

KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

(See Instructions on Reverse Side)

- Open Flow
 Deliverability

Test Date:
2-14-14

API No. 15
15-115-21378-00-00

Company Range Oil Co., Inc.		Lease Enns		Well Number 3	
County Marion	Location 1400 FNL & 580 FEL	Section 8	TWP 19S	RNG (E/W) 1E	Acres Attributed
Field Mississippian		Reservoir Gas Gathering Connection American Energies Pipeline LLC			
Completion Date 10-8-07		Plug Back Total Depth 2931		Packer Set at	
Casing Size 4 1/2"	Weight 10.5	Internal Diameter 4.052"	Set at 2931	Perforations 2901	To 2907
Tubing Size 2 3/8"	Weight 4.7	Internal Diameter	Set at 2926	Perforations	To
Type Completion (Describe) perf		Type Fluid Production water		Pump Unit or Traveling Plunger? Yes / No	
Producing Thru (Annulus / Tubing) tubing		% Carbon Dioxide 0.06		% Nitrogen 6.54	
Vertical Depth(H) 2931		Pressure Taps flanged		Gas Gravity - G _g 0.6923	
Pressure Buildup: Shut in 2-10 20 14 at 10:00 (AM) (PM) Taken 2-13 20 14 at 10:00 (AM) (PM)					
Well on Line: Started 2-13 20 14 at 10:00 (AM) (PM) Taken 2-14 20 14 at 10:00 (AM) (PM)					

OBSERVED SURFACE DATA

Duration of Shut-in 72 Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Meter Prover Pressure psig (P _m)	Pressure Differential in Inches H ₂ O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P _w) or (P ₁) or (P _c)		Tubing Wellhead Pressure (P _w) or (P ₁) or (P _c)		Duration (Hours)	Liquid Produced (Barrels)
						psig.	psia	psig	psia		
Shut-In						122		140		72	
Flow	0.375			60	60	100		120		24	70

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _v) (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
						13		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

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

(P _c) ² - (P _a) ² or (P _c) ² - (P _d) 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: $\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_a^2} \right]$	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	n x LOG $\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_a^2} \right]$	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)

Open Flow Mcfd @ 14.65 psia Deliverability 13 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 13th day of March, 20 14.

KCC WICHITA *John M. Washburn*

Witness (if any)

For Company

For Commission

MAR 14 2014

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 Range Oil Co., 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 Enns #3 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: 3-13-14

Signature: John M Washburn
Title: Exploration Mgr.

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.

KCC WICHITA

MAR 14 2014

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