

**CONFIDENTIAL**

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION  
**WELL COMPLETION FORM**  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

**ORIGINAL**

5/24/13  
Form ACO-1  
June 2009  
Form Must Be Typed  
Form must be Signed  
All blanks must be Filled

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 Niemberger  
Phone: (316) 691-9500  
CONTRACTOR: License # 5929  
Name: Duke Drilling Co., Inc.  
Wellsite Geologist: Mike Engelbrecht  
Purchaser: \_\_\_\_\_

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

If Workover/Re-entry: Old Well Info as follows:  
Operator: \_\_\_\_\_  
Well Name: \_\_\_\_\_  
Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_  
 Deepening     Re-perf.     Conv. to ENHR     Conv. to SWD  
 Conv. to GSW  
 Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_  
 Commingled    Permit #: \_\_\_\_\_  
 Dual Completion    Permit #: \_\_\_\_\_  
 SWD    Permit #: \_\_\_\_\_  
 ENHR    Permit #: \_\_\_\_\_  
 GSW    Permit #: \_\_\_\_\_

2/18/11	3/1/11	3/1/11
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 057-20715-00-00  
Spot Description: 70' S & 40' E of 28  
NW NW \_\_\_\_\_ Sec. 3 Twp. 8 S. R. 22  East  West  
730 Feet from  North /  South Line of Section  
700 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE  NW  SE  SW  
County: Ford  
Lease Name: Brown JAB Well #: 1  
Field Name: \_\_\_\_\_  
Producing Formation: Mississippian  
Elevation: Ground: 2353 Kelly Bushing: 2365  
Total Depth: 5151 Plug Back Total Depth: 5114  
Amount of Surface Pipe Set and Cemented at: 483 Feet  
Multiple Stage Cementing Collar Used?  Yes  No  
If yes, show depth set: 1282 Feet  
If Alternate II completion, cement circulated from: 1282  
feet depth to: surface w/ 345 sx cml.

Drilling Fluid Management Plan  
(Data must be collected from the Reserve Pit)  
Chloride content: 14500 ppm Fluid volume: 1800 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 #: \_\_\_\_\_

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MAY 24 2013

**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 82-3-106 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: 5/24/11

KCC Office Use ONLY  
**RECEIVED**  
 Letter of Confidentiality Received Date: 5/24/11 - 5/24/13  
 Confidential Release Date: MAY 25 2011  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution  
ALT  I  II  III Approved by: WJ Date: 5-31-11  
KCC WICHITA

Operator Name: Ritchie Exploration, Inc. Lease Name: Brown 3AB Well #: 1  
 Sec. 3 Twp. 8 S. R. 22  East  West County: Ford

**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 pressure, 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: <b>Dual Induction Log</b> <b>Compensated Density/Neutron Log</b>	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input checked="" type="checkbox"/> Sample Name Top Datum  <p style="text-align: center;"><b>SEE ATTACHED</b></p>
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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
Conductor	32	20	64	50	eight-sack grout	5.5 yards	
Surface	12-1/4	8-5/8	23	463	Class A	355	3% cc, 2% gel
Production	7-7/8	4-1/2	10.5	5144	ASC	200	10% est. 2% gel & 58%z glycol

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 Squeezes Record (Amount and Kind of Material Used)	Depth
6	4982' - 4985' (3/23/11)		
6	4988' - 4990' (3/23/11)		
6	4996' - 5005' (3/23/11)		

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 MAY 24 2013  
**KCC**  
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 MAY 25 2011  
**KCC WICHITA**

TUBING RECORD: Size: <u>2-7/8"</u> Set At: <u>5005'</u> Packer At: _____		Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Date of First, Resumed Production, SWD or ENHR. <u>4/6/11</u>	Producing Method: <input checked="" 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
		861
	Water Bbls.	Gas-Oil Ratio
		Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input checked="" 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 checked="" type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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**RITCHIE**

EXPLORATION, INC.  
Wichita, Kansas

**#1 Brown 3AB**

730' FNL & 700' FWL

70' S & 40' E of NW NW Section 3-28S-22W

Ford County, Kansas

API# 15-057-20715-0000

Elevation: GL: 2353', KB: 2365'

