

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

Form G-2  
(Rev 8/98)

(See Instructions on Reverse Side)

Type Test:  Open Flow      Test Date: 10/21/12      API No. 15-075-20483-0000  
 Deliverability **WHSIP**

Company <b>LINN OPERATING, INC.</b>		Lease <b>HCU</b>		Well Number <b>2230-B</b>	
County <b>HAMILTON</b>	Location <b>SE</b>	Section <b>22</b>	TWP <b>23S</b>	RNG (E/W) <b>40W</b>	Acres Attributed
Field <b>BRADSHAW</b>		Reservoir <b>Winfield</b>		Gas Gathering Connection <b>Oneok Field Services</b>	
Completion Date <b>11/29/90</b>		Plug Back Total Depth <b>2588'</b>		Packer Set at	
Casing Size <b>4-1/2"</b>	Weight <b>9.50</b>	Internal Diameter <b>4.090"</b>	Set at <b>2647'</b>	Perforations <b>2447'</b>	To <b>2456'</b>
Tubing Size <b>2-3/8"</b>	Weight <b>4.7</b>	Internal Diameter <b>1.995</b>	Set at <b>2573'</b>	Perforations	To
Type Completion (Describe) <b>Single Gas</b>		Type Fluid Production <b>Gas - Water</b>		Pump Unit or Traveling Plunger? <b>Pump</b>	Yes / No <b>Yes</b>
Producing Thru (Annulus/Tubing) <b>Annulus</b>		%Carbon Dioxide		% Nitrogen	Gas Gravity - G <sub>g</sub> <b>0.794</b>
Vertical Depth (H) <b>2415'</b>		Pressure Taps <b>Flange</b>		(Meter Run)/(Prover) Size <b>2.067"</b>	
Pressure Buildup:	Shut In	<u>10/20</u>	20 <u>12</u> at <u>6:00</u> (AM)(PM)	Taken	<u>10/21</u> 20 <u>12</u> at <u>6:00</u> (AM)(PM)
Well on line:	Started		20 ___ at ___ (AM)(PM)	Taken	20 ___ at ___ (AM)(PM)

OBSERVED SURFACE DATA								Duration of Shut-In	24.00		
Static/ Dynamic Property	Orifice Size Inches	Circle one: Meter or Prover Pressure psig	Pressure Differential in (h) 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						50.0	64.4	Pump		24.00	
Flow											

Plate Coefficient (F <sub>d</sub> )(F <sub>p</sub> ) Mcf/d	Meter Pressure psia	Press. Extension $\sqrt{P_m \times H_w}$	Gravity Factor F <sub>g</sub>	Flowing Temperature Factor F <sub>t</sub>	Deviation Factor F <sub>pw</sub>	Metered Flow R (Mcf/d)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>

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

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(P<sub>a</sub>)<sup>2</sup> = 0.207  
(P<sub>d</sub>)<sup>2</sup> =

(P <sub>d</sub> ) <sup>2</sup> =	(P <sub>w</sub> ) <sup>2</sup> =	P <sub>d</sub> =	%	(P <sub>c</sub> - 14.4) + 14.4 =	n x LOG	Antilog	Open Flow Deliverability Equals R x Antilog
$(P_d)^2 - (P_a)^2$	$(P_d)^2 - (P_w)^2$	$\frac{P_c^2 - P_a^2}{(P_d)^2 - (P_w)^2}$	LOG	$\left[ \frac{(P_d)^2 - (P_a)^2}{(P_d)^2 - (P_w)^2} \right]$	Backpressure Curve Slope = "n"	$\left[ \frac{(P_d)^2 - (P_a)^2}{(P_d)^2 - (P_w)^2} \right]$	

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 26th day of December, 2012

\_\_\_\_\_  
Witness (if any)

\_\_\_\_\_  
For Commission

\_\_\_\_\_  
Stacey Fisher  
For Company

\_\_\_\_\_  
Checked by

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 LINN OPERATING, INC. and that the foregoing information and statements contained in 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 HCU 2230-B 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 incapable 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: 12/26/2012

Signature: Stacey Fisher  
Title: Administrative Assistant II

**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 obtain exempt status for the gas well.

At some point during the succeeding 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 from 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. it was a verified report of test results.