

15-181-20225-0000

FORM O-2
8-7-58

8
PS
6-2-87

STATE OF KANSAS - CORPORATION COMMISSION

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

TYPE TEST: Deliverability Open Flow TEST DATE: Flow Test 6-2-87

COMPANY: GOODLAND GAS COMPANY LEASE: Armstrong WELL NO.: 1-12

COUNTY: Sherman LOCATION: CNWNW SECTION: 12 TWP: 8S RNG: 39W ACRES:

FIELD: Goodland RESERVOIR: Niobrara PIPELINE CONNECTION: KNEnergy

COMPLETION DATE: 6-18-82 PLUG BACK TOTAL DEPTH: 1,005 PACKER SET AT: None

CASING SIZE: 4 1/2" WT.: 9.5 I.D.: SET AT: 1,072 PERF.: 930 TO: 950

TUBING SIZE: None WT.: I.D.: SET AT: PERF.: TO:

TYPE COMPLETION (Describe): TYPE FLUID PRODUCTION: Frac. 100,000# Sand, 600MCF CO₂, 32,000 Gal H₂O Gas

PRODUCING THRU: Casing RESERVOIR TEMPERATURE F: 14.4 Psia BAR. PRESS - P_a

GAS GRAVITY - G_g: 0.5827 % CARBON DIOXIDE: 1.28 % NITROGEN: 2.635 API GRAVITY OF LIQUID: ---

VERTICAL DEPTH (H): TYPE METER CONN.: Orifice-Flange (METER RUN)(PROVER) SIZE: 2.067

SHUT-IN PRESSURE: SHUT IN 5-29 19 87 AT 11:00 (AM)(PM) TAKEN 6-1 19 87 AT 11:20 (AM)(PM)

FLOW TEST: STARTED 6-1 19 87 AT 11:23 (AM)(PM) TAKEN 6-2 19 87 AT 10:57 (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 _t)(P _c) psia	psig	(P _w)(P _t)(P _c) psia		
SHUT-IN	--	--	--	--	--	22.1	36.5	--	--	72	--
FLOW	0.625	14.4	2.9	60	--	14.5	28.9	--	--	24	--

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. FACTOR F _t	DEVIATION FACTOR F _{pv}	RATE OF FLOW R Mcfd	GOR	Q _m
79.3	28.8	9.14	1.31	1.0	1.0008	23	--	--

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 1332.25 ; (P_w)² = 835.21 ; P_d = _____ % (P_c - 14.4) + 14.4 = _____ ; (P_c)² = 0.207 ; (P_d)² = _____

(P _c) ² - (P _a) ² or (P _c) ² - (P _d) ²	(P _c) ² - (P _w) ²	$\frac{P_c^2 - P_a^2}{P_c^2 - P_w^2}$	LOG []	"n"	n x LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
1124.89	497.04	2.26	0.35	0.85	0.30	2.00	46

OPEN FLOW 45 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 4 day of June, 1987

STATE OF KANSAS CORPORATION COMMISSION
JUN 12 1987
Conservation Division
For Company

Witness (if any)

Checked by