

KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow **BSI**
 Deliverability

(See Instructions on Reverse Side)

Test Date:
6/2/2015

API No. 15
181-20488-0100

| | | | | | |
|---|------------------|----------------------------------|-----------------|---|------------------------|
| Company Rosewood Resources, Inc. | | Lease Crouch | | Well Number 21-02H | |
| County Sherman | Location NENW | Section 2 | TWP 7S | RNG (E/W) 39W | Acres Attributed 80 |
| Field Goodland | | Reservoir Niobrara | | Gas Gathering Connection Branch Systems Inc. | |
| Completion Date 2/28/2007 | | Plug Back Total Depth 2846' | | Packer Set at | |
| Casing Size 4 1/2" | Weight 11.6 | Internal Diameter 4.000 | Set at 2846' | Perforations 2779' | To 2794' |
| Tubing Size NONE | Weight | Internal Diameter | Set at | Perforations | To |
| Type Completion (Describe) Single (Horizontal) | | Type Fluid Production Dry Gas | | Pump Unit or Traveling Plunger? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | |
| Producing Thru (Annulus / Tubing) Annulus | | % Carbon Dioxide | | % Nitrogen | |
| Vertical Depth(H) 2859' | | Pressure Taps Flange | | Gas Gravity - G _g .6 | |
| Pressure Buildup: Shut in 6-1 20 15 at 8:10 (AM)(PM) Taken 6-2 20 15 at 8:25 (AM)(PM) | | | | | |
| Well on Line: Started 6-2 20 15 at 8:25 (AM)(PM) Taken 6-3 20 15 at 9:10 (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 _e) | | Tubing Wellhead Pressure (P _w) or (P _i) or (P _e) | | Duration (Hours) | Liquid Produced (Barrels) |
|---------------------------|-----------------------|--|--|-----------------------|-------------------------|--|------|--|------|------------------|---------------------------|
| | | | | | | psig | psia | psig | psia | | |
| Shut-In | | | | | | 37 | 51.4 | | | | |
| Flow | | | | | | 5 | 19.4 | | | 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 _t | Deviation Factor F _{pv} | Metered Flow R (Mcf/d) | GOR (Cubic Feet/ Barrel) | Flowing Fluid Gravity G _m |
|--|--|---------------------------------------|-------------------------------|---|----------------------------------|------------------------|--------------------------|--------------------------------------|
| | | | | | | 8 | | |

(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 _o) 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" Assigned Standard Slope | n x LOG | Antilog | Open Flow Deliverability Equals R x Antilog (Mcf/d) |
|--|---|---|---|---|---------|---------|---|
| | | | | | | | |

Open Flow

Mcf/d @ 14.65 psia

Deliverability

Mcf/d @ 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 22 day of December, 20 15.

Witness (if any)

KCC WICHITA

For Company

For Commission

APR 07 2016

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 Crouch 21-02H 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: 12/22/15

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Signature: *Janell Martney*
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.

W2420
 Crouch 21-02H
 North Goodland
 Goodland
 None
 June-15

| DATE | Casing | | MCF | HRS | | REMARKS (Maximum length 110 characters) |
|-----------|--------|--------|-----|------|--|--|
| | PSI | STATIC | | DOWN | | |
| 6/1/2015 | 37 | 49 | 0 | 24 | | |
| 6/2/2015 | 37 | 49 | 0 | 24 | | |
| 6/3/2015 | 14 | 27 | 5 | 0 | | |
| 6/4/2015 | 11 | 24 | 5 | 0 | | |
| 6/5/2015 | 10 | 23 | 6 | 0 | | |
| 6/6/2015 | 9 | 22 | 6 | 0 | | |
| 6/7/2015 | 9 | 21 | 7 | 0 | | |
| 6/8/2015 | 8 | 21 | 7 | 0 | | |
| 6/9/2015 | 8 | 20 | 7 | 0 | | |
| 6/10/2015 | 7 | 20 | 8 | 0 | | |
| 6/11/2015 | 7 | 19 | 8 | 0 | | |
| 6/12/2015 | 7 | 19 | 8 | 0 | | |
| 6/13/2015 | 7 | 20 | 6 | 4 | | |
| 6/14/2015 | 7 | 19 | 8 | 0 | | |
| 6/15/2015 | 7 | 19 | 8 | 0 | | |
| 6/16/2015 | 5 | 19 | 8 | 0 | | |
| 6/17/2015 | 5 | 19 | 8 | 0 | | |
| 6/18/2015 | 5 | 18 | 8 | 0 | | |
| 6/19/2015 | 5 | 18 | 8 | 0 | | |
| 6/20/2015 | 5 | 19 | 7 | 1 | | |
| 6/21/2015 | 5 | 18 | 8 | 0 | | |
| 6/22/2015 | 5 | 18 | 8 | 0 | | |
| 6/23/2015 | 5 | 18 | 8 | 0 | | |
| 6/24/2015 | 5 | 18 | 8 | 0 | | |
| 6/25/2015 | 5 | 19 | 7 | 2 | | |
| 6/26/2015 | 5 | 18 | 8 | 0 | | |
| 6/27/2015 | 5 | 18 | 8 | 0 | | |
| 6/28/2015 | 5 | 18 | 8 | 0 | | |
| 6/29/2015 | 5 | 18 | 8 | 0 | | |
| 6/30/2015 | 5 | 18 | 8 | 0 | | |
| 7/1/2015 | | 0 | 0 | 0 | | |

