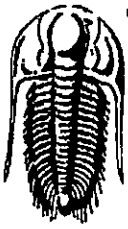
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1901.75	93.48	Initial Hydro-static
10	13.39	93.95	Open To Flow (1)
41	20.24	95.21	Shut-In(1)
83	829.00	97.11	End Shut-In(1)
84	17.90	96.86	Open To Flow (2)
131	20.58	98.65	Shut-In(2)
189	631.70	100.45	End Shut-In(2)
195	1913.99	100.12	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	HOCM-10% m90%	0.05

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Ritchie Exploration Inc.

Circle Ranch 34B#1

PO Box 783188  
Wichita KS 67278-3188

34 5 23w Norton KS

Job Ticket: 040042

DST#: 6

ATTN: Jeff Christian

Test Start: 2011.01.18 @ 09:15:00

**Tool Information**

Drill Pipe:	Length: 3493.00 ft	Diameter: 3.80 inches	Volume: 49.00 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 42000.00 lb
		<b>Total Volume:</b>	<b>49.61 bbl</b>	Tool Chased 2.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 39000.00 lb
Depth to Top Packer:	3637.00 ft			Final 39000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	58.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3614.00	
Hydraulic tool	5.00			3619.00	
Jars	5.00			3624.00	
Safety Joint	3.00			3627.00	
Packer	5.00			3632.00	28.00 Bottom Of Top Packer
Packer	5.00			3637.00	
Stubb	1.00			3638.00	
Recorder	0.00	6752	Inside	3638.00	
Recorder	0.00	6741	Inside	3638.00	
Perforations	26.00			3664.00	
Bullnose	3.00			3667.00	30.00 Bottom Packers & Anchor

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Ritchie Exploration Inc.

Circle Ranch 34B#1

PO Box 783188  
Wichita KS 67278-3188

34 5 23w Norton KS

Job Ticket: 040042      DST#: 5

ATTN: Jeff Christian

Test Start: 2011.01.18 @ 09:15:00

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 64.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1600.00 ppm			
Filter Cake: 2.00 inches			

