

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

Type Test:

(See Instructions on Reverse Side)

- Open Flow  **ASD**  
 Deliverability

Test Date:  
7/9/2015

API No. 15  
15-023-20567 - 0000

Company Rosewood Resources		Lease Miller		Well Number 1-13	
County Cheyenne	Location NESW	Section 13	TWP 3S	RNG (E/W) 41W	Acres Attributed 80
Field St. Francis		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.	
Completion Date 9-10-2004		Plug Back Total Depth 1457'		Packer Set at	
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 4.052	Set at 1500'	Perforations 1292'	To 1330'
Tubing Size none	Weight	Internal Diameter	Set at	Perforations	To
Type Completion (Describe) Single (Conventional)		Type Fluid Production Dry Gas		Pump Unit or Traveling Plunger? <input checked="" type="radio"/> Yes / No Pumping Unit	
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide		% Nitrogen	
Vertical Depth(H) 1330'		Pressure Taps Flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in 7-9 20 15 at 8:55 (AM) (PM)		Taken 7-10 20 15 at 9:10 (AM) (PM)			
Well on Line: Started 7-10 20 15 at 9:10 (AM) (PM)		Taken 7-11 20 15 at 9:55 (AM) (PM)			

### OBSERVED SURFACE DATA

Duration of Shut-in 24 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						173	187.4				
Flow						44	58.4			24	0

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>b</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>t</sub>	Deviation Factor F <sub>pv</sub>	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
						40		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

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

(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: $P_c^2 - P_w^2$	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 18 day of December, 20 15.

Witness (if any)
**KCC WICHITA**
*Samuel Montoya*  
For Commission
APR 07 2016
For Company

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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 Rosewood Resources, 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 Miller 1-13 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: 12/18/15

**KCC WICHITA** Signature: *Jarrell Martney*  
**APR 07 2016** Title: Production Assistant  
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**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.

W357

Miller 0.1 13

St. Francis

St. Francis

St. Francis

July-15

FloBoss

DATE	Tubing PSI	Casing PSI	STATIC	MCF	SPM	CYCLE	HRS DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
7/1/2015		45	58	40	40	6.5	16	0	23
7/2/2015		45	58	40	40	6.5	16	0	23
7/3/2015		45	58	40	40	6.5	16	0	23
7/4/2015		46	59	40	40	6.5	16	0	23
7/5/2015		45	58	40	40	6.5	16	0	23
7/6/2015		44	57	40	40	6.5	16	2	23
7/7/2015		44	57	39	40	6.5	16	0	23
7/8/2015		44	57	40	40	6.5	16	16	23 turn off p u
7/9/2015		88	101	2	40	6.5	16	24	0
7/10/2015		173	186	0	40	6.5	16	14	0
7/11/2015		100	113	37	40	6.5	16	0	0
7/12/2015		71	84	37	40	6.5	16	0	0
7/13/2015		53	66	38	40	6.5	16	0	0 restarted pu
7/14/2015		46	59	38	40	6.5	16	0	23
7/15/2015		46	59	40	40	6.5	16	0	23
7/16/2015		45	58	40	40	6.5	16	0	23
7/17/2015		45	58	40	40	6.5	16	0	23
7/18/2015		44	57	40	40	6.5	16	0	23
7/19/2015		44	57	40	40	6.5	16	0	23
7/20/2015		44	57	40	40	6.5	16	0	23
7/21/2015		48	61	40	40	6.5	16	2	23
7/22/2015		44	57	39	40	6.5	16	0	23
7/23/2015		44	57	39	40	6.5	16	0	23
7/24/2015		44	57	40	40	6.5	16	0	23
7/25/2015		44	57	40	40	6.5	16	0	23
7/26/2015		44	57	40	40	6.5	16	0	23
7/27/2015		44	57	40	40	6.5	16	0	23
7/28/2015		44	57	40	40	6.5	16	0	23
7/29/2015		44	57	40	40	6.5	16	0	23
7/30/2015		44	57	40	40	6.5	16	0	23
7/31/2015		44	57	40	40	6.5	16	0	23

