

# KANSAS CORPORATION COMMISSION

## ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

(See Instructions on Reverse Side)

- Open Flow **AST**  
 Deliverability

Test Date:  
6/22/14

API No. 15  
15-023-20566 - 0000

Company Rosewood Resources		Lease Isernhagen			Well Number 1-27
County Cheyenne	Location SWSW	Section 27	TWP 3S	RNG (E/W) 41W	Acres Attributed 80
Field St. Francis		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.	
Completion Date 9/10/2004		Plug Back Total Depth 1589'		Packer Set at	
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 4.052	Set at 1632'	Perforations 1378'	To 1416'
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	Gas Gravity - G <sub>g</sub> .6
Vertical Depth(H) 1416'		Pressure Taps Flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in 6-7		20 14 at 11:05		(AM) (PM) Taken 6-16	20 14 at 11:15 (AM) (PM)
Well on Line: Started 6-22		20 14 at 11:15		(AM) (PM) Taken 6-23	20 14 at 1:05 (AM) (PM)

### OBSERVED SURFACE DATA

Duration of Shut-in 360 Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Meter or 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>o</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>i</sub> ) or (P <sub>o</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						235	249.4				
Flow						60	74.4			360	0

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>s</sub> ) (F <sub>c</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>
						7		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>a</sub>)<sup>2</sup> = 0.207  
(P<sub>o</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>o</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>d</sub> <sup>2</sup> 2. P <sub>c</sub> <sup>2</sup> - P <sub>w</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: $P_o^2 - P_w^2$	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 12 day of December, 20 14.

Received For Company

Witness (if any) \_\_\_\_\_ For Commission

**FEB 25 2015**      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 Isernhagen 1-27 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

Received  
KANSAS CORPORATION COMMISSION  
**FEB 25 2015**  
CONSERVATION DIVISION  
WICHITA, KS

Signature: *Dennell 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.

W351

Isernhagen 01-27

St. Francis

St. Francis

None

June-1~~2~~4

DATE	Casing			HRS DOWN	REMARKS (Maximum length 110 characters)	
	PSI	STATIC	MCF			
6/1/2013 <del>4</del>	61	74		7	0	
6/2/2013	68	81		5	0	
6/3/2013	70	83		8	0	
6/4/2013	92	105		6	0	
6/5/2013	56	69		9	0	
6/6/2013	58	71		7	0	
6/7/2013	164	177		4	9	
6/8/2013	193	206		4	24	
6/9/2013	193	206		0	24	
6/10/2013	198	211		0	24	
6/11/2013	200	213		0	24	
6/12/2013	205	218		0	24	
6/13/2013	206	219		0	24	
6/14/2013	207	220		0	24	
6/15/2013	208	221		0	24	
6/16/2013	235	248		4	24	
6/17/2013	235	248		4	24	
6/18/2013	235	248		0	24	shut in west side of meter
6/19/2013	218	231		0	24	
6/20/2013	218	231		0	24	
6/21/2013	220	233		0	24	
6/22/2013	220	233		0	24	
6/23/2013	125	138		0	5	
6/24/2013	117	130		17	0	
6/25/2013	109	122		10	0	
6/26/2013	96	109		9	0	
6/27/2013	89	102		9	0	
6/28/2013	60	73		10	0	
6/29/2013	58	71		9	0	
6/30/2013	61	74		7	0	
7/1/2013					0	

Total

129

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KANSAS CORPORATION COMMISSION

FEB 25 2015

CONSERVATION DIVISION  
WICHITA, KS

W351  
 Isernhagen 01-27  
 St. Francis  
 St. Francis  
 None  
 July-14

DATE	Casing		MCF	HRS		REMARKS (Maximum length 110 characters)
	PSI	STATIC		DOWN		
7/1/2014	61	74		7	0	
7/2/2014	60	73		7	0	
7/3/2014	60	73		7	0	
7/4/2014	60	73		7	0	
7/5/2014	61	74		7	0	
7/6/2014	61	74		7	0	
7/7/2014	78	91		6	0	
7/8/2014	63	76		8	0	
7/9/2014	62	75		7	0	
7/10/2014	63	76		7	0	
7/11/2014	64	77		7	0	
7/12/2014	66	79		7	0	
7/13/2014	67	80		7	0	
7/14/2014	71	84		7	0	
7/15/2014	57	70		8	0	
7/16/2014	57	70		8	0	
7/17/2014	61	74		7	0	
7/18/2014	61	74		7	0	
7/19/2014	61	74		7	0	
7/20/2014	60	73		7	0	
7/21/2014	78	91		7	0	
7/22/2014	180	193		4	22	
7/23/2014	87	100		0	7	
7/24/2014	67	80		14	3	
7/25/2014	59	72		8	4	
7/26/2014	55	68		7	0	
7/27/2014	57	70		7	0	
7/28/2014	58	71		7	0	
7/29/2014	65	78		6	0	
7/30/2014	58	71		7	0	
7/31/2014	61	74		6	0	

Total

215

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 KANSAS CORPORATION COMMISSION

**FEB 25 2015**

CONSERVATION DIVISION  
 WICHITA, KS

W351

Isernhagen 01-27

St. Francis

St. Francis

None

August-14

DATE	Casing		MCF	HRS		REMARKS (Maximum length 110 characters)
	PSI	STATIC		DOWN		
8/1/2014	57	70		7	0	
8/2/2014	57	70		7	0	
8/3/2014	57	70		6	0	
8/4/2014	58	71		6	0	
8/5/2014	58	71		6	0	
8/6/2014	58	71		6	0	
8/7/2014	59	72		6	0	
8/8/2014	59	72		6	0	
8/9/2014	60	73		6	0	
8/10/2014	62	75		6	0	
8/11/2014	59	72		6	0	
8/12/2014	57	70		7	0	
8/13/2014	56	69		6	0	
8/14/2014	56	69		6	0	
8/15/2014	63	76		6	3	
8/16/2014	60	73		6	0	
8/17/2014	60	73		6	0	
8/18/2014	62	75		7	0	
8/19/2014	67	80		8	2	
8/20/2014	67	80		8	0	
8/21/2014	60	73		7	0	
8/22/2014	69	82		6	0	
8/23/2014	57	70		7	0	
8/24/2014	59	72		6	0	
8/25/2014	74	87		5	0	
8/26/2014	61	74		7	0	
8/27/2014	63	76		6	0	
8/28/2014	57	70		7	0	
8/29/2014	56	69		9	5	
8/30/2014	56	69		9	0	
8/31/2014	70	83		6	0	

Total

203

Received  
KANSAS CORPORATION COMMISSION

FEB 25 2015

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WICHITA, KS