

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

Type Test:

- Open Flow **BSI**  
 Deliverability

(See Instructions on Reverse Side)

Test Date:  
7/9/2015

API No. 15  
023-21257-0000

Company Rosewood Resources, Inc.		Lease Zwegardt			Well Number 22-19
County Cheyenne	Location SENW	Section 19	TWP 3S	RNG (E/W) 40W	Acres Attributed 80
Field Cherry Creek		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.	
Completion Date 11/11/10		Plug Back Total Depth 1475'		Packer Set at	
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 6.366	Set at 1513'	Perforations 1296'	To 1326'
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	Gas Gravity - G <sub>g</sub> .6
Vertical Depth(H) 1525'		Pressure Taps Flange			(Meter Run) (Prover) Size 2"
Pressure Buildup: Shut in 7-9		20 15	at 5:00	(AM) (PM) Taken 7-10	20 15 at 5:15 (AM) (PM)
Well on Line: Started 7-10		20 15	at 5:15	(AM) (PM) Taken 7-11	20 15 at 5:30 (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>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						120	134.4				
Flow						63	77.4			24	

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>v</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>
						25		

### (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: $\frac{P_c^2 - P_w^2}{P_c^2 - P_a^2}$	Backpressure Curve Slope = "n" ----- 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.

**KCC WICHITA**   
 Witness (if any) \_\_\_\_\_ For Company  
 For Commission \_\_\_\_\_ APR 07 2016 \_\_\_\_\_  
 \_\_\_\_\_ 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 22-19 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: *Janell Martney*  
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.

W2739

Zweygardt 20-19

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		65	78	25				0	
7/2/2015		64	77	25				0	
7/3/2015		64	77	25				0	
7/4/2015		65	78	25				0	
7/5/2015		65	78	25				0	
7/6/2015		63	76	25				2	
7/7/2015		63	76	25				0	
7/8/2015		63	76	25				16	
7/9/2015		120	133	0				24	
7/10/2015		173	186	0				14	
7/11/2015		123	136	30				0	
7/12/2015		88	101	30				0	
7/13/2015		74	87	27				0	
7/14/2015		53	66	27				0	
7/15/2015		66	79	26				0	
7/16/2015		65	78	26				0	
7/17/2015		65	78	26				0	
7/18/2015		64	77	26				0	
7/19/2015		64	77	26				0	
7/20/2015		64	77	26				0	
7/21/2015		67	80	26				2	
7/22/2015		63	76	26				0	
7/23/2015		63	76	26				0	
7/24/2015		63	76	26				0	
7/25/2015		63	76	26				0	
7/26/2015		63	76	26				0	
7/27/2015		62	75	25				0	
7/28/2015		62	75	25				0	
7/29/2015		62	75	25				0	
7/30/2015		62	75	25				0	
7/31/2015		62	75	25				0	

Total

755

0

KCC WICHITA

APR 07 2016

RECEIVED

W2739

Zwysgardt 2019

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		63	76	25				0	
8/2/2015		63	76	25				0	
8/3/2015		64	77	25				0	
8/4/2015		63	76	25				0	
8/5/2015		63	76	25				0	
8/6/2015		63	76	25				0	
8/7/2015		63	76	25				0	
8/8/2015		64	77	25				0	
8/9/2015		64	77	25				0	
8/10/2015		66	79	25				0	
8/11/2015		67	80	25				0	
8/12/2015		67	80	25				0	
8/13/2015		68	81	24				0	
8/14/2015		67	80	24				0	
8/15/2015		68	81	24				0	
8/16/2015		68	81	24				0	
8/17/2015		68	81	24				0	
8/18/2015		67	80	24				0	
8/19/2015		66	79	24				0	
8/20/2015		67	80	24				0	
8/21/2015		67	80	24				0	
8/22/2015		67	80	24				0	
8/23/2015		67	80	24				0	
8/24/2015		66	79	24				0	
8/25/2015		73	86	24				0	
8/26/2015		73	86	24				0	
8/27/2015		73	86	24				0	
8/28/2015		73	86	24				0	
8/29/2015		73	86	24				0	
8/30/2015		73	86	24				4	
8/31/2015		73	86	24				0	

Total

756

0

KCC WICHITA

APR 07 2016

RECEIVED

W2739

Zweygardt 22-19

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		62	75	24				0	
9/2/2015		62	75	24				0	
9/3/2015		64	77	24				0	
9/4/2015		64	77	24				0	
9/5/2015		72	85	24				0	
9/6/2015		72	85	24				0	
9/7/2015		70	83	24				0	
9/8/2015		70	83	24				0	
9/9/2015		64	77	24				0	
9/10/2015		64	77	24				0	
9/11/2015		64	77	24				0	
9/12/2015		64	77	24				0	
9/13/2015		64	77	24				0	
9/14/2015		64	77	24				0	
9/15/2015		64	77	24				0	
9/16/2015		64	77	24				0	
9/17/2015		64	77	24				0	
9/18/2015		64	77	24				0	
9/19/2015		64	77	24				0	
9/20/2015		64	77	24				0	
9/21/2015		64	77	24				0	
9/22/2015		64	77	24				0	
9/23/2015		64	77	24				0	
9/24/2015		64	77	24				0	
9/25/2015		64	77	24				0	
9/26/2015		64	77	24				0	
9/27/2015		64	77	24				0	
9/28/2015		64	77	24				0	
9/29/2015		64	77	24				0	
9/30/2015		64	77	24				0	
10/1/2015			13					0	

Total

720

0

KCC WICHITA  
APR 07 2016  
RECEIVED