

# KANSAS CORPORATION COMMISSION

## ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

(See Instructions on Reverse Side)

Type Test:

Open Flow  **SI**  
 Deliverability

Test Date:  
2/4/2010

API No. 15  
181-20415-00-00

Company Rosewood Resources, Inc.		Lease Duell		Well Number 14-21	
County Sherman	Location SWSW	Section 21	TWP 7S	RNG (EW) 39W	Acres Attributed 80
Field Goodland		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.	
Completion Date 6/3/2006		Plug Back Total Depth 1186'		Packer Set at	
Casing Size 4 3/4"	Weight 10.5#	Internal Diameter 4.000	Set at 1186'	Perforations 1010'	To 1040'
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? flowing	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Producing Thru (Annulus / Tubing) Annulus	% Carbon Dioxide	% Nitrogen	Gas Gravity - G <sub>g</sub> .6
Vertical Depth(H) 1220'	Pressure Taps Flange	(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut In 2-3 20 10 at 11:00 (AM)(PM) Taken 2-4 20 10 at 11:15 (AM)(PM)			
Well on Line: Started 2-4 20 10 at 11:15 (AM)(PM) Taken 2-5 20 10 at 12:00 (AM)(PM)			

### OBSERVED SURFACE DATA

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>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						24	38.4				
Flow						30	44.4			72	

### 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>
						44		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>c</sub>)<sup>2</sup> = \_\_\_\_\_ ; (P<sub>w</sub>)<sup>2</sup> = \_\_\_\_\_ ; P<sub>e</sub> = \_\_\_\_\_ % ; (P<sub>c</sub> - 14.4) + 14.4 = \_\_\_\_\_ ; (P<sub>w</sub>)<sup>2</sup> = 0.207 ; (P<sub>e</sub>)<sup>2</sup> = \_\_\_\_\_


(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> or (P <sub>c</sub> ) <sup>2</sup> - (P <sub>e</sub> ) <sup>2</sup>	(P <sub>w</sub> ) <sup>2</sup> - (P <sub>e</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>e</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: P <sub>e</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	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 16 day of December, 20 10

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

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

  
 For Company  
 RECEIVED  
 KANSAS CORPORATION COMMISSION  
 Checked by \_\_\_\_\_

JAN 26 2011  
 CONSERVATION DIVISION  
 WICHITA, KS

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 Duell 14-21 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: 12/16/10

Signature: Jannell Gerwe

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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JAN 26 2011

CONSERVATION DIVISION  
WICHITA, KS

W2186  
 Duell 14-21  
 North Goodland  
 Goodland  
 None  
 February-10

DATE	Casing PSI	STATIC	MCF	HRS DOWN	REMARKS (Maximum length 110 characters)
2/1/2010	24	37	30	0	cd
2/2/2010	24	37	7	22	
2/3/2010	31	44	0	24	
2/4/2010	32	45	0	24	
2/5/2010	30	43	46	0	
2/6/2010	27	40	34	1.5	
2/7/2010	26	39	33	1	
2/8/2010	26	39	33	0	
2/9/2010	26	39	25	18	opened up
2/10/2010	27	40	5	24	
2/11/2010	32	45	0	24	
2/12/2010	28	41	16	15	
2/13/2010	33	46	0	24	
2/14/2010	30	43	22	12	
2/15/2010	27	40	18	18	
2/16/2010	27	40	27	8	
2/17/2010	25	38	44	8	
2/18/2010	25	38	42	8	
2/19/2010	25	38	38	6	
2/20/2010	23	36	44	5	
2/21/2010	22	35	49	0	
2/22/2010	21	34	48	0	
2/23/2010	20	33	46	1	
2/24/2010	19	32	44	0	
2/25/2010	19	32	42	1.5	
2/26/2010	20	33	34	5.5	
2/27/2010	19	32	44	1	
2/28/2010	19	32	44	0	
3/1/2010	0	0	0	0	
3/2/2010	0	0	0	0	
3/3/2010	0	0	0	0	

Total

815

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JAN 26 2011

CONSERVATION DIVISION  
 WICHITA, KS

W2186  
 Duell 14-21  
 North Goodland  
 Goodland  
 None  
 March-10

DATE	Casing PSI	STATIC	MCF	HRS DOWN	REMARKS (Maximum length 110 characters)
3/1/2010	18	31	44	44	0 bp
3/2/2010	18	31	44	44	0
3/3/2010	18	31	43	43	0
3/4/2010	17	30	40	40	0
3/5/2010	19	32	28	28	0
3/6/2010	18	31	45	45	0
3/7/2010	17	30	44	44	0
3/8/2010	17	30	44	44	0
3/9/2010	16	29	43	43	0
3/10/2010	16	29	43	43	0
3/11/2010	16	29	42	42	0 bp
3/12/2010	16	29	42	42	0
3/13/2010	16	29	42	42	0
3/14/2010	16	29	38	38	0
3/15/2010	16	29	42	42	0 cal
3/16/2010	15	28	36	36	0
3/17/2010	15	28	42	42	0
3/18/2010	15	28	42	42	0 bp
3/19/2010	15	28	41	41	0
3/20/2010	15	28	41	41	0
3/21/2010	15	28	41	41	0
3/22/2010	15	28	41	41	0
3/23/2010	15	28	41	41	0
3/24/2010	15	28	41	41	0 opened to 52mcf
3/25/2010	14	27	47	47	0
3/26/2010	13	26	47	47	0
3/27/2010	13	26	46	46	0
3/28/2010	12	25	45	45	0
3/29/2010	12	25	45	45	0
3/30/2010	12	25	44	44	0
3/31/2010	13	26	41	41	0

Total

1305

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