

KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow
- Deliverability

Test Date:
6/18 to 6/19/15

API No. 15
175-22,192-00-00

Company Edison Operating		Lease Box		Well Number 1-30	
County Seward	Location 1980FSL&1980FEL	Section 30	TWP 34S	RNG (E/W) 32W	Acres Attributed
Field none		Reservoir Lower Morrow		Gas Gathering Connection DCP	
Completion Date 10/11		Plug Back Total Depth		Packer Set at none	
Casing Size 4.5	Weight	Internal Diameter	Set at 6488	Perforations 5986	To 6014
Tubing Size none	Weight	Internal Diameter	Set at	Perforations	To
Type Completion (Describe) single		Type Fluid Production		Pump Unit or Traveling Plunger? Yes / No No	
Producing Thru (Annulus / Tubing) annulus		% Carbon Dioxide .3009		% Nitrogen .8903	
Vertical Depth(H)		Pressure Taps flange		Gas Gravity - G _g .618	
Pressure Buildup: Shut in 6/15		20 15 at 9:45 am (AM) (PM)		Taken 6/18 20 15 at 9:45 am (AM) (PM)	
Well on Line: Started 6/18		20 15 at 9:45 am (AM) (PM)		Taken 6/19 20 15 at 9:45 am (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						690.0	704.4			72	
Flow	1.000	24.5	5.4	84		613.4	627.8			24	0

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _b) (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 _t	Deviation Factor F _{pv}	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G _m
4.912	38.9	14.49	1.272	.9777	---	88		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 496.179 : (P_w)² = 376.259 : P_d = _____ % (P_c - 14.4) + 14.4 = _____ : (P_w)² = 0.207
(P_d)² = _____

(P _c) ² - (P _w) ² or (P _c) ² - (P _d) ²	(P _w) ² - (P _d) ²	Choose formula 1 or 2: 1. P _c ² - P _d ² 2. P _c ² - P _w ² divided by: P _c ² - P _w ²	LOG of formula 1. or 2. and divide by: $\frac{P_c^2 - P_w^2}{P_c^2 - P_d^2}$	Backpressure Curve Slope = "n" or Assigned Standard Slope	n x LOG []	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
495.972	119.92	4.135	.6165	.913	.5628	3.65	321

Open Flow **321** Mcfd @ 14.65 psia X .50 = Deliverability **160.5** 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 19th day of June, 20 15.

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

JUN 24 2015

RECEIVED