

**CONFIDENTIAL**

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

**ORIGINAL**

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**

2/16/13

OPERATOR: License # 4767  
Name: Ritchie Exploration, Inc.  
Address 1: P.O. Box 783188  
Address 2: \_\_\_\_\_  
City: Wichita State: KS Zip: 67278 + 3188  
Contact Person: Peter Fiorini  
Phone: (316) 691-9500  
CONTRACTOR: License # 30606  
Name: Murfin Drilling Co., Inc.  
Wellsite Geologist: Jeff Christian  
Purchaser: \_\_\_\_\_

**KCC**  
**FEB 16 2011**  
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Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

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

Operator: \_\_\_\_\_  
Well Name: \_\_\_\_\_  
Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Conv. to GSW
- Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

10/18/10	10/26/10	10/27/10
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 063-21872-0000  
Spot Description: 110' N & 5' W  
SE NE NE Sec. 5 Twp. 14 S. R. 31  East  West  
880 Feet from  North /  South Line of Section  
335 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE  NW  SE  SW  
County: Gove  
Lease Name: Steckel 5A Well #: #1 SWD  
Field Name: Gaeland Township  
Producing Formation: \_\_\_\_\_  
Elevation: Ground: 2922 Kelly Bushing: 2932  
Total Depth: 4690 Plug Back Total Depth: 2373  
Amount of Surface Pipe Set and Cemented at: 223 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 crnt.

**Drilling Fluid Management Plan**

(Data must be collected from the Reserve Pit)

Chloride content: 14000 ppm Fluid volume: 880 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: Development/Production Geologist Date: 2/16/11

**KCC Office Use ONLY**

Letter of Confidentiality Received  
Date: 2/16/11 - 2/16/13  
 Confidential Release Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution  
ALT  I  II  III Approved by: DG Date: 2/28/11

**RECEIVED**  
**FEB 17 2011**  
**KCC WICHITA**

Operator Name: Ritchie Exploration, Inc. Lease Name: Steckel 5A Well #: #1 SWD  
 Sec. 5 Twp. 14 S. R. 31  East  West County: Gove

**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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run: Dual Induction Log Compensated Neutron/Density Log	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input checked="" type="checkbox"/> Sample Name Top Datum   <div style="text-align: center; font-weight: bold; font-size: 1.2em;">                     KCC                      FEB 16 2011                      CONFIDENTIAL                 </div>
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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	223'	common	175	3%cc, 2% gel
Production	7 7/8	4 1/2	10.5	2421'	9040 pozmix & common	400 & 150	6% gel & 1/4% floccle (poz)

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
	*****Waiting on Completion*****		

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____		Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
Date of First, Resumed Production, SWD or ENHR. _____		Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) _____
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> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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# RITCHIE

EXPLORATION, INC.  
Wichita, Kansas

KCC  
FEB 16 2011  
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**#1 Steckel 5A**  
880' FNL & 335' FEL  
110' N & 5' W of SE NE NE Section 5-14S-31W  
Gove County, Kansas  
API# 15-063-21872-0000  
Elevation: 2922' GL: 2932' KB

<u>Sample Tops</u>			<u>Ref.</u>	<u>Well</u>
Anhydrite	2414'	+518	-5	
B/Anhydrite	2437'	+495	-6	
Heebner	3944'	-1012	-17	
Toronto	3963'	-1031	-15	
Lansing	3985'	-1053	-18	
Muncie Shale	4142'	-1210	-19	
LKC "H"	4157'	-1225	-18	
Stark Shale	4230'	-1298	-19	
Hush	4266'	-1334	-21	
BKC	4298'	-1366	-21	
Marmaton	4329'	-1397	-23	
Altamont	4343'	-1411	-24	
Pawnee	4428'	-1496	-23	
Myric Station	4466'	-1534	-24	
Cherokee	4510'	-1578	-23	
Johnson	4552'	-1620	-23	
Morrow Sand	4603'	-1671	-46	
Mississippian	4617'	-1685	-39	
RTD	4690'	-1758		

RECEIVED  
FEB 17 2011  
KCC WICHITA

# ALLIED CEMENTING CO., LLC. 035667

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

KCC  
FEB 16 2011

SERVICE POINT:  
Oakley

DATE <u>10-78-70</u>	SEC. <u>5</u>	TWP. <u>14</u>	RANGE <u>31</u>	CONCESSION <u>CONFIDENTIAL</u>	ON LOCATION	JOB START <u>10:00am</u>	JOB FINISH <u>10:30pm</u>
LEASE <u>Steckel SA</u>	WELL # <u>1</u>	LOCATION <u>Oakley 11S 3E L6S</u>	COUNTY <u>Gove</u>	STATE <u>KS</u>			
OLD OR NEW (Circle one)			<u>1 E 1/4 S Winto</u>				

CONTRACTOR Murfin Drilling Rig 14 OWNER Same

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 226'

CASING SIZE 8 5/8 DEPTH 226'

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

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

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

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

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

CEMENT LEFT IN CSG. 15'

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

DISPLACEMENT 13.44 BBL

EQUIPMENT

PUMP TRUCK CEMENTER Andrew

# 423-281 HELPER Larene

BULK TRUCK

# 394 DRIVER Wil

BULK TRUCK

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

REMARKS:

Cement in cellar

\_\_\_\_\_

\_\_\_\_\_

thank you

CHARGE TO: Ritchie Exploration

STREET \_\_\_\_\_

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

CEMENT

AMOUNT ORDERED 175 sks com

100 229 gel

COMMON 175 sks @ 15.45 2703.75

POZMIX \_\_\_\_\_ @ \_\_\_\_\_

GEL 3 sks @ 20.80 62.40

CHLORIDE 6 sks @ 58.00 349.20

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

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

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

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

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

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

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

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

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

HANDLING 184 sks @ 2.40 441.60

MILEAGE 10.6 sks/mile 220.00

TOTAL 3832.95

SERVICE

DEPTH OF JOB 226'

PUMP TRUCK CHARGE \_\_\_\_\_ 1018.00

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

MILEAGE 15 miles @ 7.00 105.00

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

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

TOTAL 1123.00

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 COREY Joruhn

SIGNATURE Corey Joruhn

SALES TAX (if Any) \_\_\_\_\_

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

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

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DR

# ALLIED CEMENTING CO., LLC. 035501

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

KCC

SERVICE POINT:

*Oakley, K*

FEB 16 2011

DATE <i>10/27/10</i>	SEC. <i>5</i>	TWP. <i>14</i>	RANGE <i>31</i>	CALLED OUT	ON LOCATION	JOB START <i>11:30a</i>	JOB FINISH <i>12:30p</i>
LEASE <i>5-A</i>	WELL # <i>1</i>	LOCATION <i>Oakley 1153E 551E</i>	COUNTY <i>Carroll</i>	STATE <i>K</i>	CONFIDENTIAL		
OLD OR NEW (Circle one) <input checked="" type="radio"/> OLD				<i>1/4" 5" into</i>			

CONTRACTOR *Mug Ego 14*

TYPE OF JOB *Production*

HOLE SIZE *7 1/8"* T.D. *4600'*

CASING SIZE *4 1/2"* DEPTH *2421'*

TUBING SIZE DEPTH

DRILL PIPE *4 1/8"* DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT *40'*

CEMENT LEFT IN CSG. *40'*

PERFS.

