

KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow
 Deliverability

Test Date:
2/20 to 2/21/14

API No. 15
007-23,133-00-00

Company Pollok Energy, LLC			Lease Benson		Well Number 3-9
County Barber	Location SWNWSW	Section 9	TWP 35S	RNG (E/W) 14W	Acres Attributed
Field Aetna Gas Area		Reservoir Miss/Cherokee		Gas Gathering Connection Atlas	
Completion Date 7/03/07		Plug Back Total Depth 5072		Packer Set at none	
Casing Size 4.5	Weight	Internal Diameter	Set at 5109	Perforations 4882	To 4993
Tubing Size 2.375	Weight	Internal Diameter	Set at 4860	Perforations	To
Type Completion (Describe) single		Type Fluid Production Oil/SW		Pump Unit or Traveling Plunger? Yes / No Yes - pump unit	
Producing Thru (Annulus / Tubing) annulus		% Carbon Dioxide .098		% Nitrogen 1.851	Gas Gravity - G _g .646
Vertical Depth(H)		Pressure Taps flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in <u>2/17</u> 20 <u>14</u> at <u>10:15 am</u> (AM) (PM) Taken <u>2/20</u> 20 <u>14</u> at <u>10:15 am</u> (AM) (PM)					
Well on Line: Started <u>2/20</u> 20 <u>14</u> at <u>10:15 am</u> (AM) (PM) Taken <u>2/21</u> 20 <u>14</u> at <u>10:15 am</u> (AM) (PM)					

OBSERVED SURFACE DATA

Duration of Shut-in 72 Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Meter or 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 _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						601.3	615.7			72	
Flow	.375	22.5	11.2	31		171.1	185.5			24	

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _s) (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
.6860	36.9	20.33	1.244	1.029	-----	18		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 379.086 ; (P_w)² = 34.410 ; P_d = _____ % (P_c - 14.4) + 14.4 = _____ ; (P_a)² = 0.207 ; (P_d)² = _____

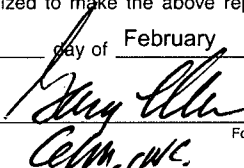
(P _c) ² - (P _a) ² or (P _c) ² - (P _d) ²	(P _c) ² - (P _w) ²	Choose formula 1 or 2: 1. P _c ² - P _a ² 2. P _c ² - P _d ² divided by: P _c ² - P _w ²	LOG of formula 1. or 2. and divide by: $\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_a^2} \right]$	Backpressure Curve Slope = "n" ----- or Assigned Standard Slope	n x LOG $\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_a^2} \right]$	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
378.879	344.676	1.099	.0409	.850	.0347	1.08	19
				Assigned			

Open Flow 19 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 26th day of February, 20 14.

Witness (if any)

For Commission



For Company

Checked by

KCC WICHITA
MAR 06 2014
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Meter Analysis

Atlas Pipeline Company

January, 2014

Avard System

Meter: 95242722

Name: Benson 3-9

	Mol %	Liquid Content		
Carbon Dioxide	0.098	0.0167	Pressure Base	14.730
Nitrogen	1.851	0.2036	Temperature Base	60.00
Methane	88.470	14.9945		
Ethane	5.492	1.4683	Relative Density	0.6463
Propane	2.301	0.6338	Dry Heating Value	1124.09
Iso-Butane	0.263	0.0861	As Del Heating Value	1121.37
N-Butane	0.703	0.2215	Sat Heating Value	1104.53
Iso-Pentane	0.163	0.0595		
N-Pentane	0.227	0.0823		
Hexane	0.432	0.1884	C2+ Liquid Content	2.7399
Heptane			C5+ Liquid Content	0.3302
Octane			C6+ Liquid Content	0.1884
Nonane			26# Gasoline	0.5229
Decane			H2S ppm	1.0
Oxygen				
Hydrogen				
Helium				
Argon				
Water Vapor				
Hydrogen Sulfide				

Total	100.000	17.9547
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KCC WICHITA

MAR 06 2014

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