

KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

(See Instructions on Reverse Side)

Type Test:

- Open Flow
 Deliverability

Test Date:

API No. 15

181-20267-00-00

Company Lobo Production, Inc.			Lease Armstrong 1-11A			Well Number		
County Sherman	Location SW SW NW	Section 11	TWP 8S	RNG (E/W) 40W	Acres Attributed			
Field Goodland		Reservoir Niobrara		Gas Gathering Connection KN				
Completion Date 11/14/83		Plug Back Total Depth 1245			Packer Set at			
Casing Size 4.5	Weight	Internal Diameter	Set at 1346'	Perforations 1212'	To 1237'			
Tubing Size	Weight	Internal Diameter	Set at	Perforations	To			
Type Completion (Describe) Single Gas			Type Fluid Production		Pump Unit or Traveling Plunger? Yes / No			
Producing Thru (Annulus / Tubing)			% Carbon Dioxide		% Nitrogen		Gas Gravity - G _g 0.6	
Vertical Depth(H)			Pressure Taps			(Meter Run) (Packer) Size 2" Meter Run		
Pressure Buildup: Shut in 11/13 XX 00 at 8:00 (AM) (PM) Taken 11/14 XX 00 at 8:00 (AM) (PM)								
Well on Line: Started _____ 19 _____ at _____ (AM) (PM) Taken _____ 19 _____ at _____ (AM) (PM)								

OBSERVED SURFACE DATA

Duration of Shut-in _____ Hours

Static / Dynamic Property	Orifice Size inches	Circle one: Meter or Prover Pressure psig	Pressure Differential in (h) Inches H ₂ O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P _w) or (P _i) or (P _c)		Tubing Wellhead Pressure (P _w) or (P _i) or (P _c)		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-in						22					
Flow											

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _s) (F _p) Mcfd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_n \times H_w}$	Gravity Factor F _g	Flowing Temperature Factor F _t	Deviation Factor F _{pv}	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G _n

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_s)² = 0.207

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

(P_o)² = _____

$\frac{(P_c)^2 - (P_s)^2}{(P_c)^2 - (P_o)^2}$	$\frac{(P_c)^2 - (P_w)^2}{(P_c)^2 - (P_o)^2}$	Choose formula 1 or 2: 1. P _c ² - P _s ² 2. P _c ² - P _o ² divided by: P _c ² - P _w ²	LOG of formula 1. or 2. and divide by: $\frac{P_c^2 - P_w^2}{P_c^2 - P_o^2}$	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	n x LOG $\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_o^2} \right]$	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 15 day of December, 1980.

Witness (if any) _____
For Commission _____
Checked by _____
For Company _____

I declare under penalty or 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 Lobo Production, Inc. and that the foregoing information and statements contained on this application form are true and correct to the best of my knowledge and belief based upon gas production records and records of equipment installation and/or of type completion or upon use of the gas well herein named.

I hereby request a permanent exemption from open flow testing for the Armstrong 1-11A 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 150 mcf/D

Date: 12/15/00

Signature: John Sanders

Title: Owner/Operator

Instructions: All active gas wells must have at least an original G-2 form on file with the conservation division. If a gas well meets 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 a testing exemption.

At some point during the succeeding calendar year, wellhead shut-in pressure shall be 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.

The G-2 form conveying the newest shut-in pressure reading shall be filed with the Wichita office no later than thirty (30) days after the taking of the pressure reading. The form must be signed and dated on the front side as though it was a verified report of test results.