DISPLACEMENT

OWNER *Same*

CEMENT AMOUNT ORDERED *450 SKI 60/40 67 gal*

*1/4 lb Flo Seal, 150 SKI Com*

COMMON	<i>420</i>	@ <i>15.45</i>	<i>6489.00</i>
POZMIX	<i>180</i>	@ <i>8.00</i>	<i>1440.00</i>
GEL	<i>23</i>	@ <i>20.80</i>	<i>478.40</i>
CHLORIDE		@	
ASC		@	
<i>Flo Seal</i>	<i>113</i>	@ <i>2.00</i>	<i>226.00</i>
HANDLING	<i>628 SKI</i>	@ <i>2.40</i>	<i>1507.20</i>
MILEAGE	<i>10.2 SKI/mile</i>		<i>942.00</i>
			TOTAL <i>11139.60</i>

EQUIPMENT

PUMP TRUCK CEMENTER *Alex*

# *242* HELPER *Wayne*

BULK TRUCK DRIVER *Damen*

# *396*

BULK TRUCK DRIVER *Jeremy*

# *386*

REMARKS:

*Run 4 1/2" Cas. Open Tri. Plug w/ 2000 PSI, Circulate 1 1/2 hr. Mix 20 SKI m. Hole 30 SKI. Put hole. Mix 400 SKI 60/40 67 gal. 1/4 lb Flo Seal. Fall w/ 150 SKI Com. Displace Plug To Watch Down w/ 300 PSI. 0.800 PSI. and Plug 170 PSI. Plug bit hole.*

*Cement did circulate.*

SERVICE

DEPTH OF JOB		<i>2381</i>
PUMP TRUCK CHARGE		<i>1185.00</i>
EXTRA FOOTAGE	@	
MILEAGE	<i>15</i>	@ <i>7.00</i> <i>105.00</i>
MANIFOLD	@	
TOTAL <i>1290.00</i>		

CHARGE TO: *Ritchie Explorations*

STREET \_\_\_\_\_

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

PLUG & FLOAT EQUIPMENT

<i>Triplex Shoe</i>	<i>1</i>	@	<i>1744.00</i>
<i>Latch Down Assembly</i>	<i>1</i>	@	<i>405.00</i>
<i>Basket</i>	<i>2</i>	@ <i>169.00</i>	<i>338.00</i>
<i>Controlner</i>	<i>2</i>	@ <i>51.00</i>	<i>102.00</i>
			TOTAL <i>2589.00</i>

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 *M. K. McKampso*

SIGNATURE *M. K. McKampso*

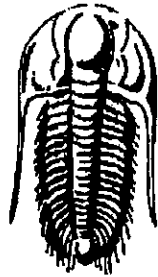
SALES TAX (If Any) \_\_\_\_\_

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

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

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FEB 17 2011  
KCC WICHITA

*Handwritten mark*



**TRILOBITE**  
**TESTING, INC.**

**DRILL STEM TEST REPORT**

Prepared For: **Ritchie Exploration, Inc.**

8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278

ATTN: Jeff Christian

**5-14s-31w Gove KS**

**Steckel 5A #1**

Start Date: 2010.10.22 @ 00:27:00

End Date: 2010.10.22 @ 07:14:00

Job Ticket #: 040055      DST #: 1

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FEB 17 2011

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Ritchie Exploration, Inc.

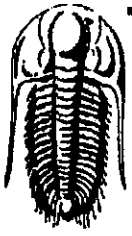
Steckel 5A #1

5-14s-31w Gove KS

DST # 1

LKC "C"

2010.10.22



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.  
8100 E 22nd St N#700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**Steckel 5A #1**  
**5-14s-31w Gove KS**  
Job Ticket: 040055      **DST#: 1**  
Test Start: 2010.10.22 @ 00:27:00

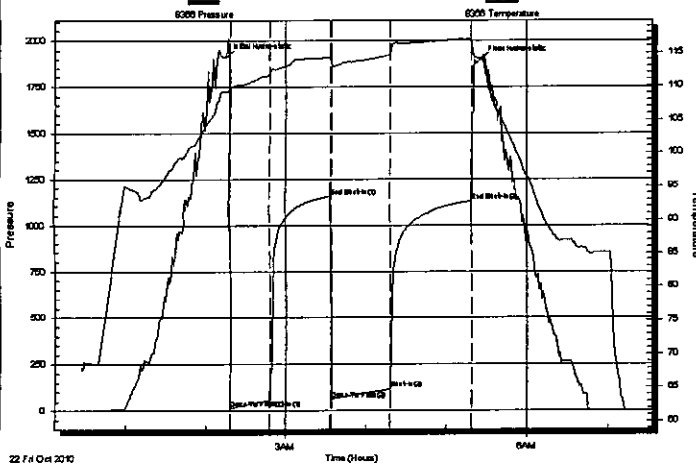
## GENERAL INFORMATION:

Formation: **LKC "C"**  
 Deviated: **No Whipstock**      ft (KB)  
 Time Tool Opened: 02:18:30  
 Time Test Ended: 07:14:00  
 Test Type: **Conventional Bottom Hole**  
 Tester: **James Winder**  
 Unit No: **46**  
 Interval: **4005.00 ft (KB) To 4030.00 ft (KB) (TVD)**  
 Total Depth: **4030.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
 Reference Elevations: **2932.00 ft (KB)**  
**2922.00 ft (CF)**  
 KB to GR/CF: **10.00 ft**

**Serial #: 8366**      **Inside**  
 Press@RunDepth: **117.52 psig @ 4006.00 ft (KB)**      Capacity: **8000.00 psig**  
 Start Date: **2010.10.22**      End Date: **2010.10.22**      Last Calib.: **2010.10.22**  
 Start Time: **00:27:05**      End Time: **07:13:59**      Time On Btm: **2010.10.22 @ 02:15:30**  
 Time Off Btm: **2010.10.22 @ 05:26:30**