<u>Sample Tops</u>			<u>Ref.</u>	<u>Well</u>
Anhydrite	1366'	+999	-13	
B/Anhydrite	1410'	+955	-11	
Chase Herrington	2577'	-212	-23	
Stotler	3493'	-1128	-21	
Heebner	4143'	-1778	-8	
Lansing	4288'	-1923	-16	
Muncie Shale	4470'	-2105	-18	
Stark Shale	4603'	-2238	-13	
Marmaton	4745'	-2380	-7	
Pawnee	4815'	-2450	-10	
Cherokee Shale	4862'	-2497	-13	
Atoka Shale	4950'	-2585	-13	
Mississippian	4964'	-2599	-10	
Osage	4991'	-2626	-17	
RTD	5151'	-2786		

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MAY 24 2013

**KCC**

RECEIVED

MAY 25 2011

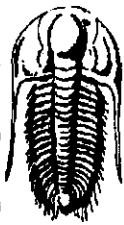
KCC WICHITA

P.O. Box 783188  
Wichita, Kansas 67278-3188

(316) 691-9500  
Fax (316) 691-9550  
[rei@ritchie-exp.com](mailto:rei@ritchie-exp.com)

8100 E. 22<sup>nd</sup> St. N., Bldg. 700  
Wichita, Kansas 67226-2328





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc.

#1 Brown 3AB

8100 E.22nd St.N.#700  
Wichita Ks.67278

3-28s-22w Ford Ks.

Job Ticket: 041609

DST#: 1

ATTN: Mike Engelbrecht

Test Start: 2011.02.25 @ 15:15:12

## GENERAL INFORMATION:

Formation: **LKC K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:46:57

Time Test Ended: 22:19:57

Test Type: Conventional Bottom Hole

Tester: Gary Pevoteaux

Unit No: 56

Interval: **4586.00 ft (KB) To 4646.00 ft (KB) (TVD)**

Reference Elevations: 2365.00 ft (KB)

Total Depth: 4646.00 ft (KB) (TVD)

2353.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 12.00 ft

Serial #: 8167

Inside

Press@RunDepth: 28.94 psig @ 4587.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.02.25

End Date:

2011.02.25

Last Calib.: 2011.02.25

Start Time: 15:15:17

End Time:

22:19:56

Time On Btm: 2011.02.25 @ 17:45:27

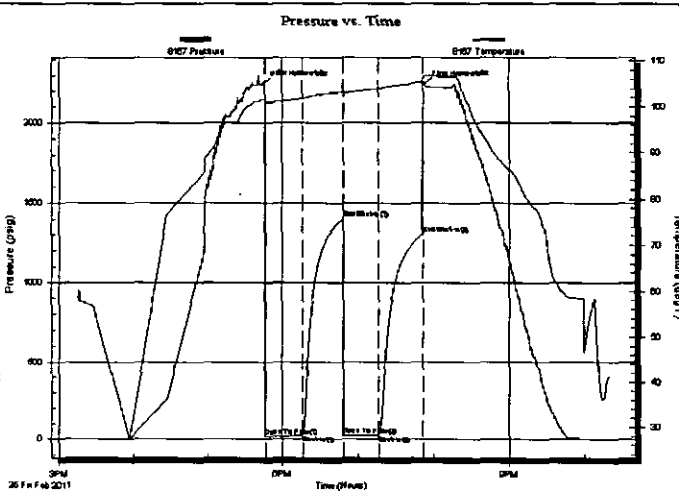
Time Off Btm: 2011.02.25 @ 19:53:42

TEST COMMENT: IF:Weak blow . 1/4 - 1/2".

IS:No blow.

FF:Very weak blow . (surface)

FSt:No blow.



## PRESSURE SUMMARY

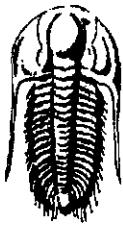
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2244.50	101.59	Initial Hydro-static
2	19.83	100.89	Open To Flow (1)
32	24.35	101.87	Shut-In(1)
64	1403.39	103.33	End Shut-In(1)
64	25.71	102.53	Open To Flow (2)
92	28.94	104.01	Shut-In(2)
126	1306.92	105.43	End Shut-In(2)
129	2246.12	106.82	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
22.00	Drig.mud	0.31
0.00	40 ft.of GP	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Ritchie Exploration Inc.

