

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

Type Test:

- Open Flow **MST**  
 Deliverability

(See Instructions on Reverse Side)

Test Date:  
6/22/14

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 checked="" type="checkbox"/> No <input 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 6-7		20 14 at 10:35		(AM) (PM) Taken 6-16	
Well on Line: Started 6-22		20 14 at 10:50		(AM) (PM) Taken 6-23	
				20 14 at 10:50 (AM) (PM)	
				20 14 at 11:35 (AM) (PM)	

### OBSERVED SURFACE DATA

Duration of Shut-in 360 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						230	243.4				
Flow						122	136.4			360	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>
						19		

### (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>o</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

CONSERVATION DIVISION  
WICHITA, KS

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 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: 12/12/14

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KANSAS CORPORATION COMMISSION  
FEB 25 2015  
CONSERVATION DIVISION  
WICHITA, KS

Signature: *Stanley Matting*  
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.

W364

R Walter 21-21

St. Francis

St. Francis

None

June-18<sup>th</sup>

DATE	Casing PSI	STATIC	MCF	HRS DOWN	REMARKS (Maximum length 110 characters)
6/1/2013	136	149		20	0
6/2/2013	136	149		20	0
6/3/2013	134	147		20	0
6/4/2013	135	148		19	0
6/5/2013	134	147		20	0
6/6/2013	134	147		20	0
6/7/2013	170	183		13	9
6/8/2013	187	200		13	24
6/9/2013	190	203		0	24
6/10/2013	195	208		0	24
6/11/2013	205	213		0	24
6/12/2013	210	223		0	24
6/13/2013	228	241		0	24
6/14/2013	229	242		0	24
6/15/2013	229	242		0	24
6/16/2013	230	243		0	24
6/17/2013	230	243		0	24
6/18/2013	231	244		0	24
6/19/2013	226	239		0	24
6/20/2013	227	240		0	24
6/21/2013	226	239		0	24
6/22/2013	226	239		0	24
6/23/2013	147	160		0	5
6/24/2013	146	159		13	0
6/25/2013	145	158		18	0
6/26/2013	143	156		20	0
6/27/2013	142	155		20	0
6/28/2013	140	154		21	0
6/29/2013	138	152		20	0
6/30/2013	138	152		21	0
7/1/2013					0

Total

278

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CONSERVATION DIVISION  
WICHITA, KS

W364

R Walter 21-21

St. Francis

St. Francis

None

July-14

DATE	Casing		MCF	HRS		REMARKS (Maximum length 110 characters)
	PSI	STATIC		DOWN		
7/1/2014	138	151		20	0	
7/2/2014	138	151		20	0	
7/3/2014	136	149		20	0	
7/4/2014	136	149		20	0	
7/5/2014	135	148		20	0	
7/6/2014	135	148		20	0	
7/7/2014	134	147		20	0	
7/8/2014	133	146		20	0	
7/9/2014	133	146		20	0	
7/10/2014	132	145		20	0	
7/11/2014	132	145		20	0	
7/12/2014	132	145		20	0	
7/13/2014	132	145		20	0	
7/14/2014	131	144		19	0	
7/15/2014	130	143		19	0	
7/16/2014	130	143		19	0	
7/17/2014	129	142		20	0	
7/18/2014	128	141		19	0	
7/19/2014	128	141		19	0	
7/20/2014	127	140		19	0	
7/21/2014	126	139		19	0	
7/22/2014	175	188		19	22	
7/23/2014	139	152		20	7	
7/24/2014	137	150		15	3	
7/25/2014	130	143		16	4	
7/26/2014	136	149		18	0	
7/27/2014	135	148		21	0	
7/28/2014	134	147		20	0	
7/29/2014	133	146		20	0	
7/30/2014	132	145		20	0	
7/31/2014	131	144		20	0	

Total

602

Received  
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CONSERVATION DIVISION  
WICHITA, KS

W364  
 R Walter 21-21  
 St. Francis  
 St. Francis  
 None  
 August-14

DATE	Casing		MCF	HRS		REMARKS (Maximum length 110 characters)
	PSI	STATIC		DOWN		
8/1/2014	130	143		20	0	
8/2/2014	129	142		20	0	
8/3/2014	128	141		20	0	
8/4/2014	128	140		19	0	
8/5/2014	126	139		19	0	
8/6/2014	126	139		19	0	
8/7/2014	125	138		19	0	
8/8/2014	124	137		19	0	
8/9/2014	124	137		19	0	
8/10/2014	123	136		19	0	
8/11/2014	122	135		19	0	
8/12/2014	122	135		19	0	
8/13/2014	122	135		19	0	
8/14/2014	122	135		18	0	
8/15/2014	125	138		19	3	
8/16/2014	124	137		17	0	
8/17/2014	124	137		17	0	
8/18/2014	122	135		19	0	
8/19/2014	122	135		19	2	
8/20/2014	122	135		19	0	
8/21/2014	122	135		18	0	
8/22/2014	121	134		18	0	
8/23/2014	120	133		18	0	
8/24/2014	123	136		17	0	
8/25/2014	120	133		18	0	
8/26/2014	120	133		18	0	
8/27/2014	120	133		18	0	
8/28/2014	120	133		18	0	
8/29/2014	132	145		18	5	
8/30/2014	120	133		18	0	
8/31/2014	129	142		20	0	

Total

577

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