

15-091-21420-0000

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P2
8-31-87

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: 6/20/87

COMPANY: Miller Brothers Production Co. LEASE: Commercial Nat'l Bank WELL NO.: 4

COUNTY: Johnson LOCATION: NW NW NW SECTION: 5 TWP: 14 RNO: 23E ACRES:

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

COMPLETION DATE: 4/4/85 PLUG BACK TOTAL DEPTH: 799.4' PACKER SET AT:

CASING SIZE: 4 1/2" WT. I.D. SET AT 805.2' PERF. 692 TO 698

TUBING SIZE: 2 3/8" WT. I.D. SET AT PERF. 702 TO 708

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

PRODUCING THRU: Tubing RESERVOIR TEMPERATURE F: BAR. PRESS - P_e: 14.4 Psia

GAS GRAVITY - G_g: .5742 % CARBON DIOXIDE: 0.0 % NITROGEN: 4.30 API GRAVITY OF LIQUID:

VERTICAL DEPTH (H): 700' TYPE METER CONN.: Flange (METER RUN)(BROOKER) SIZE: 2"

SHUT-IN PRESSURE: SHUT IN 6/16 19.87 AT 1150 (AM)(PM) TAKEN 6/19 19.87 AT 940 (AM)(PM)

FLOW TEST: STARTED 6/19 19.87 AT 945 (AM)(PM) TAKEN 6/20 19.87 AT 337 (AM)(PM)

OBSERVED DATA DURATION OF SHUT-IN 70 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	CASING WELLHEAD PRESS.		TUBING WELLHEAD PRESS.		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w)(P _i)(P _c) psia	psig	(P _w)(P _i)(P _c) psia		
SHUT-IN						68.2	82.6	67.9	82.3	70	
FLOW	1/2	46.0	22.5"			56.2	70.6	55.0	69.4	30	

RATE OF FLOW CALCULATIONS

COEFFICIENT (F _b)(F _p) Mcd	(METER) (PROVER) PRESSURE psia	EXTENSION √P _m h _w	GRAVITY FACTOR F _g	FLOWING TEMP. FACTOR F _t	DEVIATION FACTOR F _{pv}	RATE OF FLOW R Mcd	GOR	G _m
1.219	60.4	36.865	1.320	1.0	1.0	59		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 6.823 ; (P_w)² = 4.984 ; P_d² = _____ % (P_c - 14.4) + 14.4 = _____ (P_e)² = 0.207 (P_d)² = _____

(P _c) ² - (P _e) ² or (P _c) ² - (P _d) ²	(P _c) ² - (P _w) ²	$\frac{P_c^2 - P_e^2}{P_c^2 - P_w^2}$	LOG []	"n"	n x LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcd
6.616	1.838	3.5987	.5561	.605	.3365	2.170	128

OPEN FLOW 128 Mcd @ 14.65 psia DELIVERABILITY Mcd @ 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)

For Commission

08-31-87

MR. Nettleton Consultant
For Company

Checked by