

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

Type Test:

(See Instructions on Reverse Side)

- Open Flow  
 Deliverability

Test Date:  
4-16-2014

API No. 15  
15-009-00741-00-001

Company Rama Operating Co., Inc		Lease Aldrich		Well Number 2	
County Barton	Location NE SE NE	Section 29	TWP 19S	RNG (E/W) 14 W	Acres Attributed
Field Heizer		Reservoir Chase		Gas Gathering Connection American Energies	
Completion Date 01/2002		Plug Back Total Depth 2051'		Packer Set at	
Casing Size 4 1/2	Weight 9.50	Internal Diameter 4.090	Set at 1914'	Perforations 1733-87	To 1862-66
Tubing Size 2 3/8	Weight 4.70	Internal Diameter 1.995	Set at 1719'	Perforations	To
Type Completion (Describe)		Type Fluid Production Salt water		Pump Unit or Traveling Plunger? Yes / No Pumping	
Producing Thru (Annulus) / Tubing		% Carbon Dioxide		% Nitrogen 26.58	
Vertical Depth(H)		Pressure Taps Flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in <u>04/12</u> 20 <u>14</u> at <u>9:00am</u> (AM) (PM) Taken <u>04/15</u> 20 <u>14</u> at <u>9:00am</u> (AM) (PM)					
Well on Line: Started <u>04/15</u> 20 <u>14</u> at <u>9:00am</u> (AM) (PM) Taken <u>04/16</u> 20 <u>14</u> at <u>9:00am</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 <sub>2</sub> O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>s</sub> ) or (P <sub>c</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>s</sub> ) or (P <sub>c</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						60	74.4	10	24.4	72	12
Flow	.375	40	2	60	60	40	54.4	10	24.4	24	

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>b</sub> ) (F <sub>p</sub> ) Mcfd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_m \times h}$	Gravity Factor F <sub>g</sub>	Flowing Temperature Factor F <sub>t</sub>	Deviation Factor F <sub>pv</sub>	Metered Flow R (Mcf/d)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
.6860	54.4	10.43	1.208	1.00	1.00	9		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>c</sub>)<sup>2</sup> = 5.54 : (P<sub>w</sub>)<sup>2</sup> = 2.96 : P<sub>d</sub> = \_\_\_\_\_ % (P<sub>c</sub> - 14.4) + 14.4 = \_\_\_\_\_ : (P<sub>a</sub>)<sup>2</sup> = 0.207  
(P<sub>d</sub>)<sup>2</sup> = \_\_\_\_\_

(P <sub>c</sub> ) <sup>2</sup> - (P <sub>a</sub> ) <sup>2</sup> or (P <sub>c</sub> ) <sup>2</sup> - (P <sub>d</sub> ) <sup>2</sup>	(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	Choose formula 1 or 2: 1. P <sub>c</sub> <sup>2</sup> - P <sub>a</sub> <sup>2</sup> 2. P <sub>c</sub> <sup>2</sup> - P <sub>d</sub> <sup>2</sup> divided by: P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	LOG of formula 1, or 2, and divide by: $\frac{P_c^2 - P_w^2}{P_c^2 - P_a^2}$	Backpressure Curve Slope = "n" ----- Assigned Standard Slope	n x LOG [ ]	Antilog	Open Flow Deliverability Equals R x Antilog (Mcf/d)
5.33	2.58	2.07	0.316	.850	0.268	1.855	16

Open Flow 16 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 28th day of April, 20 14.

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

  
For Company

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

Checked by  
**MAY 12 2014**  
**RECEIVED**