**TEST COMMENT:** IF: Blow built to 4 1/4"  
 IS: Bled off, No blow back  
 FF: Blow @ 2 min., built to 3 3/4"  
 FS: Bled off, No blow back

Pressure vs. Time



## PRESSURE SUMMARY

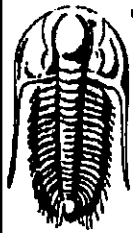
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1913.91	109.16	Initial Hydro-static
3	14.05	109.57	Open To Flow (1)
33	57.30	111.93	Shut-In(1)
78	1157.33	114.33	End Shut-In(1)
79	60.73	113.80	Open To Flow (2)
123	117.52	114.77	Shut-In(2)
184	1130.06	117.08	End Shut-In(2)
191	1898.34	114.22	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
250.00	MCW w/trace oil 82%w, 18%m	1.23

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**Steckel 5A #1**

8100 E 22nd St N#700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**5-14s-31w Gove KS**  
Job Ticket: 040055      **DST#: 1**  
Test Start: 2010.10.22 @ 00:27:00

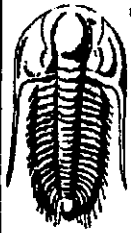
**Tool Information**

Drill Pipe:	Length: 3458.00 ft	Diameter: 3.80 inches	Volume: 48.51 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 539.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 51.16 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 81000.00 lb
Depth to Top Packer:	4005.00 ft			Final 82000.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3990.00	
Hydraulic tool	5.00			3995.00	
Packer	5.00			4000.00	20.00      Bottom Of Top Packer
Packer	5.00			4005.00	
Stubb	1.00			4006.00	
Recorder	0.00	8366	Inside	4006.00	
Recorder	0.00	8320	Inside	4006.00	
Perforations	21.00			4027.00	
Bullnose	3.00			4030.00	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.  
8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**Steckel 5A #1**  
**5-14s-31w Gove KS**  
Job Ticket: 040055      **DST#: 1**  
Test Start: 2010.10.22 @ 00:27:00

## Mud and Cushion Information

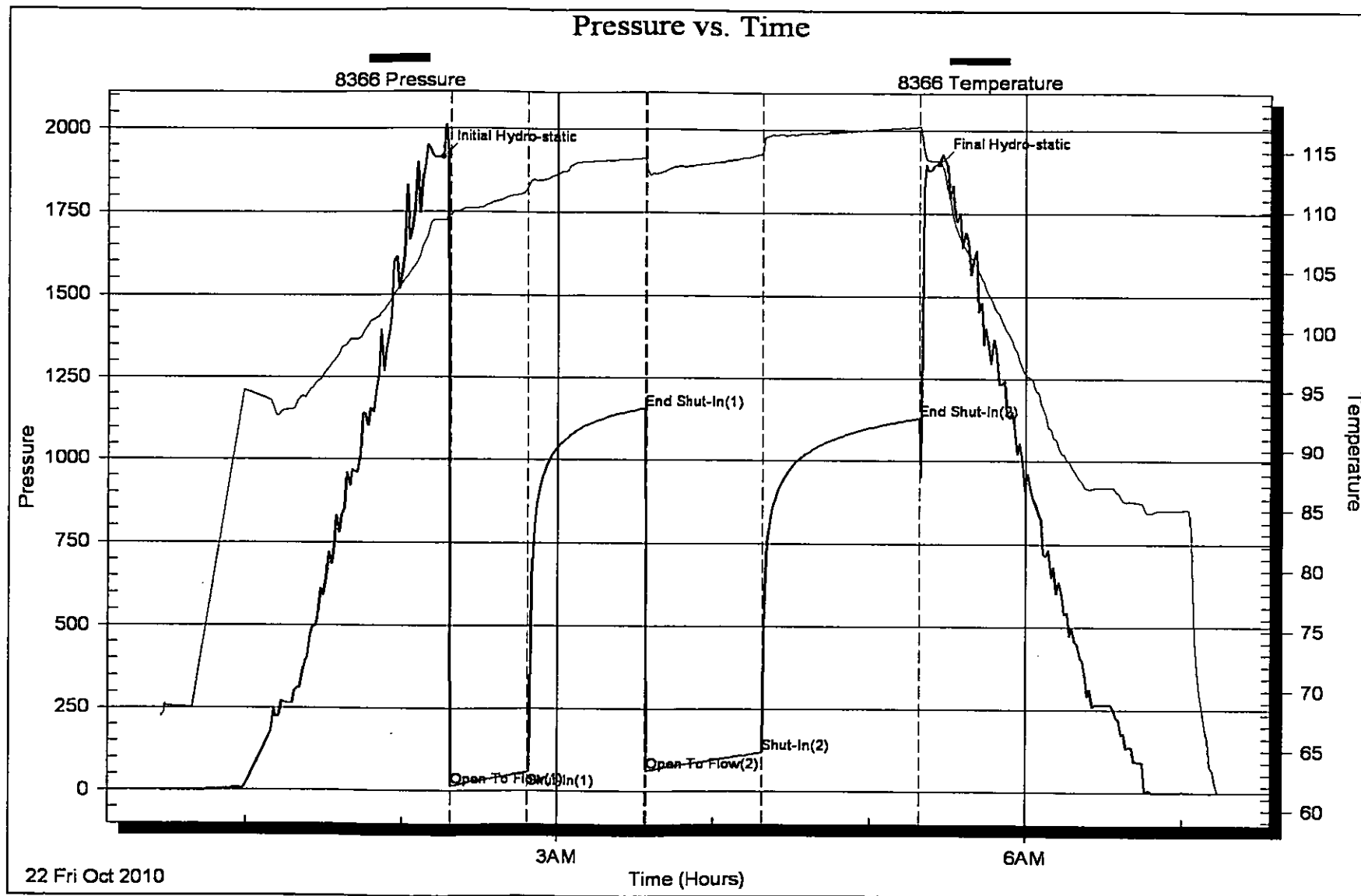
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	16000 ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.16 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4300.00 ppm			
Filter Cake: 1.00 inches			

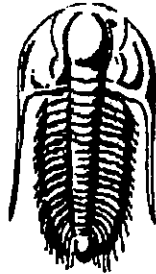
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
250.00	MCW w/trace oil 82%w, 18%m	1.229

Total Length: 250.00 ft      Total Volume: 1.229 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: RW = .500 ohms @ 56.8 deg F  
Chlorides = 16,000 ppm





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc.**

8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278

ATTN: Jeff Christian

**5-14s-31w Gove KS**

**Steckel 5A #1**

Start Date: 2010.10.22 @ 21:17:00

End Date: 2010.10.23 @ 04:09:30

Job Ticket #: 040056      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Ritchie Exploration, Inc.

