

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

Type Test:

- Open Flow **AST**  
 Deliverability

(See Instructions on Reverse Side)

Test Date:  
7/9/2015

API No. 15  
023-21251-0000

Company Rosewood Resources, Inc.		Lease Zweygardt		Well Number 43-24	
County Cheyenne	Location NESE	Section 24	TWP 3S	RNG (E/W) 41W	Acres Attributed 80
Field Cherry Creek		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.	
Completion Date 9/27/2010		Plug Back Total Depth 1507'		Packer Set at	
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 6.366	Set at 1547'	Perforations 1320'	To 1350'
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? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide		% Nitrogen	
Vertical Depth(H) 1560'		Pressure Taps Flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in 7-9		20 15 at 5:30		(AM) (PM) Taken 7-10	
Well on Line: Started 7-10		20 15 at 5:45		(AM) (PM) Taken 7-11	

### 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>t</sub> ) or (P <sub>c</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>t</sub> ) or (P <sub>c</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						139	153.4				
Flow						57	71.4			24	

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>s</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 (Mcf/d)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
						14		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>s</sub>)<sup>2</sup> = 0.207  
(P<sub>o</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>s</sub> ) <sup>2</sup> or (P <sub>o</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>d</sub> <sup>2</sup> 2. P <sub>c</sub> <sup>2</sup> - P <sub>w</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: $\frac{P_c^2 - P_w^2}{P_c^2 - P_w^2}$	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	n x LOG $\left[ \frac{P_c^2 - P_w^2}{P_c^2 - P_w^2} \right]$	Antilog	Open Flow Deliverability Equals R x Antilog (Mcf/d)

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.

**KCC WICHITA**

*Samuel Martinez*  
For Company

Witness (if any)

**APR 07 2016**

For Commission

Checked by

**RECEIVED**

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 Zweygardt 43-24 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**

**APR 07 2016**

**RECEIVED**

Signature: *Samuel Mantey*  
Title: Production Assistant

**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.

W2732

Zweygardt 48-24

St. Francis

St. Francis

Flow

July-15

FloBoss

DATE	Tubing PSI	Casing PSI	STATIC	MCF	SPM	CYCLE	HRS DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
7/1/2015		58	71	14	14			0	
7/2/2015		58	71	14	14			0	
7/3/2015		57	70	14	14			0	
7/4/2015		57	70	14	14			0	
7/5/2015		57	70	14	14			0	
7/6/2015		57	70	14	14			2	
7/7/2015		57	70	14	14			0	
7/8/2015		57	70	14	14			16	
7/9/2015		139	152	0	0			24	
7/10/2015		157	170	5	5			14	
7/11/2015		126	139	22	22			0	
7/12/2015		83	96	22	22			0	
7/13/2015		67	80	16	16			0	
7/14/2015		59	62	16	16			0	
7/15/2015		58	71	15	15			0	
7/16/2015		58	71	15	15			0	
7/17/2015		58	71	15	15			0	
7/18/2015		57	70	15	15			0	
7/19/2015		56	69	14	14			0	
7/20/2015		56	69	14	14			0	
7/21/2015		59	72	14	14			2	
7/22/2015		56	69	14	14			0	
7/23/2015		56	69	14	14			0	
7/24/2015		56	69	14	14			0	
7/25/2015		56	69	14	14			0	
7/26/2015		56	69	14	14			0	
7/27/2015		55	68	14	14			0	
7/28/2015		55	68	14	14			0	
7/29/2015		55	68	14	14			0	
7/30/2015		55	68	14	14			0	
7/31/2015		55	68	14	14			0	

Total

440

0

KCC WICHITA

APR 07 2016

RECEIVED

W2732

Weyward 43-24

St. Francis

St. Francis

Flow

August-15

FloBoss

DATE	Tubing PSI	Casing PSI	STATIC	MCF	SPM	CYCLE	HRS DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
8/1/2015		56	69	14				0	
8/2/2015		57	70	14				0	
8/3/2015		58	71	14				0	
8/4/2015		55	68	14				0	
8/5/2015		55	68	14				0	
8/6/2015		55	68	14				0	
8/7/2015		55	68	14				0	
8/8/2015		56	69	14				0	
8/9/2015		57	70	14				0	
8/10/2015		58	71	14				0	
8/11/2015		59	72	14				0	
8/12/2015		59	72	14				0	
8/13/2015		60	73	14				0	
8/14/2015		60	73	14				0	
8/15/2015		60	73	14				0	
8/16/2015		61	74	14				0	
8/17/2015		61	74	14				0	
8/18/2015		60	73	14				0	
8/19/2015		60	73	14				0	
8/20/2015		60	73	14				0	
8/21/2015		60	73	14				0	
8/22/2015		60	73	14				0	
8/23/2015		60	73	14				0	
8/24/2015		59	72	14				0	
8/25/2015		67	80	14				0	
8/26/2015		67	80	14				0	
8/27/2015		67	80	14				0	
8/28/2015		67	80	14				0	
8/29/2015		67	80	14				0	
8/30/2015		67	80	14				4	
8/31/2015		67	80	14				0	

Total

434

0

**KCC WICHITA**

**APR 07 2016**

**RECEIVED**

W2732

Zweygardt 43-24

St. Francis

St. Francis

Flow

September-15

FloBoss

DATE	Tubing PSI	Casing PSI	STATIC	MCF	SPM	CYCLE	HRS DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
9/1/2015		56	69		13			0	
9/2/2015		56	69		13			0	
9/3/2015		58	71		13			0	
9/4/2015		58	71		13			0	
9/5/2015		66	79		13			0	
9/6/2015		66	79		13			0	
9/7/2015		64	77		13			0	
9/8/2015		64	77		13			0	
9/9/2015		57	70		13			0	
9/10/2015		57	70		13			0	
9/11/2015		57	70		13			0	
9/12/2015		57	70		13			0	
9/13/2015		57	70		13			0	
9/14/2015		57	70		13			0	
9/15/2015		57	70		13			0	
9/16/2015		57	70		13			0	
9/17/2015		57	70		13			0	
9/18/2015		57	70		13			0	
9/19/2015		57	70		13			0	
9/20/2015		57	70		13			0	
9/21/2015		57	70		13			0	
9/22/2015		57	70		13			0	
9/23/2015		57	70		13			0	
9/24/2015		57	70		13			0	
9/25/2015		57	70		13			0	
9/26/2015		57	70		13			0	
9/27/2015		57	70		13			0	
9/28/2015		57	70		13			0	
9/29/2015		57	70		13			0	
9/30/2015		57	70		13			0	
10/1/2015			13					0	

Total

390

0

**KCC WICHITA**  
**APR 07 2016**  
**RECEIVED**