

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

(See Instructions on Reverse Side)

Type Test:

- Open Flow **AST**  
 Deliverability

Test Date:  
6/22/14

API No. 15  
023-20589-0000

Company Rosewood Resources, Inc.		Lease Zimbelman			Well Number 3-24
County Cheyenne	Location SWNW	Section 24	TWP 3S	RNG (E/W) 41W	Acres Attributed 80
Field Cherry Creek		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.	
Completion Date 9-10-2004		Plug Back Total Depth 1502'		Packer Set at	
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 4.052	Set at 1507'	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? <b>(Yes)</b> / No Pumping Unit	
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide		% Nitrogen	Gas Gravity - G <sub>g</sub> .6
Vertical Depth(H) 1330'		Pressure Taps Flange			(Meter Run) (Prover) Size 2"
Pressure Buildup: Shut in 6-7		20 14	at 9:15	<b>(AM)</b> (PM) Taken 6-19	20 14 at 9:30 <b>(AM)</b> (PM)
Well on Line: Started 6-22		20 14	at 9:30	<b>(AM)</b> (PM) Taken 6-23	20 14 at 10:15 <b>(AM)</b> (PM)

### OBSERVED SURFACE DATA

Duration of Shut-in **360** Hours

Static / Dynamic Property	Orifice Size (Inches)	Circle one: Meter Prover Pressure psig (P <sub>m</sub> )	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						155	169.4				
Flow						54	68.4			360	0

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>d</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>
						28		

### (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" ----- 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 12 day of December, 20 14.

Received  
KANSAS CORPORATION COMMISSION

*Samuel Matney*  
For Company

Witness (if any)

**FEB 25 2015**

For Commission

Checked by

CONSERVATION DIVISION  
WICHITA, KS

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 3-24 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: 12/12/14

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KANSAS CORPORATION COMMISSION

FEB 25 2015

CONSERVATION DIVISION  
WICHITA, KS

Signature: *Jannel Matney*

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.

W382

Zimbelman 03-24

St. Francis

St. Francis

None

June-14

DATE	Casing		MCF	HRS		REMARKS (Maximum length 110 characters)
	PSI	STATIC		DOWN		
6/1/2013	57	70	31	0		
6/2/2013	62	75	29	0		
6/3/2013	59	72	29	0	turn on pumping unit	
6/4/2013	74	87	29	0		
6/5/2013	51	64	30	0		
6/6/2013	52	65	30	0	turn off pumping unit	
6/7/2013	136	149	18	9		
6/8/2013	140	153	18	24		
6/9/2013	143	156	0	24		
6/10/2013	148	161	0	24		
6/11/2013	148	161	0	24		
6/12/2013	153	166	0	24		
6/13/2013	150	163	0	24		
6/14/2013	151	164	0	24		
6/15/2013	152	165	0	24		
6/16/2013	153	166	0	24		
6/17/2013	153	166	0	24		
6/18/2013	154	167	0	24		
6/19/2013	155	168	0	24		
6/20/2013	155	168	0	24		
6/21/2013	155	168	0	24		
6/22/2013	155	168	0	24		
6/23/2013	123	136	41	5		
6/24/2013	113	126	47	0		
6/25/2013	105	118	42	0		
6/26/2013	92	105	37	0		
6/27/2013	84	97	34	0		
6/28/2013	68	71	33	0		
6/29/2013	56	69	32	0	started pumping unit	
6/30/2013	56	69	32	0		
7/1/2013				0		

Total

512

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CONSERVATION DIVISION  
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W382  
 Zimbelman 03-24  
 St. Francis  
 St. Francis  
 None  
 July-14

DATE	Casing PSI	STATIC	MCF	HRS DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
7/1/2014	57	70		32	0	18
7/2/2014	57	70		32	0	19
7/3/2014	57	70		32	0	20
7/4/2014	57	70		32	0	19
7/5/2014	58	71		32	0	18
7/6/2014	58	71		32	0	20
7/7/2014	73	86		31	0	29
7/8/2014	59	72		31	0	18
7/9/2014	60	73		31	0	19
7/10/2014	60	73		31	0	20
7/11/2014	61	74		30	0	19
7/12/2014	62	75		30	0	20
7/13/2014	63	76		30	0	18
7/14/2014	73	86		30	0	19
7/15/2014	53	66		31	0	20 5 min bt
7/16/2014	53	66		31	0	19
7/17/2014	56	69		30	0	20
7/18/2014	56	69		29	0	18
7/19/2014	56	69		30	0	19
7/20/2014	110	123		30	0	20
7/21/2014	152	165		3	0	19
7/22/2014	84	97		25	22	20
7/23/2014	62	75		30	7	19
7/24/2014	65	78		29	3	5
7/25/2014	65	78		28	4	0 started pumping unit
7/26/2014	52	65		28	0	16
7/27/2014	54	67		28	0	19
7/28/2014	56	69		29	0	18
7/29/2014	58	71		28	0	19
7/30/2014	55	68		29	0	20
7/31/2014	56	69		29	0	19

Total

903

566

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CONSERVATION DIVISION  
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W382  
 Zimbelman 03-24  
 St. Francis  
 St. Francis  
 None  
 August-14

DATE	Casing PSI	STATIC	MCF	SPM	CYCLE	HRS DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
8/1/2014	56	69	29	6.5	12	0	20	
8/2/2014	56	69	29	6.5	12	0	20	
8/3/2014	55	68	29	6.5	12	0	20	
8/4/2014	55	68	29	6.5	12	0	20	
8/5/2014	55	68	29	6.5	12	0	20	
8/6/2014	55	68	29	6.5	12	0	20	5 min BT
8/7/2014	56	69	29	6.5	12	0	20	
8/8/2014	56	69	29	6.5	12	0	20	
8/9/2014	60	73	29	6.5	12	0	20	
8/10/2014	58	71	29	6.5	12	0	20	
8/11/2014	57	70	29	6.5	12	0	20	
8/12/2014	55	68	29	6.5	12	0	20	
8/13/2014	55	68	29	6.5	12	0	20	
8/14/2014	55	68	29	6.5	12	0	20	
8/15/2014	60	73	27	6.5	12	3	20	
8/16/2014	58	71	27	6.5	12	0	20	
8/17/2014	58	71	27	6.5	12	0	20	
8/18/2014	60	73	28	6.5	12	0	20	
8/19/2014	65	78	28	6.5	12	2	20	
8/20/2014	65	78	28	6.5	12	0	20	
8/21/2014	59	72	29	6.5	12	0	20	
8/22/2014	59	72	28	6.5	12	0	20	
8/23/2014	53	66	28	6.5	12	0	20	
8/24/2014	55	68	28	6.5	12	0	20	
8/25/2014	70	83	8	6.5	12	0	20	
8/26/2014	56	69	28	6.5	12	0	20	
8/27/2014	59	72	28	6.5	12	0	20	
8/28/2014	66	79	28	6.5	12	0	10	
8/29/2014	53	66	25	6.5	12	5	10	
8/30/2014	66	79	25	6.5	12	0	20	
8/31/2014	67	80	28	6.5	12	0	20	

Total

854

600

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