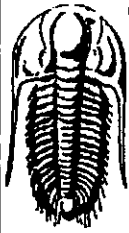
Steckel 5A #1

5-14s-31w Gove KS

DST # 2

LKC "H"

2010.10.22



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.  
8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

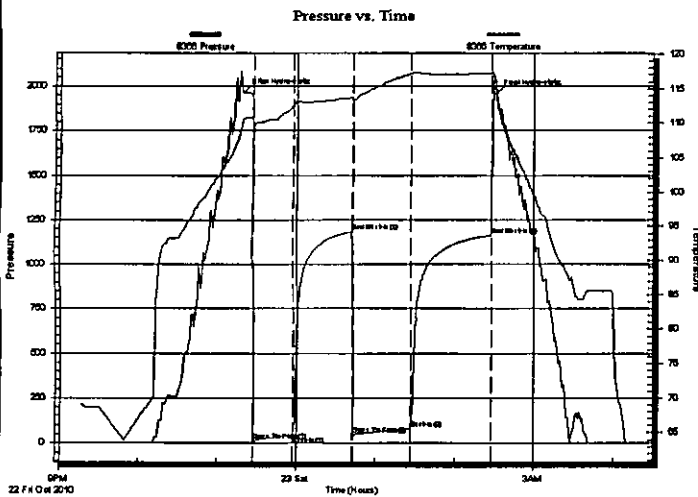
**Steckel 5A #1**  
**5-14s-31w Gove KS**  
Job Ticket: 040056      DST#: 2  
Test Start: 2010.10.22 @ 21:17:00

## GENERAL INFORMATION:

Formation: **LKC "H"**  
Deviated: **No Whipstock**      ft (KB)  
Time Tool Opened: **23:27:30**  
Time Test Ended: **04:09:30**  
Test Type: **Conventional Bottom Hole**  
Tester: **James Winder**  
Unit No: **46**  
Interval: **4139.00 ft (KB) To 4170.00 ft (KB) (TVD)**  
Reference Elevations: **2932.00 ft (KB)**  
Total Depth: **4170.00 ft (KB) (TVD)**      **2922.00 ft (CF)**  
Hole Diameter: **7.88 inches** Hole Condition: **Fair**      KB to GR/CF: **10.00 ft**

**Serial #: 8366**      **Inside**  
Press@RunDepth: **79.95 psig @ 4140.00 ft (KB)**      Capacity: **8000.00 psig**  
Start Date: **2010.10.22**      End Date: **2010.10.23**      Last Calib.: **2010.10.23**  
Start Time: **21:17:05**      End Time: **04:09:29**      Time On Btm: **2010.10.22 @ 23:20:00**  
Time Off Btm: **2010.10.23 @ 02:32:00**

**TEST COMMENT:** IF: Blow built to 2 1/2"  
IS: Bled off, No blow back  
FF: Blow @ 4 min., built to 2 1/4"  
FS: Bled off, No blow back



## PRESSURE SUMMARY

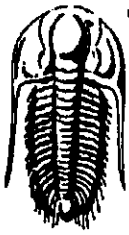
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1964.75	110.69	Initial Hydro-static
8	13.32	109.63	Open To Flow (1)
38	42.42	112.54	Shut-In(1)
83	1183.09	113.67	End Shut-In(1)
84	45.93	113.35	Open To Flow (2)
127	79.95	117.18	Shut-In(2)
188	1163.95	117.26	End Shut-In(2)
192	1955.00	115.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	SWCM 97% m, 3% w	0.15
90.00	WM 52% m, 48% w	0.44
0.00	Some Oil spots in tool	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**Steckel 5A #1**

8100 E 22nd St N #700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**5-14s-31w Gove KS**

Job Ticket: 040056

**DST#: 2**

Test Start: 2010.10.22 @ 21:17:00

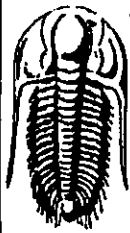
**Tool Information**

Drill Pipe:	Length: 3615.00 ft	Diameter: 3.80 inches	Volume: 50.71 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 539.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 53.36 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	35.00 ft			String Weight: Initial 82000.00 lb
Depth to Top Packer:	4139.00 ft			Final 83000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	51.00 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			4124.00	
Hydraulic tool	5.00			4129.00	
Packer	5.00			4134.00	20.00 Bottom Of Top Packer
Packer	5.00			4139.00	
Stubb	1.00			4140.00	
Recorder	0.00	8366	Inside	4140.00	
Recorder	0.00	8320	Inside	4140.00	
Perforations	27.00			4167.00	
Bullnose	3.00			4170.00	31.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>51.00</b>				



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Ritchie Exploration, Inc.  
8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**Steckel 5A #1**  
**5-14s-31w Gove KS**  
Job Ticket: 040056      DST#: 2  
Test Start: 2010.10.22 @ 21:17:00

**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:	19000 ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.56 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4500.00 ppm			
Filter Cake: 1.00 inches			