**#1 Brown 3AB**

8100 E.22nd St.N.#700  
Wichita Ks.67278

**3-28s-22w Ford Ks.**

Job Ticket: 041609

**DST#: 1**

ATTN: Mike Engelbrecht

Test Start: 2011.02.25 @ 15:15:12

**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:

4000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 0.20 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
22.00	Drig.mud	0.309
0.00	40 ft.of GIP	0.000

Total Length: 22.00 ft

Total Volume: 0.309 bbl

Num Fluid Samples: 0

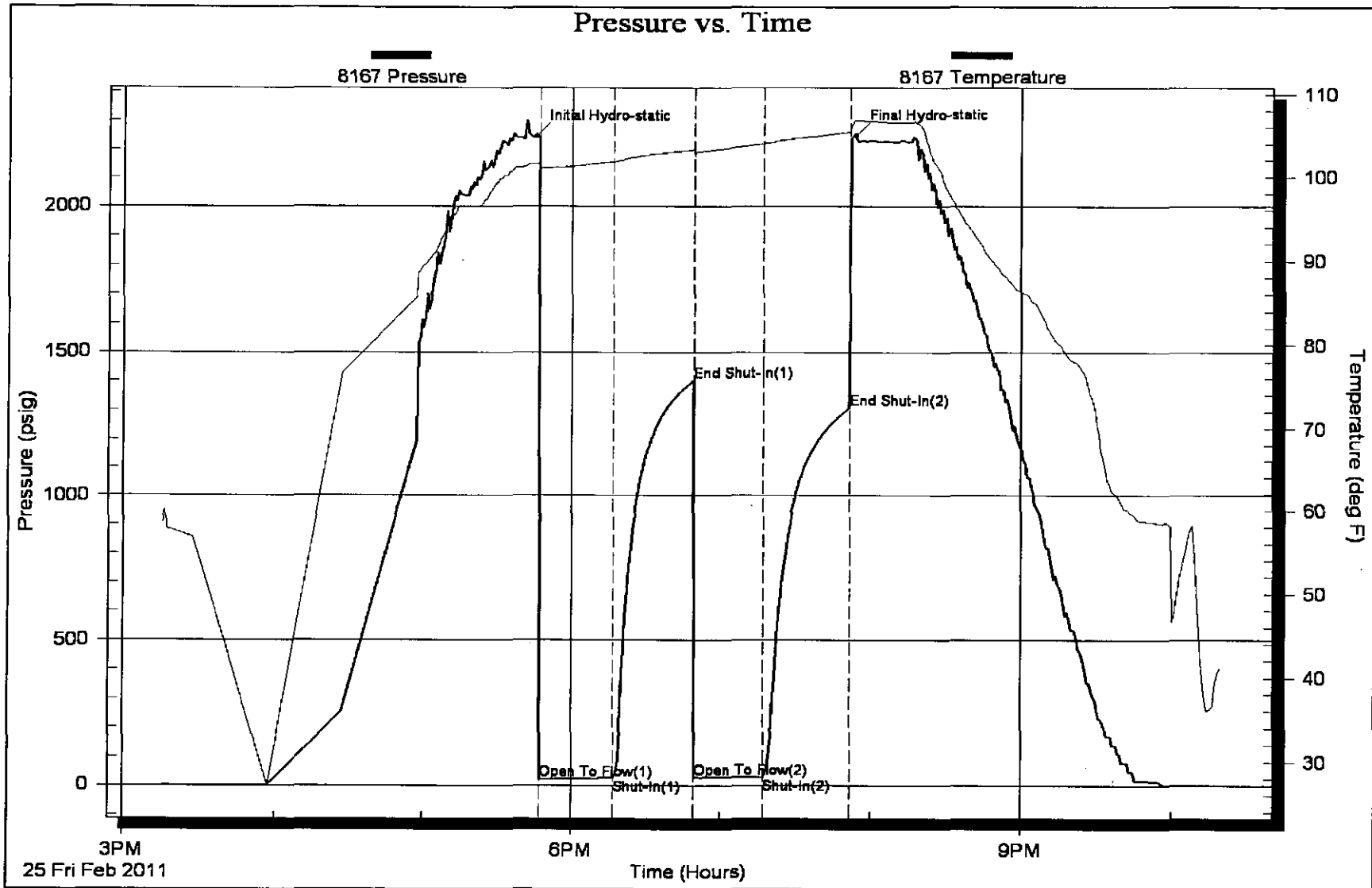
Num Gas Bombs: 0

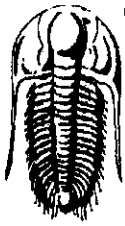
Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration Inc.

