

KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

(See Instructions on Reverse Side)

- Open Flow **ST**
 Deliverability

Test Date:
7/9/2015

API No. 15
15-023-20564 - 0000

Company Rosewood Resources		Lease Isernhagen			Well Number 1-23
County Cheyenne	Location SWSW	Section 23	TWP 3S	RNG (E/W) 41W	Acres Attributed 80
Field St. Francis		Reservoir Niobrara		Gas Gathering Connection Branch Systems Inc.	
Completion Date 9/10/2004		Plug Back Total Depth 1528'		Packer Set at	
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 4.052	Set at 1576'	Perforations 980'	To 1010'
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"/> Yes / No Pumping Unit	
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide		% Nitrogen	Gas Gravity - G _g .6
Vertical Depth(H) 1010'		Pressure Taps Flange			(Meter Run) (Prover) Size 2"
Pressure Buildup: Shut in 7-9		20 15	at 11:25	<input checked="" type="radio"/> (AM) (PM) Taken 7-10	20 15 at 11:35 <input checked="" type="radio"/> (AM) (PM)
Well on Line: Started 7-10		20 15	at 11:35	<input checked="" type="radio"/> (AM) (PM) Taken 7-11	20 15 at 1:25 <input checked="" type="radio"/> (AM) (PM)

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 ₂ O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P _w) or (P _i) or (P _o)		Tubing Wellhead Pressure (P _w) or (P _i) or (P _o)		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						173	187.4				
Flow						51	65.4			24	0

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _b) (F _p) Mcfd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_m \times h}$	Gravity Factor F _g	Flowing Temperature Factor F _{tt}	Deviation Factor F _{pv}	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G _m
						19		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_a)² = 0.207
(P_o)² = _____

(P_c)² = _____ : (P_w)² = _____ : P_d = _____ % (P_c - 14.4) + 14.4 = _____ :

(P _c) ² - (P _a) ² or (P _c) ² - (P _d) ²	(P _c) ² - (P _w) ²	Choose formula 1 or 2: 1. P _c ² - P _a ² 2. P _c ² - P _d ² divided by: P _c ² - P _w ²	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 (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 18 day of December, 20 15.

KCC WICHITA

Janell Montoye
For Company

Witness (if any)

APR 07 2016

For Commission

Checked by

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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 Isernhagen 1-23 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: 12/18/15

Signature: *Jannell Martin*
Title: Production Assistant

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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*.

W350

15ernhagen(0)1#23

St. Francis

St. Francis

Pumping Unit/Elec

July-15

DATE	Tubing PSI	Casing PSI	STATIC	MCF	SPM	CYCLE	HRS DOWN	Water BLS	REMARKS (Maximum length 110 characters)
7/1/2015		54	68		19	6.5	17	0	18
7/2/2015		54	67		19	6.5	17	0	18
7/3/2015		54	67		19	6.5	17	0	18
7/4/2015		54	67		9	6.5	17	0	18
7/5/2015		54	67		10	6.5	17	0	18
7/6/2015		52	67		10	6.5	17	2	18
7/7/2015		52	66		19	6.5	17	0	18
7/8/2015		52	66		19	6.5	17	16	18 turn off p u
7/9/2015		90	96		2	6.5	17	24	0
7/10/2015		173	157		0	6.5	17	14	0
7/11/2015		98	121		22	6.5	17	0	0
7/12/2015		77	95		8	6.5	17	0	0 turned PU back on
7/13/2015		60	85		19	6.5	17	0	18
7/14/2015		53	69		19	6.5	17	0	18
7/15/2015		53	66		19	6.5	17	0	18
7/16/2015		53	66		19	6.5	17	0	18
7/17/2015		53	66		19	6.5	17	0	18
7/18/2015		52	65		19	6.5	17	0	18
7/19/2015		52	65		19	6.5	17	0	18
7/20/2015		52	65		19	6.5	17	0	18
7/21/2015		51	77		19	6.5	17	2	18
7/22/2015		51	65		19	6.5	17	0	18
7/23/2015		51	65		19	6.5	17	0	18
7/24/2015		52	65		19	6.5	17	0	18
7/25/2015		52	64		19	6.5	17	0	18
7/26/2015		52	64		9	6.5	17	0	18
7/27/2015		51	64		19	6.5	17	0	18 metr 0, replaced battery
7/28/2015		51	64		17	6.5	17	0	18
7/29/2015		51	63		19	6.5	17	0	18
7/30/2015		51	63		19	6.5	17	0	18
7/31/2015		51	64		19	6.5	0	0	18

