

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

(See Instructions on Reverse Side)

Type Test:

Open Flow **AST**  
 Deliverability

Test Date:  
9/7/2011

API No. 15  
023-20664-00 - 00

Company Rosewood Resources, Inc.		Lease Hill		Well Number 13-33	
County Cheyenne	Location NWSW	Section 33	TWP 2S	RNG (E/W) 42W	Acres Attributed 80
Field Cherry Creek		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.	
Completion Date 3/30/2006		Plug Back Total Depth 1777'		Packer Set at	
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 4.052	Set at 1777.49'	Perforations 1618'	To 1646'
Tubing Size <b>NONE</b> 2 3/8"	Weight	Internal Diameter	Set at 1671'	Perforations	To
Type Completion (Describe) Single (Conventional)		Type Fluid Production Dry Gas		Pump Unit or Travelling Plunger? <input checked="" type="checkbox"/> Yes / No	
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide		% Nitrogen	
Vertical Depth(H) 1646'		Pressure Taps Flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in 9-6		20 11 at 1:35		(AM) <input checked="" type="checkbox"/> (PM) Taken 9-7	
Well on Line: Started 9-7		20 11 at 1:50		(AM) <input checked="" type="checkbox"/> (PM) Taken 9-8	

### 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>e</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>i</sub> ) or (P <sub>e</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						135	149.4				
Flow						39	53.4			24	

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>s</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>
						17		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>e</sub>)<sup>2</sup> = 0.207

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

(P <sub>e</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> or (P <sub>e</sub> ) <sup>2</sup> - (P <sub>d</sub> ) <sup>2</sup>	(P <sub>d</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	Choose formula 1 or 2: 1. P <sub>e</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> 2. P <sub>e</sub> <sup>2</sup> - P <sub>d</sub> <sup>2</sup> divided by: P <sub>e</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	LOG of formula 1, or 2, and divide by: $\frac{P_e^2 - P_w^2}{P_e^2 - P_d^2}$	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)

For Commission

*Samuel Brown*  
For Company

For Company

Checked by

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APR 24 2012

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 Hilt 13-33 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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W437  
 Hilt 13-33  
 West St. Francis  
 St. Francis  
 None  
 September-11

DATE	Tubing Casing		STATIC	MCF	SPM	CYCL	DOW	Water BBLs	REMARKS (Maximum length 110 characters)
	PSI	PSI							
9/1/2011		39	52	16	7	12		16	
9/2/2011		40	53	16	7	12		17	
9/3/2011		39	52	16	7	12		18	
9/4/2011		39	52	16	7	12		17	
9/5/2011		39	52	16	7	12		16	
9/6/2011		38	51	16	7	6		17	shut well into do state test
9/7/2011		135	59	0	7	0	24	0	opened well didn't start pumping unit hp
9/8/2011		40	53	22	7	6		8	started pumping unit
9/9/2011		40	53	18	7	12		17	
9/10/2011		40	53	19	7	12		16	
9/11/2011		40	53	19	7	12		17	
9/12/2011		39	52	19	7	12		18	
9/13/2011		38	51	19	7	12		16	
9/14/2011		40	53	19	7	12		17	
9/15/2011		38	51	18	7	12		16	
9/16/2011		37	50	17	7	12		15	
9/17/2011		38	51	14	7	12		19	
9/18/2011		37	50	14	7	12		17	
9/19/2011		38	51	12	7	6		0	no water-pumped off?, turned off pu
9/20/2011		36	49	12	7	0		0	
9/21/2011		36	49	12	7	0		0	
9/22/2011		39	52	11	7	8		10	
9/23/2011		40	53	12	7	24		34	taged and started moving water at 2:00 pm
9/24/2011		39	52	15	7	12		17	
9/25/2011		39	52	16	7	12		16	
9/26/2011		40	53	16	7	12		15	
9/27/2011		40	53	16	7	12		17	bucket test 5 min
9/28/2011		40	53	16	7	12		16	
9/29/2011		39	52	17	7	12		15	
9/30/2011		39	52	17	7	12		16	
10/1/2011									

