

# KANSAS CORPORATION COMMISSION

## ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

(See Instructions on Reverse Side)

Type Test:

Open Flow **AST**  
 Deliverability

Test Date:  
6/15/2011

API No. 15  
15-023-20564 -00-00

Company Rosewood Resources		Lease Isemhagen			Well Number 1-23
County Cheyenne	Location SWSW	Section 23	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 1528'		Packer Set at	
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 4.052	Set at 1576'	Perforations 980'	To 1010'
Tubing Size <b>none 2 3/8"</b>	Weight	Internal Diameter	Set at <b>1431'</b>	Perforations	To
Type Completion (Describe) Single (Conventional)		Type Fluid Production Dry Gas		Pump Unit or Traveling Plunger? <input checked="" type="checkbox"/> Yes / No Pumping Unit	
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide		% Nitrogen	
Vertical Depth(H) 1010'		Pressure Taps Flange		Gas Gravity - G <sub>g</sub> .6 (Meter Run) (Prover) Size 2"	

Pressure Buildup: Shut in	6-14	20	11	at	11:25	(AM) (PM)	Taken	6-15	20	11	at	11:35	(AM) (PM)
Well on Line: Started	6-15	20	11	at	11:35	(AM) (PM)	Taken	6-16	20	11	at	1:25	(AM) (PM)

### 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>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						58	72.4				
Flow						62	76.4			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>t</sub>	Deviation Factor F <sub>pv</sub>	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
						13		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>o</sub>)<sup>2</sup> = 0.207  
(P<sub>w</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>w</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>o</sub> <sup>2</sup> - P <sub>d</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: $\frac{P_o^2 - P_d^2}{P_c^2 - P_w^2}$	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 28 day of December, 20 11

\_\_\_\_\_  
Witness (if any)

Janall Gevel  
For Company

\_\_\_\_\_  
For Commission

\_\_\_\_\_  
Checked by

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KCC WICHITA

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 1-23 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: 12/28/11

Signature:   
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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W350

Isernhagen 01-23

St. Francis

St. Francis

Pumping Unit/Elec

June-11

DATE	Tubing Casing		STATIC	MCF	SPM	CYCLE DOWN	HRS	Water BBL	REMARKS (Maximum length 110 characters)
	PSI	PSI							
6/1/2011		71	79	9	7	0	0	0	needs wo pu off
6/2/2011		59	80	9	7	0	0	0	
6/3/2011		58	72	9	7	0	0	0	
6/4/2011		58	72	5	7	0	0	0	no flow work over rig on well
6/5/2011		59	72	6	7	0	0	0	
6/6/2011		60	72	6	7	3	0	8	started PU back up work over done
6/7/2011		57	73	5	7	7	0	12	4 min bt
6/8/2011		58	71	6	7	7	0	13	
6/9/2011		57	72	6	7	7	0	16	
6/10/2011		59	71	7	7	7	0	17	
6/11/2011		59	72	7	7	7	0	15	
6/12/2011		59	72	7	7	7	0	17	
6/13/2011		59	72	7	7	7	0	9	5.75 min btgreased
6/14/2011		59	73	7	7	3.5	0	5	si for 24 hrs squeezed
6/15/2011		58	72	0	7	3.5	24	4	reopen well restart pu
6/16/2011		64	83	14	7	7	0	16	
6/17/2011		63	76	13	7	7	0	17	
6/18/2011		62	75	13	7	7	0	16	
6/19/2011		62	75	13	7	7	0	17	
6/20/2011		62	75	13	7	7	0	16	
6/21/2011		62	75	13	7	7	0	13	3.75 min bt
6/22/2011		62	75	14	7	7	0	12	
6/23/2011		78	100	13	7	7	1	11	
6/24/2011		63	80	14	7	7	0	13	
6/25/2011		62	75	14	7	7	0	14	
6/26/2011		62	75	14	7	7	0	12	
6/27/2011		62	75	14	7	7	0	10	5 min bt
6/28/2011		62	74	15	7	7	0	9	
6/29/2011		63	75	15	7	7	0	11	
6/30/2011		63	75	15	7	7	0	8	
7/1/2011		0	0	0	0	0	0	0	

Total

303

311

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KCC WICHITA

W350  
 Isernhagen 01-23  
 St. Francis  
 St. Francis  
 Pumping Unit/Elec  
 July-11

