

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

Type Test:

- Open Flow **AST**  
 Deliverability

(See Instructions on Reverse Side)

Test Date:  
7/9/2015

API No. 15  
15-023-20662-0000

Company Rosewood Resources		Lease Isernhagen		Well Number 22-25	
County Cheyenne	Location SENW/4	Section 25	TWP 3S	RNG (E/W) 41W	Acres Attributed 80
Field St. Francis		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.	
Completion Date 3/10/2006		Plug Back Total Depth 1463'		Packer Set at	
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 4.052	Set at 1464'	Perforations 1280'	To 1316'
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 <input type="radio"/> No Pumping Unit	
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide		% Nitrogen	
Vertical Depth(H) 1316'		Pressure Taps Flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in 7-9		20 15 at 9:25		(AM) (PM) Taken 7-10	
Well on Line: Started 7-10		20 15 at 9:40		(AM) (PM) Taken 7-11	
		20 15 at 9:40		(AM) (PM)	
		20 15 at 10:25		(AM) (PM)	

### 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						88	102.4				
Flow						48	62.4			24	0

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>p</sub> ) (F <sub>a</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" ----- 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 18 day of December, 20 15.

**KCC WICHITA** *Janell Montney*  
For Company

Witness (if any)

**APR 07 2016**

For Commission

Checked by

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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 Isernhagen 22-25 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: 12/18/15

Signature: Jennell Martiny  
 Title: Production Assistant

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**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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Isenhansen 22-25

St. Francis

St. Francis

None

July-15

DATE	Casing PSI	STATIC	MCF	SPM	HRS CYCLE	DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
7/1/2015	50	63	29	6	12	0	17	
7/2/2015	49	62	29	6	12	0	17	
7/3/2015	49	62	29	6	12	0	17	
7/4/2015	49	62	29	6	12	0	17	
7/5/2015	49	63	29	6	12	0	17	
7/6/2015	48	71	29	6	12	2	17	
7/7/2015	48	61	29	6	12	0	17	
7/8/2015	48	61	28	6	12	16	17	turn off p u
7/9/2015	88	84	0	6	12	24	0	
7/10/2015	173	138	0	6	12	14	0	
7/11/2015	100	115	28	6	12	0	0	
7/12/2015	86	95	34	6	12	0	0	
7/13/2015	54	81	28	6	12	0	0	restarted pu
7/14/2015	50	65	28	6	12	0	17	
7/15/2015	50	61	28	6	12	0	17	
7/16/2015	50	62	28	6	12	0	17	
7/17/2015	50	62	28	6	12	0	17	
7/18/2015	48	61	28	6	12	0	17	
7/19/2015	48	61	28	6	12	0	17	
7/20/2015	48	61	28	6	12	0	17	
7/21/2015	49	73	28	6	12	2	17	
7/22/2015	48	61	28	6	12	0	17	
7/23/2015	48	61	28	6	12	0	17	
7/24/2015	48	61	28	6	12	0	17	
7/25/2015	48	61	28	6	12	0	17	
7/26/2015	48	61	28	6	12	0	17	
7/27/2015	47	60	28	6	12	0	17	
7/28/2015	47	60	28	6	12	0	17	
7/29/2015	47	60	28	6	12	0	17	
7/30/2015	47	60	28	6	12	0	17	
7/31/2015	47	60	28	6	12	0	17	
Total			827				442	

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Isenhagen 22-25

St. Francis

St. Francis

None

August-15

DATE	Casing PSI	STATIC	MCF	SPM	HRS CYCLE	DOWN	Water BBLS	REMARKS (Maximum length 110 characters)
8/1/2015	48	61	28	6	12	0	17	
8/2/2015	48	61	28	6	12	0	17	
8/3/2015	49	62	28	6	12	0	17	
8/4/2015	48	61	28	6	12	0	17	
8/5/2015	47	60	28	6	12	0	17	
8/6/2015	47	60	29	6	12	0	17	
8/7/2015	48	61	29	6	12	0	17	
8/8/2015	48	61	29	6	12	0	17	
8/9/2015	49	62	28	6	12	0	17	
8/10/2015	52	65	28	6	12	0	17	
8/11/2015	52	65	28	6	12	0	17	
8/12/2015	52	65	28	6	12	0	17	
8/13/2015	53	66	28	6	12	0	17	
8/14/2015	53	66	28	6	12	0	17	
8/15/2015	53	66	29	6	12	0	17	
8/16/2015	54	67	28	6	12	0	17	
8/17/2015	53	66	28	6	12	0	17	
8/18/2015	53	66	28	6	12	0	17	
8/19/2015	54	67	28	6	12	0	17	
8/20/2015	53	66	28	6	12	0	17	
8/21/2015	53	66	28	6	12	0	17	
8/22/2015	53	66	28	6	12	0	17	
8/23/2015	54	67	28	6	12	0	17	
8/24/2015	53	66	28	6	12	0	17	
8/25/2015	54	67	28	6	12	0	17	
8/26/2015	53	66	27	6	12	0	17	
8/27/2015	51	64	28	6	12	0	17	
8/28/2015	51	64	28	6	12	0	17	
8/29/2015	53	66	28	6	12	0	17	
8/30/2015	56	69	28	6	12	4	17	
8/31/2015	58	71	28	6	12	0	17	

Total

871

527

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lsernhagen22-25

St. Francis

St. Francis

None

September-15

DATE	Casing			HRS		Water	REMARKS (Maximum length 110 characters)
	PSI	STATIC	MCF	SPM	CYCLE	DOWN	
9/1/2015	69	82	27	6	12	0	17
9/2/2015	49	62	28	6	12	0	17
9/3/2015	49	62	28	6	12	0	17
9/4/2015	53	66	28	6	12	0	17
9/5/2015	58	71	28	6	12	0	17
9/6/2015	61	74	28	6	12	0	17
9/7/2015	60	73	28	6	12	0	17
9/8/2015	59	72	28	6	12	0	17
9/9/2015	61	74	27	6	12	0	17
9/10/2015	50	63	27	6	12	0	17
9/11/2015	53	66	27	6	12	0	17
9/12/2015	55	68	28	6	12	0	17
9/13/2015	54	67	28	6	12	0	17
9/14/2015	55	68	28	6	12	0	17
9/15/2015	56	69	28	6	12	0	17
9/16/2015	57	70	28	6	12	0	17
9/17/2015	58	71	28	6	12	0	17
9/18/2015	58	71	28	6	12	0	17
9/19/2015	55	68	28	6	12	0	17
9/20/2015	53	66	28	6	12	0	17
9/21/2015	54	67	28	6	12	0	17
9/22/2015	55	68	28	6	12	0	17
9/23/2015	56	69	28	6	12	0	17
9/24/2015	0	69	28	6	12	0	17
9/25/2015	0	69	28	6	12	0	17
9/26/2015	0	69	28	6	12	0	17
9/27/2015	0	69	28	6	12	0	17
9/28/2015	0	69	28	6	12	0	17
9/29/2015	0	69	28	6	12	0	17
9/30/2015	0	69	28	6	12	0	17
10/1/2015	0	0	0	6	12	0	17

Total

836

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