

15-091-21559-0000

P. 3  
8-21-87

**STATE OF KANSAS - CORPORATION COMMISSION**  
**ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST.**

FORM O-2  
8-7-58

TYPE TEST:  Deliverability  Open Flow TEST DATE: 6/19/87

COMPANY Miller Brothers Production Co. LEASE Busch WELL NO. 1

COUNTY Johnson LOCATION NW NW NW SECTION 8 TWP 14 RNO 23E ACRES

FIELD Gardner Lake RESERVOIR Bartlesville PIPELINE CONNECTION Grant Oil, Inc.

COMPLETION DATE PLUG BACK TOTAL DEPTH PACKER SET AT

CASINO SIZE 4 1/2" WT. I.D. SET AT 886' PERF. 770 TO 779  
 787 TO 800

TUBING SIZE 2 3/8" WT. I.D. SET AT PERF. TO

TYPE COMPLETION (Describe) Single Gas TYPE FLUID PRODUCTION

PRODUCING THRU Tubing RESERVOIR TEMPERATURE F BAR. PRESS - P<sub>a</sub> 14.4 Psia

GAS GRAVITY - G<sub>g</sub> 5751 % CARBON DIOXIDE 36 % NITROGEN 3.60 API GRAVITY OF LIQUID

VERTICAL DEPTH (H) 788' TYPE METER CONN. Flange (METER RUN) (PROVER) SIZE 2"

SHUT-IN PRESSURE: SHUT IN 6/12 1987 AT 900 (AM)(PM) TAKEN 6/15 1987 AT 1030 (AM)(PM)  
 FLOW TEST: STARTED 6/18 1987 AT 1000 (AM)(PM) TAKEN 6/19 1987 AT 1008 (AM)(PM)

**OBSERVED DATA** DURATION OF SHUT-IN 73.5 hr.

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psig	DIFF. in. (h <sub>w</sub> )(h <sub>d</sub> )	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASINO WELL-HEAD PRESS.		TUBING WELL-HEAD PRESS.		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P <sub>w</sub> )(P <sub>t</sub> )(P <sub>c</sub> ) psia	psig	(P <sub>w</sub> )(P <sub>t</sub> )(P <sub>c</sub> ) psia		
SHUT-IN						99.2	113.6			73.5	
FLOW	3/4	52.0	4.5"			62.0	76.4	50.7	65.1	24.	

**RATE OF FLOW CALCULATIONS**

COEFFICIENT (P <sub>c</sub> ) <sup>2</sup> - (P <sub>d</sub> ) <sup>2</sup> Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION √P <sub>m</sub> × h <sub>w</sub>	GRAVITY FACTOR γ <sub>g</sub>	FLOWING TEMP. FACTOR F <sub>L</sub>	DEVIATION FACTOR F <sub>pv</sub>	RATE OF FLOW R Mcfd	GOR	Q <sub>m</sub>
2.779	66.4	17.29	1.319	1.00	1.00	63		

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

(P<sub>c</sub>)<sup>2</sup> = 12.905; (P<sub>w</sub>)<sup>2</sup> = 5.837; P<sub>d</sub><sup>2</sup> = \_\_\_\_\_ % (P<sub>c</sub> - 14.4) + 14.4 = \_\_\_\_\_ (P<sub>w</sub>)<sup>2</sup> = 0.207 (P<sub>d</sub>)<sup>2</sup> = \_\_\_\_\_

(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> or (P <sub>c</sub> ) <sup>2</sup> - (P <sub>d</sub> ) <sup>2</sup>	(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	$\frac{P_c^2 - P_w^2}{P_c^2 - P_w^2}$	LOG [ ]	"n"	n × LOG [ ]	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R × ANTILOG Mcfd
12.698	7.068	1.7965	.2544	.8676	.2207	1.6624	105

OPEN FLOW 105 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 therein, and that said report is true and correct.

Executed this the 9<sup>th</sup> day of July, 1987.

MB Nathans Consultant  
For Company

Witness (if any)

For Commission

Checked by