

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

FORM G-2
(Rev. 8/98)

TYPE TEST:

- Open Flow
 Deliverability

TEST DATE: 5-5-14

API No. 15-057-20611-0000

Company Ritchie Exploration		Lease Stephenson			Well Number 4B	
County Ford	Location SE NW NW	Section 4-28S-22W	TWP	RNG (E/W)	Acres Attributed 640	
Field Lamb North	Reservoir Mississippian	Gas Gathering Connection Superior Pipeline				
Completion Date 7-1-10	Plug Back Total Depth 5165			Packer Set at		
Casing Size 4.500	Weight 10.500	Internal Diameter 4.052	Set at 5187	Perforations 4968	To 4991	
Tubing Size 2.375	Weight 4.700	Internal Diameter 1.995	Set at 4992	Perforations	To	
Type Completion (Describe) New Well	Type Fluid Production None		Pump Unit or Traveling Plunger? no			
Producing Thru (Annulus/Tubing) Tubing	% Carbon Dioxide .087		% Nitrogen 9.531		Gas Gravity- Gg .662	
Vertical Depth (ft) 4979	Pressure Taps Flange			Meter Run Size 3.068		
Pressure Buildup: Shut in Well on Line: Started	4-22-14 5-5-14 @ 2:35 P.M.		TAKEN	5-5-14 @ 2:30 P.M.		
			TAKEN	5-6-14 @ 2:35 P.M.		

OBSERVED SURFACE DATA

Static/ Dynamic Property	Orifice Size in.	Meter Pressure psig	Pressure Diff. In. H ₂ O	Flowing Temp. t.	WellHead Temp. t.	Casing WellHead Press. (P _w) (P _t) (P _c)		Tubing WellHead Press. (P _w) (P _t) (P _c)		Duration (Hours)	Liquid Prod. Barrels
						psig	psia	psig	psia		
Shut-in						1046	1061	1046	1061	72.0	
Flow	1.625	86.0	3.00	60	60	920	934	918	933	24.0	

FLOW STREAM ATTRIBUTES

COEFFICIENT (F _D) Mcf/d	(METER) PRESSURE psia	EXTENSION $\sqrt{P_m \times H_w}$	GRAVITY FACTOR F _g	FLOWING TEMP FACTOR F _t	DEVIATION FACTOR F _{pv}	RATE OF FLOW R Mcf/d	GOR	G _m
13.580	100.4	17.36	1.2291	1.0000	1.0082	292		.662

(OPEN FLOW)(DELIVERABILITY) CALCULATIONS

(P_c)² = 1125.9 (P_w)² = 873.7 P_d = % (P_c - 14.4) + 14.4 = (P_a)² = 0.207
(P_d)² =

$(P_c)^2 - (P_a)^2$	$(P_c)^2 - (P_w)^2$	$\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_w)^2}$ or $\frac{(P_c)^2 - (P_d)^2}{(P_c)^2 - (P_w)^2}$	LOG	Backpressure Curve Slope "n" ----- or ----- Assigned Standard Slope	n x LOG	Antilog	Open Flow Deliverability = R x Antilog Mcf/d
1125.73	252.27	4.462	.6496	1.000	.6496	4.462	1303

OPEN FLOW 1303 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 herein and that said report is true and correct. Executed this the 6th day of May, 20 14

Witness (if any)

KCC WICHITA

Ritchie Exploration

For Commission

MAY 16 2014

 For Company
Checked by

RECEIVED