

STATE OF KANSAS - CORPORATION COMMISSION

FORM O-3
8-7-58

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

15-005-20041-0000

TYPE TEST: Deliverability Open Flow TEST DATE: April 7, 1990

COMPANY: Fairway Petroleum, Inc. LEASE: Perdue WELL NO.: 11

COUNTY: Atchison LOCATION: SW NW NE SECTION: 24 TWP: 7S RNG: 21E ACRES: 40

FIELD: McLouth RESERVOIR: McLouth PIPELINE CONNECTION: LAGGS, INC.

COMPLETION DATE: 9/30/84 PLUG BACK TOTAL DEPTH: 1418 PACKER SET AT:

CASINO SIZE WT. LD. SET AT PERF. TO
4 1/2" 1418 1379 1385

TUBING SIZE WT. I.D. SET AT PERF. TO

TYPE COMPLETION (Describe): Perforation TYPE FLUID PRODUCTION: Water

PRODUCING THRU: 4 1/2" Casing RESERVOIR TEMPERATURE F: 80° BAR. PRESS - P_a: 14.4 Psia

GAS GRAVITY - G_g: 0.5745 % CARBON DIOXIDE: 0 % NITROGEN: 4.8 API GRAVITY OF LIQUID:

VERTICAL DEPTH (H): 1418 TYPE METER CONN.: None (METER RUN) (PROVER) SIZE: 2"

SHUT-IN PRESSURE: SHUT IN April 4, 1990 19 AT (AM)(PM) TAKEN 19 AT (AM)(PM)
FLOW TEST: STARTED April 4, 1990 19 AT (AM)(PM) TAKEN 19 AT (AM)(PM)

OBSERVED DATA DURATION OF SHUT-IN: Years 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 _t)(P _c) psia	psig	(P _w)(P _t)(P _c) psia		
SHUT-IN						351	365.4			Years	
FLOW	.50	224	----	80	80	224	238.4			1	

RATE OF FLOW CALCULATIONS

COEFFICIENT (F _p)(F _o) / Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION √P _m h _w	GRAVITY FACTOR F _g	FLOWING TEMP. FACTOR F _L	DEVIATION FACTOR F _{pv}	RATE OF FLOW R / Mcfd	GOR	G _m
4.388	238.4	----	1.3193	0.9807	1.0045	1,359.6		

(OPEN FLOW), (DELIVERABILITY) CALCULATIONS

(P_c)² = 133.5 ; (P_w)² = 56.8 ; P_d = % (P_c - 14.4) + 14.4 = ; (P_w)² = 0.207 ; (P_d)² =

(P _c) ² - (P _w) ² / (P _c) ² - (P _d) ²	(P _c) ² - (P _w) ²	[P _c ² - P _w ²] / [P _c ² - P _d ²] / [P _c ² - P _w ²]	LOG []	"n"	n x LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
	76.7			0.85			2,319.1

OPEN FLOW 2,319.1 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 this report is true and correct.

Executed this the 12 day of May, 1990

Witness (if any) MAY 29 1990

CORPORATION DIVISION
Kansas

Checked by