**Recovery Information**

Recovery Table

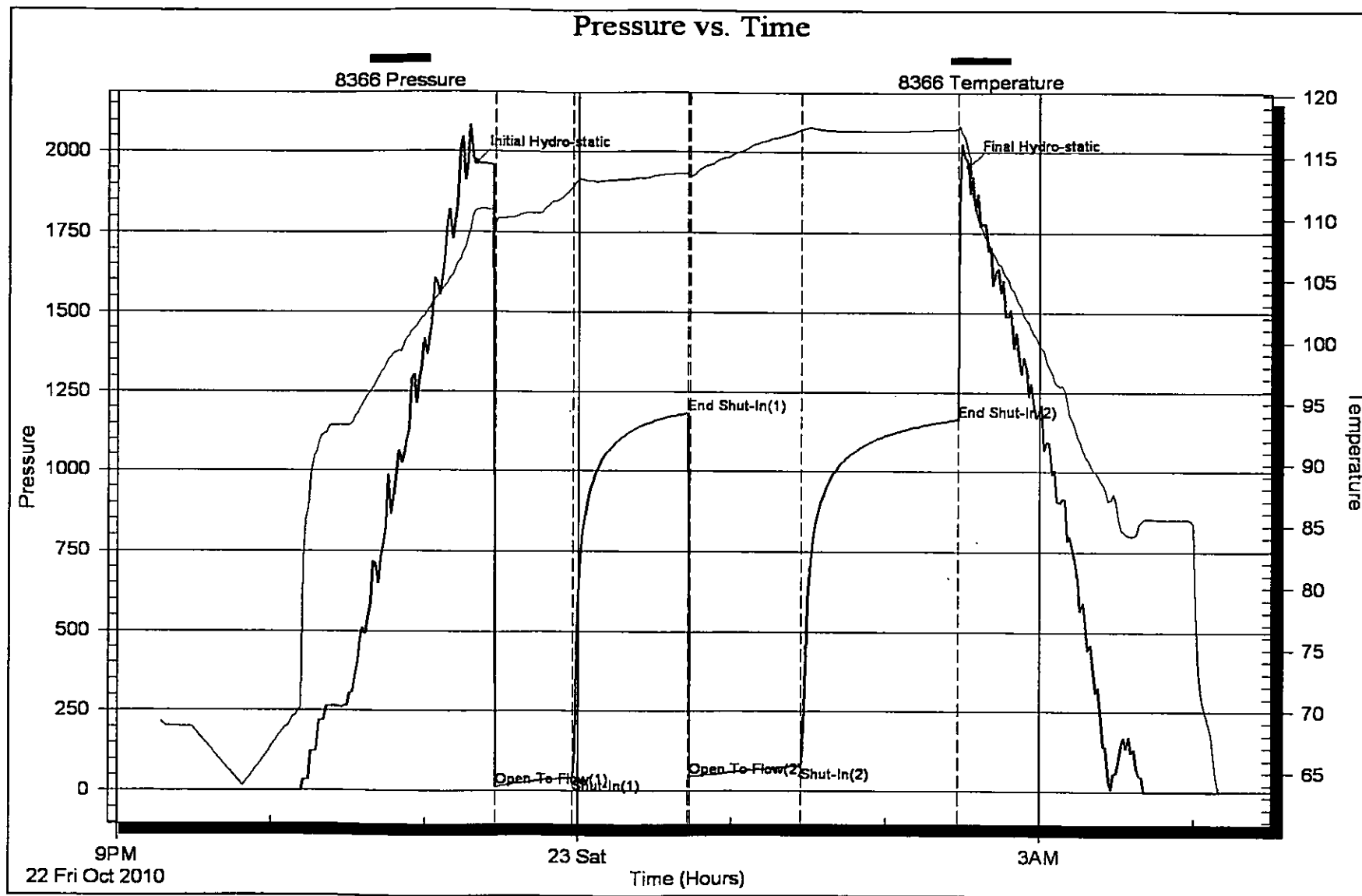
Length ft	Description	Volume bbl
30.00	SWCM 97% m, 3% w	0.148
90.00	WM 52% m, 48% w	0.443
0.00	Some Oil spots in tool	0.000

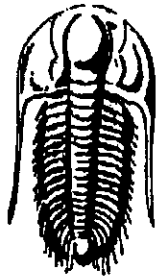
Total Length: 120.00 ft      Total Volume: 0.591 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: RW = .468 ohms @ 53.1 deg F  
Chlorides = 19,000 ppm





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc.**

8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278

ATTN: Jeff Christian

**5-14s-31w Gove KS**

**Steckel 5A #1**

Start Date: 2010.10.23 @ 13:43:00

End Date: 2010.10.23 @ 19:18:30

Job Ticket #: 040057          DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Ritchie Exploration, Inc.

Steckel 5A #1

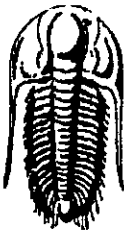
5-14s-31w Gove KS

DST # 3

LKC "I" - J"

2010.10.23





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.  
8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**Steckel 5A #1**  
**5-14s-31w Gove KS**  
Job Ticket: 040057      DST#: 3  
Test Start: 2010.10.23 @ 13:43:00

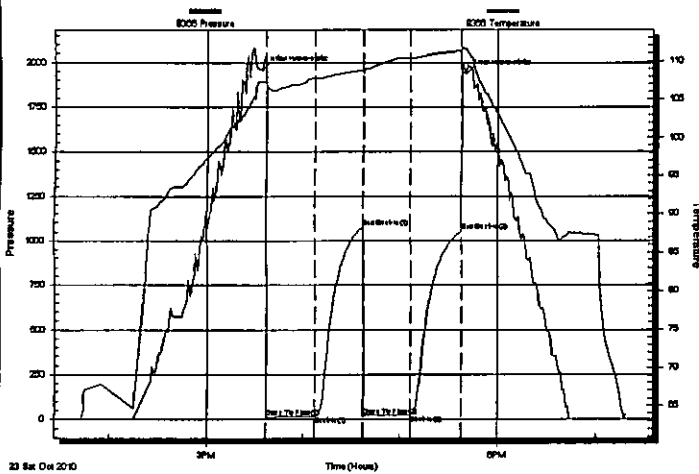
## GENERAL INFORMATION:

Formation: **LKC "I - J"**  
Deviated: **No Whipstock**      ft (KB)  
Time Tool Opened: 15:37:00  
Time Test Ended: 19:18:30  
Interval: **4171.00 ft (KB) To 4224.00 ft (KB) (TVD)**  
Total Depth: **4224.00 ft (KB) (TVD)**  
Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
Reference Elevations: **2932.00 ft (KB)**  
**2922.00 ft (CF)**  
KB to GR/CF: **10.00 ft**  
Test Type: **Conventional Bottom Hole**  
Tester: **James Winder**  
Unit No: **46**

**Serial #: 8366**      Inside  
Press@RunDepth: **24.75 psig @ 4172.00 ft (KB)**      Capacity: **8000.00 psig**  
Start Date: **2010.10.23**      End Date: **2010.10.23**      Last Calib.: **2010.10.23**  
Start Time: **13:43:05**      End Time: **19:18:29**      Time On Btrm: **2010.10.23 @ 15:34:30**  
Time Off Btrm: **2010.10.23 @ 17:40:30**

**TEST COMMENT:** IF: Blow built to 1/4", dead @ 26 min.  
IS: No blow back  
FF: No blow  
FSI: No blow back

Pressure vs. Time



## PRESSURE SUMMARY

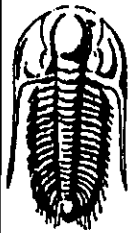
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1959.20	107.27	Initial Hydro-static
3	12.45	106.19	Open To Flow (1)
33	18.53	107.67	Shut-In(1)
62	1073.61	108.74	End Shut-In(1)
63	19.75	108.38	Open To Flow (2)
92	24.75	110.36	Shut-In(2)
123	1052.23	111.25	End Shut-In(2)
126	1940.69	111.44	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud 100%	0.15

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Ritchie Exploration, Inc.  
8100 E 22nd St N #700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**Steckel 5A #1**  
**5-14s-31w Gove KS**  
Job Ticket: 040057      DST#: 3  
Test Start: 2010.10.23 @ 13:43:00

