

KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow **MSJ**
 Deliverability

(See Instructions on Reverse Side)

Test Date:
7/17/2013

API No. 15
15-023-20587-0000

Company Rosewood Resources		Lease Isernhagen			Well Number 2-23
County Cheyenne	Location NWSE	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 1508'		Packer Set at	
Casing Size 4 1/2"	Weight 10.5#	Internal Diameter 4.052	Set at 1514'	Perforations 1316'	To 1352'
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) 1352'		Pressure Taps Flange			(Meter Run) (Prover) Size 2"
Pressure Buildup: Shut in		7-16	20 13	at 8:25	<input checked="" type="radio"/> (AM) (PM) Taken
					7-17
					20 13
					at 8:40
					<input checked="" type="radio"/> (AM) (PM)
Well on Line: Started		7-17	20 13	at 8:40	<input checked="" type="radio"/> (AM) (PM) Taken
					7-18
					20 13
					at 9:25
					<input checked="" type="radio"/> (AM) (PM)

OBSERVED SURFACE DATA

Duration of Shut-in 24 Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Meter or 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 _t) or (P _c)		Tubing Wellhead Pressure (P _w) or (P _t) or (P _c)		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						143	157.4				
Flow						52	66.4			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
						43		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_o)² = _____ : (P_w)² = _____ : P_d = _____ % (P_c - 14.4) + 14.4 = _____ : (P_a)² = 0.207
(P_o)² = _____

(P _c) ² - (P _a) ² or (P _o) ² - (P _d) ²	(P _o) 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: $\frac{P_c^2 - P_w^2}{P_c^2 - P_a^2}$	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 on the 21 day of November, 20 13.

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Witness (if any)

DEC 26 2013

For Company

For Commission

CONSERVATION DIVISION
WICHITA, KS

Checked by

Samuel Martiny

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 2-23 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: 11/21/13

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Signature: _____

DEC 26 2013

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.

W353

Isernhagen 02-23

St. Francis

St. Francis

None

July-13

DATE	Casing			SPM	HRS	Water	REMARKS
	PSI	STATIC	MCF				
7/1/2013	53	66	48	6.5	24		42
7/2/2013	53	66	46	6.5	24		40 4.25 min bt put on auto
7/3/2013	56	69	51	6.5	10		17
7/4/2013	55	68	51	6.5	10		16
7/5/2013	55	68	50	6.5	10		19
7/6/2013	56	69	46	6.5	10		15
7/7/2013	68	81	45	6.5	10		17
7/8/2013	66	79	45	6.5	10		16 meter read 0 mcf
7/9/2013	66	79	39	6.5	10		15
7/10/2013	57	70	44	6.5	10		18 4 min bt
7/11/2013	59	72	44	6.5	10		19
7/12/2013	65	78	44	6.5	5		10 shut pumping unit off hfp
7/13/2013	74	87	43	6.5	0	2.5	0 treated well
7/14/2013	77	90	41	6.5	0		0
7/15/2013	56	69	39	6.5	5		10 started pu
7/16/2013	55	68	40	6.5	5		10 si for state test - cp 55
7/17/2013	143	62	0	6.5	5	24	10 reopened - cp 143
7/18/2013	79	92	7	6.5	5		10 pu off hfp
7/19/2013	71	84	62	6.5	0		0
7/20/2013	74	87	54	6.5	0		0
7/21/2013	75	88	51	6.5	0		0
7/22/2013	72	85	48	6.5	0		0
7/23/2013	66	79	47	6.5	5		10 restarted pu
7/24/2013	72	85	49	6.5	10		18 4 min bt
7/25/2013	78	91	51	6.5	5		10 pu off hfp
7/26/2013	60	73	47	6.5	5		10 restarted pu
7/27/2013	54	67	48	6.5	10		18
7/28/2013	57	70	50	6.5	10		19
7/29/2013	55	68	51	6.5	10		18
7/30/2013	54	67	51	6.5	5	3.5	10 pu off hfp
7/31/2013	92	105	36	6.5	0	5.5	0

Total

1368

397

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W353
 Isernhagen 02-23
 St. Francis
 St. Francis
 None
 August-13

DATE	Casing PSI	STATIC	MCF	SPM	HRS CYCLE DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
8/1/2013	77	90	40	6.5			
8/2/2013	77	90	36	6.5			
8/3/2013	76	87	34	6.5			
8/4/2013	73	86	34	6.5			
8/5/2013	65	78	34	6.5			
8/6/2013	53	66	34	6.5	5		9 restart pu
8/7/2013	49	62	35	6.5	10		18
8/8/2013	53	66	38	6.5	10		19
8/9/2013	57	70	39	6.5	10		18
8/10/2013	54	67	40	6.5	10		17
8/11/2013	52	65	41	6.5	10		18
8/12/2013	52	65	41	6.5	10		18
8/13/2013	51	64	42	6.5	10		18 4 min bt greased
8/14/2013	52	65	42	6.5	10		15
8/15/2013	53	66	43	6.5	10	0.5	19
8/16/2013	64	77	43	6.5	10		20
8/17/2013	63	76	43	6.5	10		18
8/18/2013	63	76	44	6.5	10		19
8/19/2013	65	78	44	6.5	5	1.5	8
8/20/2013	76	89	42	6.5	0	1	0
8/21/2013	86	99	39	6.5	0		0
8/22/2013	89	102	38	6.5	0	5	0
8/23/2013	72	85	35	6.5	0		0
8/24/2013	82	95	35	6.5	0	1	0
8/25/2013	88	101	34	6.5	0	1	0
8/26/2013	54	67	33	6.5	5		9 started pumping unit
8/27/2013	50	63	35	6.5	10		18
8/28/2013	49	62	37	6.5	10		19
8/29/2013	77	90	38	6.5	5	1	9 pu off hfp
8/30/2013	85	98	37	6.5	0		0
8/31/2013	86	99	35	6.5	0		0

Total

1185

289

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CONSERVATION DIVISION
 WICHITA, KS

W353

Isernhagen 02-23

St. Francis

St. Francis

None

September-13

DATE	Casing			SPM	HRS CYCLE DOWN	Water BBLs	REMARKS (Maximum length 110 characters)
	PSI	STATIC	MCF				
9/1/2013	104	117	31			1	
9/2/2013	104	117	31				
9/3/2013	121	134	33			22	
9/4/2013	177	190	3			10	
9/5/2013	111	124	19				
9/6/2013	87	100	43			1	
9/7/2013	93	106	32				
9/8/2013	91	104	34				
9/9/2013	101	114	33				
9/10/2013	104	117	32			2	
9/11/2013	124	137	32				
9/12/2013	154	167	20			18	
9/13/2013	104	117	30			4	
9/14/2013	78	91	34			2	
9/15/2013	85	98	30				
9/16/2013	61	74	31				
9/17/2013	52	65	30				
9/18/2013	51	64	29	6.5	5		9 restart pu
9/19/2013	46	59	32	6.5	10	18	
9/20/2013	46	59	34	6.5	10	19	
9/21/2013	50	63	33	6.5	10	19	
9/22/2013	58	71	35	6.5	10	19	
9/23/2013	60	73	36	6.5	10	18	
9/24/2013	53	66	37	6.5	5	4	9 pu off hfp
9/25/2013	83	96	34	6.5	0	0	
9/26/2013	73	86	33	6.5	0	0	
9/27/2013	50	63	32	5.5	5		9 restart pu
9/28/2013	53	66	33	5.5	10	17	
9/29/2013	54	67	35	5.5	10	18	
9/30/2013	59	72	36	5.5	10	16	
10/1/2013							

Total

937

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