

KANSAS CORPORATION COMMISSION

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

(See Instructions on Reverse Side)

- Open Flow
 Deliverability

Test Date:
1/23/2015

API No. 15
15-187-21310-00-00

Company LINN Operating, Inc.		Lease Homer			Well Number 5 ATU-437	
County Stanton	Location SW SW SW SW	Section 17	TWP 28S	RNG (E/W) 39W	Acres Attributed 640	
Field Hugoton		Reservoir Chase	Gas-Gathering Connection Jayhawk Gas Plant			
Completion Date 12-11-2014		Plug Back Total Depth NA		Packer, Set at NA		
Casing Size 5.5	Weight 15.5	Internal Diameter 4.95	Set at 768	Perforations 2280	To 2561	
Tubing Size NA	Weight NA	Internal Diameter NA	Set at NA	Perforations NA	To NA	
Type Completion (Describe) Single		Type Fluid Production Dry Gas		Pump Unit or Traveling Plunger? Yes / No NO		
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide 0.049		% Nitrogen 21.664		Gas Gravity - G _g 0.743
Vertical Depth(H) Flange		Pressure Taps			(Meter Run) (Prover) Size 3.068	
Pressure Buildup: Shut in 1/23 20 15 at 11:00 AM (AM) (PM) Taken 1/26 20 15 at 11:00 AM (AM) (PM)						
Well on Line: Started 1/26 20 15 at 11:00 AM (AM) (PM) Taken 1/27 20 15 at 11:00 AM (AM) (PM)						

OBSERVED SURFACE DATA

Duration of Shut-In 72 Hours

Static / Dynamic Property	Orifice Size (Inches)	Circle one: Meter Prover Pressure psig (Pm)	Pressure Differential in Inches H ₂ O	Flowing Temperature	Well Head Temperature	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	1.25	66.7	0	57	57	66.7	81.1	NA	NA	72	0
Flow	1.25	57.4	13.1	57	57	57.4	71.8	NA	NA	24	0

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _s) (F _v) Mcfd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_m \times h}$	Gravity Factor F _g	Flowing Temperature Factor F _t	Deviation Factor F _{ps}	Metered Flow R (Mcfd)	GOR (Cubic Feet/Barrel)	Flowing Fluid Gravity G _m
7.771	71.8	30.669	1.160	1.0028	1	277.265	0	0

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 6.5772 ; (P_w)² = 5.1552 ; P_q = _____ % (P_c - 14.4) + 14.4 = _____ ; (P_q)² = 0.207
(P_q)² = _____

(P _c) ² - (P _s) ² or (P _c) ² - (P _q) ²	(P _c) ² - (P _w) ²	Choose formula 1 or 2: 1. P _c ² - P _s ² 2. P _c ² - P _q ² divided by: P _c ² - P _w ²	LOG of formula 1, or 2, and divide by $\frac{P_c^2 - P_w^2}{P_c^2 - P_s^2}$	Backpressure Curve Slope = "n" or Assigned Standard Slope	n x LOG	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
6.3702	1.4220	4.4798	0.6513	.850	0.5536	3.5775	991.9016

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 29th day of January, 20 15.

Witness (if any)

For Commission

Shawn Hildreth *Shawn Hildreth*
For Company

Checked by