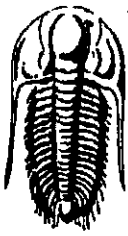
**Tool Information**

Drill Pipe:	Length: 3617.00 ft	Diameter: 3.80 inches	Volume: 50.74 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 539.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 96000.00 lb
			<u>Total Volume: 53.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 85000.00 lb
Depth to Top Packer:	4171.00 ft			Final 85000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	53.00 ft			
Tool Length:	73.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4156.00	
Hydraulic tool	5.00			4161.00	
Packer	5.00			4166.00	20.00      Bottom Of Top Packer
Packer	5.00			4171.00	
Stubb	1.00			4172.00	
Recorder	0.00	8366	Inside	4172.00	
Recorder	0.00	8320	Inside	4172.00	
Perforations	15.00			4187.00	
Blank Spacing	33.00			4220.00	
Perforations	1.00			4221.00	
Bullnose	3.00			4224.00	53.00      Bottom Packers & Anchor

**Total Tool Length: 73.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Ritchie Exploration, Inc.

**Steckel 5A #1**

8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**5-14s-31w Gove KS**  
Job Ticket: 040057      DST#: 3  
Test Start: 2010.10.23 @ 13:43:00

**Mud and Cushion Information**

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 58.00 sec/qt  
Water Loss: 7.96 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 4500.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API:      deg API  
Water Salinity: ppm

**Recovery Information**

Recovery Table

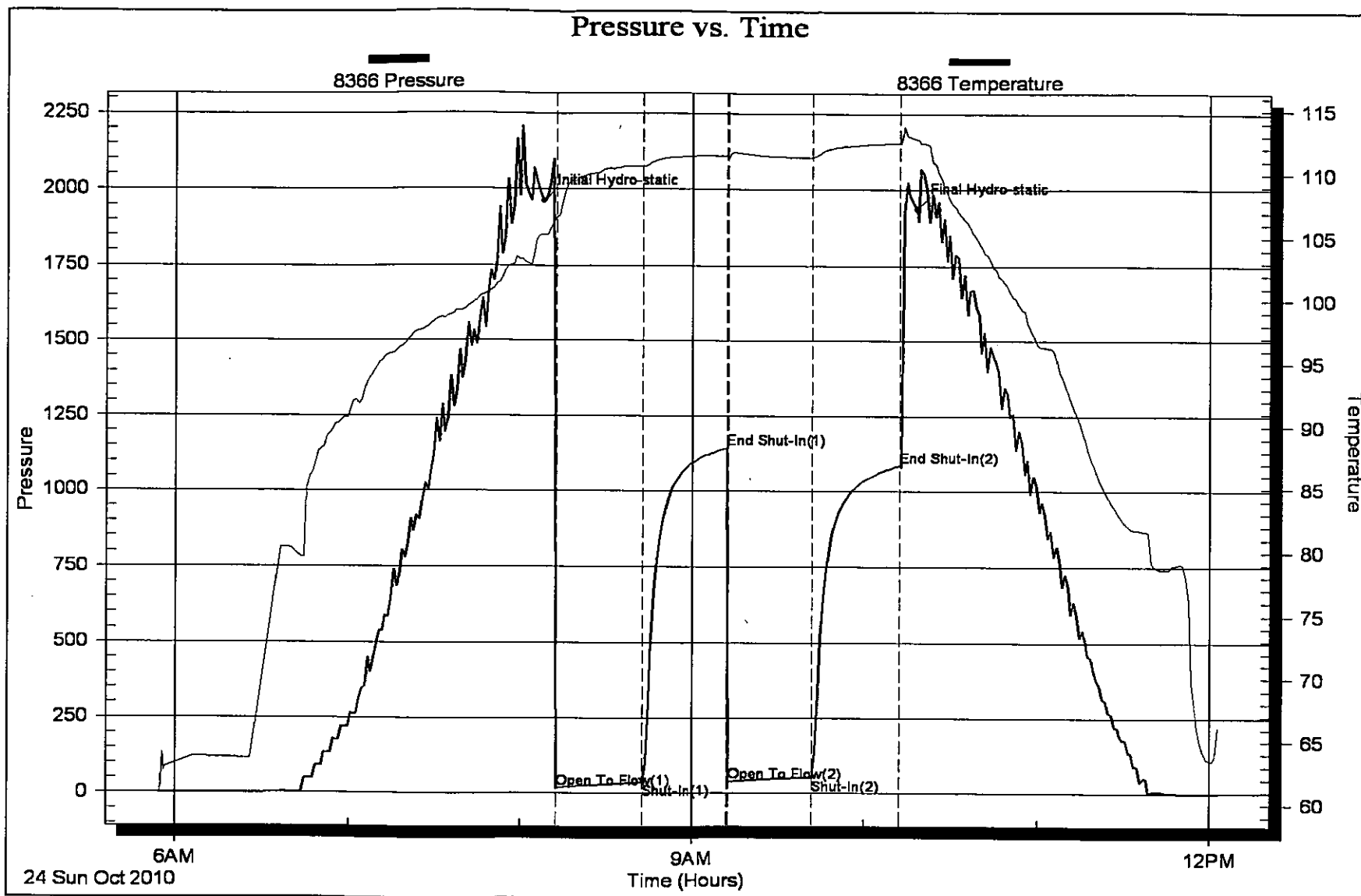
Length ft	Description	Volume bbl
30.00	Mud 100%	0.148

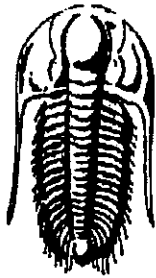
Total Length: 30.00 ft      Total Volume: 0.148 bbl

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.**

8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278

ATTN: Jeff Christian

**5-14s-31w Gove KS**

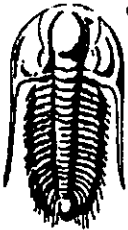
**Steckel 5A #1**

Start Date: 2010.10.24 @ 05:54:00

End Date: 2010.10.24 @ 12:02:30

Job Ticket #: 040058          DST #: 4

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Ritchie Exploration, Inc.  
8100 E 22nd St N #700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**Steckel 5A #1**

**5-14s-31w Gove KS**

Job Ticket: 040058      DST#: 4

Test Start: 2010.10.24 @ 05:54:00

### GENERAL INFORMATION:

Formation: **L/KC "K - L"**  
Deviated: **No Whipstock**      ft (KB)  
Time Tool Opened: 08:12:30  
Time Test Ended: 12:02:30

Test Type: **Conventional Bottom Hole**  
Tester: **James Winder**  
Unit No: **46**

Interval: **4226.00 ft (KB) To 4298.00 ft (KB) (TVD)**  
Total Depth: **4298.00 ft (KB) (TVD)**  
Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2932.00 ft (KB)**  
**2922.00 ft (CF)**  
KB to GR/CF: **10.00 ft**

