

KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

(See Instructions on Reverse Side)

- Open Flow
 Deliverability

Test Date:
11-14-14

API No. 15
15-067-21792-00-00

Company MERIT ENERGY COMPANY, LLC			Lease ENGLISH ATU		Well Number D-4
County GRANT	Location SW SW SW SW	Section 22	TWP 27S	RNG (E/W) 35W	Acres Attributed
Field HUGPAN		Reservoir CHASE	Gas Gathering Connection ONEOK		KCC WICHITA
Completion Date 8-21-14		Plug Back Total Depth 3202	Packer Set at NONE		DEC 08 2014
Casing Size 5.5	Weight 17.0	Internal Diameter 4.892	Set at 3245	Perforations 2590	To 2890
Tubing Size	Weight	Internal Diameter	Set at	Perforations	To

RECEIVED

Type Completion (Describe) SINGLE - GAS	Type Fluid Production NONE	Pump Unit or Traveling Plunger? Yes / No NO	
Producing Thru (Annulus / Tubing) ANNULUS	% Carbon Dioxide 0.112	% Nitrogen 15.209	Gas Gravity - G _g 0.717
Vertical Depth(H) 2740	Pressure Taps FLANGE		(Meter Run) (Prover) Size 2.067"
Pressure Buildup: Shut in 11-10-14 20 at 0945 (AM) (PM) Taken 11-13-14 20 at 0945 (AM) (PM)			
Well on Line: Started 11-13-14 20 at 0945 (AM) (PM) Taken 11-14-14 20 at 0945 (AM) (PM)			

OBSERVED SURFACE DATA

Duration of Shut-in **72.0** 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 l	Well Head Temperature l	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						35.8	50.2			72.0	
Flow	1.000	22.6	21.7	44	75	23.1	37.5			24.0	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 _n
5.0728	37.00	28.34	1.181	1.0157	1.0034	173.0	NONE	0.717

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 2.5 : (P_w)² = 1.4 : P_d = 74.8 % (P_c - 14.4) + 14.4 = 50.2 : (P_g)² = 0.207
(P_g)² =

(P _c) ² - (P _g) ² or (P _c) ² - (P _d) ²	(P _c) ² - (P _w) ²	Choose formula 1 or 2: 1. P _c ² - P _d 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: $\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2}$	Backpressure Curve Slope = "n" or Assigned Standard Slope	n x LOG	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
2.31	1.11	2.083	0.3186	0.850	0.2708	1.8656	322.79

Open Flow **323** 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 14 day of NOVEMBER, 20 14.

Copy to KCC Wichita
Witness (if any)

Proctor Wireline & Testing
For Company

For Commission

Mark Powell
Checked by

Merit Energy Co. - Janna Burton