Total

505

486

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St. Francis

St. Francis

Pumping Unit/Elec

August-15

DATE	Tubing PSI	Casing PSI	STATIC	MCF	SPM	CYCLE	HRS DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
8/1/2015		51	64	19	0	0	0	17	
8/2/2015		52	65	10	0	0	0	18	
8/3/2015		53	66	19	0	0	0	17	
8/4/2015		51	64	19	0	0	0	16	
8/5/2015		50	63	13	0	0	0	17	
8/6/2015		51	64	10	0	0	0	18	
8/7/2015		53	66	0	0	0	0	16	
8/8/2015		53	66	10	0	0	0	17	
8/9/2015		55	68	8	0	0	0	18	
8/10/2015		57	70	19	0	0	0	16	
8/11/2015		58	71	16	0	0	0	17	
8/12/2015		58	71	8	0	0	0	18	
8/13/2015		59	72	0	6.5	17	0	16	
8/14/2015		58	71	17	7.5	18	0	17	
8/15/2015		59	72	0	8.5	19	0	18	
8/16/2015		60	73	7	9.5	20	0	16	
8/17/2015		58	71	9	10.5	21	0	16	
8/18/2015		58	71	11	11.5	22	0	16	
8/19/2015		59	72	10	12.5	23	0	16	
8/20/2015		58	71	8	13.5	24	0	16	
8/21/2015		58	71	10	14.5	25	0	16	0 meter 0, straightened solar panel
8/22/2015		59	72	18	15.5	26	0	16	0 flowing 18, check download
8/23/2015		59	72	18	16.5	27	0	16	0 re-set drive started p u
8/24/2015		59	72	18	17.5	28	0	8	
8/25/2015		59	72	18	18.5	29	0	10	
8/26/2015		56	69	9	19.5	30	0	4	
8/27/2015		57	70	4	20.5	31	0	18	
8/28/2015		56	69	17	21.5	32	0	17	
8/29/2015		59	72	17	22.5	33	0	16	
8/30/2015		61	74	18	23.5	34	4	18	
8/31/2015		64	77	8	24.5	35	0	18	

Total

368

445

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Isernhagen 01-23

St. Francis

St. Francis

Pumping Unit/Elec

September-15

DATE	Tubing PSI	Casing PSI	STATIC	MCF	SPM	CYCLE	HRS DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
9/1/2015		72	85		10	6.5	17	0	18
9/2/2015		54	67		6	6.5	17	0	18 meter 0, flowing 19
9/3/2015		55	68		17	6.5	17	0	18
9/4/2015		59	72		10	6.5	17	0	18
9/5/2015		65	78		9	6.5	17	0	18
9/6/2015		67	80		10	6.5	17	0	18
9/7/2015		66	79		18	6.5	17	0	18
9/8/2015		64	77		10	6.5	17	0	18
9/9/2015		59	72		9	6.5	17	0	18
9/10/2015		56	69		10	6.5	17	0	18
9/11/2015		60	73		11	6.5	17	0	18
9/12/2015		60	73		9	6.5	17	0	18
9/13/2015		60	73		10	6.5	17	0	18
9/14/2015		61	74		18	6.5	17	0	18
9/15/2015		62	75		9	6.5	17	0	18
9/16/2015		63	76		18	6.5	17	0	18
9/17/2015		64	77		18	6.5	17	0	18
9/18/2015		63	76		18	6.5	17	0	18
9/19/2015		60	73		18	6.5	17	0	18
9/20/2015		58	71		18	6.5	17	0	18
9/21/2015		59	72		18	6.5	17	0	18
9/22/2015		61	74		18	6.5	17	0	18
9/23/2015		62	75		18	6.5	17	0	18
9/24/2015		62	75		18	6.5	17	0	18
9/25/2015		62	75		18	6.5	17	0	18
9/26/2015		62	75		18	6.5	17	0	18
9/27/2015		62	75		18	6.5	17	0	18
9/28/2015		62	75		18	6.5	17	0	18
9/29/2015		62	75		18	6.5	17	0	18
9/30/2015		62	75		18	6.5	17	0	18
10/1/2015		0	0		0	0	0	0	18

Total

436

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