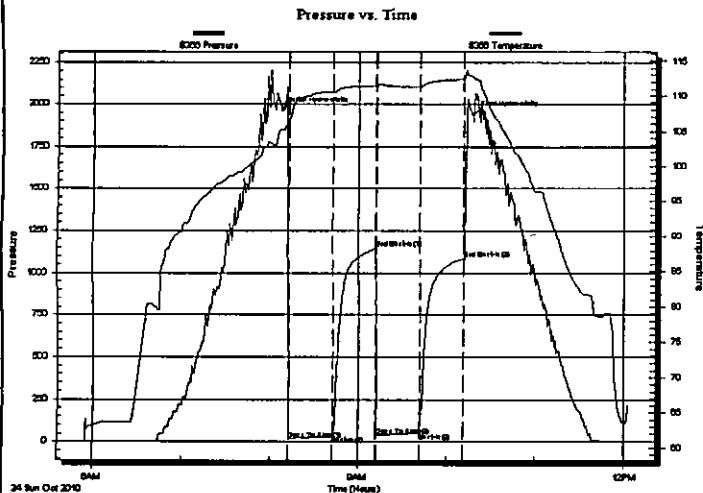
### Serial #: 8366

Inside

Press@RunDepth: **52.07 psig @ 4227.00 ft (KB)**  
Start Date: **2010.10.24**      End Date: **2010.10.24**  
Start Time: **05:54:05**      End Time: **12:02:29**

Capacity: **8000.00 psig**  
Last Calib.: **2010.10.24**  
Time On Btrt: **2010.10.24 @ 08:08:00**  
Time Off Btrt: **2010.10.24 @ 10:18:00**

TEST COMMENT: IF: Blow built to 2"  
IS: Bled off, No blow back  
FF: Blow @ 13 min., built to 1/4"  
FSt: Bled off, No blow back



### PRESSURE SUMMARY

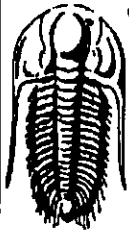
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1962.42	105.23	Initial Hydro-static
5	16.48	106.57	Open To Flow (1)
35	36.16	110.57	Shut-In(1)
64	1146.22	111.44	End Shut-In(1)
65	38.18	111.21	Open To Flow (2)
94	52.07	111.32	Shut-In(2)
124	1086.24	112.45	End Shut-In(2)
130	1936.86	112.74	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
80.00	Mud w/trace oil 100% m	0.39

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.  
8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**Steckel 5A #1**  
**5-14s-31w Gove KS**  
Job Ticket: 040058      DST#: 4  
Test Start: 2010.10.24 @ 05:54:00

**Tool Information**

Drill Pipe:	Length: 3680.00 ft	Diameter: 3.80 inches	Volume: 51.62 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 539.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 92000.00 lb
			<u>Total Volume: 54.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 85000.00 lb
Depth to Top Packer:	4226.00 ft			Final 85000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	72.00 ft			
Tool Length:	92.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4211.00	
Hydraulic tool	5.00			4216.00	
Packer	5.00			4221.00	20.00      Bottom Of Top Packer
Packer	5.00			4226.00	
Stubb	1.00			4227.00	
Recorder	0.00	8366	Inside	4227.00	
Recorder	0.00	8320	Inside	4227.00	
Perforations	3.00			4230.00	
Blank Spacing	65.00			4295.00	
Bullnose	3.00			4298.00	72.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>92.00</b>				



**TRIOBITE**  
TESTING, INC

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration, Inc.

**Steckel 5A #1**

8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**5-14s-31w Gove KS**  
Job Ticket: 040058      DST#: 4  
Test Start: 2010.10.24 @ 05:54:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 60.00 sec/qt  
Water Loss: 7.58 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 5800.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

