

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

(See Instructions on Reverse Side)

Type Test:

- Open Flow **AST**  
 Deliverability

Test Date:  
8/19/2011

API No. 15  
023-20607-00 - 00

Company Rosewood Resources, Inc.		Lease Zweygardt		Well Number 2-24	
County Cheyenne	Location NE NE/4	Section 24	TWP 3S	RNG (E/W) 41W	Acres Attributed 80
Field Cherry Creek		Reservoir Niobrara	Gas Gathering Connection Branch Systems Inc.		
Completion Date 5/4/2005		Plug Back Total Depth 1425'	Packer Set at		
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 4.052	Set at 1425'	Perforations 1202'	To 1236'
Tubing Size <b>NONE 2 3/8"</b>	Weight	Internal Diameter	Set at <b>1276'</b>	Perforations	To
Type Completion (Describe) Single (Conventional)		Type Fluid Production Dry Gas	Pump Unit or Traveling Plunger? <input checked="" type="radio"/> Yes / No Pumping Unit		
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide	% Nitrogen	Gas Gravity - G <sub>g</sub> .6	
Vertical Depth(H) 1236'		Pressure Taps Flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in 8-18 20 11 at 9:45 (AM) (PM) Taken 8-19 20 11 at 10:00 (AM) (PM)					
Well on Line: Started 8-19 20 11 at 10:00 (AM) (PM) Taken 8-20 20 11 at 10:45 (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>1</sub> ) or (P <sub>e</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>1</sub> ) or (P <sub>e</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						77	91.4				
Flow						66	80.4			24	

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>o</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>tr</sub>	Deviation Factor F <sub>pv</sub>	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
						71		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

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

(P<sub>e</sub>)<sup>2</sup> = \_\_\_\_\_ : (P<sub>w</sub>)<sup>2</sup> = \_\_\_\_\_ : P<sub>o</sub> = \_\_\_\_\_ % (P<sub>o</sub> - 14.4) + 14.4 = \_\_\_\_\_ : (P<sub>o</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>o</sub> ) <sup>2</sup>	(P <sub>e</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>o</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: $\frac{P_o^2 - P_w^2}{P_e^2 - P_w^2}$	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 28 day of December, 20 11.

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

*[Signature]*  
For Company

\_\_\_\_\_  
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 Zweygardt 2-24 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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Zweygardt 02-24

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None

August-11

FloBoss

DATE	Casing PSI	STATIC MCF	SPM	CYCLE DOWN	HRS	Water BBLs	REMARKS (Maximum length 110 characters)
8/1/2011	68	81	72	8	14	25	
8/2/2011	66	79	72	8	14	37	
8/3/2011	68	81	72	8	14	39	
8/4/2011	67	80	72	8	14	37	
8/5/2011	66	79	72	8	14	40	2.5 min bt greased
8/6/2011	67	80	72	8	14	41	
8/7/2011	66	79	72	8	14	39	
8/8/2011	65	78	72	8	14	36	2.75 min bt
8/9/2011	65	78	72	8	14	36	
8/10/2011	63	76	75	8	14	31	
8/11/2011	75	88	67	8	7	18	turned off pu, high fp
8/12/2011	93	106	64	8	0	0	
8/13/2011	84	97	71	8	0	0	
8/14/2011	76	89	63	8	0	0	
8/15/2011	90	103	62	8	0	0	
8/16/2011	67	80	67	8	7	18	restart pu
8/17/2011	106	119	43	8	7	5	18 pu off hfp
8/18/2011	65	78	61	8	7	4	18 pu off squeeze well, SI
8/19/2011	77	90	0	8	7	24	18 reopen well / restart pu
8/20/2011	66	79	72	8	14	32	
8/21/2011	66	79	68	8	14	33	
8/22/2011	65	78	68	8	14	31	
8/23/2011	84	97	68	8	14	40	2.5 min bt
8/24/2011	63	76	68	8	14	41	
8/25/2011	67	80	69	8	14	43	
8/26/2011	65	78	69	8	14	42	
8/27/2011	66	79	71	8	14	41	
8/28/2011	66	79	71	8	14	40	
8/29/2011	66	79	71	8	14	39	
8/30/2011	66	79	71	8	14	28	3.5 min bt
8/31/2011	66	79	72	8	14	27	