**Recovery Information**

Recovery Table

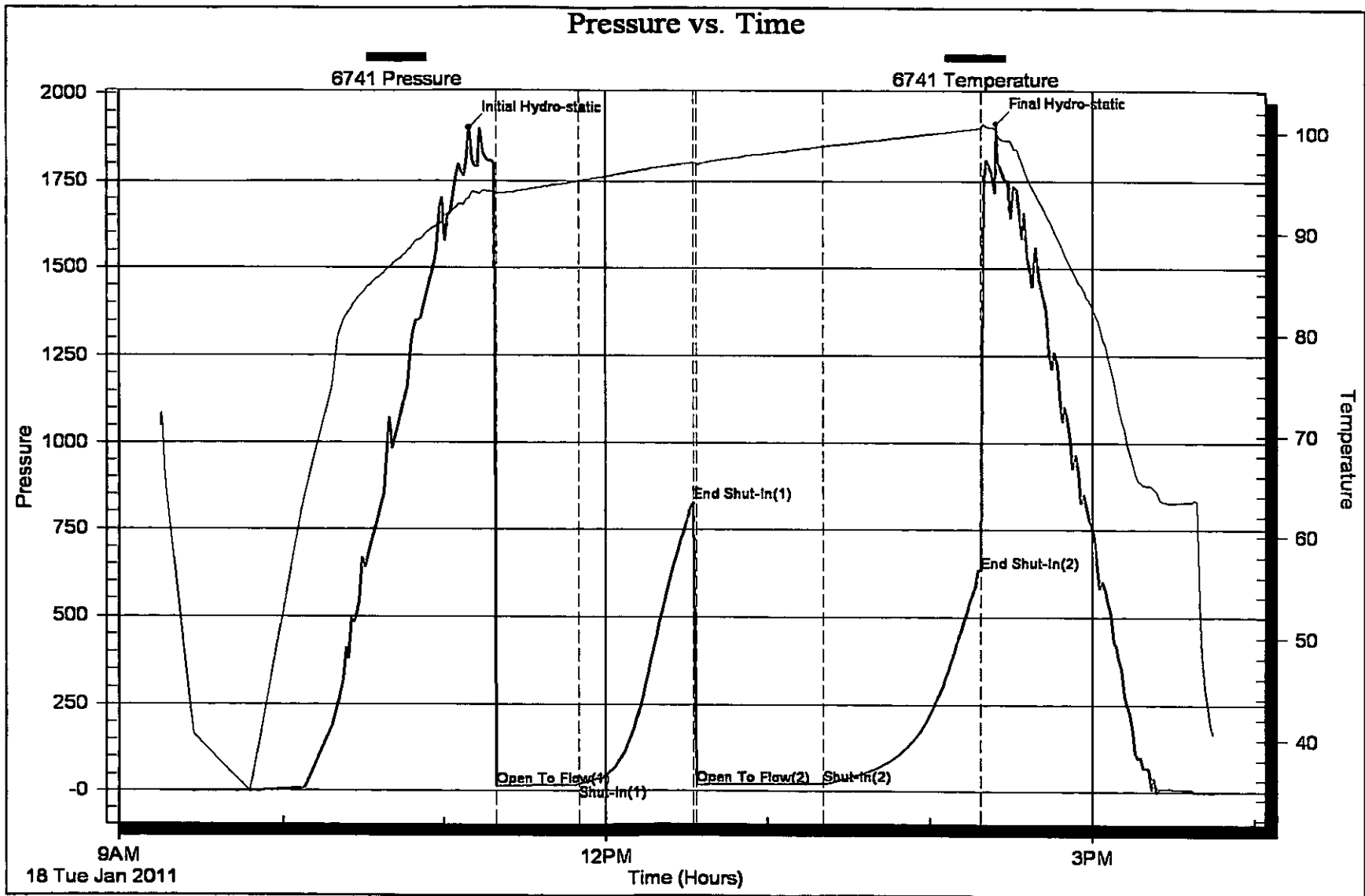
Length ft	Description	Volume bbl
10.00	HOCM-10% <del>m</del> 90% <del>o</del>	0.049

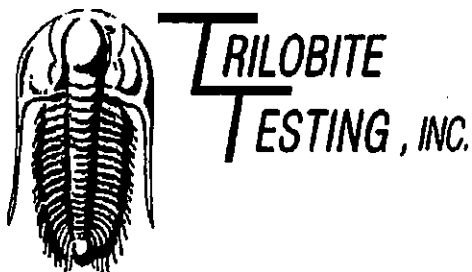
Total Length: 10.00 ft      Total Volume: 0.049 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc.**

PO Box 783188  
Wichita KS 67278-3188

ATTN: Jeff Christian

**34 5 23w Norton KS**

**Circle Ranch 34B#1**

Start Date: 2011.01.18 @ 21:40:00

End Date: 2011.01.19 @ 03:48:30

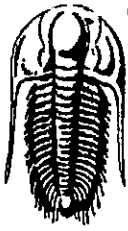
Job Ticket #: 040043      DST #: 6

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc.

Circle Ranch 34B#1

PO Box 783188  
Wichita KS 67278-3188

34 5 23w Norton KS

ATTN: Jeff Christian

Job Ticket: 040043 DST#: 6

Test Start: 2011.01.18 @ 21:40:00

## GENERAL INFORMATION:

Formation: LKC-KL

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:19:30

Time Test Ended: 03:48:30

Test Type: Conventional Bottom Hole

Tester: Chuck Kreuzer Jr.

