

15-091-21296-0000

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

FORM O-2
8-7-58

82
8-30-87

TYPE TEST: Deliverability Open Flow TEST DATE: 6/15/87

COMPANY: Miller Brothers Prod. Co. LEASE: Commercial Nat'l Bank WELL NO.: 2

COUNTY: Johnson LOCATION: SW SW SECTION: 5 TWP: 14 RNG: 23E ACRES: 23E

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

COMPLETION DATE: 7/19/84 PLUG BACK TOTAL DEPTH: 815.2' PACKER SET AT: []

CASINO SIZE: 4 1/2" WT. I.D. SET AT: 824' PERF. TO: 778'

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

TYPE COMPLETION (Describe): Single Gas TYPE FLUID PRODUCTION: Single Gas

PRODUCING THRU: Annulus RESERVOIR TEMPERATURE F: [] BAR. PRESS - P_e: 14.4 Psia

GAS GRAVITY - G_g: .5751 % CARBON DIOXIDE: .36 % NITROGEN: 3.60 API GRAVITY OF LIQUID: []

VERTICAL DEPTH (H): 773' TYPE METER CONN.: Flange (METER RUN) (ROCK) (SIZE): []

SHUT-IN PRESSURE: SHUT IN 6/12 19 87 AT 850 (AM)(PM) TAKEN 6/15 19 87 AT 930 (AM)(PM)

FLOW TEST: STARTED 6/15 19 87 AT 940 (AM)(PM) TAKEN 6/16 19 87 AT 1010 (AM)(PM)

OBSERVED DATA

DURATION OF SHUT-IN 72 hr.

SHUT-IN OR FLOW	ORIFICE SIZE In.	(METER) (PROVER) PRESSURE psig	DIFF. In. (h _w)(h _d)	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASINO WELLHEAD PRESS		TUBING WELLHEAD PRESS		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w)(P _i)(P _e) psia	psig	(P _w)(P _i)(P _e) psia		
SHUT-IN						99.8	114.2	99.3	113.7	72.5	
FLOW	5/8 1/2	42.0 46.0	4.0 24.0		60	58.4	72.8	55.2	69.7	24.5	

RATE OF FLOW CALCULATIONS

COEFFICIENT (F _b)(F _d) Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m h_w}$	GRAVITY FACTOR F _g	FLOWING TEMP. F _L	DEVIATION FACTOR F _{pv}	RATE OF FLOW R Mcfd	GOR	G _m
1.914	56.4	15.02	1.319	1.0	1.0	38		
1.219	60.4	38.07	1.319	1.0	1.0	61		
					TOTAL	99		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_e)² = 13.042; (P_w)² = 5.300; P_d = _____ % (P_e - 14.4) + 14.4 = _____; (P_e)² = 0.207; (P_d)² = _____

$\frac{(P_e)^2 - (P_w)^2}{(P_e)^2 - (P_d)^2}$	$(P_e)^2 - (P_w)^2$	$\frac{P_e^2 - P_w^2}{P_e^2 - P_d^2}$	LOG []	"n"	n x LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
12.835	7.742	1.6578	.2195	.85	.18661	1.53678	152

OPEN FLOW 152 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 8th day of July 1987.

Witness (if any)

ROB
AUG 31 1987
08-31-87

M.R. Nathan Consultant
For Company

For Commission

Checked by