

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

Type Test:

- Open Flow  Deliverability

(See Instructions on Reverse Side)

Test Date:  
6/22/14

API No. 15  
023-21258-0000

Company Rosewood Resources, Inc.		Lease Zweygardt			Well Number 23-19	
County Cheyenne	Location NESW	Section 19	TWP 3S	RNG (E/W) 40W	Acres Attributed 80	
Field Cherry Creek		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.		
Completion Date 9/14/2010		Plug Back Total Depth 1475'		Packer Set at		
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 6.366	Set at 1514'	Perforations 1316'	To 1346'	
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? Yes <input checked="" type="checkbox"/> No		
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide		% Nitrogen		Gas Gravity - G <sub>g</sub> .6
Vertical Depth(H) 1530'		Pressure Taps Flange			(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in		6-7	20 14	at 6:15	(AM) (PM) Taken	6-11 20 14 at 6:35 (AM) (PM)
Well on Line: Started		6-22	20 14	at 6:35	(AM) (PM) Taken	6-23 20 14 at 6:50 (AM) (PM)

### OBSERVED SURFACE DATA

Duration of Shut-in 360 Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Meter 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>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						223	237.4				
Flow						60	74.4			360	

### 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 (Mcf/d)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
						11		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

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

$(P_c)^2 - (P_e)^2$ or $(P_c)^2 - (P_w)^2$	$(P_c)^2 - (P_w)^2$	Choose formula 1 or 2: 1. P <sub>c</sub> <sup>2</sup> - P <sub>e</sub> <sup>2</sup> 2. P <sub>c</sub> <sup>2</sup> - P <sub>w</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: $P_c^2 - P_w^2$	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	n x LOG [ ]	Antilog	Open Flow Deliverability Equals R x Antilog (Mcf/d)

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 12 day of December, 20 14.

Received  
KANSAS CORPORATION COMMISSION

*[Signature]*  
For Company

Witness (if any)

FEB 25 2015

For Commission

Checked by

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 Zweygardt 23-19 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: 12/12/14

Received  
KANSAS CORPORATION COMMISSION

Signature: \_\_\_\_\_



FEB 25 2015

Title: Production Assistant

CONSERVATION DIVISION  
WICHITA, KS

**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.

W2740

Zweygardt 23-19

St. Francis

St. Francis

Flow

June-184

FloBoss

DATE	Casing PSI	STATIC	MCF	HRS DOWN	REMARKS (Maximum length 110 characters)
6/1/2013	56	69	13	0	
6/2/2013	61	74	12	0	
6/3/2013	55	68	12	0	
6/4/2013	70	83	12	0	
6/5/2013	52	65	12	0	
6/6/2013	53	66	12	0	
6/7/2013	175	188	7	9	
6/8/2013	189	202	0	24	
6/9/2013	201	214	0	24	
6/10/2013	213	226	0	24	
6/11/2013	222	235	0	24	
6/12/2013	227	240	0	24	
6/13/2013	228	241	0	24	
6/14/2013	220	242	0	24	
6/15/2013	230	243	0	24	
6/16/2013	230	243	0	24	
6/17/2013	231	244	0	24	
6/18/2013	230	243	0	24	
6/19/2013	226	239	0	24	
6/20/2013	218	231	0	24	
6/21/2013	188	201	0	24	
6/22/2013	188	201	0	24	
6/23/2013	119	132	29	5	
6/24/2013	110	123	21	0	
6/25/2013	104	117	18	0	
6/26/2013	95	108	16	0	
6/27/2013	86	99	16	0	
6/28/2013	57	70	15	0	
6/29/2013	56	69	15	0	
6/30/2013	57	70	14	0	
7/1/2013				0	

Total

224

Received  
KANSAS CORPORATION COMMISSION

**FEB 25 2015**

CONSERVATION DIVISION  
WICHITA, KS

W2740

Zweygartdt 23-19

St. Francis

St. Francis

Flow

July-14

FloBoss

DATE	Casing PSI	STATIC	MCF	HRS DOWN	REMARKS (Maximum length 110 characters)
7/1/2014	57	70		14	0
7/2/2014	57	70		13	0
7/3/2014	58	71		13	0
7/4/2014	58	71		13	0
7/5/2014	58	71		13	0
7/6/2014	59	72		13	0
7/7/2014	68	81		13	0
7/8/2014	59	72		13	0
7/9/2014	60	73		13	0
7/10/2014	61	74		13	0
7/11/2014	64	77		13	0
7/12/2014	63	76		12	0
7/13/2014	64	77		12	0
7/14/2014	88	101		12	0
7/15/2014	55	68		12	0
7/16/2014	57	70		12	0
7/17/2014	58	71		11	0
7/18/2014	59	72		11	0
7/19/2014	55	68		11	0
7/20/2014	56	69		11	0
7/21/2014	134	147		11	0
7/22/2014	138	151		3	22
7/23/2014	83	96		16	7
7/24/2014	64	77		12	3
7/25/2014	55	68		11	4
7/26/2014	54	67		11	0
7/27/2014	55	68		11	0
7/28/2014	55	68		11	0
7/29/2014	55	68		11	0
7/30/2014	57	70		11	0
7/31/2014	58	71		11	0

Total

367

Received  
KANSAS CORPORATION COMMISSION

FEB 25 2015

CONSERVATION DIVISION  
WICHITA, KS

W2740

Zweygart 23-19

St. Francis

St. Francis

Flow

August-14

FloBoss

DATE	Casing PSI	STATIC	MCF	HRS DOWN	REMARKS (Maximum length 110 characters)
8/1/2014	56	69		11	0
8/2/2014	58	71		11	0
8/3/2014	58	71		11	0
8/4/2014	58	71		11	0
8/5/2014	57	70		11	0
8/6/2014	57	70		11	0
8/7/2014	58	71		11	0
8/8/2014	59	72		11	0
8/9/2014	60	73		11	0
8/10/2014	61	84		11	0
8/11/2014	68	91		11	0
8/12/2014	56	69		11	0
8/13/2014	57	70		11	0
8/14/2014	55	68		11	0
8/15/2014	61	74		11	3
8/16/2014	60	73		11	0
8/17/2014	60	73		11	0
8/18/2014	60	73		11	0
8/19/2014	68	81		11	2
8/20/2014	59	72		11	0
8/21/2014	58	71		11	0
8/22/2014	61	74		11	0
8/23/2014	55	68		11	0
8/24/2014	57	70		10	0
8/25/2014	72	85		10	0
8/26/2014	58	71		11	0
8/27/2014	69	82		11	0
8/28/2014	115	128		11	0
8/29/2014	54	67		11	5
8/30/2014	54	67		11	0
8/31/2014	66	79		11	0

Total

339

Received  
KANSAS CORPORATION COMMISSION

FEB 25 2015

CONSERVATION DIVISION  
WICHITA, KS