

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

FORM G-2
(Rev. 8/98)

TYPE TEST:

- Open Flow
 Deliverability

TEST DATE: 9-16-11 API No. 15-057-207-15-00-0

Company Ritchie Exploration		Lease #1 Brown 3AB			Well Number 1	
County Ford	Location	Section 3-28-22 3-28-22W	TWP	RNG (E/W)	Acres Attributed 640	
Field Mississippian	Reservoir	Gas Gathering Connection				
Completion Date 3-1-11	Plug Back Total Depth 5114	Packer Set at				
Casing Size 4.500	Weight 10.500	Internal Diameter 4.000	Set at 5144	Perforations 4982	To 5005	
Tubing Size 2.875	Weight 8.700	Internal Diameter 2.500	Set at 5005	Perforations	To	
Type Completion (Describe) Gas	Type Fluid Production saltwater	Pump Unit or Traveling Plunger?				
Producing Thru (Annulus/Tubing) Tubing	% Carbon Dioxide .074	% Nitrogen 15.878			Gas Gravity- Gg .692	
Vertical Depth (H) 5151	Pressure Taps Flange	Meter Run Size 3.068				
Pressure Buildup: Shut in	9-12-11	TAKEN	9-15-11			
Well on Line: Started	9-15-11	TAKEN	9-16-11			

OBSERVED SURFACE DATA

Static/ Dynamic Property	Orifice Size in.	Meter Pressure psig	Pressure Diff. In. H ₂ O	Flowing Temp. t.	Well Head Temp. t.	Casing Well Head Press. (P _w) (P _t) (P _c)		Tubing Well Head Press. (P _w) (P _t) (P _c)		Duration (Hours)	Liquid Prod. Barrels
						psig	psia	psig	psia		
Shut-in						1004	1018	1003	1017	72.0	
Flow	1.375	34.0	92.00	60	60	689	703	671	685	24.0	

FLOW STREAM ATTRIBUTES

COEFFICIENT (F _b) 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
9.486	48.7	66.90	1.2021	1.0000	1.0037	765		.692

(OPEN FLOW)(DELIVERABILITY) CALCULATIONS

$(P_c)^2 = 1037.6$ $(P_w)^2 = 495.1$ $P_d =$ % $(P_c - 14.4) + 14.4 =$ $(P_a)^2 = 0.207$
 $(P_d)^2 =$

$(P_c)^2 - (P_a)^2$	$(P_c)^2 - (P_w)^2$	$\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_d)^2}$ 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
1037.43	542.52	1.912	.2815	1.000	.2815	1.912	1464

OPEN FLOW 1464 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 18th day of October, 20 11

Witness (if any)

For Commission

RECEIVED Hosco Testing & Measurement Co.
DEC 08 2011
KCC WICHITA

For Company
Checked by