

# KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow  
 Deliverability

Test Date:  
9/22/201

API No. 15  
15-057-20576-00-00

(See Instructions on Reverse Side)

Company Ritchie Exploration, Inc.		Lease Bonnie Carson		Well Number #1	
County Ford	Location W2-NW-SE	Section 17	TWP 27S	RNG (E/W) 23W	Acres Attributed
Field Morrow Sand, Mississippian		Reservoir Morrow Sand, Mississippian		Gas Gathering Connection Superior Pipeline	
Completion Date 3/18/2014		Plug Back Total Depth 5042		Packer Set at	
Casing Size 5.5	Weight 15.5	Internal Diameter 5	Set at 5072	Perforations 4932	To 4898
Tubing Size 2.875	Weight 6.4	Internal Diameter 2.594	Set at 4917	Perforations	To
Type Completion (Describe) Work Over Gas		Type Fluid Production Water		Pump Unit or Traveling Plunger? Yes / <b>(No)</b>	
Producing Thru (Annulus / Tubing) Tubing		% Carbon Dioxide .104		% Nitrogen 19.832	
Vertical Depth(H) 4915		Pressure Taps Flange		(Meter Run) (Prover) Size 3.068	
Pressure Buildup: Shut in <u>9/21</u> 20 <u>15</u> at <u>8:30 AM</u> (AM) (PM) Taken _____ 20 _____ at _____ (AM) (PM)					
Well on Line: Started <u>9/22</u> 20 <u>15</u> at <u>8:30 AM</u> (AM) (PM) Taken _____ 20 _____ at _____ (AM) (PM)					

### OBSERVED SURFACE DATA

Duration of Shut-in \_\_\_\_\_ Hours

Static / Dynamic Property	Orifice Size (Inches)	Circle one: Meter Prover Pressure psig (Pm)	Pressure Differential in Inches H <sub>2</sub> O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>1</sub> ) or (P <sub>c</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>1</sub> ) or (P <sub>c</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-in						250	262	90	95		
Flow											

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>p</sub> ) (F <sub>p</sub> ) Mcfd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_m \times h}$	Gravity Factor F <sub>g</sub>	Flowing Temperature Factor F <sub>tt</sub>	Deviation Factor F <sub>pv</sub>	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>c</sub>)<sup>2</sup> = \_\_\_\_\_ : (P<sub>w</sub>)<sup>2</sup> = \_\_\_\_\_ : P<sub>d</sub> = \_\_\_\_\_ % (P<sub>c</sub> - 14.4) + 14.4 = \_\_\_\_\_ : (P<sub>a</sub>)<sup>2</sup> = 0.207  
(P<sub>d</sub>)<sup>2</sup> = \_\_\_\_\_

(P <sub>c</sub> ) <sup>2</sup> - (P <sub>a</sub> ) <sup>2</sup> or (P <sub>c</sub> ) <sup>2</sup> - (P <sub>d</sub> ) <sup>2</sup>	(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	Choose formula 1 or 2: 1. P <sub>c</sub> <sup>2</sup> - P <sub>a</sub> <sup>2</sup> 2. P <sub>c</sub> <sup>2</sup> - P <sub>d</sub> <sup>2</sup> divided by: P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	LOG of formula 1, or 2, and divide by: $\frac{P_c^2 - P_w^2}{P_c^2 - P_a^2}$	Backpressure Curve Slope = "n" or Assigned Standard Slope	n x LOG	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)

Open Flow Mcfd @ 14.65 psia      Deliverability Mcfd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct. Executed this the 2nd day of October, 20 15.

Witness (if any) \_\_\_\_\_ For Company **KCC WICHITA** *[Signature]*  
For Commission \_\_\_\_\_ **OCT 07 2015** *Ritchie Exploration* Checked by \_\_\_\_\_

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I declare under penalty of perjury under the laws of the state of Kansas that I am authorized to request exempt status under Rule K.A.R. 82-3-304 on behalf of the operator Ritchie Exploration, Inc. and that the foregoing pressure information and statements contained on this application form are true and correct to the best of my knowledge and belief based upon available production summaries and lease records of equipment installation and/or upon type of completion or upon use being made of the gas well herein named.

I hereby request a one-year exemption from open flow testing for the Bonnie Carson #1 gas well on the grounds that said well:


(Check one)

- is a coalbed methane producer
- is cycled on plunger lift due to water
- is a source of natural gas for injection into an oil reservoir undergoing ER
- is on vacuum at the present time; KCC approval Docket No. \_\_\_\_\_
- is not capable of producing at a daily rate in excess of 250 mcf/D

I further agree to supply to the best of my ability any and all supporting documents deemed by Commission staff as necessary to corroborate this claim for exemption from testing.

Date: 10/2/2015

**KCC WICHITA**  
**OCT 07 2015**  
**RECEIVED**

Signature:  \_\_\_\_\_  
Title: Production Manager

**Instructions:** If a gas well meets one of the eligibility criteria set out in KCC regulation K.A.R. 82-3-304, the operator may complete the statement provided above in order to claim exempt status for the gas well.

At some point during the current calendar year, wellhead shut-in pressure shall have been measured after a minimum of 24 hours shut-in/buildup time and shall be reported on the front side of this form under **OBSERVED SURFACE DATA**. Shut-in pressure shall thereafter be reported yearly in the same manner for so long as the gas well continues to meet the eligibility criterion or until the claim of eligibility for exemption **IS** denied.

The G-2 form conveying the newest shut-in pressure reading shall be filed with the Wichita office no later than December 31 of the year for which it's intended to acquire exempt status for the subject well. The form must be signed and dated on the front side as though it was a verified report of annual test results.



October 2, 2015

Kansas Corporation Commission  
Conservation Division  
130 S. Market, Suite 2078  
Wichita, Kansas 67202  
ATTN: Jim Hemmen

Re: #1 Bonnie Carson  
Sec. 17-27S-23W  
Ford County, Kansas

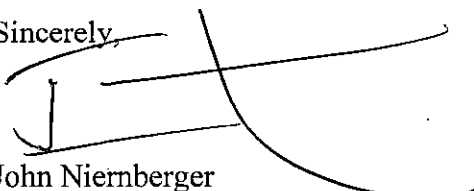
Mr. Hemmen,

Enclosed please find the 24-hour Shut-in Tests (Form G-2) on the above referenced well. For your convenience, also please find enclosed the KGS production records for the well.

Ritchie Exploration, Inc. would like for this to be held confidential for the maximum allowable time.

If you have any questions or concerns, please feel free to call me at (316) 691-9520. Thank you for your assistance in this matter.

Sincerely,



John Niernberger  
Production Manager

Enclosures

KCC WICHITA  
OCT 07 2015  
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