Total

207

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W2420
 Crouch 21-02H
 North Goodland
 Goodland
 None
 July-14

| DATE | Casing | | MCF | HRS | REMARKS (Maximum length 110 characters) |
|-----------|--------|--------|-----|------|--|
| | PSI | STATIC | | DOWN | |
| 7/1/2014 | 5 | 18 | | 8 | 0 |
| 7/2/2014 | 5 | 18 | | 7 | 0 |
| 7/3/2014 | 5 | 18 | | 7 | 0 |
| 7/4/2014 | 5 | 18 | | 7 | 0 |
| 7/5/2014 | 5 | 18 | | 7 | 0 |
| 7/6/2014 | 5 | 18 | | 7 | 0 |
| 7/7/2014 | 5 | 18 | | 8 | 0 |
| 7/8/2014 | 5 | 18 | | 8 | 0 |
| 7/9/2014 | 5 | 18 | | 8 | 0 |
| 7/10/2014 | 5 | 18 | | 8 | 0 |
| 7/11/2014 | 5 | 18 | | 7 | 0 |
| 7/12/2014 | 5 | 18 | | 7 | 0 |
| 7/13/2014 | 5 | 18 | | 7 | 0 |
| 7/14/2014 | 6 | 19 | | 7 | 0 |
| 7/15/2014 | 7 | 20 | | 5 | 6 |
| 7/16/2014 | 7 | 20 | | 6 | 0 |
| 7/17/2014 | 7 | 20 | | 6 | 0 |
| 7/18/2014 | 7 | 20 | | 6 | 0 |
| 7/19/2014 | 7 | 20 | | 6 | 0 |
| 7/20/2014 | 7 | 20 | | 6 | 0 |
| 7/21/2014 | 7 | 20 | | 6 | 1 |
| 7/22/2014 | 7 | 20 | | 6 | 0 |
| 7/23/2014 | 8 | 21 | | 5 | 3 |
| 7/24/2014 | 7 | 20 | | 6 | 0 |
| 7/25/2014 | 7 | 20 | | 7 | 0 |
| 7/26/2014 | 7 | 20 | | 7 | 0 |
| 7/27/2014 | 7 | 20 | | 7 | 0 |
| 7/28/2014 | 8 | 21 | | 4 | 9 |
| 7/29/2014 | 7 | 20 | | 7 | 0 |
| 7/30/2014 | 7 | 20 | | 7 | 0 |
| 7/31/2014 | 6 | 19 | | 7 | 1 |

Total

207

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 APR 07 2016
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W2420
 Crouch 21-02H
 North Goodland
 Goodland
 None
 August-14

| DATE | Casing PSI | STATIC | MCF | HRS DOWN | REMARKS (Maximum length 110 characters) |
|-----------|---------------|--------|-----|-------------|--|
| 8/1/2014 | 6 | 19 | | 7 | 2 |
| 8/2/2014 | 6 | 19 | | 7 | 0 |
| 8/3/2014 | 6 | 19 | | 7 | 0 |
| 8/4/2014 | 6 | 19 | | 7 | 0 |
| 8/5/2014 | 6 | 19 | | 7 | 0 |
| 8/6/2014 | 6 | 19 | | 7 | 0 |
| 8/7/2014 | 6 | 19 | | 7 | 0 |
| 8/8/2014 | 6 | 19 | | 7 | 0 |
| 8/9/2014 | 6 | 19 | | 7 | 0 |
| 8/10/2014 | 6 | 19 | | 7 | 0 |
| 8/11/2014 | 5 | 18 | | 8 | 0 |
| 8/12/2014 | 5 | 18 | | 8 | 0 |
| 8/13/2014 | 5 | 18 | | 8 | 0 |
| 8/14/2014 | 5 | 18 | | 8 | 0 |
| 8/15/2014 | 5 | 18 | | 8 | 0 |
| 8/16/2014 | 5 | 18 | | 8 | 0 |
| 8/17/2014 | 5 | 18 | | 8 | 0 |
| 8/18/2014 | 5 | 18 | | 8 | 0 |
| 8/19/2014 | 5 | 18 | | 8 | 0 |
| 8/20/2014 | 5 | 18 | | 8 | 0 |
| 8/21/2014 | 5 | 18 | | 8 | 0 |
| 8/22/2014 | 5 | 18 | | 8 | 0 |
| 8/23/2014 | 5 | 18 | | 8 | 0 |
| 8/24/2014 | 5 | 18 | | 8 | 0 |
| 8/25/2014 | 5 | 18 | | 8 | 0 |
| 8/26/2014 | 5 | 18 | | 8 | 0 |
| 8/27/2014 | 5 | 18 | | 8 | 0 |
| 8/28/2014 | 5 | 18 | | 8 | 0 |
| 8/29/2014 | 5 | 18 | | 8 | 0 |
| 8/30/2014 | 5 | 18 | | 8 | 0 |
| 8/31/2014 | 5 | 18 | | 8 | 0 |

Total

238

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