

KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

(See Instructions on Reverse Side)

- Open Flow
 Deliverability

Test Date:
7/1/2013

API No. 15
15-067-21734-00-00

Company Linn Operating Inc.			Lease Goertzen		Well Number B-4 ATU-41
County Grant	Location SW SW SW SW	Section 5	TWP 29S	RNG (E/W) 38W	Acres Attributed 640
Field Hugoton-Panoma		Reservoir Chase	Gas Gathering Connection Jayhawk Gas Plant		
Completion Date 5/30/2013		Plug Back Total Depth 2610	Packer Set at N/A		
Casing Size 5.5	Weight 15.5	Internal Diameter 4.95	Set at 3110	Perforations 2365	To 2570
Tubing Size N/A	Weight N/A	Internal Diameter N/A	Set at N/A	Perforations N/A	To N/A
Type Completion (Describe) Single		Type Fluid Production Dry Gas	Pump Unit or Traveling Plunger? Yes / No No		
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide .1150	% Nitrogen 17.894	Gas Gravity - G _g .7296	
Vertical Depth(H) 3103		Pressure Taps Flange		(Meter Run) (Prover) Size 3.068	
Pressure Buildup: Shut in <u>7/1</u> 20 <u>13</u> at <u>11:00 AM</u> (AM) (PM) Taken <u>7/4</u> 20 <u>13</u> at <u>11:00 AM</u> (AM) (PM)					
Well on Line: Started <u>7/4</u> 20 <u>13</u> at <u>11:00 AM</u> (AM) (PM) Taken <u>7/5</u> 20 <u>13</u> at <u>11:00 AM</u> (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 t	Well Head Temperature t	Casing Wellhead Pressure (P _w) or (P _t) or (P _c)		Tubing Wellhead Pressure (P _w) or (P _t) or (P _c)		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In	1	33.5	0	71	71	33.5	47.9	NA	NA	72	0
Flow	1	28.8	21	71	71	28.8	43.2	NA	NA	24	0

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _p) (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
4.912	43.2	30.120	1.176	.9896	1	172.178	0	0

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 2.2944 ; (P_w)² = 1.8662 ; 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: $\frac{P_c^2 - P_a^2}{P_c^2 - P_w^2}$	Backpressure Curve Slope = "n" or Assigned Standard Slope	n x LOG	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
2.0874	.4282	4.875	.688	.85	.5848	3.8441	661.8654

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 17th day of July, 20 13.

RECEIVED
KANSAS CORPORATION COMMISSION

Shawn Hildreth

Witness (if any)

AUG 05 2013

For Company

For Commission

CONSERVATION DIVISION
WICHITA, KS

Checked by