

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

Type Test:

- Open Flow  Deliverability

(See Instructions on Reverse Side)

Test Date:  
8/17/2012

API No. 15  
023-21263-0000

Company Rosewood Resources, Inc.		Lease Zimbelman		Well Number 21-24	
County Cheyenne	Location NENW	Section 24	TWP 3S	RNG (E/W) 41W	Acres Attributed 80
Field Cherry Creek		Reservoir Niobrara	Gas Gathering Connection Branch Systems Inc.		
Completion Date 10/13/2010		Plug Back Total Depth 1391'	Packer Set at		
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 6.366	Set at 1431'	Perforations 1194'	To 1224'
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 type="checkbox"/> No <input checked="" type="checkbox"/>	
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide		% Nitrogen	
Vertical Depth(H) 1450'		Pressure Taps Flange		Gas Gravity - G <sub>g</sub> .6	
				(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in 8-16 20 12 at 6:05 (AM) (PM) Taken 8-17 20 12 at 6:15 (AM) (PM)					
Well on Line: Started 8-17 20 12 at 6:15 (AM) (PM) Taken 8-18 20 12 at 6:40 (AM) (PM)					

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### OBSERVED SURFACE DATA

Duration of Shut-in 24 Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Meter or 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>i</sub> ) or (P <sub>c</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>i</sub> ) or (P <sub>c</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						210	224.4				
Flow						60	74.4			24	

### 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>tt</sub>	Deviation Factor F <sub>pv</sub>	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
						13		

### (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: $\left[ \frac{P_c^2 - P_w^2}{P_c^2 - P_a^2} \right]$	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	n x LOG $\left[ \frac{P_c^2 - P_w^2}{P_c^2 - P_a^2} \right]$	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 19 day of December, 20 12.

Jannell Geew

Witness (if any)

For Company

For Commission

Checked by

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Form G-2  
(Rev. 7/03)

JAN 03 2013

KCC WICHITA

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 Zimbelman 21-24 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: 12/19/12

Signature:   
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.

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Zimbelman 21-24

St. Francis

St. Francis

Flow

August-12

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DATE	Tubing PSI	Casing PSI	STATIC MCF	SPM	HRS CYCLE DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
8/1/2012		62	75	13			
8/2/2012		55	68	13			
8/3/2012		56	69	13			
8/4/2012		54	67	13			
8/5/2012		63	76	13			
8/6/2012		53	66	13			
8/7/2012		64	77	13			
8/8/2012		57	70	13			
8/9/2012		56	69	13			
8/10/2012		71	84	13			
8/11/2012		57	70	13	1.5		
8/12/2012		59	72	13			
8/13/2012		52	65	13			
8/14/2012		56	69	13			
8/15/2012		65	78	13			
8/16/2012		56	69	13			
8/17/2012		210	65	0	24		si for state test cp-62 reopened cp-210
8/18/2012		60	73	20			
8/19/2012		61	74	15			
8/20/2012		52	65	15			
8/21/2012		60	73	13			
8/22/2012		56	69	13			
8/23/2012		62	75	13			
8/24/2012		64	77	13			
8/25/2012		59	72	12			
8/26/2012		60	73	13			
8/27/2012		54	67	13			
8/28/2012		55	68	13			
8/29/2012		56	69	13			
8/30/2012		55	68	13			
8/31/2012		55	68	13			

Total

400

0

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 Zimbelman 21-24  
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 Flow  
 September-12  
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DATE	Casing PSI	STATIC	MCF	HRS DOWN	REMARKS (Maximum length 110 characters)
9/1/2012	55	68		13	
9/2/2012	58	71		13	
9/3/2012	55	68		13	
9/4/2012	54	67		13	1
9/5/2012	72	85		13	
9/6/2012	72	85		13	
9/7/2012	150	163		4	19
9/8/2012	171	184		0	24
9/9/2012	177	190		0	24
9/10/2012	181	194		0	24
9/11/2012	183	196		0	24
9/12/2012	184	197		0	24
9/13/2012	110	123		23	10
9/14/2012	101	114		20	
9/15/2012	91	104		17	
9/16/2012	86	99		15	
9/17/2012	76	89		15	
9/18/2012	57	70		15	
9/19/2012	75	88		13	
9/20/2012	49	62		13	
9/21/2012	50	63		13	
9/22/2012	50	63		13	
9/23/2012	50	63		13	
9/24/2012	54	67		13	
9/25/2012	57	70		13	
9/26/2012	57	70		13	
9/27/2012	65	78		12	
9/28/2012	57	70		13	
9/29/2012	58	71		13	
9/30/2012	58	71		13	
10/1/2012					

Total

342

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Zimbelman 21-24

St. Francis

St. Francis

Flow

October-12

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DATE	Casing PSI	STATIC	MCF	HRS DOWN	REMARKS (Maximum length 110 characters)
10/1/2012	58	71	13		
10/2/2012	57	70	13		
10/3/2012	58	71	12		
10/4/2012	56	69	12		
10/5/2012	56	69	12		
10/6/2012	56	69	12		
10/7/2012	56	69	12		
10/8/2012	56	69	12		
10/9/2012	56	69	12		
10/10/2012	58	71	12		
10/11/2012	57	70	12		
10/12/2012	57	70	12		
10/13/2012	58	71	12		
10/14/2012	60	73	12		
10/15/2012	57	70	12		
10/16/2012	75	88	12	1	
10/17/2012	58	71	12		
10/18/2012	56	69	12		
10/19/2012	55	68	12		
10/20/2012	58	71	12		
10/21/2012	55	68	12		
10/22/2012	57	70	12		
10/23/2012	55	68	12		
10/24/2012	55	68	12		
10/25/2012	53	66	12		
10/26/2012	55	68	11		
10/27/2012	54	67	11		
10/28/2012	53	66	11		
10/29/2012	82	95	11	2	
10/30/2012	69	82	11		
10/31/2012	53	66	11		

Total

368