Total

2059

888

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Zweygardt 02-24

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None

September-11

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DATE	Casing PSI	STATIC	MCF	SPM	HRS CYCLE DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
9/1/2011	67	80	72	8	10	28	
9/2/2011	67	80	72	8	10	27	
9/3/2011	67	80	71	8	10	25	
9/4/2011	67	80	72	8	10	27	
9/5/2011	66	79	72	8	10	24	
9/6/2011	65	78	72	8	10	22	3.25 min bt
9/7/2011	67	80	72	8	10	21	
9/8/2011	66	79	71	8	10	23	
9/9/2011	66	79	71	8	10	23	
9/10/2011	65	78	72	8	10	21	
9/11/2011	67	80	72	8	10	20	
9/12/2011	66	79	71	8	10	23	
9/13/2011	65	78	72	8	10	24	
9/14/2011	67	80	34	8	10	19	
9/15/2011	66	79	40	8	10	20	
9/16/2011	66	79	40	8	10	22	3.25 min bt
9/17/2011	65	78	40	8	10	21	
9/18/2011	65	78	40	8	10	23	
9/19/2011	66	79	40	8	10	22	
9/20/2011	65	78	40	8	10	22	3.25 min bt
9/21/2011	66	79	40	8	10	21	
9/22/2011	65	78	40	8	10	23	
9/23/2011	64	77	40	8	10	26	
9/24/2011	66	79	40	8	10	19	
9/25/2011	65	78	39	8	10	18	
9/26/2011	65	78	40	8	10	20	
9/27/2011	62	75	40	8	10	21	
9/28/2011	68	81	40	8	12	29	3 min bt chg timer to 12 hrs
9/29/2011	62	75	41	8	12	30	
9/30/2011	63	76	41	8	12	28	
10/1/2011							

Total

1607

692

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Zweygardt 02-24

St. Francis

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None

October-11

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DATE	Casing PSI	STATIC MCF	SPM	HRS CYCLE DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
10/1/2011	67	80	40	8	12	18
10/2/2011	67	80	39	8	12	16
10/3/2011	66	79	39	8	12	19
10/4/2011	65	78	39	8	12	17
10/5/2011	64	77	40	8	12	18 4.75 min bt
10/6/2011	67	80	41	8	12	19
10/7/2011	66	79	39	8	12	19
10/8/2011	65	78	40	8	12	18
10/9/2011	66	79	39	8	12	17
10/10/2011	66	79	39	8	12	18
10/11/2011	65	78	38	8	12	19
10/12/2011	63	76	40	8	6	10 greased pu off no water
10/13/2011	69	82	42	8	0	0
10/14/2011	64	77	40	8	0	0
10/15/2011	65	78	38	8	0	0
10/16/2011	64	77	36	8	0	0
10/17/2011	63	76	35	8	6	10 restart pu
10/18/2011	69	82	35	8	12	17
10/19/2011	67	80	37	8	12	16 3.5 min bt chg check valve
10/20/2011	64	77	39	8	12	9
10/21/2011	64	77	40	8	12	10 good water
10/22/2011	65	78	40	8	12	16
10/23/2011	65	78	39	8	12	15
10/24/2011	65	78	40	8	12	13 gas with water
10/25/2011	65	78	40	8	12	12
10/26/2011	64	77	40	8	12	13
10/27/2011	64	77	40	8	12	17 5 min bt
10/28/2011	64	77	40	8	12	15
10/29/2011	64	77	40	8	12	18
10/30/2011	64	77	39	8	12	15
10/31/2011	64	77	39	8	12	18

Total

1212

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