#1 Brown 3AB

8100 E.22nd St.N.#700  
Wichita Ks.67278

3-28s-22w Ford Ks.

Job Ticket: 041610

DST#: 2

ATTN: Mike Engelbrecht

Test Start: 2011.02.27 @ 09:04:34

## GENERAL INFORMATION:

Formation: **Miss.**

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

Time Tool Opened: 11:44:34

Time Test Ended: 18:56:49

Test Type: **Conventional Bottom Hole**

Tester: **Gary Pevoteaux**

Unit No: **56**

Interval: **4948.00 ft (KB) To 5005.00 ft (KB) (TVD)**

Reference Elevations: **2365.00 ft (KB)**

Total Depth: **5005.00 ft (KB) (TVD)**

**2353.00 ft (CF)**

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

KB to GR/CF: **12.00 ft**

Serial #: **8167**

Inside

Press@RunDepth: **575.71 psig @ 4949.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2011.02.27**

End Date:

**2011.02.27**

Last Calib.: **2011.02.27**

Start Time: **09:04:39**

End Time:

**18:56:49**

Time On Btm: **2011.02.27 @ 11:40:34**

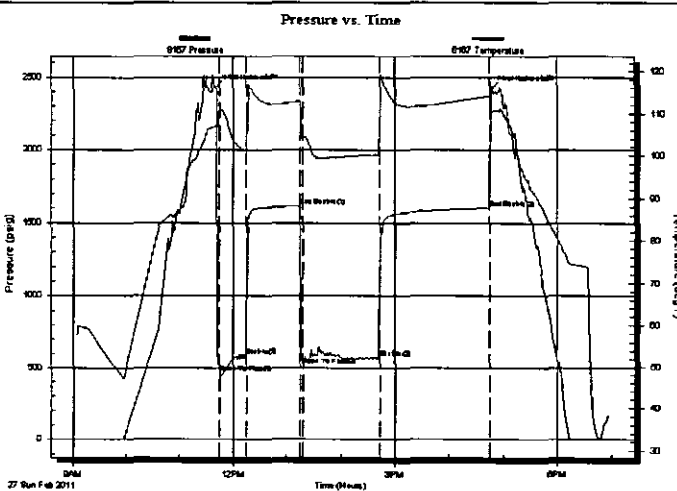
Time Off Btm: **2011.02.27 @ 16:46:19**

TEST COMMENT: IF:Strong blow . B.O.B. in 3 - 4 secs.GTS in 3.3 mins.(see gas flow report)

ISI:Weak to fair blow . 1 - 8".

FF:Strong blow . (see gas flow report)

FSI:Weak blow . 1 - 3".



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2428.03	107.11	Initial Hydro-static
4	464.97	110.54	Open To Flow (1)
34	588.30	101.41	Shut-In(1)
96	1614.49	113.01	End Shut-In(1)
98	519.76	104.39	Open To Flow (2)
182	575.71	100.15	Shut-In(2)
304	1601.79	114.11	End Shut-In(2)
306	2419.17	110.37	Final Hydro-static

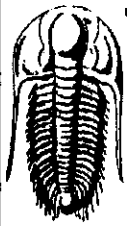
## Recovery

Length (ft)	Description	Volume (bbl)
115.00	Drig.mud	1.61

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	69.00	2397.65
Last Gas Rate	1.00	94.00	3116.37
Max. Gas Rate	1.00	96.00	3173.87





**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Ritchie Exploration Inc.

**#1 Brown 3AB**

8100 E.22nd St.N.#700  
Wichita Ks.67278

**3-28s-22w Ford Ks.**

Job Ticket: 041610

**DST#: 2**

ATTN: Mike Engelbrecht

Test Start: 2011.02.27 @ 09:04:34

**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:

6000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 0.20 inches

**Recovery Information**

**Recovery Table**

Length ft	Description	Volume bbl
115.00	Drig.mud	1.613

Total Length: 115.00 ft

Total Volume: 1.613 bbl

Num Fluid Samples: 0

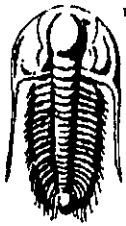
Num Gas Bombs: 1

Serial #: Gp-2

Laboratory Name: caraway

Laboratory Location:

Recovery Comments:



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

# DRILL STEM TEST REPORT

**GAS RATES**

Ritchie Exploration Inc.

