

# KANSAS CORPORATION COMMISSION

## ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

(See Instructions on Reverse Side)

Open Flow Field test by Peoples Natural Gas COF 1500 mcf/day  
 Deliverability Test Date: 01/22/1976 API No. 15

15-095-20446-0000

Company Robert E. Campbell, Oil & Gas Operations				Lease Castle		Well Number #1	
County Kingman	Location C W/2 NW SW	Section 17	TWP 29S	RNG.(E/W) 7W	Acres Attributed 320		
Field Settle		Reservoir Mississippi		Gas Gathering Connection (Current) West Wichita Gas Gathering, LLC			
Completion Date 12/30/1975		Plug Back Total Depth 4180		Packer Set at None			
Casing Size 4-1/2" Liner	Weight 14#	Internal Diameter --	Set at 4161	Perforations Open Hole	To 4,161 - 4,181		
Tubing Size 2-3/8"	Weight ---	Internal Diameter --	Set at 4169	Perforations --	To --		
Type Completion (Describe) Single (Gas)		Type Fluid Production Gas w/water		Pump Unit or Traveling Plunger? Yes / No Pumping Unit			
Producing Thru (Annulus / Tubing) CURRENT INFO: Annulus		% Carbon Dioxide		% Nitrogen		Gas Gravity - G <sub>g</sub>	
Vertical Depth(H)		Pressure Taps		(Meter Run) (Prover) Size			

Pressure Buildup: Shut in 11/20 2015 at 9:30 (AM) (~~PM~~) Taken 11/20 2015 at 9:30 (AM) (~~PM~~)  
 Well on Line: Started 11/21 2015 at 9:30 (AM) (~~PM~~) Taken 11/21 2015 at 9:30 (AM) (~~PM~~)

**OBSERVED SURFACE DATA** Duration of Shut-in 24 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>c</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>1</sub> ) or (P <sub>c</sub> )		Duration (Hours) /	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						30#	90#	30#	40#	24	
Flow											

**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 (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>

**(OPEN FLOW) (DELIVERABILITY) CALCULATIONS**

(P<sub>c</sub>)<sup>2</sup> = \_\_\_\_\_ : (P<sub>w</sub>)<sup>2</sup> = \_\_\_\_\_ : P<sub>g</sub> = \_\_\_\_\_ % (P<sub>c</sub> - 14.4) + 14.4 = \_\_\_\_\_ : (P<sub>g</sub>)<sup>2</sup> = 0.207  
 (P<sub>g</sub>)<sup>2</sup> = \_\_\_\_\_

(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> or (P <sub>w</sub> ) <sup>2</sup> - (P <sub>g</sub> ) <sup>2</sup>	(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	Choose formula 1 or 2: 1. P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> 2. P <sub>c</sub> <sup>2</sup> - P <sub>g</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: $\frac{P_c^2 - P_w^2}{P_c^2 - P_g^2}$	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 Same 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 7th day of December, 2015.

Witness (if any)

Received  
KANSAS CORPORATION COMMISSION

*Robert E. Campbell*  
For Company

For Commission

Checked by

DEC 09 2015

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 Robert E. Campbell,  
Oil & Gas Operations  
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 Castle #1  
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: 12/07/15

Signature:   
Title: Operator

**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.