

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

FORM G-2  
(Rev.8/98)

TYPE TEST:

- Open Flow  
 Deliverability

TEST DATE: 05-15-17 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				
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 (H) 4979	Pressure Taps Flange			Meter Run Size 3.068		
Pressure Buildup: Shut in	05-12-17 @ 11:00 A		TAKEN	05-15-17 @ 11:00 A		
Well on Line: Started	05-15-17 @ 11:00 A		TAKEN	05-16-17 @ 11:00 A		

**OBSERVED SURFACE DATA**

Static/ Dynamic Property	Orifice Size in.	Meter Pressure psig	Pressure Diff. In. H <sub>2</sub> O	Flowing Temp. t.	WellHead Temp. t.	Casing WellHead Press. (P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> )		Tubing WellHead Press. (P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> )		Duration (Hours)	Liquid Prod. Barrels
						psig	psia	psig	psia		
Shut-in						991	1006	989	1004	72.0	
Flow	1.625	33.4	3.30	60	60	911	925	897	911	24.0	

**FLOW STREAM ATTRIBUTES**

COEFFICIENT (F <sub>b</sub> ) Mcf/d	(METER) PRESSURE psia	EXTENSION $\sqrt{P_m \times H_w}$	GRAVITY FACTOR Fg	FLOWING TEMP FACTOR Ft	DEVIATION FACTOR Fpv	RATE OF FLOW R Mcf/d	GOR	G <sub>m</sub>
13.580	47.8	12.56	1.2291	1.0000	1.0039	210		.662

**(OPEN FLOW)(DELIVERABILITY) CALCULATIONS**

(P<sub>c</sub>)<sup>2</sup> = 1012.6      (P<sub>w</sub>)<sup>2</sup> = 857.3      Pd =      %      (P<sub>c</sub> - 14.4) + 14.4 =      (P<sub>a</sub>)<sup>2</sup> = 0.207  
(P<sub>d</sub>)<sup>2</sup> =

$(P_c)^2 - (P_a)^2$	$(P_c)^2 - (P_w)^2$	$\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_w)^2}$ 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
1012.43	155.35	6.517	.8141	1.000	.8141	6.517	1371

OPEN FLOW 1371 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 15th day of May, 20 17

Witness (if any) \_\_\_\_\_  
For Commission \_\_\_\_\_

**KCC WICHITA**

**MAY 30 2017**

**RECEIVED**

*Ritchie Exploration*  
For Company  
*Hanco M Inc*  
Checked by