Total

1149

598

**KCC WICHITA**  
**APR 07 2016**  
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W357

Miller 01-13

St. Francis

St. Francis

St. Francis

August-15

FloBoss

DATE	Tubing PSI	Casing PSI	STATIC	MCF	SPM	CYCLE	HRS DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
8/1/2015		43	56	41	6.5	16	0	23	
8/2/2015		43	56	41	6.5	16	0	23	
8/3/2015		46	59	41	6.5	16	0	23	
8/4/2015		46	59	41	6.5	16	0	23	
8/5/2015		43	56	41	6.5	16	0	23	
8/6/2015		43	56	41	6.5	16	0	23	
8/7/2015		43	56	41	6.5	16	0	23	
8/8/2015		43	56	41	6.5	16	0	23	
8/9/2015		43	56	41	6.5	16	0	23	
8/10/2015		46	59	41	6.5	16	0	23	
8/11/2015		48	61	41	6.5	16	0	23	
8/12/2015		48	61	41	6.5	16	0	23	
8/13/2015		49	62	41	6.5	16	0	23	
8/14/2015		49	62	41	6.5	16	0	23	
8/15/2015		49	62	41	6.5	16	0	23	
8/16/2015		50	63	41	6.5	16	0	23	
8/17/2015		50	63	41	6.5	16	0	23	
8/18/2015		49	62	41	6.5	16	0	23	
8/19/2015		49	62	41	6.5	16	0	23	
8/20/2015		49	62	41	6.5	16	0	23	
8/21/2015		49	62	41	6.5	16	0	23	
8/22/2015		49	62	41	6.5	16	0	23	
8/23/2015		49	62	41	6.5	16	0	23	
8/24/2015		49	62	41	6.5	16	0	23	
8/25/2015		52	65	41	6.5	16	0	23	
8/26/2015		52	65	41	6.5	16	0	23	
8/27/2015		52	65	41	6.5	16	0	23	
8/28/2015		52	65	41	6.5	16	0	23	
8/29/2015		52	65	41	6.5	16	0	23	
8/30/2015		52	65	41	6.5	16	4	23	
8/31/2015		52	65	41	6.5	16		23	

Total

1271

713

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W357

Miller, 01-13-2015

St. Francis

St. Francis

St. Francis

September-15

FloBoss

DATE	Tubing PSI	Casing PSI	STATIC	MCF	SPM	CYCLE	HRS DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
9/1/2015		44	57	38	6.5	16	16	0	23
9/2/2015		44	57	41	6.5	16	16	0	23
9/3/2015		47	60	41	6.5	16	16	0	23
9/4/2015		56	69	41	6.5	16	16	0	23
9/5/2015		56	69	41	6.5	16	16	0	23
9/6/2015		54	67	41	6.5	16	16	0	23
9/7/2015		54	67	41	6.5	16	16	0	23
9/8/2015		54	67	41	6.5	16	16	0	23
9/9/2015		46	59	39	6.5	16	16	0	23
9/10/2015		46	59	39	6.5	16	16	0	23
9/11/2015		46	59	39	6.5	16	16	0	23
9/12/2015		46	59	39	6.5	16	16	0	23
9/13/2015		46	59	39	6.5	16	16	0	23
9/14/2015		46	59	39	6.5	16	16	0	23
9/15/2015		46	59	39	6.5	16	16	0	23
9/16/2015		46	59	39	6.5	16	16	0	23
9/17/2015		46	59	39	6.5	16	16	0	23
9/18/2015		46	59	39	6.5	16	16	0	23
9/19/2015		46	59	39	6.5	16	16	0	23
9/20/2015		46	59	39	6.5	16	16	0	23
9/21/2015		46	59	39	6.5	16	16	0	23
9/22/2015		46	59	39	6.5	16	16	0	23
9/23/2015		46	59	39	6.5	16	16	0	23
9/24/2015		46	59	39	6.5	16	16	0	23
9/25/2015		46	59	39	6.5	16	16	0	23
9/26/2015		46	59	39	6.5	16	16	0	23
9/27/2015		46	59	39	6.5	16	16	0	23
9/28/2015		46	59	39	6.5	16	16	0	23
9/29/2015		46	59	39	6.5	16	16	0	23
9/30/2015		46	59	39	6.5	16	16	0	23
10/1/2015			13						

Total

1183

690

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APR 07 2016

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