

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

AUG 25 2014

CONSERVATION DIVISION  
WICHITA, KS

Type Test:

- ☐ Open Flow  
☒ Deliverability

Test Date:  
10/13/13

API No. 15  
175-10156 - 0001

Company FOUNDATION ENERGY MANAGEMENT			Lease YORK		Well Number A*1-27
County SEWARD	Location C SW NE	Section 27	TWP 34S	RNG (E/W) 31W	Acres Attributed
Field ARKALON		Reservoir MORROW		Gas Gathering Connection DCP	
Completion Date 8-11-79		Plug Back Total Depth 5786		Packer Set at NONE	
Casing Size 4.5	Weight 10.5	Internal Diameter 4.052	Set at 5924	Perforations 5728	To 5776
Tubing Size 2.375	Weight 4.7	Internal Diameter 1.995	Set at 5702	Perforations	To
Type Completion (Describe) SINGLE GAS		Type Fluid Production WATER		Pump Unit or Traveling Plunger? Yes / No YES-PUMP	
Producing Thru (Annulus / Tubing) ANNULUS		% Carbon Dioxide		% Nitrogen	Gas Gravity - G <sub>g</sub> 0.676
Vertical Depth(H) 5752		Pressure Taps FLANGE		(Meter Run) (Prover) Size 3.068"	
Pressure Buildup: Shut in 10/13/13 20 at 0800 (AM) (PM) Taken 10/14/13 20 at 0808 (AM) (PM)					
Well on Line: Started 20 at (AM) (PM) Taken 20 at (AM) (PM)					

## OBSERVED SURFACE DATA

Duration of Shut-in 24.0 Hours

Static / Dynamic Property	Orifice Size (Inches)	Circle one: Meter Prover Pressure psig (Pm)	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>t</sub> ) or (P <sub>c</sub> ) psig psia	Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>t</sub> ) or (P <sub>c</sub> ) psig psia	Duration (Hours)	Liquid Produced (Barrels)
Shut-In						55 69.7	50 64.7	24.0	
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>a</sub>)<sup>2</sup> = 0.207  
(P<sub>d</sub>)<sup>2</sup> =

(P <sub>c</sub> ) <sup>2</sup> =	(P <sub>w</sub> ) <sup>2</sup> =	P <sub>d</sub> = %	(P <sub>c</sub> - 14.4) + 14.4 =				
(P <sub>c</sub> ) <sup>2</sup> - (P <sub>a</sub> ) <sup>2</sup> or (P <sub>c</sub> ) <sup>2</sup> - (P <sub>d</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>a</sub> <sup>2</sup> 2. P <sub>c</sub> <sup>2</sup> - P <sub>d</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: $\frac{P_c^2 - P_a^2}{P_c^2 - P_w^2}$	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 13 day of OCTOBER, 20 13.

Witness (if any)

For Company

For Commission

Checked by

AUG 25 2014

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 NOBLE ENERGY 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 YORK 1-27 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: 8/22/2014

Signature: Jan McElree for Joshua Rehman  
Title: Lead Ops Assistant for Engineer

**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.