DATE	Tubing Casing		STATIC MCF	SPM	CYCLE DOWN	HRS	Water BBLs	REMARKS (Maximum length 110 characters)
	PSI	PSI						
7/1/2011	63	75	15	7 7	0	10		
7/2/2011	63	75	15	7 7	0	11		
7/3/2011	63	75	15	7 7	0	12		
7/4/2011	63	75	16	7 7	0	11		
7/5/2011	63	75	16	7 7	0	10		
7/6/2011	62	75	16	7 7	0	14	3.5 min bt greased	
7/7/2011	62	75	16	7 7	0	13		
7/8/2011	63	75	16	7 7	0	15		
7/9/2011	62	75	16	7 7	0	12		
7/10/2011	62	75	17	7 7	0	15		
7/11/2011	62	75	17	7 7	0	14	3.5 min bt	
7/12/2011	62	75	17	7 7	0	12		
7/13/2011	53	73	17	7 7	1	11		
7/14/2011	62	74	17	7 7	0	15		
7/15/2011	62	75	17	7 7	0	14		
7/16/2011	66	75	18	7 7	0	13		
7/17/2011	66	80	18	7 7	0	14		
7/18/2011	64	76	18	7 3.5	0	7	shut pu off, high field pressure	
7/19/2011	64	84	16	7 3.5	2	7	restart pu 5 min bt	
7/20/2011	62	76	17	7 7	0	14		
7/21/2011	74	86	17	7 3.5	0	7	pu off hfp	
7/22/2011	58	78	17	7 3.5	0	7	restart pu	
7/23/2011	62	72	17	7 7	0	14		
7/24/2011	62	73	17	7 7	0	15		
7/25/2011	60	73	18	7 7	0	17		
7/26/2011	59	72	18	7 7	0	15		
7/27/2011	60	73	18	7 7	0	14		
7/28/2011	61	73	18	7 7	0	12	4 min bt	
7/29/2011	72	85	18	7 7	0	10		
7/30/2011	62	80	19	7 7	0	11		
7/31/2011	62	76	19	7 7	0	12		

Total

526

378

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W350  
 Isernhagen 01-23  
 St. Francis  
 St. Francis  
 Pumping Unit/Elec  
 August-11

DATE	Tubing PSI	Casing PSI	STATIC	MCF	SPM	HRS CYCLE DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
8/1/2011		61	74	19	7 7	0	10	
8/2/2011		61	74	19	7 7	0	11	
8/3/2011		60	73	19	7 7	0	11	4.5 min bt greased
8/4/2011		61	74	19	7 7	0	9	
8/5/2011		60	74	19	7 7	0	10	
8/6/2011		61	73	20	7 7	0	12	
8/7/2011		61	74	20	7 7	0	13	
8/8/2011		59	73	20	7 7	0	10	5 min bt
8/9/2011		60	73	20	7 7	0	10	
8/10/2011		55	70	20	7 7	0	9	
8/11/2011		78	80	20	7 7	0	8	
8/12/2011		91	93	20	7 3.5	0	5	shut pumping unit off hfp
8/13/2011		78	95	19	7 0	0	0	
8/14/2011		86	96	17	7 0	0	0	
8/15/2011		86	100	16	7 0	0	0	
8/16/2011		61	86	16	7 3.5	0	5	restart pu
8/17/2011		162	91	15	7 3.5	5	5	pu off hfp
8/18/2011		62	103	18	7 3.5	4	5	restart pu
8/19/2011		68	81	17	7 7	1	10	
8/20/2011		60	74	13	7 7	0	11	
8/21/2011		59	72	19	7 7	0	13	
8/22/2011		58	72	19	7 7	0	9	5.5 min bt
8/23/2011		67	72	20	7 7	0	8	
8/24/2011		58	75	20	7 7	0	10	
8/25/2011		62	73	20	7 7	0	12	
8/26/2011		59	77	20	7 7	0	10	
8/27/2011		61	73	20	7 7	0	9	
8/28/2011		61	74	21	7 7	0	8	
8/29/2011		61	74	21	7 7	0	9	
8/30/2011		60	74	21	7 7	0	11	
8/31/2011		60	74	21	7 7	0	10	5 min bt

Total

588

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