

# KANSAS CORPORATION COMMISSION

## ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow **RST**  
 Deliverability

(See Instructions on Reverse Side)

Test Date:  
3/7/2013

API No. 15  
023-20666-0000

Company Rosewood Resources, Inc.		Lease Heim		Well Number 31-33	
County Cheyenne	Location NWNE	Section 33	TWP 2S	RNG (E/W) 42W	Acres Attributed 80
Field Cherry Creek		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.	
Completion Date 3/29/2006		Plug Back Total Depth 1799'		Packer Set at	
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 4.052	Set at 1799.86'	Perforations 1616'	To 1648'
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"/> No Pumping Unit	
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide		% Nitrogen	
Vertical Depth(H) 1614'		Pressure Taps Flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in 3-6		20 13 at 1:55		(AM) <input checked="" type="radio"/> (PM) Taken 3-7	
Well on Line: Started 3-7		20 13 at 2:10		(AM) <input checked="" type="radio"/> (PM) Taken 3-8	
		20 13 at 2:10		(AM) <input checked="" type="radio"/> (PM) Taken 3-8	
		20 13 at 2:10		(AM) <input checked="" type="radio"/> (PM) Taken 3-8	

### 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>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						119	133.4				
Flow						34	48.4			24	

### 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>
						49		

### (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: P <sub>c</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 10 day of December, 20 13.

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

*Jamill M...*  
For Company **KCC WICHITA**  
Checked by \_\_\_\_\_  
**DEC 26 2013**

**RECEIVED**

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 Heim 31-33 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: 12/10/13

Signature: *Jannell 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.

**KCC WICHITA**

**DEC 26 2013**

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W436  
 Heim 31-33  
 West St. Francis  
 St. Francis  
 None  
 March-13

DATE	Casing PSI	STATIC MCF	SPM	HRS CYCLDOWN	Water BBLs	REMARKS (Maximum length 110 characters)
3/1/2013	42	55	50	6	12	20
3/2/2013	43	56	47	6	12	21
3/3/2013	35	48	49	6	12	22
3/4/2013	34	47	49	6	12	21
3/5/2013	61	75	48	6	6	11
3/6/2013	97	110	20	6	0	0 shut well in for state test
3/7/2013	119	116	0	6	0	24 0 open well psi 119
3/8/2013	77	90	29	6	0	0
3/9/2013	58	71	66	6	6	12
3/10/2013	45	58	47	6	12	22
3/11/2013	33	46	51	6	12	21
3/12/2013	89	102	50	6	6	3 11 shut pumping unti off hfp
3/13/2013	47	60	41	6	6	12 started pumping unit
3/14/2013	65	78	46	6	6	1 13 shut pumping unti off hfp
3/15/2013	73	86	36	6	0	0 check pumping unit make sure not le
3/16/2013	61	74	50	6	0	0
3/17/2013	54	67	45	6	0	0
3/18/2013	59	72	41	6	0	0
3/19/2013	57	70	39	6	0	0 started pumping , no water after 4hrs
3/20/2013	56	69	38	6	0	0
3/21/2013	32	45	37	6	6	10 put on tag checked later moving wat
3/22/2013	33	46	42	6	12	21 took off tag and left on hand bad we
3/23/2013	32	45	46	6	24	42
3/24/2013	35	48	52	6	24	41
3/25/2013	67	80	48	6	24	40
3/26/2013	56	69	62	6	24	41
3/27/2013	34	47	50	6	24	42
3/28/2013	34	47	51	6	12	22 put on auto
3/29/2013	34	47	51	6	12	21
3/30/2013	34	47	49	6	12	23
3/31/2013	34	47	49	6	12	24

Total

1379

513

KCC WICHITA  
 DEC 26 2013  
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W436  
 Heim 31-33  
 West St. Francis  
 St. Francis  
 None  
 April-13

DATE	Casing PSI	STATIC MCF	SPM	HRS CYCLE DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
4/1/2013	34	47	49	6	24	42
4/2/2013	33	46	49	6	12	21
4/3/2013	35	48	49	6	12	20
4/4/2013	37	50	49	6	12	21 bucket test 4 min and greased
4/5/2013	68	81	45	6	12	20
4/6/2013	52	65	46	6	12	19
4/7/2013	52	65	47	6	12	20 shut pumping unit off
4/8/2013	53	66	42	6	0	0
4/9/2013	47	60	40	6	0	0
4/10/2013	50	63	39	6	0	2 0
4/11/2013	32	45	39	6	0	0
4/12/2013	31	44	40	6	6	11 restarted pu
4/13/2013	79	92	44	6	6	1 11 shut pu off - treated well
4/14/2013	60	73	39	6	0	0
4/15/2013	52	65	40	6	6	11 restarted pu
4/16/2013	30	42	42	6	12	22
4/17/2013	43	56	44	6	12	21
4/18/2013	33	46	44	6	12	20
4/19/2013	34	47	44	6	12	21
4/20/2013	52	65	43	6	12	19
4/21/2013	52	65	42	6	12	22
4/22/2013	52	65	42	6	12	21
4/23/2013	52	65	43	6	12	20
4/24/2013	53	66	42	6	12	21 bucket test 4 min
4/25/2013	52	65	43	6	12	22
4/26/2013	54	67	42	6	12	21
4/27/2013	54	67	42	6	12	20
4/28/2013	65	78	40	6	12	21
4/29/2013	66	79	41	6	12	20
4/30/2013	59	72	41	6	12	19
5/1/2013						

Total

1292

506

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 DEC 26 2013  
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W436  
 Heim 31-33  
 West St. Francis  
 St. Francis  
 None  
 May-13

DATE	Casing PSI	STATIC	MCF	SPM	HRS CYCLE	Water DOWN	BLS	REMARKS (Maximum length 110 characters)
5/1/2013	61	74	40	6	12		0	
5/2/2013	65	78	39	6	12		0	
5/3/2013	56	69	39	6	12		21	pu off, restarted and put on 24 hrs/d
5/4/2013	54	67	41	6	24		42	
5/5/2013	53	66	42	6	24		43	
5/6/2013	54	67	42	6	12		21	
5/7/2013	56	69	42	6	12		22	
5/8/2013	59	72	40	6	12		20	shut pu off hfp in the afternoon
5/9/2013	65	78	42	6	6		10	restarted pumping unit
5/10/2013	46	59	42	6	12		21	
5/11/2013	38	51	43	6	12		22	
5/12/2013	37	50	44	6	12		20	
5/13/2013	39	52	45	6	12		19	
5/14/2013	39	52	46	6	12		21	bucket test 4 min and greased
5/15/2013	90	103	46	6	6	3	11	shut pumping unit off hfp
5/16/2013	78	91	27	6	0		0	
5/17/2013	40	53	49	6	6		11	started pumping unit
5/18/2013	36	49	44	6	12		21	
5/19/2013	57	70	45	6	12		20	
5/20/2013	50	63	45	6	12		19	
5/21/2013	53	66	45	6	12		18	
5/22/2013	89	102	41	6	6	14	10	pu off hfp
5/23/2013	101	114	12	6	0	10	0	
5/24/2013	106	119	0	6	0	4	0	
5/25/2013	96	109	11	6	0		0	
5/26/2013	91	104	34	6	0		0	
5/27/2013	88	91	38	6	0		0	
5/28/2013	79	92	44	6	0		0	
5/29/2013	70	83	54	6	0		0	
5/30/2013	58	71	48	6	6		10	started pumping unit
5/31/2013	54	67	46	6	12		20	

Total 1216 422

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