**#1 Brown 3AB**

8100 E 22nd St. N. #700  
Wichita Ks. 67278

**3-28s-22w Ford Ks.**

Job Ticket: 041610

DST#: 2

ATTN: Mike Engelbrecht

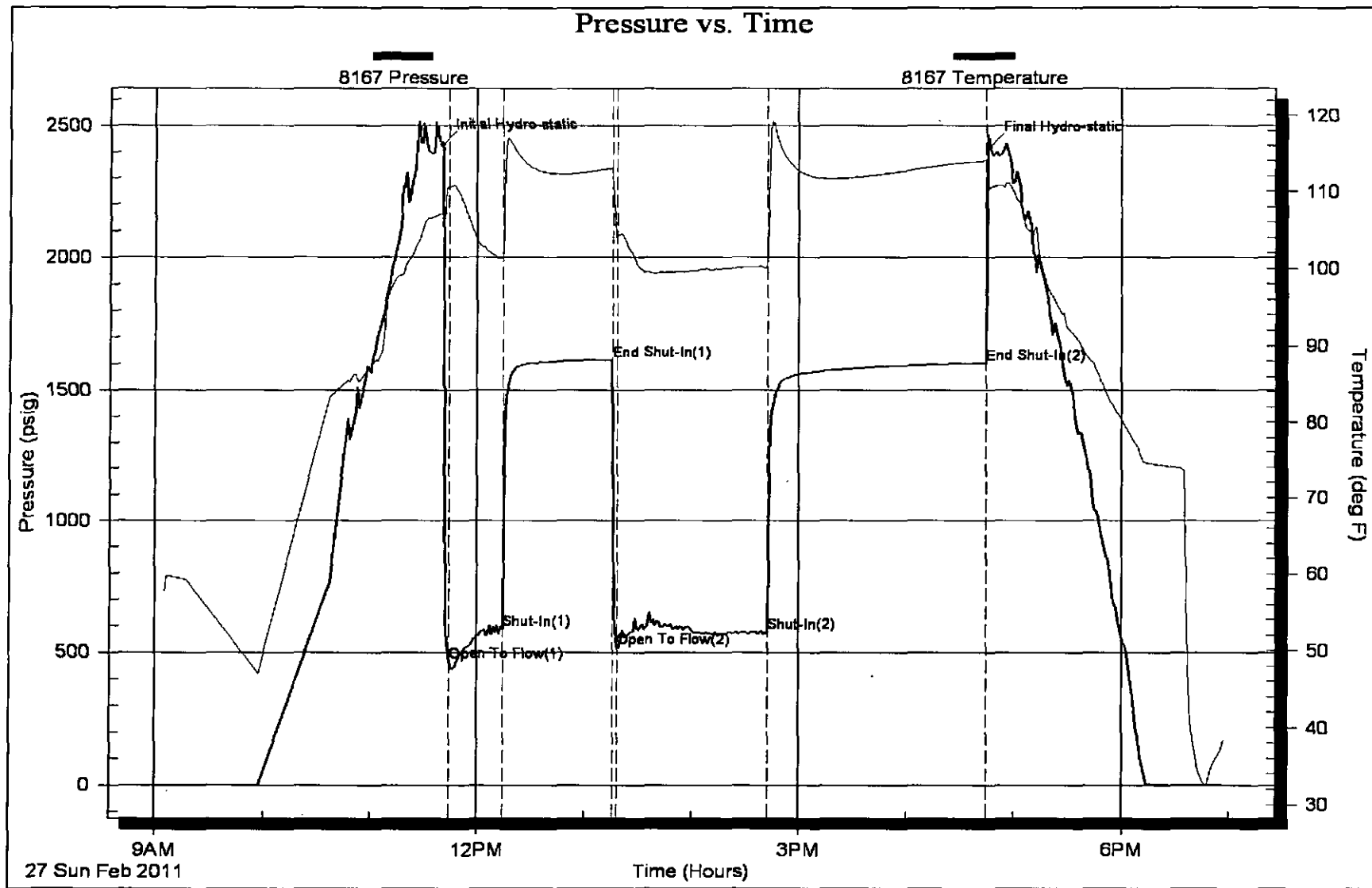
Test Start: 2011.02.27 @ 09:04:34

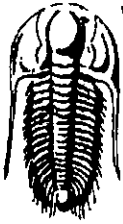
## Gas Rates Information

Temperature: 59 deg C  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m <sup>3</sup> /d)
1	10	1.00	69.00	2397.65
1	20	1.00	86.00	2886.38
1	30	1.00	94.00	3116.37
2	10	1.00	73.00	2512.65
2	20	1.00	94.00	3116.37
2	30	1.00	96.00	3173.87
2	50	1.00	95.00	3145.12
2	70	1.00	95.00	3145.12
2	90	1.00	94.00	3116.37





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Ritchie Exploration Inc.