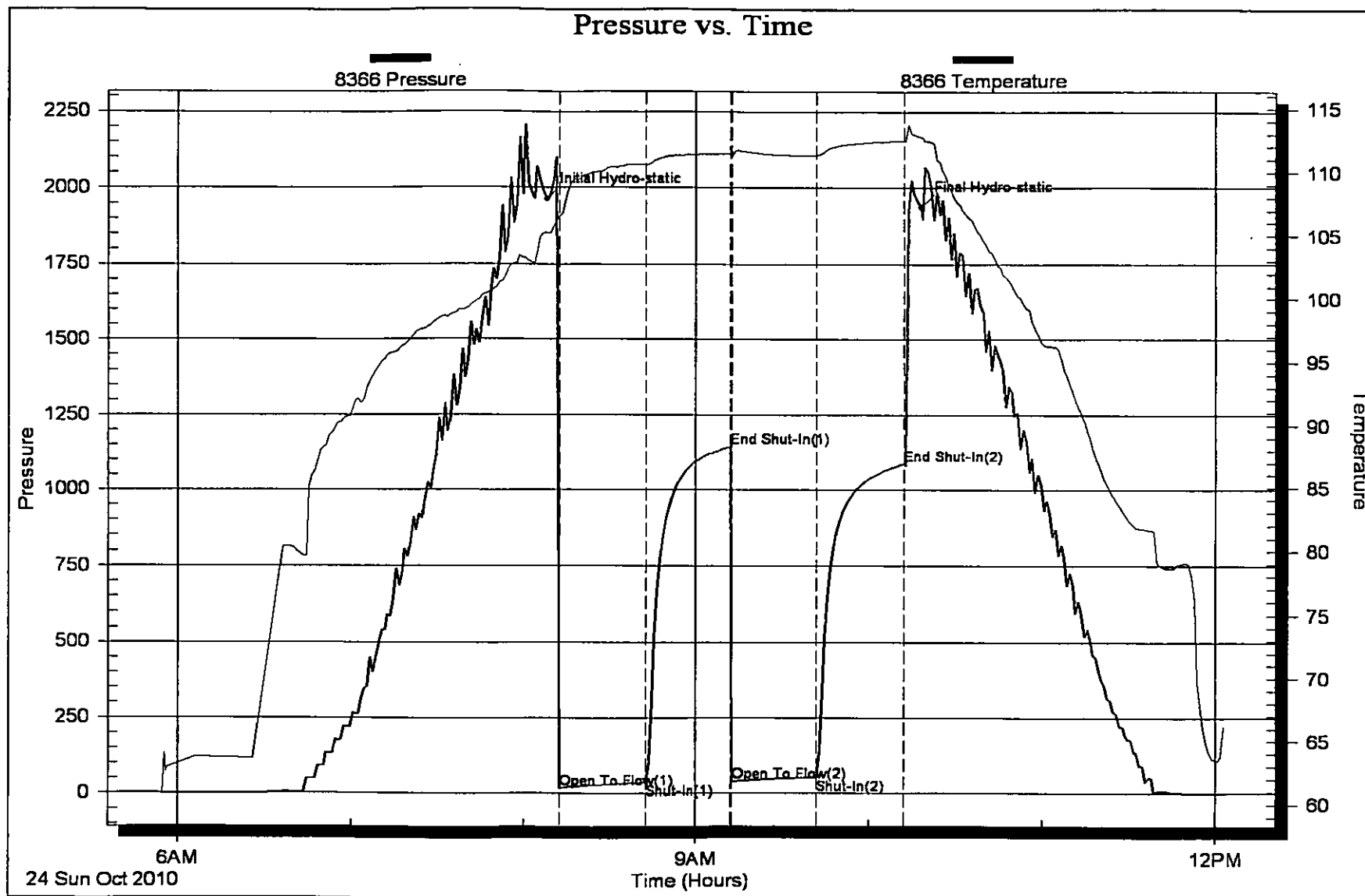
### Recovery Information

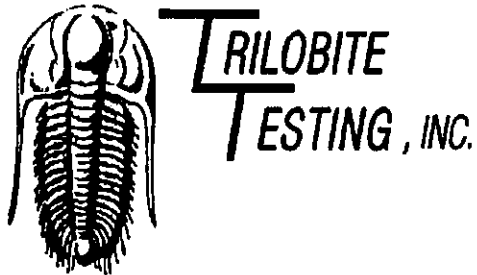
Recovery Table

Length ft	Description	Volume bbl
80.00	Mud w/trace oil 100% <sub>m</sub>	0.393

Total Length: 80.00 ft      Total Volume: 0.393 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.**

8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278

ATTN: Jeff Christian

**5-14s-31w Gove KS**

**Steckel 5A #1**

Start Date: 2010.10.25 @ 21:30:00

End Date: 2010.10.26 @ 03:29:30

Job Ticket #: 040059                      DST #: 5

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**Steckel 5A #1**

8100 E. 22nd St N #700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**5-14s-31w Gove KS**

Job Ticket: 040059

DST#: 5

Test Start: 2010.10.25 @ 21:30:00

### GENERAL INFORMATION:

Formation: **Johnson**

Deviated: **No Whipstock** ft (KB)

Time Tool Opened: 23:34:00

Time Test Ended: 03:29:30

Test Type: **Conventional Bottom Hole**

Tester: **James Winder**

Unit No: **46**

Interval: **4530.00 ft (KB) To 4562.00 ft (KB) (TVD)**

Reference Elevations: **2932.00 ft (KB)**

Total Depth: **4562.00 ft (KB) (TVD)**

**2922.00 ft (CF)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

KB to GR/CF: **10.00 ft**

**Serial #: 8366**

**Inside**

Press@RunDepth: **14.23 psig @ 4531.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2010.10.25**

End Date:

**2010.10.26**

Last Calib.: **2010.10.26**

Start Time: **21:30:05**

End Time:

**03:29:29**

Time On Btrt **2010.10.25 @ 23:31:00**

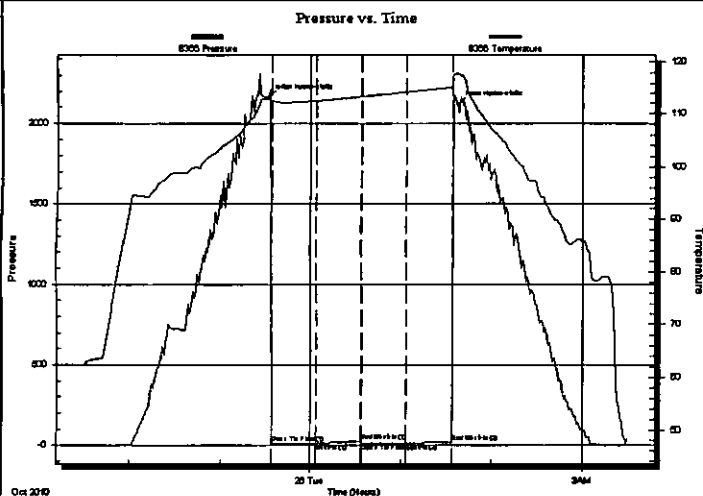
Time Off Btrt **2010.10.26 @ 01:37:30**

TEST COMMENT: **IF: Surface blow, dead in 11 min.**

**IS: No blow back**

**FF: No blow**

**FSI: No blow back**



### PRESSURE SUMMARY

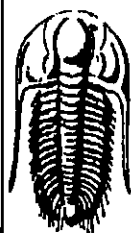
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2161.25	112.81	Initial Hydro-static
3	13.10	112.43	Open To Flow (1)
33	13.82	112.46	Shut-In(1)
63	26.34	113.31	End Shut-In(1)
63	12.76	113.32	Open To Flow (2)
93	14.23	114.31	Shut-In(2)
123	21.50	115.21	End Shut-In(2)
127	2117.85	117.77	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud 100%	0.00

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**Steckel 5A #1**

8100 E 22nd St N #700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**5-14s-31w Gove KS**

Job Ticket: 040059

**DST#: 5**

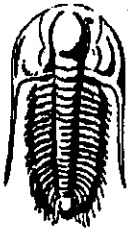
Test Start: 2010.10.25 @ 21:30:00

### Tool Information

Drill Pipe:	Length: 3998.00 ft	Diameter: 3.80 inches	Volume: 56.08 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 539.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 96000.00 lb
			<u>Total Volume: 58.73 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 88000.00 lb
Depth to Top Packer:	4530.00 ft			Final 88000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	52.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4515.00	
Hydraulic tool	5.00			4520.00	
Packer	5.00			4525.00	20.00 Bottom Of Top Packer
Packer	5.00			4530.00	
Stubb	1.00			4531.00	
Recorder	0.00	8366	inside	4531.00	
Recorder	0.00	8320	inside	4531.00	
Perforations	28.00			4559.00	
Bullnose	3.00			4562.00	32.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>52.00</b>				



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Ritchie Exploration, Inc.  
8100 E. 22nd St N#700  
Box 783188  
Wichita, KS 67278  
ATTN: Jeff Christian

**Steckel 5A #1**  
**5-14s-31w Gove KS**  
Job Ticket: 040059      DST#: 5  
Test Start: 2010.10.25 @ 21:30:00

**Mud and Cushion Information**

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 65.00 sec/qt  
Water Loss: 7.78 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 5900.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API:      deg API  
Water Salinity: ppm

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
1.00	Mud 100%	0.005

Total Length: 1.00 ft      Total Volume: 0.005 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

