

KANSAS CORPORATION COMMISSION

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test.

(See Instructions on Reverse Side)

- Open Flow
 Deliverability

Test Date
9/12 to 9/13/14

API No 15
025-20,581-00-00

Company Benchmark Energy, LLC			Lease Pfeifer		Well Number 5
County Clark	Location CNWNE	Section 36	TWP 33S	RNG (E/W) 22W	Acres Attributed
Field Harper Ranch		Reservoir Miss	Gas Gathering Connection DCP		
Completion Date 6/3/82		Plug Back Total Depth 5523	Packer Set at none		
Casing Size 5 5	Weight	Internal Diameter	Set at 5674	Perforations 5376	To 5428
Tubing Size 2.375	Weight	Internal Diameter	Set at 5440	Perforations	To
Type Completion (Describe) single		Type Fluid Production SW	Pump Unit or Traveling Plunger? Yes - pump unit		Yes / No
Producing Thru (Annulus / Tubing) annulus		% Carbon Dioxide .3615	% Nitrogen 3.8174	Gas Gravity - G _g .762	
Vertical Depth(H) flange			Pressure Taps		(Meter Run) (Prover) Size 2"
Pressure Buildup	Shut in	9/09	20	14	at 11:45 am (AM) (PM) Taken 9/12
Well on Line	Started	9/12	20	14	at 11:45 am (AM) (PM) Taken 9/13

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 _o)		Tubing Wellhead Pressure (P _w) or (P ₁) or (P _c)		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						93.8	108.2			72	
Flow	.625	68	14.5	70		4.1	18.5			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
1.914	82.4	34.56	1.146	.9905	-----	75		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 11.707 (P_w)² = .342 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 $P_c^2 - P_w^2$	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	n x LOG []	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
11.500	11.365	1.012	.0052	.850	0044	1.01	76
				assigned			

Open Flow 76 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 14th day of September, 20 14

Received
KANSAS CORPORATION COMMISSION

Charles M. Wilson
For Company

Witness (if any)

For Commission

OCT 09 2014

GLM, INC.
Checked by

CONSERVATION DIVISION
WICHITA, KS