#1 Brown 3AB

8100 E 22nd St. N. #700  
Wichita Ks. 67278

3-28s-22w Ford Ks.

Job Ticket: 041611

DST#: 3

ATTN: Mike Engelbrecht

Test Start: 2011.02.28 @ 07:59:02

### GENERAL INFORMATION:

Formation: **Miss.**

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

Time Tool Opened: 09:59:17

Time Test Ended: 15:03:17

Test Type: **Conventional Bottom Hole**

Tester: **Gary Fevotiaux**

Unit No: **56**

Interval: **5007.00 ft (KB) To 5055.00 ft (KB) (TVD)**

Total Depth: **5055.00 ft (KB) (TVD)**

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

Reference Elevations: **2365.00 ft (KB)**

**2353.00 ft (CF)**

KB to GR/CF: **12.00 ft**

Serial #: **8167**

Inside

Press@RunDepth: **30.46 psig @ 5008.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2011.02.28**

End Date: **2011.02.28**

Last Calib.: **2011.02.28**

Start Time: **07:59:07**

End Time: **15:03:16**

Time On Btm: **2011.02.28 @ 09:56:17**

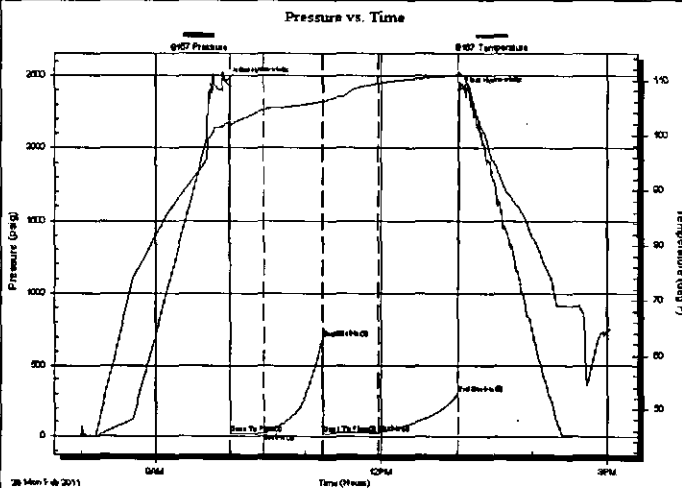
Time Off Btm: **2011.02.28 @ 13:01:17**

TEST COMMENT: IF:Weak blow . 1/2 - 3".

IS:No blow .

FF:Weak to fair blow . 3 - 7".

FS:No blow .



### PRESSURE SUMMARY

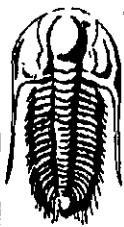
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2463.53	102.00	Initial Hydro-static
3	22.32	101.53	Open To Flow (1)
31	22.89	104.50	Shut-In(1)
77	690.13	106.08	End Shut-In(1)
78	21.82	106.00	Open To Flow (2)
122	30.46	109.43	Shut-In(2)
185	306.79	110.95	End Shut-In(2)
185	2396.11	111.54	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
40.00	OCM 4%o 96% m	0.56
0.00	215 ft. of GIP	0.00

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Ritchie Exploration Inc.

**#1 Brown 3AB**

8100 E.22nd St.N.#700  
Wichita Ks.67278

**3-28s-22w Ford Ks.**

Job Ticket: 041611

**DST#: 3**

ATTN: Mike Engelbrecht

Test Start: 2011.02.28 @ 07:59:02

**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:

6500 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6500.00 ppm

Filter Cake: 0.20 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbbl
40.00	OCM 4%o 96%m	0.561
0.00	215 ft.of GIP	0.000

Total Length: 40.00 ft Total Volume: 0.561 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