Total

466

433

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W437  
 Hilt 13-33  
 West St. Francis  
 St. Francis  
 None  
 October-11

DATE	Tubing Casing				HRS	Water	REMARKS (Maximum length 110 characters)	
	PSI	PSI	STATIC MCF	SPM CYCLEDOWN				BBLs
10/1/2011		39	52	17	7	12	0	16
10/2/2011		39	51	17	7	12	0	15
10/3/2011		39	51	17	7	12	0	16
10/4/2011		38	51	17	7	12	0	17
10/5/2011		40	51	17	7	12	0	17 bucket test 5 min
10/6/2011		40	54	17	7	12	0	16
10/7/2011		44	54	17	7	12	0	15
10/8/2011		44	53	17	7	12	0	16
10/9/2011		42	52	17	7	12	0	17
10/10/2011		41	52	17	7	12	0	18
10/11/2011		62	74	17	7	12	0	17
10/12/2011		39	57	17	7	12	0	17 bucket test 5 min
10/13/2011		41	52	17	7	12	0	16
10/14/2011		39	52	17	7	12	0	17
10/15/2011		41	52	17	7	12	0	19
10/16/2011		39	53	17	7	12	0	18
10/17/2011		39	52	17	7	12	0	17
10/18/2011		39	52	17	7	12	0	16
10/19/2011		40	53	17	7	12	0	17 bucket test 5 min
10/20/2011		40	52	17	7	12	0	16
10/21/2011		39	52	17	7	12	0	17
10/22/2011		39	52	17	7	12	0	18
10/23/2011		40	51	17	7	12	0	17
10/24/2011		40	52	17	7	12	0	16
10/25/2011		40	51	17	7	12	0	17 bucket test 5 min
10/26/2011		39	52	17	7	12	0	16
10/27/2011		39	52	17	7	12	0	17
10/28/2011		39	51	17	7	12	0	17
10/29/2011		39	51	17	7	12	0	16
10/30/2011		38	51	17	7	12	0	18
10/31/2011		36	50	17	7	12	0	17

Total

527

519

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W437  
 Hilt 13-33  
 West St. Francis  
 St. Francis  
 None  
 November-11

DATE	Tubing Casing				HRS CYCL/DOWN	Water BBLs	REMARKS Maximum length 110 characters	
	PSI	PSI	STATIC MCF	SPM				
11/1/2011		37	64	17	7	12	0	15
11/2/2011		36	52	17	7	12	0	16
11/3/2011		37	49	17	7	12	0	17 bucket test 5 min
11/4/2011		37	48	17	7	12	0	16
11/5/2011		38	50	17	7	12	0	15
11/6/2011		38	49	17	7	12	0	17
11/7/2011		36	50	17	7	12	0	16
11/8/2011		36	57	17	7	12	0	15
11/9/2011		37	50	17	7	12	0	17 bucket test 5 min
11/10/2011		36	50	18	7	12	0	16
11/11/2011		36	48	17	7	12	0	15
11/12/2011		36	49	17	7	12	0	17
11/13/2011		36	49	17	7	12	0	17
11/14/2011		37	48	17	7	12	0	15
11/15/2011		42	54	17	7	12	0	16
11/16/2011		36	51	17	7	12	0	17 bucket test 5 min
11/17/2011		35	49	16	7	12	0	17
11/18/2011		36	49	17	7	12	0	16
11/19/2011		35	49	17	7	12	0	17
11/20/2011		36	49	16	7	12	0	18
11/21/2011		37	50	17	7	12	0	17
11/22/2011		37	50	16	7	12	0	17 bucket test 5 min
11/23/2011		36	51	17	7	12	0	16
11/24/2011		36	51	17	7	12	0	18
11/25/2011		37	51	17	7	12	0	17
11/26/2011		38	51	17	7	12	0	16
11/27/2011		39	50	17	7	12	0	17
11/28/2011		39	50	17	7	12	0	18
11/29/2011		40	50	17	7	12	0	17 bucket test 5 min
11/30/2011		40	50	17	7	12	0	16
12/1/2011		0	0	0	0	0	0	0

Total

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