

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

Type Test:

Open Flow  
 Deliverability

(See Instructions on Reverse Side)

Test Date:  
7-15-15

API No. 15  
175-20548 -0000

Company QUINQUE OPERATING COMPANY				Lease KEATING		Well Number 1-24			
County SEWARD	Location C SW NW	Section 24	TWP 34S	RNG (E/W) 31W	Acres Atributed				
Field Wildcat		Reservoir Morrow		Gas Gathering Connection DCP					
Completion Date 2/5/92		Plug Back Total Depth 5807		Packer Set at					
Casing Size 4.5	Weight 10.5	Internal Diameter 4.052	Set at 5930	Perforations 5626	To 5646				
Tubing Size 2.375	Weight 4.7	Internal Diameter 1.995	Set at 5711	Perforations	To				
Type Completion (Describe) Single Gas		Type Fluid Production OIL/WATER		Pump Unit or Traveling Plunger? YES-PUMP		Yes / No			
Producing Thru (Annulus / Tubing) ANNULUS		% Carbon Dioxide 0.108		% Nitrogen 4.657		Gas Gravity - G <sub>g</sub> .711			
Vertical Depth(H) 5636		Pressure Taps FLANGE				(Meter Run) (Prover) Size 2.067"			
Pressure Buildup: Shut in		7-11-15	20	at 1430	(AM) (PM) Taken	7-14-15	20	at 1430	(AM) (PM)
Well on Line: Started		7-14-15	20	at 1430	(AM) (PM) Taken	7-15-15	20	at 1430	(AM) (PM)

### OBSERVED SURFACE DATA

Duration of Shut-in 72.0 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						385.9	400.3			72.0	
Flow	.375	53.9	26.2	115	75	54.8	69.2			24.0	3

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>1</sub> ) (F <sub>2</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>dv</sub>	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>c</sub>
.686	68.30	42.30	1.1859	0.9510	1.0051	32.9	NONE	0.711

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>c</sub>)<sup>2</sup> = 160.2 : (P<sub>w</sub>)<sup>2</sup> = 4.8 : P<sub>o</sub> = 17.3 % (P<sub>c</sub> - 14.4) + 14.4 = 400.3 : (P<sub>w</sub>)<sup>2</sup> = 0.207  
(P<sub>o</sub>)<sup>2</sup> =

(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> or (P <sub>c</sub> ) <sup>2</sup> - (P <sub>o</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>o</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 <sub>c</sub> <sup>2</sup> · P <sub>w</sub> <sup>2</sup>	Backpressure Curve Slope = "n" or Assigned Standard Slope	n x LOG	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
160.03	155.45	1.029	0.0126	0.850	0.0107	1.0250	33.72

Open Flow 34 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 15 day of JULY, 20 15

Copy to KCC Wichita  
Witness (if any)

KCC WICHITA

JUL 21 2015

Precision Wireline & Testing  
For Company

Markus Buch  
Checked by

For Commission

RECEIVED

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 Quinque Operating Company 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 Keating 1-24 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: \_\_\_\_\_

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

Title: \_\_\_\_\_

**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.