

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

FORM G-2  
(Rev. 8/98)

TYPE TEST:

- Open Flow  
 Deliverability

TEST DATE: 9/7/2013

API No. 15- 057-20611-0000

Company Ritchie Exploration		Lease Stephenson			Well Number 4B	
County Ford	Location SE NW NW	Section 4	TWP 28s	RNG (E/W) 22w	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 0.087		% Nitrogen 9.531		Gas Gravity- Gg 0.662	
Vertical Depth (H) 4979	Pressure Taps flange		Meter Run Size 3.067			
Pressure Buildup: Shut in	9/3/2013@1100		TAKEN	9/6/2013@1245		
Well on Line: Started	9/6/2013@1245		TAKEN	9/7/2013@1330		

**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						1018	1032	1018	1032	73.7	
Flow	1.625	37.2	89.00	80		220	234	138	152	24.7	0.8

**FLOW STREAM ATTRIBUTES**

COEFFICIENT (E <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	51.6	67.77	1.2291	0.9813	1.0035	1113	*****	0.665

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

(P<sub>c</sub>)<sup>2</sup> = 1065.8      (P<sub>w</sub>)<sup>2</sup> = 54.9      P<sub>d</sub> = 4.8      %      (P<sub>c</sub> - 14.4) + 14.4 =      (P<sub>a</sub>)<sup>2</sup> = 0.207  
(P<sub>d</sub>)<sup>2</sup> = 2.50

$(P_c)^2 - (P_a)^2$ or $(P_c)^2 - (P_d)^2$	$(P_c)^2 - (P_w)^2$	$\frac{[(P_c)^2 - (P_a)^2] \text{ or } [(P_c)^2 - (P_d)^2]}{[(P_c)^2 - (P_w)^2]}$	LOG	Backpressure Curve Slope "n" ---- or ---- Assigned Standard Slope	n x LOG	Antilog	Open Flow Deliverability = R x Antilog Mcf/d
1065.64	1010.91	1.054	0.0229	1.000	0.0229	1.054	1174
1063.35	1010.91	1.052	0.0220	1.000	0.0220	1.052	1171

OPEN FLOW      1174      Mcfd @ 14.65 psia      DELIVERABILITY      1171      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 11 day of Sept, 2013

Witness (if any)  
No Witnesses  
For Commission

**KCC WICHITA**

**SEP 23 2013**

**RECEIVED**

*[Signature]*  
For Company  
Checked by