Unit No: 36

Interval: 3665.00 ft (KB) To 3699.00 ft (KB) (TVD)

Total Depth: 3699.00 ft (KB) (TVD)

Hole Diameter: 7.80 inches Hole Condition: Good

Reference Elevations: 2336.00 ft (KB)

2331.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6741

Inside

Press@RunDepth: 107.66 psig @ 3666.00 ft (KB)

Start Date: 2011.01.18

End Date:

2011.01.19

Capacity: 8000.00 psig

Last Calib.: 2011.01.19

Start Time: 21:40:01

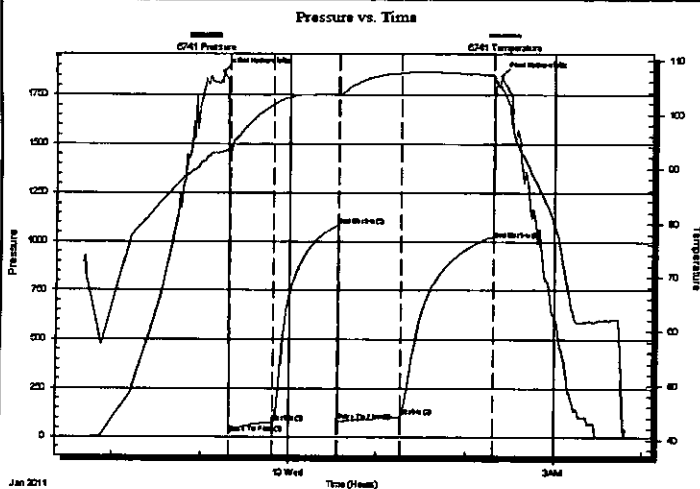
End Time:

03:48:30

Time On Btm: 2011.01.18 @ 23:15:00

Time Off Btm: 2011.01.19 @ 02:24:00

**TEST COMMENT:** IF: Fair blow, Built to 8 in. over 30 mins.  
IS: Weak blow back, Died after 15 mins.  
FF: Fair blow built to 8 in. over 45 mins.  
FSt: No blow back over 60 mins.



## PRESSURE SUMMARY

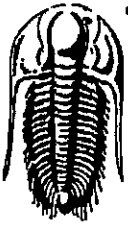
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1868.90	93.30	Initial Hydro-static
5	20.16	92.97	Open To Flow (1)
34	75.73	101.79	Shut-In(1)
78	1089.05	103.78	End Shut-In(1)
79	81.72	103.44	Open To Flow (2)
121	107.66	107.59	Shut-In(2)
184	1016.25	107.31	End Shut-In(2)
189	1847.19	104.89	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbt)
30.00	oil	0.15
104.00	w com-10%w 20%o 70%m	0.60
62.00	vsocmw -10%o 20%m 70%w	0.87

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Ritchie Exploration Inc.

Circle Ranch 34B#1

PO Box 783188  
Wichita KS 67278-3188

34 5 23w Norton KS

Job Ticket: 040043

DST#: 6

ATTN: Jeff Christian

Test Start: 2011.01.18 @ 21:40:00

**Tool Information**

Drill Pipe:	Length: 3527.00 ft	Diameter: 3.80 inches	Volume: 49.47 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 50.08 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3665.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	54.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3650.00	
Hydraulic tool	5.00			3655.00	
Packer	5.00			3660.00	20.00 Bottom Of Top Packer
Packer	5.00			3665.00	
Stubb	1.00			3666.00	
Recorder	0.00	6752	Inside	3666.00	
Recorder	0.00	6741	Inside	3666.00	
Perforations	30.00			3696.00	
Bullnose	3.00			3699.00	34.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>54.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration Inc.

Circle Ranch 34B#1

PO Box 783188  
Wichita KS 67278-3188

34 5 23w Norton KS

Job Ticket: 040043      DST#: 6

ATTN: Jeff Christian

Test Start: 2011.01.18 @ 21:40:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	30 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 64.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1600.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	oil	0.148
104.00	w com-10%w 20%o70%m	0.603
62.00	vsocmw-10%o20%m70%w	0.870

Total Length: 196.00 ft      Total Volume: 1.621 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

