

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

Type Test:

- Open Flow **OST**  
 Deliverability

(See Instructions on Reverse Side)

Test Date:  
5/8/2013

API No. 15  
023-20629-0000

Company Rosewood Resources, Inc.		Lease R. Walter		Well Number 21-21	
County Cheyenne	Location NENW/4	Section 21	TWP 3S	RNG (E/W) 41W	Acres Attributed 80
Field St. Francis		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.	
Completion Date 10/22/2005		Plug Back Total Depth 1518'		Packer Set at	
Casing Size 2 7/8"	Weight 6.5#	Internal Diameter 2.441	Set at 1518'	Perforations 1371'	To 1403'
Tubing Size NONE	Weight	Internal Diameter	Set at	Perforations	To
Type Completion (Describe) Single (Conventional)		Type Fluid Production		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) 1403'		Pressure Taps Flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in 5-7		20 13 at 10:35		(AM)(PM) Taken 5-8	
Well on Line: Started 5-8		20 13 at 10:50		(AM)(PM) Taken 5-9	
		20 13 at 10:50		(AM)(PM) Taken 5-9	
		20 13 at 11:35		(AM)(PM) Taken 5-9	

### 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						147	161.4				
Flow						81	95.4			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>
						17		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

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

(P <sub>o</sub> ) <sup>2</sup> - (P <sub>a</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>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 21 day of November, 20 13.

Witness (if any)

For Commission

*Januel Martinec*  
For Company **KCC WICHITA**

Checked by

DEC 26 2013

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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 R. Walter 21-21 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

Signature: *Jannell Martiney*  
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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W364  
 R Walter 21-21  
 St. Francis  
 St. Francis  
 None  
 May-13

DATE	Casing PSI	STATIC	MCF	HRS DOWN	REMARKS (Maximum length 110 characters)
5/1/2013	77	90		16	
5/2/2013	87	100		15	
5/3/2013	84	97		17	
5/4/2013	79	92		17	
5/5/2013	80	93		17	
5/6/2013	73	86		16	
5/7/2013	73	86		16	si for state test - cp 73
5/8/2013	46	59		0	24 reopened - cp 147
5/9/2013	106	119		21	
5/10/2013	83	96		19	
5/11/2013	83	96		19	
5/12/2013	81	94		16	
5/13/2013	78	91		15	
5/14/2013	80	93		17	
5/15/2013	120	133		13	2.5
5/16/2013	91	104		17	
5/17/2013	46	59		13	
5/18/2013	78	91		17	
5/19/2013	79	92		17	
5/20/2013	102	115		17	
5/21/2013	97	110		17	
5/22/2013	81	94		17	
5/23/2013	76	89		16	14
5/24/2013	154	167		8	10
5/25/2013	146	159		15	4
5/26/2013	119	132		21	
5/27/2013	105	118		19	
5/28/2013	101	114		17	
5/29/2013	94	107		17	
5/30/2013	81	94		17	
5/31/2013	82	95		17	

Total

496

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W364

R Walter 21-21

St. Francis

St. Francis

None

June-13

DATE	Casing PSI	STATIC	MCF	HRS DOWN	REMARKS (Maximum length 110 characters)
6/1/2013	73	86	17		
6/2/2013	81	94	14		
6/3/2013	81	94	16		
6/4/2013	71	84	16		
6/5/2013	76	89	16		
6/6/2013	80	93	16		calibrate meter
6/7/2013	79	92	16		
6/8/2013	77	90	16		
6/9/2013	77	90	16		
6/10/2013	73	86	16	2	
6/11/2013	87	100	16	1	
6/12/2013	93	106	15		
6/13/2013	86	99	16		
6/14/2013	78	91	16		
6/15/2013	76	89	16		
6/16/2013	79	92	16		
6/17/2013	74	87	16		
6/18/2013	71	84	16		
6/19/2013	70	83	16		
6/20/2013	70	83	15		
6/21/2013	81	94	16		
6/22/2013	81	94	16		
6/23/2013	88	101	16		
6/24/2013	89	102	13		
6/25/2013	95	108	13		
6/26/2013	93	106	13		
6/27/2013	85	98	13		
6/28/2013	74	87	14		Reset meter, batteries not holding up, need to repla
6/29/2013	74	87	14		
6/30/2013	76	89	14		
7/1/2013					

Total

459

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W364  
 R Walter 21-21  
 St. Francis  
 St. Francis  
 None  
 July-13

DATE	Casing		MCF	HRS DOWN	REMARKS (Maximum length 110 characters)
	PSI	STATIC			
7/1/2013	74	87		16	
7/2/2013	76	89		14	
7/3/2013	75	88		16	
7/4/2013	76	89		16	
7/5/2013	76	89		16	
7/6/2013	71	84		16	
7/7/2013	86	99		16	
7/8/2013	82	95		16	
7/9/2013	78	91		15	
7/10/2013	76	89		15	
7/11/2013	82	95		15	
7/12/2013	84	97		15	2.5
7/13/2013	90	103		15	
7/14/2013	90	103		15	
7/15/2013	63	96		7	
7/16/2013	75	88		15	
7/17/2013	71	84		15	
7/18/2013	65	78		15	
7/19/2013	92	105		15	
7/20/2013	92	105		15	
7/21/2013	92	105		15	
7/22/2013	85	98		14	
7/23/2013	82	95		15	
7/24/2013	84	97		15	
7/25/2013	92	105		15	
7/26/2013	82	95		16	
7/27/2013	75	88		16	
7/28/2013	75	88		16	
7/29/2013	69	82		16	
7/30/2013	79	92		16	3.5
7/31/2013	119	132		13	5.5

Total 465

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