

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

Type Test:

- Open Flow  Deliverability

(See Instructions on Reverse Side)

Test Date:  
7/10/2013

API No. 15  
023-20610-0000

Company Rosewood Resources, Inc.		Lease Zimbelman		Well Number 1-18	
County Cheyenne	Location SW SW/4	Section 18	TWP 3S	RNG (E/W) 40W	Acres Attributed 80
Field Cherry Creek		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.	
Completion Date 7/1/2005		Plug Back Total Depth 1440'		Packer Set at	
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 4.052	Set at 1440'	Perforations 1248'	To 1282'
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) 1282'		Pressure Taps Flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in		7-9	20 13	at 8:40	(AM)(PM) Taken
Well on Line: Started		7-10	20 13	at 8:55	(AM)(PM) Taken

### 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>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						52	66.4			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>tt</sub>	Deviation Factor F <sub>pv</sub>	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
						27		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>a</sub>)<sup>2</sup> = 0.207  
(P<sub>d</sub>)<sup>2</sup> = \_\_\_\_\_

(P<sub>o</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 21 day of November, 20 13.

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DEC 26 2013

*Janell Martiney*  
For Company

Witness (if any)

CONSERVATION DIVISION  
WICHITA, KS

For Commission

Checked by

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 1-18 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: 11/21/13

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CONSERVATION DIVISION  
WICHITA, KS

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Jamall Martineuf  
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.

W379  
 Zimbelman 1-18  
 St. Francis  
 St. Francis  
 None  
 July-13  
 FloBoss

DATE	Casing PSI	STATIC	MCF	SPM	CYCLE	HRS DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
7/1/2013	52	65	26	9	6		7	
7/2/2013	54	67	26	9	6		8	
7/3/2013	52	65	28	9	6		7	6.5 min bt
7/4/2013	55	68	28	9	6		8	
7/5/2013	55	68	28	9	6		6	
7/6/2013	55	68	28	9	6		5	
7/7/2013	67	80	28	9	6		4	
7/8/2013	65	78	28	9	6		7	
7/9/2013	64	75	28	9	3			3 si for state test - cp 64
7/10/2013	139	74	0	9	3	24		3 reopened - cp 139
7/11/2013	63	76	37	9	6		6	
7/12/2013	70	83	28	9	3			4 shut pumping unit off hfp
7/13/2013	72	85	27	9	0	2.5	0	
7/14/2013	76	89	26	9	0		0	
7/15/2013	55	68	26	9	3			4 restart pu
7/16/2013	52	65	27	9	6			6 treated well
7/17/2013	48	61	27	9	6		7	
7/18/2013	79	92	27	9	3			4 pu off hfp
7/19/2013	71	84	25	9	0		0	
7/20/2013	72	85	25	9	0		0	
7/21/2013	73	86	25	9	0		0	
7/22/2013	69	82	24	9	0		0	
7/23/2013	66	79	24	9	3			4 restart pu
7/24/2013	74	87	24	9	6			7 6 min bt
7/25/2013	76	89	23	9	3			4 pu off hfp
7/26/2013	65	78	23	9	3			4 restart pu
7/27/2013	52	65	25	9	6		8	
7/28/2013	54	67	26	9	6		7	
7/29/2013	52	65	27	9	6		7	
7/30/2013	94	107	27	9	3	3.5		4 pu off hfp
7/31/2013	117	130	24	9	0	5.5	0	

Total

795

134

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W379  
 Zimbelman 1-18  
 St. Francis  
 St. Francis  
 None  
 August-13  
 FloBoss

DATE	Casing PSI	STATIC	MCF	SPM	HRS CYCLE DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
8/1/2013	75	88	24	9			
8/2/2013	75	88	24	9			
8/3/2013	70	83	24	9			
8/4/2013	73	86	24	9			
8/5/2013	62	75	22	9			
8/6/2013	52	65	23	9	3		3 restart pu
8/7/2013	48	61	24	9	6		7
8/8/2013	51	64	24	9	6		9
8/9/2013	54	67	24	9	6		6
8/10/2013	52	65	26	9	6		7
8/11/2013	50	63	26	9	6		8
8/12/2013	49	62	26	9	6		7
8/13/2013	50	63	26	9	6		6
8/14/2013	50	63	26	9	6		9
8/15/2013	51	64	26	9	6	0.5	7 6 min bt greased
8/16/2013	61	74	26	9	6		5
8/17/2013	62	75	26	9	6		7
8/18/2013	62	75	27	9	6		9
8/19/2013	64	77	27	9	3	1.5	3
8/20/2013	87	100	25	9	0	1	0
8/21/2013	84	97	24	9	0		0
8/22/2013	87	100	24	9	0	5	0
8/23/2013	69	82	24	9	0		0
8/24/2013	81	94	24	9	0	1	0
8/25/2013	86	99	22	9	0	1	0
8/26/2013	52	65	23	9	3		4 started pumping unit
8/27/2013	49	62	25	9	6		7
8/28/2013	47	60	25	9	6		8
8/29/2013	89	102	25	9	3		4 pu off hfp
8/30/2013	84	97	23	9	0		0
8/31/2013	85	98	23	9	0		0

Total

762

116

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CONSERVATION DIVISION  
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W379  
 Zimbelman 1-18  
 St. Francis  
 St. Francis  
 None  
 September-13  
 FloBoss

DATE	Casing PSI	STATIC MCF	SPM	HRS CYCLE	Water DOWN BBLs	REMARKS (Maximum length 110 characters)
9/1/2013	108	121	21		1	
9/2/2013	91	104	24			
9/3/2013	163	176	22		22	
9/4/2013	177	190	2		10	
9/5/2013	115	128	18			
9/6/2013	87	100	27		1	
9/7/2013	92	105	24			
9/8/2013	90	103	23			
9/9/2013	92	105	23			
9/10/2013	97	110	22		2	
9/11/2013	144	157	22			
9/12/2013	142	155	6		18	
9/13/2013	87	100	26		4	
9/14/2013	71	84	24		2	
9/15/2013	81	94	23			
9/16/2013	62	75	23	9	3	4 restart pu
9/17/2013	51	64	24	9	6	7
9/18/2013	49	62	24	9	6	7
9/19/2013	44	57	24	9	6	8
9/20/2013	32	45	24	9	6	7
9/21/2013	35	48	24	9	6	6
9/22/2013	60	73	25	9	6	7
9/23/2013	62	75	25	9	6	8
9/24/2013	53	66	25	9	3	4 pu off hfp
9/25/2013	84	97	23	9	0	0
9/26/2013	70	83	23	9	0	0
9/27/2013	50	63	23	9	3	4 restart pu treated well
9/28/2013	53	66	23	9	6	8
9/29/2013	53	66	24	9	6	9
9/30/2013	58	71	24	9	6	10
10/1/2013						

Total

665

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