

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

FORM G-2
(Rev. 8/98)

TYPE TEST:

- Open Flow
 Deliverability

TEST DATE: 9-23-10 API No **5**-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	9-19-10	TAKEN		8:00am		
Well on Line: Started	9-23-10	TAKEN		14:10pm		

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						1366	1380	1295	1309	76.0	
Flow	1.625	15.9	9.00	70		1276	1290	1065	1079	28.0	

FLOW STREAM ATTRIBUTES

COEFFICIENT (F _b) 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 _m
13.580	30.3	16.51	1.2291	0.9905	1.0019	273		0.662

(OPEN FLOW)(DELIVERABILITY) CALCULATIONS

(P_c)² = 1905.5 (P_w)² = 1665.1 P_d = 1.1 % (P_c - 14.4) + 14.4 = (P_a)² = 0.207
(P_d)² = 0.25

$(P_c)^2 - (P_a)^2$ or $(P_c)^2 - (P_d)^2$	$(P_c)^2 - (P_w)^2$	$\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_d)^2}$ or $\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_w)^2}$	LOG []	Backpressure Curve Slope "n" ---- or ---- Assigned Standard Slope	n x LOG []	Antilog	Open Flow Deliverability = R x Antilog Mcf/d
1905.30	240.37	7.926	0.8991	1.000	0.8991	7.926	2168
1905.25	240.37	7.926	0.8991	1.000	0.8991	7.926	2168

OPEN FLOW 2168 Mcfd @ 14.65 psia DELIVERABILITY 2168 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 28 day of Sept 2010

Witness (if any)

For Commission

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For Company

Checked by

Field Measurements

Company: Ritchie Exploration
Well / Lease Name: Stephenson 4B
Unique Well ID: SE NW NW 4 28s 22w
Test Type: Initial 4 point

Job Number:
Formation:
Field:
Pool:

			Wellhead		Gas Orifice Meter 1					
	Date	Time	Tubing Press	Casing Press	Static Press	Meter Temp	Differential Press	Plate Size	Gas Rate (Inst)	Gas Cum
	YYYY/MM/DD	HH:mm:ss	psi(g)	psi(g)	psi(g)	°F	in of H ₂ O	in	Mscfd	Mscf
1	2010/09/22	10:25:00	1295.0	1366.0	0.0	0.0	0.0	0.000	0.000	0.000
2		10:40:00	1262.0	1348.0	15.1	86.0	22.5	1.625	416.269	4.336
3		10:55:00	1248.0	1330.0	15.4	90.0	2.5		138.902	7.228
4		11:10:00	1236.0	1321.0	15.3	92.0	2.5		138.257	8.671
5		11:25:00	1223.0	1313.0	15.5	92.0	2.5		139.170	10.116
6		11:25:00	1st point							
7		11:40:00	1209.0	1202.0	15.7	92.0	5.6		209.521	11.932
8		11:55:00	1179.0	1280.0	16.0	91.0	5.7		212.194	14.129
9		12:10:00	1164.0	1269.0	16.3	90.0	5.6		211.965	16.338
10		12:25:00	1155.0	1253.0	16.3	90.0	5.6		212.071	18.546
11		12:25:00	2nd point							
12		12:40:00	1114.0	1236.0	17.6	84.0	13.3		334.753	21.394
13		12:55:00	1090.0	1219.0	17.9	83.0	15.5		363.692	25.032
14		13:10:00	1065.0	1200.0	17.5	83.0	15.1		355.752	28.779
15		13:25:00	1048.0	1186.0	17.8	83.0	16.8		376.966	32.595
16		13:25:00	3rd point							
17		13:40:00	1032.0	1165.0	20.6	76.0	33.6		561.472	37.483
18		13:55:00	995.0	1146.0	20.2	76.0	31.7		541.714	43.229
19		14:10:00	986.0	1131.0	20.2	76.0	31.3		538.188	48.853
20		14:25:00	975.0	1126.0	20.4	79.0	32.6		550.100	54.522
21		14:25:00	4th point							
22	2010/09/23	14:10:00	1065.0	1276.0	15.9	70.0	9.0		270.807	460.700
23			1 point							

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From 2010/09/22 10:25:00 **To** 2010/09/23 06:00:00
Gas Cum 0.321 MMscf **Gas Cum** 0.321 MMscf
Oil Cum bbl **Oil Cum** bbl
Water Cum bbl **Water Cum** bbl
Cond Cum bbl **Cond Cum** bbl

Plot 1

Company: Ritchie Exploration
 Well / Lease Name: Stephenson 4B
 Unique Well ID: SE NW NW 4 28s 22w
 Test Type: Initial 4 point

Job Number:
 Formation:
 Field:
 Pool:

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